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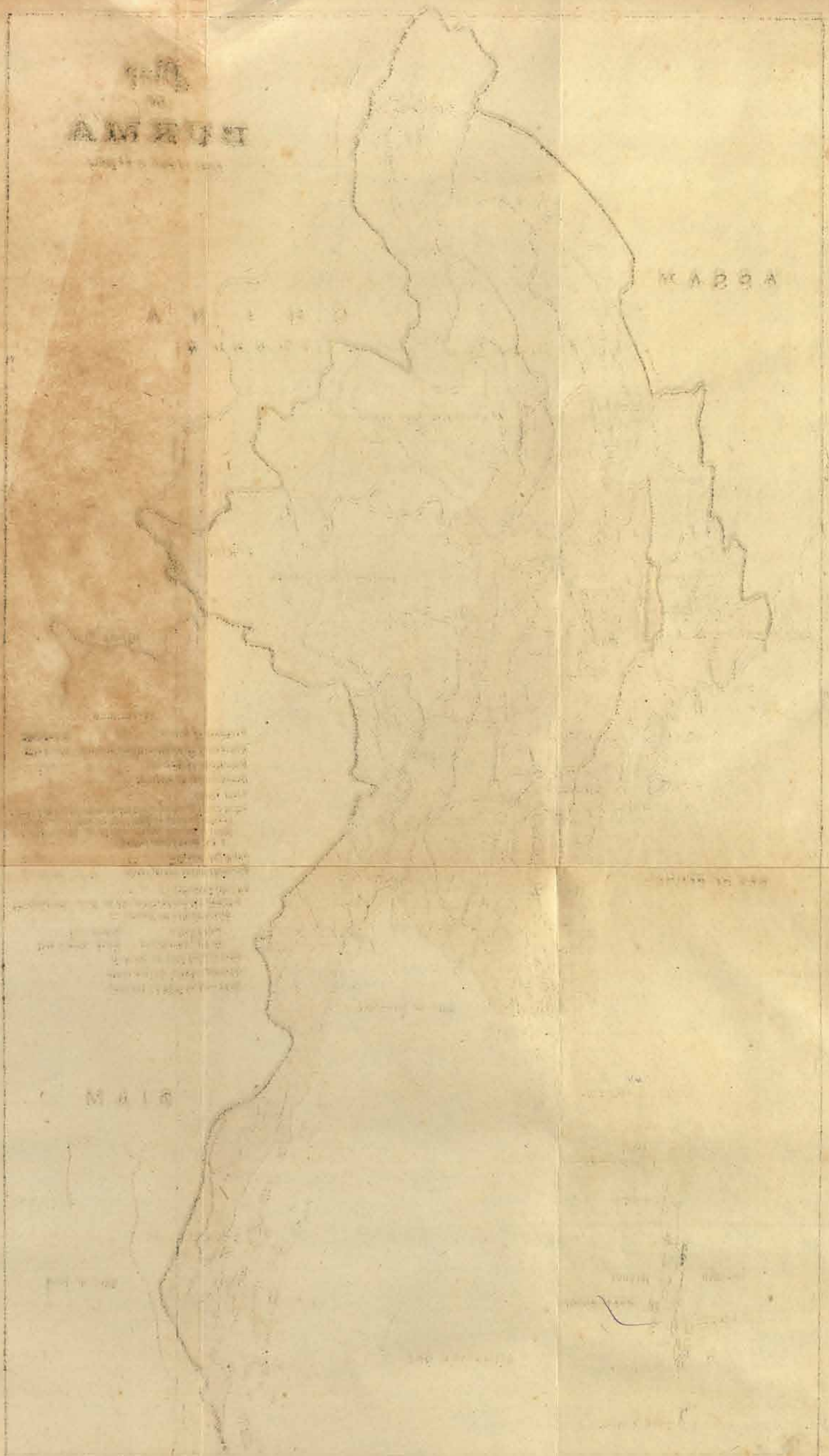

Map OF BURMA

Scale : 1 inch = 64 miles.

ASSAM

CHINA (YUNNAN)

SIAM

BAY OF BENGAL

ANDAMAN SEA

GULF OF MARTABAN

GULF OF SIAM

Fort Hertz (Putao District)

Hkamti State

Myitkyina

Thaungdut State

Manipur

Naba

Bhamo

Katha

Maw Lai (Upper Chindwin District)

Homalin

Tamu

Ye U

Shwebo

Fa lam (Chin Hills Dist)

Monywa (Lower Chindwin)

Sagaing

Mandalay

Amarapura

Myinyan

Pakokku

Unadministered area

Pakkoku Hill Tracts

Pa kat ra H.Q. of Arakan

Maungdaw

Buthidaung

Salino

Yenangyaung

Minbu

Magwe

Akyab

Kyaukpyu

Rumree Is.

Cheduba

Sandoway

Thayetmyo

Allanmyo

Prome

Toungoo

Pyi

Henzada

Myaungmya

Bassein

Rangoon

Thongwa

Thaton

Moulmein

Amherst District

Mergui

Preparis I.

Coco Islands (TO BURMA)

N. Andaman

ANDAMAN ISLANDS (NOT TO BURMA)

S. Andaman

Little Andaman

NORTHERN SHAN STATES

Namti—Panghsi

Lashio

Hsipaw

Mongmit

Meiktila

Kengtung

SOUTHERN SHAN STATES

Loilem

Taunggyi

Yawnghwe

Kalaw

Kyaukse

Mekong River

Mekong R.

Salween R.

Mouths of the Irrawaddy

REFERENCES.

- Boundary of Burma
- Boundaries of Administrative Divisions
- Boundaries of Districts
- Headquarters of Districts
- Other Towns

Towns named in capital letters are the headquarters of districts of the same name. In other cases the name of the district is shewn in brackets near the name of the headquarters, e.g. ■ Fort Hertz (Putao District).

- Railways, working
- Railways under construction

Natural Divisions :—

Burman—areas coloured red or blue; subdivisions distinguished as follows :—

Delta—blue — Centre—red

Coast—hached red — North—broken blue

Chin—white area on the west

Salween—white, hached black

Shan—white area on the east

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CENSUS OF INDIA, 1921

Volume X

BURMA

PART I. REPORT

31071

BY

S. G. GRANTHAM, I.C.S.

SUPERINTENDENT OF CENSUS OPERATIONS, BURMA

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PREFACE

THE taking of a census is not done by the Superintendent of the Operations but by a large number of census officers of all grades from Deputy Commissioner to Enumerator. In all parts of the country generous service has been given throughout the work by census officers of all kinds who are too numerous to be mentioned by name. The errors of slip-copying were due to the exigencies of the time, and deputy commissioners throughout the province gave their best assistance to put them right. As in the previous census the Agents of the Burma Railways and of the Irrawaddy Flotilla Company spared no pains to make a success of the enumeration on their railway and steam-boats. On many occasions Mr. Morgan Webb, C.I.E., who superintended the census of 1911, gave me his valuable advice and guidance in difficulties. Maung Ba Sein joined the office as head clerk in August 1920 when the man originally lent from the Revenue Secretary's office proved too inexperienced. I am deeply grateful to Maung Ba Sein for his assiduous and careful work whether on tour with me when preparing for the enumeration or afterwards in the office; to him I offer the high praise that he maintained the standard of excellency he had established by his previous work in No. 2 Settlement Party. He was rewarded by the Local Government by an appointment as Deputy Myoôk, and after that stayed on for four months at the cost of a possible delay of his further advancement, to assist the Accountant-General's Office in getting its census accounts put straight. Mr. L. F. Taylor, I.E.S., the Deputy Superintendent, was appointed specially to attend to the work on languages and races and has supplied Appendix B of this report; but with the assistance of Maung Lat, he undertook also the compilation of all the first fifteen tables except III and XII. He left the office before this report was begun. Maung Lat acted as Assistant Superintendent. He held a similar post under the title of Deputy Superintendent in Mr. Morgan Webb's census of 1911; and it was on account of the high praise which was given him by Mr. Morgan Webb, whom I consulted about the selection of an officer for this post, that I asked for his deputation to census again. Maung Lat fully justified the selection and deserves the same high praise again. He took a share in the work for all tables from VII onwards and under my guidance carried out the whole of the work for the occupational tables XVII to XX and for the tables of the Special Industrial Census as well as Imperial Table XII.

The actual writing of this report was begun on the 25th January 1923 and is being completed to-day on the 10th May, exactly three and a half months later, so that it has occupied just the same length of time as that of my predecessor. Like him I have at the same time been occupied with the completion of the tabulation; but I have not attempted to do at the same time any work for the Administrative Volume of this report in which notes on the conduct of the operations are recorded for the benefit of my successor of 1931. I had however practically no time to think about the figures before I began to write the report, and I had still to discover what I could about them. As the relationship between the age-distribution and the variation of the population has not previously been

discussed in Burma, and I had for reference and example no accounts of such a discussion elsewhere, I spent much time in the search for a valid substitute for a standard age-distribution and had to work out and study many more age-distributions and curves than are shown in the report. Consequently the task has been more than enough; I have had no time to polish periods and revise the style and arrangement, and I must ask pardon for repetitions and defective arrangement. The lack of pictorial representation of the statistics by human figures of different sizes or by geometrical patterns or similar devices is due partly to the need for economy but chiefly to the conception of this volume as a guide to students of the Tables rather than a complete account of the population. The usual conception of the census reports makes the Tables form an appendix to the Report; in this case the Report is only a supplement to the Tables, I hope the consequent dryness of the Report will receive compensation in the publication by others of interesting studies of the tables in which the errors which must have been made in writing this Report so hurriedly will be put right.

S. G. GRANTHAM.

RANGOON, *the 10th May* 1923.

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REPORT

ON THE

CENSUS OF BURMA, 1921

INTRODUCTION.

Part I.—The Census Operations.

1. Scope of the Census.—The sixth census of Burma indicated a total population of 13,212,192 and was taken between the 15th November 1920 and the 18th March 1921. In the greater part of the province it was taken synchronously on the night of the latter date, and thus came almost exactly ten years after the fifth census for which the date of the synchronous portion was the 10th March 1911. Of the whole province the only parts entirely excluded from the census were the following, all of which were either unadministered or specially remote :—

(1) All Putao District except the eight Hkamti Long Shan States and Fort Hertz.

(2) Unadministered territory associated with the Upper Chindwin District.

(3) Unadministered territory associated with the Hill District of Arakan, but not yet assigned to any administrative division; bounded on the east by the Haka Subdivision of the Chin Hills District, on the North and West by the Lushai Hills and on South by the Hill District of Arakan.

(4) The uncontrolled portion of the Wa States.

These areas are shown in solid black in the central map marked " 1921 " on the next page; and by a comparison of that map with the map on its right, showing the administrative conditions in 1921, it is seen that the census of 1921 thus covered the whole administered area of the province in some manner or other, except in the Putao District to which administration was extended only in 1914; but in the Somra Tract of the Upper Chindwin District, and in East Manglūn of the Northern Shan States (both of which areas were omitted from the census of 1911), only an estimate was made. The census extended into unadministered territory in the northern part of the Pakôkku Hill Tracts, where also, as in 1911, only an estimate was made. In all these three areas the basis of the estimate was an enumeration of villages, houses and persons of each sex in sample areas, and no other particulars besides these were sought. In all other parts the enumeration, whether synchronous on the 18th March or non-synchronous during the preceding four months, included a complete record for every person in the full schedule of 16 columns which was the standard for all-India and is described in the next article.

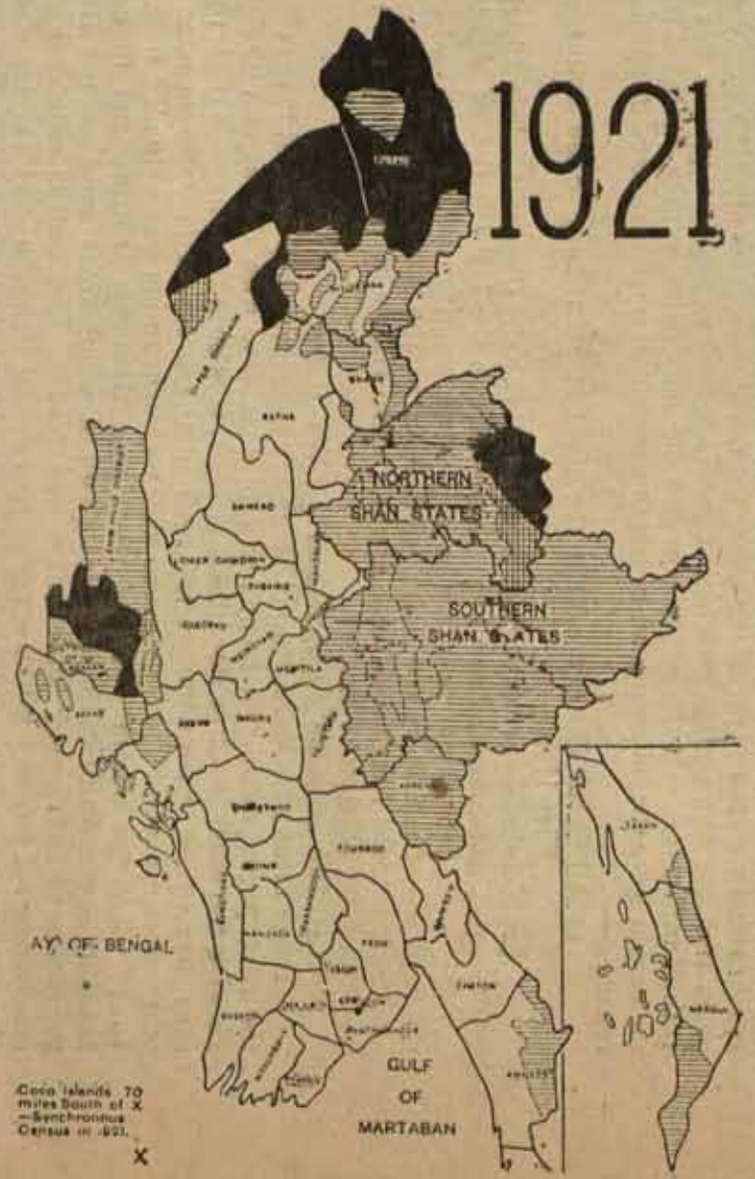
On the next two pages will be found two statements of all the areas in the province which were excluded from the synchronous census either in 1911 or in 1921; one in the form of two maps and one in the form of a schedule showing the population recorded for each such area in 1921. Marginal Statement 1 also gives a short summary of that schedule, designed to show the proportion of the population to which each method of the census was applied, and the extent of

Populations censused by each method in 1921 and 1911.

Method of Census, 1921.	Population, 1921.	Treatment in 1911 (1921 populations).			
		Synchronous.	Non-Synchronous.	Estimated.	Omitted.
Synchronous ...	11,387,217	11,369,100	18,071	...	46
Non-Synchronous	1,781,882	5,605	1,688,621	58,926	28,730
Estimated ...	43,093	...	...	8,756	34,337
Omitted ...	?	...	.	...	?
Total ...	13,212,192	11,374,705	1,706,692	67,682	63,113

Maps 1 and 2—CENSUS AREAS IN 1911 and 1921
showing also the units of tabulation of 1921.

Omitted. Estimated. Non-synchronous. Synchronous.



Map 3—ADMINISTRATION IN 1921.

Unadministered. The Federated Shan States.

Not part of British India. Other specially administered areas.

Heavy lines divide administrative Divisions as they were in 1921.

Scale 1 inch = 160 miles.

Areas in each District excluded from Synchronous Census either in 1911 *or in* 1921.

NOTE.—In column 4, O = omitted; E = estimated; NS = non-synchronous; Syn = synchronous.

Name and Serial No. in imperial Tables of District, etc., concerned.	DESCRIPTION OF AREA and serial number.	Census of 1911.		Census of 1921—Method of enumeration and population recorded.		
		Serial Number.	Method of enumeration.	Synchronous.	Non-synchronous.	Estimated or Omitted.
1	2	3	4	5	6	7
1. Akyab ...	1. Minbya Chin Hills	19	NS	...	2,390	...
	2. Myohaung Chin Hills		NS	...	...	...
	3. Buthidaung Hills	...	Syn	...	2,639	...
	4. Ponnagyun Hills	...	Syn	...	2,966	...
2. H. D. of Arakan.	5. The whole district as administered ...	18	NS	...	20,914	...
	6. Associated unadministered territory ...	3	O	...	...	Omitted
3. Kyaukpyu	7. Poko Chin Hills	20	NS	...	417	...
7. Hanthawaddy	8. The Coco Islands	...	O	46	...	...
19. Amherst	9. Natchaung, Tarigalon, Kyaiktaungbo and Myaukkyaukgaung Circles in the Kya-in Township.	22	NS	...	16,448	...
	10. Myawaddy Circle in the Kawkareik Township.		NS	...	9,018	...
	11. Tagundaing Circle in the Kya-in Township.		NS	14,588	...	...
20. Tavoy	12. Kyauktwin Circle of Tavoy Township	...	NS	...	1,772	...
21. Mergui	13. Bokpyin Township	27	NS	...	10,716	...
	14. Maliwun Township		NS	...	8,441	...
	15. Pawut Circle of the Tenasserim Township.		NS	...	1,902	...
	16. Salons living in boats		NS		1,825	...
26. Pakôkku H. Tts.	17. Administered territory	12	NS	...	20,043	...
	18. Unadministered territory ...	4	E	...	...	8,756
28. Bhamo	19. Shwegu Kachin Hill Tracts ...	14, 28	NS	...	5,608	...
	20. Sinlum Kachin Hill Tracts ...		NS	...	48,128	...
30. Katha	21. Katha Kachin Hill Tracts ...	31	NS	...	908	...
	22. Mawlu Kachin Hill Tracts		NS	...	4,793	...
31. Putao	23. The eight Hkamti Lông Shan States	1, 2	O	...	7,673	...
	24. Remainder of the district ...		O	...	...	Omitted
35. Upper Chindwin	25. Somra Tract		O	...	...	7,636
	26. Unadministered territory ...		O	...	...	Omitted
29. Myitkyina	27. Htawgaw Kachin Hill Tracts ...		O	...	17,305	...
	Sana Kachin Hill Tracts:—					
	28. a) Myitkyina Hill Tracts ...		O	...	979	...
	29. (b) Mogaung Hill Tracts ...		O	...	2,773	...
	30. Seven Kachin villages in the Sima Kachin Hills.	29	NS*	..	798	...
	31. Thirty-nine Kachin village-tracts in the plain of Myitkyina Township.		NS*	3,483	...	...
	32. All Kachin Hill Tracts of the district not mentioned above.	9, 30	NS	...	42,266	...
36. Chin Hills	33. The whole district	17	NS	...	110,079	...
41. N. Shan States.	34. The uncontrolled portion of the Wa States.	5	O	...	...	Omitted
	35. East Manglün		O	...	...	26,701
	36. West Manglün	6	E	...	20,597	...
	37. Kokang Circle of North Hsenwi ...	7	E	...	31,820	...
	38. Ngadaung and Kodaung tracts and Möng Leng in Möng Mit State and the whole of all other states except items 34, 35, 36 and 37 †.	13, 15 and 32	NS	..	477,196	...
42. S. S. States	39. The whole	16	NS	...	847,618	...
43. Karenni	40. The Brê Circle	10	E	...	3,365	...
	41. The Wiwa Circle		E	...	3,344	...
	42. Remainder of Karenni	11	NS	...	57,341	...

* Items Nos. 30 and 31 together make up the 31 Kachin villages of Myitkyina Township which were wrongly shown in the Census Report of 1911 as treated synchronously in 1911. Amalgamations and desertions of various villages account for the change in number.

† Möng Leng was wrongly shown in the Census Report of 1911 as treated synchronously, both in 1911 and in 1921 the Ngadaung and Kodaung Tracts and also Möng Leng were all treated non-synchronously; while the remainder of Möng Mit State was treated synchronously and formed the only area now in the Northern Shan States which was so treated at either census.

changes in the method. Of the total population the portion estimated and not actually enumerated was thus 3 per mille, while 862 per mille were enumerated synchronously and 135 non-synchronously.

Broadly the synchronous area was the same as in 1911, while the non-synchronous area included all the remainder of the census area of 1911 except the unadministered portion of the Pakôkku Hill Tracts and also took into actual enumeration for the first time a population of nearly 88,000. The additions to the synchronous area since 1911 consisted only of the Coco Islands which are a group of small islands over a hundred miles from the coast of Burma and close to the Andamans, the Tagundaing circle in the Kya-in township of the Amherst district, and 39 villages in the Myitkyina district which in 1911 was the most northerly district of the province. The Coco Islands with a population of only 46 were merely overlooked in previous censuses; the Tagundaing circle and the villages of Myitkyina, with populations of 14,588 and 3,483 respectively, were enumerated non-synchronously in 1911. As in 1911 the synchronous area included the Mông Mit Shan State which is now one of the Federated Shan States, excluding however the Kodaung and Ngadaung hill-tracts and the sub-state of Mông Leng which are associated with that state but were enumerated non-synchronously.

The non-synchronous area consisted chiefly of the Federated Shan States (except the synchronous portion of Mông Mit), the Karenni states, the Chin area (principally the Chin Hills district, the Pakôkku Hill Tracts and the Hill District of Arakan) the Kachin areas in the northern districts of the province, and some sparsely populated areas with poor communications in the Amherst, Tavoy and Mergui districts of the extreme south. In addition two areas in the Akyab District, described for this purpose as the Buthidaung and Ponnagyun Hills, were enumerated non-synchronously although they had been treated synchronously in the census of 1911; the conditions in these areas forbid accuracy in a synchronous census but offer no insuperable difficulty if the non-synchronous method is used. Of the total population of 1,781,882 enumerated non-synchronously 1,377,231 belonged to the Federated Shan States and 63,850 to the Karenni states; while about 50,000 were in areas administered on the normal basis of the Burma Village Act, and the remainder (about 290,000) were in areas in which there was some special kind of administration, generally that of Chin or Kachin Hill Tracts.

2. The Enumeration-Schedule.—The schedule which was used throughout the whole area of enumeration, whether synchronous or non-synchronous, had sixteen columns of which the headings were as follows:—

1. House No.
2. Serial No. of Person.
3. Name.
4. Religion.
5. Male or Female.
6. Married, Unmarried or Widowed.
7. Age.
8. Race or Tribe.
9. Principal occupation or means of subsistence of workers.
10. Subsidiary occupation or means of subsistence of workers.
11. For Dependents, the occupation of the worker by whom supported.
12. Birth-District.
13. Language ordinarily used in the home.
14. Literate or illiterate.
15. Whether literate in English.
16. Insane, totally blind, leper or deaf-mute.

The above heading of column 8 differed from the corresponding heading of 1911 by omitting all mention of *caste* in the English version and *zat* in the Burmese version. The heading of column 13 differed from that of 1911 by the addition of the words *in the home*; but the instructions for filling the column were the same. In the case of column 15 the heading of 1911 was practically the same as that of 1921 in the Burmese form, but in the English form it was merely *Knows or does not know English*. Column 16 of 1911 asked for a record of persons who had been *deafmutes from birth* and so differed from that of 1921 which required an entry for all deaf-mutes. In other respects the schedule of 1921 was practically the same as that of 1911.

3. **Character of Census.**—The distinction between synchronous and non-synchronous enumeration is not merely a matter of the method of preparing an enumeration-record; it extends also to the contents of that record and, for some areas at least, affects the numbers recorded. Demographers use the terms *de facto* and *de jure* to describe two kinds of censuses. The ideal *de facto* census of any area would relate to a stated particular moment of time and would count all the persons who at that moment were within each subdivision of the area for which separate tabulation of the resulting figures was required. Such a census of a small room would ordinarily be a simple affair; but when the census must cover even a town, and still more when it must extend to a province of nearly a quarter million of square miles, there are difficulties. Even the definition of "a particular moment" introduces difficulties,—and that without referring to the theory of relativity—the range of longitude alone is enough. Actually therefore the term *de facto census* in practice means a counting of the persons in each area tabulated who were present there at approximately the same hour of the clocks of each locality, generally midnight, on a prescribed date. A *de jure* census proceeds on quite different lines, and counts throughout the whole area of the census the population more or less permanently associated with each tabulated subdivision of that area. The counting on such lines need not be completed within an hour or two; in the United States of America for instance, only a *de jure* census is taken and the process of enumeration lasts six weeks. A *de jure* census will generally give numbers different from those of a *de facto* census of the same area, simply because there is a difference between the groups of persons enumerated.

In Burma, as in other parts of India, the census of normal areas was synchronous and aimed at being *de facto*. Even the precision of enumerating the population at a fixed hour in every locality could not however be attempted; only the enumeration of persons present in each unit of area at some time during a prescribed night could be undertaken, with some conventions to prevent omissions or double countings of people moving from the charge of one enumerator to that of another during the process. For the greater part of the population this gave a *de facto* enumeration, because the enumeration was generally completed in that part of all waking hours in which there is least movement, namely the one or two hours just after dusk. But as will be stated more fully in the next article the records for some enumerators' charges had to include some people who were not *de facto* present but belonged to them only *de jure*, while some others had to include persons who were associated with them neither *de jure* not *de facto*, and in many small details of the synchronous area the census of some persons was really taken non-synchronously. In the non-synchronous areas of Burma the census was essentially *de jure*. But, as is explained in Articles 5 and 6, a few parallel modifications in both the synchronous and the non-synchronous census had to be made to obtain results which could be combined in a single total. Thus the census was approximately *de facto* for the province as a whole and for the sub-divisions of it for which separate statistics are given in the Imperial Census Tables. Within the synchronous area the census was approximately *de facto* for the whole and for all large parts; but if small areas are taken the divergence from a true *de facto* census may be proportionately large in occasional instances. Within the non-synchronous area the census was nearly *de jure* in the records for villages and similar small areas, but approximately *de facto* for states and larger areas.

4. **Administrative Divisions.**—For administrative purposes the ordinary portions of the province, to which synchronous enumeration was generally applied, are divided successively into districts, townships and village-tracts. In Map 3 on the second page of this Introduction the Northern and Southern Shan States are marked with vertical haching and Karenni immediately to the south of them with cross-haching; half-way down the western boundary of the province is a black patch of unadministered territory, immediately to the south-east of which the Pakôkku Hill Tracts are somewhat indistinctly shown. The other areas named on the map are the 39 districts of the province; these vary in extent from 1,500 to 9,000 square miles, and even the latter limit is exceeded by some in the extreme north which include remote and vaguely defined unadministered areas. For administrative purposes the districts are grouped into *divisions*, which are shown on the map as they existed at the date of the census.* Each district is divided into a number of parts, usually four to seven in number, called townships which are thus extensive areas including towns but chiefly of a rural

† *See* footnote to Article 9 below.

character. The number of villages in a township varies with the locality but is commonly two or three hundred. The term *township* in English records is never used in any other sense than as the name of the area in the occupation of a village-community, and it is the most usual name in those records for such an area; its standard English meaning is thus similar to the meaning in Burma of *village-tract*. In America and in some colonies a township seems to consist of a town and its immediate environs as far as they are under the same municipal administration. Thus the term *township* as used in Burma has a special meaning, which must be borne in mind when it is used in this report. The village-tract is in many senses the ultimate unit of administration. Some remarks upon its definition and nature will be found in Article 57 of Chapter II of this report; for present purposes it is enough to note that the population of a village-tract is usually of roughly the same magnitude as that of a large village or of two or three small hamlets.

5. **Method of the Synchronous Enumeration.**—The first step towards the synchronous enumeration was to make a list of the village-tracts in each township and to group them in *Census Circles* which again were grouped in *Domains*.* For each census circle a *Supervisor* and for each domain a *Controller** was selected by the township officer under the direction of the Deputy Commissioner of the district, both supervisors and controllers being government servants in all but exceptional cases. Recently the village-tracts in most parts of the province have been grouped in circles for the purposes of local government by Circle Boards; but, as these groups had not yet been made at the time when the census was being organised, census circles were specially formed, each consisting as a rule of the area in which its supervisor or controller had jurisdiction or duties in his ordinary capacity. In some cases the domain coincided with a township, and the township officer then became its controller: townships which would be too large for one controller were divided into two (or occasionally three) domains, and then the township officer acted as controller for one domain and exercised general supervision over the controllers of the others.

In the second step towards the census each village-tract received separate treatment. If a village-tract was too large a charge for a single enumerator to effect its synchronous census in the manner prescribed, it was divided into *Blocks* of suitable size for this purpose, the block usually containing 30 to 40 houses; if however the whole village-tract was suitable to form a single block it was made to do so. As a census unit the village-tract then receded temporarily to the background. Each supervisor dealt directly with his enumerators; and the village-tract organisation only appeared in the assistance which the authority and power of the headman gave to the supervisor in controlling the enumerators, and in the fundamental condition that every block must be entirely included in one village-tract. The problem of the enumeration was thus reduced to making an enumeration in each block and afterwards compiling the results by village-tracts, townships and districts.

The next step was taken by the enumerator of each block and consisted of numbering and cataloguing every house or other building with which it was at all likely that any population would be associated on the night of the census. After that the task for each enumerator was simply to enumerate the people associated with each house in turn and to make such additions as might be necessary for travellers passing through his block at the time of the census.

The actual enumeration of the people was done in two stages. The enumerator first made a *Preliminary Record*, beginning about the 8th February and going from house to house in turn and recording in an *Enumeration-Book*, which had been made by sewing together a suitable number of copies of the prescribed schedule, all the required particulars for every separate person likely to be present in each house on the night of the 18th March. This work took several days in each block. Enumerators were exhorted to revise their record and keep it up to date to correspond to births, deaths or arrivals of new residents or departures of old residents, so as to make it as nearly as possible a correct record of the population which would be found in the block on the night of the final census. Supervisors checked all the work of enumerators and corrected or completed it where necessary; domain controllers checked portions of the record and were assisted by a number of other administrative officers, who had not been

* In other parts of India the terms *Charge* and *Superintendent* were used with the meanings which *Domain* and *Controller* respectively had in Burma.

specially enlisted as census officers but gave some spare time to this work in the course of tours in their respective jurisdictions.

Every enumerator began the *Final Enumeration* of his block at about 7 p.m. on the 18th March 1921, and effected it by visiting each house in his list in turn to verify that he had a record for the right persons. If he found a person who had not already been enumerated in his book, he made the proper record; in other cases he had no need to pay any attention to detailed particulars for any person, but had only to delete the whole of the entries relating to any person no longer living and present in his block. The size of each block had been so restricted from the beginning that the final enumeration could be completed in a single evening.

Special arrangements had to be made, of course, to deal with trains, steamers, boats, assemblies of people camping away from home and other special classes of the population; but all these were grafted on to the main territorial organisation outlined above. In the main the system described resulted in a *de facto* census showing the persons present in each block on a particular evening and almost at a given moment. There were however variations from this in the cases of some travellers (*e.g.* in steamers) of whom the enumeration had to be made as and when was most convenient, the records being handed in at a subsequent place of call, which was possibly not reached by some of the travellers shown in them, so that for some of these the census was neither *de jure* nor *de facto*. An important variation was the treatment as present in their houses of persons really absent on a visit to an area of non-synchronous census, and the converse omission of temporary visitors from such an area; the reason for this will be explained in the next article. Other exceptions were fishermen all along the coast and particularly pearl-fishers in Mergui, who had to be enumerated before leaving home on the last occasion before the final enumeration and conventionally regarded on that night as present in their homes; for these and for some other classes the census was strictly neither synchronous nor *de facto* although they were included in the same enumeration-books as other persons regularly enumerated in the synchronous census.

6. Method of the Non-synchronous Enumeration.—For the area of the non-synchronous census a separate enumeration-book was used for each village or village-tract, and was filled by an enumerator who visited each house in turn and made a record for every person who ordinarily resided there, whether he was actually present or not. Simple rules were made to meet the cases of absentees who had gone to, and the converse cases of visitors who had come from either a synchronous area, or another place in which the census was non-synchronous, or an area—whether outside the province or not—in which no census was being made; and these cases had to be strictly watched along any railways, rivers or caravan routes concerned with a non-synchronous area. Generally the work was in charge of the local political officer or an officer of similar standing, who toured through his charge with a staff of subordinate officials or extra men specially employed for the work and directed and checked their work as it proceeded. As each minor administrative unit was completed a summary of the number of males and females enumerated in each of its villages or village-tracts was prepared and thus a first approximation to the total population, called the provisional total, was ready a day or two after the completion of the enumeration. The enumeration was carried out at some time between November and March according to the local climatic conditions and the magnitude of the local officer's task; in the Shan States the training of enumerators began in October 1920 and actual enumeration about the 15th November. In every case the arrangements were so made that a provisional total of the number of persons enumerated could be compiled in time to reach the Provincial Superintendent or be incorporated with the results of the synchronous census in other parts of the same district before the 25th March.

The system of enumeration described above would give a *de jure* census; but on account of the necessity of obtaining a non-synchronous census of which the figures could be combined in a single total with those of the synchronous census in other parts of the province, the rules relating to visitors and absentees had to be slightly more elaborated and so designed that parallel conventions could be followed in the synchronous area. The precision of a chemist's balance could no more be attained in this matter than in any other part of the enumeration; but it is believed that the rules adopted reduced the separate errors of omission and of

double countings in the combined figures to quite negligible dimensions, and at the same time led to figures in the various census tables which show approximately the normal conditions in the non-synchronous areas and the parts of the province in communication with them. The application of these rules led in effect to making such a correction in the *de jure* record as would make it correspond sufficiently closely to a *de facto* census to permit its figures being combined in a single total with those obtained for the synchronous area, for which also the strictly *de facto* census had been modified by corresponding rules for this purpose. The result is a census which for whole states or similar large administrative units in the non-synchronous areas is approximately *de facto*, although in the corresponding detailed village census tables the figures for each village are more nearly *de jure*, the difference being accounted for by inclusion in the former of persons who were present only adventitiously in the non-synchronous area on the night of the census, and were enumerated then only because they would be omitted from the synchronous census in their own homes.

7. Provisional Totals.—Immediately after the final enumeration in synchronous areas each supervisor and his enumerators prepared and sent to the domain controller with all possible speed a statement of the number of entries for males and females respectively shown in the enumeration-books of their circle; the domain controller compiled from all such statements a similar statement called the Domain Summary and sent that to the district office where a District Summary was compiled. The totals of the district summary were called the Provisional Totals and were telegraphed by the deputy commissioner to the Census Commissioner in Simla so as to reach him before the 25th March, one week after the census. A duplicate telegram was sent at the same time to the Provincial Superintendent of Census Operations in Rangoon. As explained in the preceding article the work in non-synchronous parts was timed so that its figures could be incorporated in the provisional totals. The reports from the Magwe and Mandalay districts were despatched on the 19th March, the day after the census; and in spite of the difficulties of obtaining reports so quickly from some remote parts every district succeeded in reporting within the week. A statement in which all provisional totals were entered as soon as they were received was posted up for public inspection in the entrance to the census office; some newspapers copied the statement when it was nearly complete and so were able to add in the last few totals on the night of the 25th March, and to publish the statement in their next issue. Some corrections of the provisional totals were found necessary when the systematic tabulation of the records was done; but none of the errors was very large. For the whole province the provisional total published on the 26th March was 13,204,760. Immediately after this publication an omission of the records for 804 persons was discovered in the Chin Hills and telegraphed to Simla, so that the provisional total for Burma published by the Government of India on the 5th April was 13,205,564. As the correct figures was subsequently found to be 13,212,192 the provisional total published by the Government of India showed a defect of 6,628 persons or a proportion of 1 in 2,000 of the whole; but as about one-half of this defect was due to additions for persons enumerated on ships which arrived in Burma after the provisional total had been published, the error was really only about 1 in 4,000. No district showed so great an error as 1 per cent; most were well below 1 per 1,000. The wide extent of Burma and the inferiority of its communications make the preparation of the provisional total more difficult than in other provinces; so much more time is spent in transmitting records that the compilation has to be done much more hastily, and this affects particularly the first stage of the work which has to be done by ordinary villagers; the results obtained were therefore not unsatisfactory.

8. Tabulation.—At the time of preparing the circle summary the supervisor examined the enumeration book of every block in his circle to see that the record for every person had been duly completed, and in cases of omission obtained the requisite information to put the matter right. Wherever the local system of communications made it possible the enumeration-books were sent to the domain controller with the circle-summary; but as that had sometimes to be sent by relays of express runners or riders there were some cases in which the enumeration-books could only be sent as soon as possible after the summary. After a further inspection the domain controller sent on the books with those of his other circles to the district office, either direct or *viâ* the township office according to local

circumstances. The record for each person was then copied from the enumeration-book on to a separate paper slip. For each district except Rangoon Town District and the Hill District of Arakan the work of writing out the slips was done in the district office by a temporary staff under the charge of a local officer, and the slips were sent to the Provincial Superintendent in Rangoon with the registers prescribed by him to ensure accuracy and give the first basis of tabulation. For the Rangoon Town District the slips were prepared in the same way under the direction of the Deputy Superintendent of Census; and for the Hill District of Arakan the work was done in the Akyab District Office. Every person in each district was now represented by a slip of paper which showed all the particulars recorded for him in the census except his name; and the remainder of the census work consisted of sorting the slips according to the various entries in them, counting the number in each class, and compiling tables to show the results. To obtain the details required for the various tables the slips were kept throughout in units corresponding to the smallest areas for which separate figures of any later classification would be required.

9. Imperial and Provincial Tables and the Units of Tabulation.— The printed census tables are prepared in two series known as the Imperial and the Provincial Tables. In the Imperial Tables the unit area of tabulation is generally the district as described in Article 4 of this Introduction; but totals are also given for all the districts in each of the eight *Divisions* into which the 39 districts are grouped for general administrative purposes.* The Federated Shan States and the Karenni States which stand on a special footing in administration have been associated under the term *Eastern States* for the purposes of the census tables, while for all the rest of the province taken together the term *Divisional Burma* is used. The Government of India prescribed the subject and general form of 22 Imperial Tables, the cost of preparing which should be reckoned as a regular census charge upon imperial funds. Some of these tables were optional, but all have been prepared for Burma except Nos. XX and XXI which were intended to show the distribution by religion and by caste of persons engaged in or supported by selected occupations, and the distribution by occupation of selected castes, tribes or races. For these however a more complete table has been substituted in Burma as Imperial Table XX which gives a simultaneous classification of the whole population by occupation and by race. By the kindness of the Census Commissioner I have also been permitted to make in the forms of some other tables such modifications as seemed to make them more suitable to the special conditions of Burma while still giving the information required for the compilation of the All-India tables. In the same way the Census Commissioner kindly permitted the addition of Imperial Tables VIB and XIB and also Parts II and III of Imperial Table V and Part III of Imperial Table XXIIB. The cost of the last and of Imperial Table XIB however had to be met from provincial funds

Provincial Tables I and II are prescribed by the Government of India to give some statistics by townships, and the cost of these is also charged to imperial funds. Some prescribed columns of Provincial Table II, showing the number of literate in three age-groups for the whole population of each township, have been omitted as in 1911; they would be of no use in Burma and their preparation would involve a laborious and expensive modification of the tabulation system. Provincial Table VI, prepared at provincial cost, gives similar information, but more complete, for the Buddhists of each township. The Government of India also pays for the preparation of the Village Census Tables in manuscript; these are to be printed and published (as in 1911) in revised editions of the B-volumes of the district gazetteers at provincial cost. Provincial Tables III to VIII inclusive give statistics relating to the civil condition and literacy by age-groups in townships and in selected towns and amongst races in selected districts and townships; they were not prescribed by any authority, but were devised by myself to give some statistics which the Local Government desired to have provided for the use of the Public Health Department and to supplement the imperial tables with some of the more detailed information most frequently desired in local administration. They were prepared before the study of the age-distribution which is the foundation of Chapter V of this report was undertaken; otherwise more

* Since the greater number of the tables were prepared the grouping into divisions has been modified; the divisions shown in the census tables are those which existed in March 1921.

detailed age-groups would have been used in Nos. III, IV and V. But in any case the tables were regarded when they were being designed as tentative in form and content, the experience of their use in the ensuing decade being expected to show what modifications are advisable; and meanwhile they are believed to give, apart from the contraction of the age-groups, as much information of the kind desired as could be derived with a very small proportionate increase of expense from the records obtained while preparing the imperial tables. An account was kept of all labour and materials given to preparing these tables, and the cost was charged to provincial funds. The cost of printing them was not included in the census accounts at all; and save in certain special cases Provincial Tables III to VIII inclusive do not appear in copies of the Tables Volume of the report supplied to recipients outside Burma or to government officers in Burma who would not be likely to use these additional tables.

10. Accuracy of Enumeration and Tabulation.—Ordinarily an enumerator's block in the synchronous area contained about 30 to 40 houses and the instructions required that no block should exceed 50 houses. As the enumerator of each block lived generally within the block itself and never far away, he had local knowledge which enabled him to ensure that every proper person was included both in his preliminary record and in his final enumeration, and to check the answers given by householders to his enquiries relating to the several columns of the schedule. The supervising officers were officials whose census charges occupied the whole or some portion of their ordinary administrative charges, so that they were able to go about in their census charges and meet their census subordinates frequently. As the supervisor checked all the work of each enumerator, the preliminary enumeration-record was the joint product of the enumerators' local knowledge of the people enumerated and of the supervisors' knowledge and understanding of the requirements of the census record. The ideal method was that the enumerator should go from house to house making his record; and the supervisor should go over every entry in that record with the enumerator, correcting mistaken entries (*e.g. Buddhist* for race), by the enumerator's local knowledge as a rule, but by enquiry at the person's house when that knowledge failed; and for a large part of the record this was actually done. In this way the enumerator with his local knowledge could ensure that the enumeration was complete, while the supervisor could ensure the correctness of the description of each person entered; and at the same time the enumerator obtained practice in making records which would enable him to make correctly any additional records required at the final enumeration. The duty of census officers above the supervisor was to see that he understood the instructions and was applying them properly. For a comparatively few people a new record had to be made by the enumerator at the final enumeration; and these, being visitors to the village or travellers, would be strange to him. But as a rule the entries for them would be of types familiar to him from his preliminary work and the supervisor's check of that, and he should not have had difficulty in making correct records. Moreover as it was directed that all such new entries should not be associated with other entries of the same house but should be made at the end of the enumeration-book, the supervisor was able to examine them all very quickly on the day after the census and would generallyhave no difficulty then in putting them right.

In large non-synchronous areas the usual practice was for the local Assistant Superintendent or similar officer to tour through the area accompanied by the special enumerators. Each day he sent out enumerators to the villages near his camp (which was moved from time to time as this practice required) and went out to see them at work and give instruction and advice. In small non-synchronous areas there was generally a *myoôk* * or similar officer who went to each village and forthwith made the record with the assistance of his clerk. In both cases the record was thus made by persons who by practice and experience became expert, and who, it must be remembered, would have to make entries of a very uniform type throughout an ordinary village and often throughout a long series of villages; while in each village they would have the assistance of the local headman in getting the record complete. The system of recording the *de jure* population avoided the errors of omission and double counting which must otherwise occur. In previous censuses the method of making the non-synchronous

* A *myo-ok* in Burma is an officer of similar standing to a *tahsildar* in India.

records was left to the local officers, who would naturally adopt different methods in their several charges and probably introduced some errors in this way. I was informed that the previous procedure was that every enumerator recorded every person he came across; the final result of such a system would inevitably be many more double countings than omissions and the consequent exaggeration of the population.

Under these conditions it is reasonable to suppose that the ordinary records both in synchronous and non-synchronous areas were approximately correct. There were special blocks of enumeration such as pagoda-festivals, the boats on stretches of rivers, steam-boats, jetties, railway stations and running trains in which all the enumeration had perforce to be done on the night of the synchronous census and could not be very effectively checked. For these blocks however an effort was made to train selected enumerators and to have supervisors to make such check as was possible; and as these blocks included only a comparatively small part of the whole population in any extended area, it is probable that, although the standard of accuracy was lower in these than in the ordinary record, the total resultant error in any of the census tables was not sensibly increased by them, and that the enumeration-record as a whole was approximately correct.

In the copying of slips in district offices new errors were undoubtedly introduced. But a thorough system of checking was prescribed, and although the original preparation of the registers of the slips was badly done, the very investigations which their correction necessitated showed that the slips themselves had been done with a good degree of general accuracy; the discrepancy between the number of slips and the number of persons enumerated in each district was certainly negligible, and all the more frequent entries in the slips had been correctly shown, although rare descriptions, incomprehensible to the copyists and perhaps to some of the supervisors in the slip-copying offices, were sometimes mutilated or changed to something else of which they were supposed to be erroneous spellings. Some such errors occurred even in copying the Rangoon slips at the central census office, where it was afterwards found that some Christian sect had been substituted for *Christian Scientist* in a few slips and that the incredibility, natural to a Burman, that a person should return *No religion* caused a similar substitution to be made for at least one man who made that return. Such errors with regard to rare entries have however no important effect upon the final census tables; they alter by a few units some small numbers, but census tables must not be read as if they claimed to show every small number absolutely correctly.

At each successive stage of the work closer control becomes possible. Errors doubtlessly occured in the sortings in spite of the supervision and check, but it would be difficult as a rule for an error of significant magnitude to escape notice; even if such an error escaped the checker it would generally be revealed at a later stage of the work. For instance there is an *a priori* probability of the figures to be obtained for either the races or the languages returned by Buddhists of a particular township, and there is a close relationship between the two sets of figures. In the compilation of the results of the sortings no error ought to occur at all; the work is simply account-keeping and should have no more errors than the accounts of a bank; the staff has not the same quality as that of a bank, but there are checks and cross-checks at every stage which for some tables are an almost complete assurance of accuracy. One of the duties of the Superintendent was to prescribe such a system of compilation that checks upon the accuracy of the result were automatically furnished. Especially arethese necessary when sets of figures have to be copied, as for instance in extracting figures from registers toprepare the manuscript of the printed tables; in such a case totals were not copied but were worked out independently from the new copy and then compared with the original totals.

Thus the tables may be taken as representing very closely the actual enumeration-record which is itself approximately correct. But some word of explanation is needed to meet the criticisms which have been made by some from time to time and resemble closely criticisms made about the previous census. I need not be suspected of blowing my own trumpet in this because the enumeration was done as a matter of fact by staffs working under the deputy commissioners, and the tabulation was under the immediate control of the Deputy and Assistant Superintendents of the Census Operations. It was my business to devise plans for doing the work; but any credit due for the detailed

accuracy of the work belongs to those officers. An early public criticism was that made by the "Mandalay Correspondent" of a Rangoon newspaper who declared that no final enumeration had been made of his house. At my request the Deputy Commissioner enquired into the matter and found the record had been correctly made 16 days before the final enumeration; that on the actual census night the enumerator arrived at the house after midnight, and as he could not rouse the inmates he retained the preliminary record unchanged. In a sense it was luck that no change in the preliminary record was required. But, while one would prefer to have that record checked, it is a fact which can be demonstrated from the enumeration-books that *in ordinary residential areas* the the sum total of the changes made on the census night is so extremely small, that, even if quite a number of houses had been passed over in the same way instead of an exceptional one here and there, no measurable difference in the accuracy of the record would have resulted. This of course does not mean that the final enumeration can be neglected; the cases described are harmless because their numbers are kept small. There is much less likelihood too of such a case happening anywhere outside the largest towns. Several residents of Rangoon who met the Provincial Superintendent told him they had been omitted from the census. But on looking up the schedules these were all found duly recorded except the household of one military officer omitted by the military authorities; for this the Provincial Superintendent personally made a record which he added to the proper enumeration-book. The general reason for such complaints was a misunderstanding of the method of the census in spite of the explanations which had previously been published in the newspapers; in the final enumeration it was not necessary for the enumerator to meet every person, and in European houses the butler was quite capable of stating whether each person noted in the preliminary record was still living in the house. Some too thought they were omitted because they went that evening to an entertainment at which no census was taken; they were not aware that the preliminary record for their houses showed all the necessary particulars and that their continued residence there had been verified during their absence. More annoying were one or two people who were reported to have spoken airily in clubs of large or frequent omissions, but when asked by the Provincial Superintendent for particulars were unable to name a single omitted person or to indicate the house or even the neighbourhood in which an omission occurred. Apparently these were the greatest admirers of the census organisation; they saw so clearly the magnitude of the difficulties of a census that they could not credit its success. Naturally a few wits here and there, in the presence of their admiring friends, made extremely facetious returns; any of them who read this will be interested to learn that in each census table they have been classified as just average people, because this leads to no significant errors and is a more convenient and simpler solution than treating them as of no class at all. Errors of omission did undoubtedly occur in enumerating Indian labourers, particularly in Rangoon where they are most numerous; and probably a considerable number of them escaped enumeration. But when all these defects are examined with a due sense of proportion they are not found to be serious. Few realise that an error of 100,000 would affect the total population by only three quarters of one per cent; but the real error is almost certainly much less than that, and moreover the precise total of the population is not the only important number of the census. It is of course a fundamental requirement that there should be a very small proportion of omissions and double countings; but as soon as a reasonable approach to accuracy in the total has been attained, its proportional variation from census to census in definite areas, which is a much more important consideration, is indicated with even greater accuracy. Then the correct classification of the total by the different particulars recorded in the schedule and the meaning of the distribution shown for that total amongst the districts, townships, towns and village-tracts become much more important than an expensive striving to remove the last vestige of difference between the recorded total and the total number of persons that would be seen within the boundary of the province (assumed to be everywhere precisely defined) by a supernatural being capable of taking them all in at a glance. Articles 3, 5 and 6 of this Introduction show in fact that in some ways the recorded total is a conventional figure developed from the particular arrangements used to assimilate the synchronous and non-synchronous areas. The proper question relates not to the agreement of the recorded figures with some imaginary total, but to their meaning.

11. Delay in completing the census.—Unfortunately the work of tabulation was unduly prolonged. In the other Indian provinces the introduction of the Reforms Scheme had been completed before the census took place; but in Burma the preparations for it were starting when the slip-copying was about to be done. Besides this the district officers were occupied with the many matters that arose out of the problem of the utilisation of the profits of the Rice Control of the war-time. These so absorbed the attention and time of district officers that the slip-copying was left too much to subordinates, who failed to understand the importance of accuracy in their records and the necessity of careful obedience to the details of their instructions, and the close supervision of their staffs necessary to attain these. Consequently when the slips and records were received in the central office the Provincial Superintendent and Deputy Superintendent were compelled to make long investigations into discrepancies, and the whole work of tabulation was seriously delayed The staff had to be reduced because it was not possible to pass the district records fast enough to keep all employed. Various special arrangements were made to let the work proceed with the records of parts of some districts while the errors in the remainders were being set right; this involved extra labour however which in some measure reduced the amount of time it saved. References to district offices to put difficulties right often took a long time, Deputy Commissioners constantly reporting that as they had left the original copying so entirely to their subordinates they knew little or nothing about it and had had to spend a long time enquiring. The demand for the personal attention of myself and the Deputy Superintendent to the errors made in the district offices also reduced our capacity for supervision of the actual tabulation; and errors resulted which afterwards took time to investigate and correct. A strike of the staff for higher pay dislocated the work and delayed it more than the week for which the strike actually lasted. Not during the strike but at intervals during the next six months several cases of sabotage of the records occurred which cost much of the time and personal attention of the officers. Some cases of slips from the Pakôkku district were stolen from the train on their way to Rangoon; the chagrin of the thieves on finding in the boxes only many thousands of slips of paper of various colours 2 inches wide and 4½ inches long may be imagined, but even the contemplation of this did not relieve me of the annoyance and delay of obtaining the original enumeration records from the district and preparing fresh slips. In the long delays thus experienced in one way and another there was often a temptation to accept a lower standard of accuracy; but constantly it was found that this would have left some serious error of which the effect was temporarily masked by an equally serious error in the opposite direction but would have vitiated the work at some later stage.

The principal cause of the delay was the neglect by the officers in subordinate charge of the slip-copying work to carry out the instructions in the Code issued by the Provincial Superintendent In every case it was possible to point out an instruction obedience to which would have prevented the errors committed. Even such a simple instruction as that in each line of the register the figures in the total column should equal the sum of those in the subordinate columns was often ignored although special emphasis was laid upon it in the Code; and consequently the registers submitted by some districts had errors of addition upon every page which had not been detected. Even the packing of the slips was badly done; slips were mixed with slips of other areas or were omitted from the packages altogether, and the slack supervision in some districts was clearly shown by the subsequent receipt of some missing slips, occasionally under conditions which showed that they had been sent irregularly. The combination of errors in packing and errors in the registers which served as invoices for the parcels naturally raised extraordinary difficulties, and often one was tempted to incur the expense of re-copying all the slips of a township or even of a district instead of tracing the errors in the work of the district office—it is indeed possible that in some cases this would have been either cheaper or quicker, but naturally much of the work of correction had always been done by the time this became apparent. All errors of any significance were eventually corrected; but altogether, in spite of strenuous efforts to expedite the work, these various difficulties, in combination with the difficulties met in obtaining reasonable records for the Special Industrial Census and clearing up the Accountant-General's census accounts, caused a delay of not less than eight and possibly as much as ten months. In the census of 1911 all the slips had been written and sorting completed by the first week in October 1911, and compilation had already begun in August. On this occasion

when the slip-copying was done in district offices away from my immediate control there were still some units left in which the errors of slip-copying had not been put completely right in March 1922, although this was a whole year after the enumeration and corresponded to a time when Mr. Morgan Webb had finished his tabulation for the census of 1911 and half-finished his report. Of course the work for other units was well advanced by that time, and for some districts it had been completed. But compilation had often to await the records for these last districts, and it was impossible then to make up for the delay by increasing the staff. Although the interval between the enumeration and the publication of the report exceeds that of the census of 1911 by a whole year, it must be noted that Mr. Morgan Webb was relatively six months earlier than his predecessor and that the tables are more complex on this occasion than in 1911. Allowing for this and comparing with other provinces the delay in publishing the tables and report may fairly be put at about six months, so that I may claim to have made up part of the time lost, while much of the remainder of that time must be reckoned as part of the price of introducing the reforms and utilising the profits of the rice-control. At next census the obvious course is to secure the more immediate attention of the deputy commissioner or other responsible officer to the slip-copying and the Special Industrial Census, and a prompt and efficient check of the census accounts in the Accountant-General's office.

12. **Special Industrial Census.**—In addition to the census proper an enquiry into the numbers of persons of various classes employed in *Industrial Establishments* was made under the title of the Special Industrial Census. The statistics derived from this appear as Imperial Tables XXIIA and XXIIB. Part A of Chapter XIII of this report gives some account of the enquiry and of the difficulties met in getting an approximately correct record; at least 30 working-days of the delay in completing the census must have resulted from the necessity of a detailed examination by myself of every schedule and the drafting of enquiries for corrections—that indeed is a very low estimate.

13. **Additional Enquiries.**—Part B of Chapter XIII of this report gives an account of the collection of a few statistics relating to the economic life of the province. Appendix C is a note upon the occupations of Mandalay District. Enquiries into overcrowding and fecundity were also suggested but were put aside because they were inimical to the success of the regular census. The reasons for putting aside the former are given in Article 54 of Chapter II of this report. The latter was not referred to the Local Government; statistics to assist in such an enquiry rather than such an enquiry itself are the proper sphere of a census; but even special statistics, such as those of the size of the family of mothers of various ages, were not sought because the agency available is not capable of providing records worth the paper they would require, and would probably have been so overwhelmed by the addition of this work that the whole census would have failed

14. **Preservation of Census Records.**—The enumeration-books of the census of 1921 are preserved in the record-rooms of the districts to which they belong. They are not open to casual inspection, but are available, under suitable precautions and with the written permission of the deputy commissioner, for the compilation of sociological statistics by any *bona-fide* investigator. Save in the case of Rangoon Town District for which all the records except the enumeration-books are deposited in the office of the Corporation, Slip-copying Register A, which shows the distribution by sex and religion of every block and every hamlet of every village-tract, and Slip-copying Register E, which shows the number of persons of each sex with each tabulated infirmity in every census circle of the district, are also deposited in each district record-room together with other documents relating to the census which are probably of interest only to the officers who will conduct the census of 1931. Slip-copying Registers A and E for each municipality however were offered to the municipal committee on condition that they would take care of them; in many cases they were accepted and are accordingly preserved in the municipal offices. For each district a short report was prepared by the deputy commissioner describing amongst other things influences which affected the census record of the district and of its towns,—*e.g.* the absence or presence of a particularly large number of people on account of some festival. Most of the reports also give a summary of the health-history of the district for

the preceding decade. These reports have been bound up and deposited with the Director of Public Health in Rangoon together with a volume of similar reports from the census of 1911. Certain correspondence files relating to the records of languages and races are also being preserved in the Secretariat Library in Rangoon as well as a copy of the Codes issued in connection with the census operations.

15. Cost of Census.—Census expenditure has been recorded by two methods, "Treasury" and "Departmental." The main difference between the two is the inclusion of the full salaries of officers deputed to census work in the Departmental accounts, while in the Treasury accounts only the addition made to their salaries in recognition of their additional work and responsibility, and the net cost of employing substitutes for them are included. The cost of the census of 1911 was reduced below that of the census of 1901; the cost on the present occasion has been increased partly by the much greater elaboration of the tables, partly by the rise in the price of paper and printing, partly by the rise in the price of labour for tabulation, and partly by the prolongation of the work as explained in Article 11 above. A few disbursements have still to be made, but there is no room for any considerable error in the estimates for these which have been included in the sums recorded in the margin hereby.

Cost of Census.

Year.	Departmental Accounts. (Rupees.)	Treasury Accounts. (Rupees.)	Cost—Pies per head.	
			Departmental.	Treasury.
1921 ...	388,895	289,172	5·6	4·2
1911 ...	174,927	128,897	2·8	2·0
1901 ...	186,457	132,314	3·4	2·4

Part II.—The Natural Divisions.

16. Constitution of the Natural Divisions.—Although the needs of practical administration require the entries in the Imperial Census Tables to be arranged generally by administrative divisions, this is not a convenient arrangement for a study of the tendencies exhibited by the statistics. For this purpose it is desirable to divide the province rather into parts in which the natural features and other important conditions are approximately uniform, and such parts are called *Natural Divisions*. In the report on the census of 1911 Burma was nominally divided into five *Natural Divisions*. It would be more correct however to say that four areas of approximately uniform conditions were marked off; and the remainder of the province, consisting of the Federated Shan States and the Karenni States on the east and the Chin Hills and Pakôkku Hill Tracts on the west, was tabulated simply as a remainder-unit under the title *Specially Administered Territories*. Even in administration however there was not uniformity in this remainder, and moreover the title was misleading because there were specially administered territories included in some districts which formed part of the four true natural divisions; the real distinguishing feature of this so-called natural division was the negative character that in it Burmese racial influence was of a subordinate character, while in the four other divisions that influence was dominant. It was of course the difference of physical conditions which established this negative racial feature; but the eastern and western portions of the *Specially Administered Territories* differ completely in physical and racial conditions, not only from the general Burmese area, but also from each other. The western portion consists of much wilder country than the eastern and is inhabited almost exclusively by races of the Chin group, who have been much more isolated from other races and are of much more primitive culture than the Shans who dominate the greater part of the eastern portion and have a culture developed in intercourse with the Burmese and Chinese and with traders and Buddhist missionaries from India. The eastern portion too includes much wild country and many primitive tribes; but there are also cultivated plains and undulating uplands of small elevation. The Shan influence is dominant nearly throughout the Federated Shan States which occupy all the eastern portion except a comparatively small area in the south occupied by the Karenni States, where Karen tribes with an animistic religion instead of the Buddhism of the

Shans are dominant. With these conditions, and with the convenience of treating the Federated Shan States separately from the rest of the province, it is inevitable that the system of natural divisions adopted in 1911 should be developed by regarding the four true divisions of that system as subdivisions of a *Burman* division, and dividing the *Specially Administered Territories* into Chin, Karen and Shan divisions. As however all except one-fourteenth part of the Karens of the province live within the Burman or Shan divisions it would be misleading to use the name *Karen* for another division; the division which includes Karenni has therefore been called the *Salween* division after the name of the river which is its most important physical feature.

The Natural Divisions adopted for the present census are thus named the Burman, Chin Salween and Shan divisions. The last three are shown in colours on the map which forms the frontispiece of this report and are shownalso in the map facing this page; the districts and other tabulation-units of the Imperial Census Tables included in them are as follows:—

CHIN.	SALWEEN.	SHAN.
Hill District of Arakan.	Salween District.	The Northern Shan States.
Pakokku Hill Tracts.	Karenni States.	The Southern Shan States.
Chin Hills District.		

The *Burman* division is divided into four subdivisions named Delta, Coast, Centre and North, which are shown on the map facing this page as well as in the frontispiece, and are defined by the following lists of districts:—

DELTA.	COAST.	CENTRE.	NORTH.
Rangoon.	Akyab.	Prome.	Bhamo.
Insein.	Kyaukpyu.	Thayetmyo.	Myitkyina.
Hanthawaddy.	Sandoway	Pakôkku.	Katha.
Tharrawaddy.	Amherst.	Minbu.	Putao.
Pegu.	Mergui	Magwe.	Upper Chindwin.
Bassein.	Tavoy.	Mandalay.	
Henzada.		Shwebo.	
Myaungmya.		Sagaing.	
Ma-ubin.		Lower Chindwin.	
Pyapôn.		Kyauksè	
Toungoo		Meiktila.	
Thatôn.		Yamèthin.	
		Myingyan.	

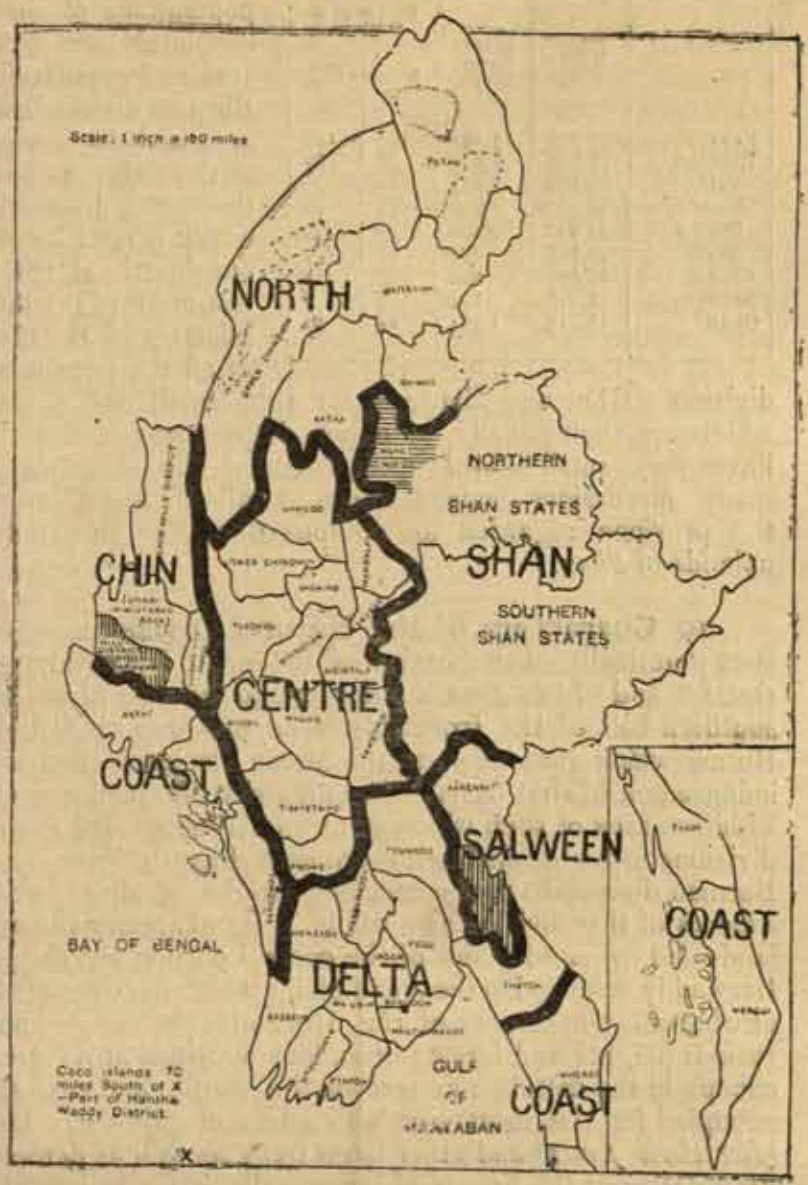
In this report the simple term *division* will generally be used to cover both the four natural divisions and the four subdivisions of the Burman division except where confusion is likely to result. Frequently too the term *division* will be omitted where the simple names Burman, Centre, etc. are clear; and the whole of Burma including the Shan States and Karenni and the Chin Hills and all other territories subject to the Government of Burma will commonly be represented by the term *Province* to avoid confusion between the Burman natural division and the whole of Burma.

The Natural Divisions so constituted have definite and distinctive physical and ethnic characters, which are treated in some detail in Articles 19 to 24 below. Naturally the distinctions are blurred near the boundaries of divisions; but, as practical considerations forbid the division of any administrative district between two divisions, such blurring could not be avoided. In fact the blurring is less than would naturally be expected. In most parts of the country the change from lowlands to hills is comparatively sharp; indeed in many parts it is extremely abrupt. And the natural result of the wide extension of the power of the kings of Burma was that the ethnic boundaries should be pushed back as far as desirable towards the hills and share the same sharp definition. There are Chins living on both sides of the hills known as the Arakan Yoma which stretch down from the Chin into the Burman division and mark off the Coast subdivision of the latter; but these Chins are only a small fringe, and most of them, having been modified by their contact with Burman civilisation, differ considerably from the Chins of the Chin Division, and are about as fairly included in the Burman division as they would be in the Chin. The eastern parts of the Toungoo and Thatôn Districts resemble closely the characteristic parts of the Salween division; but the line must be drawn along a district boundary, and neither of these districts could possibly be put into the Salween Division as a whole. There was most difficulty in settling the position of the Thatôn District. In many

ways it is more like the Amherst District, which adjoins it on the south and undoubtedly belongs to the Coast subdivision, than the Pegu District which adjoins it on the north and belongs to the Delta subdivision. Particularly there are its heavy rainfall of 218 inches and the character of the narrow slope down to the Gulf of Martaban in its southern parts. But the advantages of retaining the grouping of 1911 as far as possible led to the decision to keep Thatôn in the Delta Subdivision.

17. Natural Divisions of 1921 and 1911 compared.—The natural divisions defined in the preceding article are shown, as already stated, in the map which forms the frontispiece of this report, and they are shown again in Map 4 hereby. With the aid of the following notes this map also shows in a convenient form the result of comparing the divisions of 1921 with those adopted in 1911, which are defined by the lists and map on pages 5 and 6 of the report of the census of that year. The *Delta* and *Centre* subdivisions respectively coincide almost with the divisions of 1911 called the *Deltaic Plains* and *Central Basin*; although administrative changes in the meantime have caused the addition of the name of Insein in the list of districts for *Delta*, the real differences for either of these divisions are restricted to a few slight changes of the boundaries of some of the districts along their edges. *Coast* differs from *Coast Ranges* of 1911 by excluding the Hill District of Arakan and the Salween District, which are distinguished in the map by vertical hatching and have now been included in the Chin and Salween divisions respectively; neither of these districts is near the coast, or has anything of the character of the other districts of the Coast subdivision, while each is closely allied, both in physical features and in the nature of its population, with the other parts of the natural division to which it has been transferred. Indeed in the case of the Hill District of Arakan, which both physically and ethnically resembles very closely the Chin Hills and the Pakôkku Hill Tracts, the change from the conditions of tke Akyab District is large and extraordinarily abrupt and takes place precisely at the boundary of the two districts. *North* differs from *Northern Hill Districts* of 1911 by the addition of the Putao district in the extreme north of the Province, which in 1911 was omitted because it had not yet been brought under the Government of Burma, and by the transfer to the *Shan* Division of that part of the Ruby Mines District which is distinguished by horizontal hatching in the map and consisted of the Mông Mit Shan State and its dependencies; the remainder of the Ruby Mines District is still included in

MAP 4—NATURAL DIVISIONS



the *North* subdivision because it has been added to the Katha District. The changes from the system of 1911 can thus be described as the addition to *Northern Hill Districts* of a new district not administered in 1911 and the transfer of two districts and a state to *Specially Administered Territories*, followed by the association of the four true natural divisions of 1911 as subdivisions of a single Burman division, and the dissection of the *Remainder* division of 1911 into three true divisions.

18. Comparative Areas and Populations of the Natural Divisions.—In the margin are shown the areas and populations of the natural divisions, both absolutely and in proportion to the total area and population of the province. The Burman division includes two-thirds of the area and seven-eighths of the population of the entire province, and thus dwarfs all the other divisions. The Shan division, which is next in order of magnitude, has one-fourth of the entire area and nearly one-ninth of the total population or three-quarters of the area and nearly five-sixths of all the population outside the Burman division. Chin and Salween are thus small and sparsely populated divisions which are numerically of minor importance compared even with Shan, and have very small effect upon most of the statistics of the province. For many discussions indeed these small divisions might be neglected, and the province regarded as composed of the lowlands of *Burman* and the uplands of *Shan*.

Divisions.	Square miles.	Population (Thousands).	Percentage of Province.	
			Area.	Population.
Province...	233,707	13,192	100	100
Burman ...	157,848	11,504	68	87
Delta ...	*35,195*	*4,821*	*15*	*37*
Coast ...	*35,463*	*1,598*	*15*	*12*
Centre	*44,482*	*4,406*	*19*	*33*
North ...	*42,708*	*680*	*18*	*5*
Chin	12,600	160	5	1
Salween ...	6,946	114	3	1
Shan ...	56,313	1,434	24	11

19. Characters of the Natural Divisions.—The Burman division consists practically of the basins of the great Irrawaddy and the smaller Sittang rivers,* and of two coastal strips, one to the west of the western watershed of the southern half of the Irrawaddy basin, and one consisting of the long tongue of Burma which runs down to the Malay Peninsula and is quite remote from and independent of that basin. The diversity of conditions, which is to be expected within an area of such wide extent and is recognized in the formation of four subdivisions within it, makes it more convenient to leave more detailed discussion of Burman division to the succeeding articles, dealing now only with the broader aspects of that division as a whole. Its characteristic areas are the rolling uplands and irrigated plains of the central portion and the swampy rice-fields in the Irrawaddy delta and in the broad plains which have resulted from the slow elevation of what was the estuary of the Irrawaddy in earlier times. There are hills of various heights and forests of various densities at no great distance everywhere except in the deltaic rice-tract in the south, and even the mouth of the delta is occupied for the most part with a belt of mangrove forest with great *kanazo* (*Heritiera fomes*) and other large trees as well as dense undergrowth. And the exploitation of the forests of Burman division is an important part of the industry of the province. But the greater and the characteristic part of the population is in the rice-fields and cultivated uplands; generally the hills are inhabited, if at all, by primitive races which take little or no part in the characteristic life of the division. The higher levels of the watershed on both sides of the middle portion of the course of the Irrawaddy are excluded from the Burman division; on the west they are included in the Chin division and on the east in the Shan and Salween divisions. The Chin division, which is of comparatively small area and sparsely populated, extends westwards across the watershed to include part of the nexus of the hills which extend down that side from the eastern end of the Himalayan system. The Shan division occupies part of a great ridged plateau, also connected with the Himalayan system, which extends across into China. The Salween division is a small part of the basin of the Salween river including an extension of the Shan plateau. The Chin division on the west is physically much wilder and more rugged than the Shan division on the east; the latter includes besides forest-land much gently undulating country growing

* The Sittang channel is possibly part of the old Irrawaddy as this was before it joined the Chindwin.

wheat, potatoes and other dry-land crops and some broad valleys growing rice in swampy fields, while in the former cultivation consists of primitive hill-side cultivation yielding little more than is required for the actual consumption of the cultivators. The difference corresponds to a difference of culture; but that is itself the result of the physical conditions which have isolated the Chins from the rest of the world, but have permitted and even encouraged intercourse by the Shans with China, Burma and India.

The ethnic characters of the divisions are shown by Subsidiary Table I of Chapter XI. The summary at the foot of that table shows that in all the divisions the indigenous races largely predominate; but particularly in Burman and to some extent in Shan other races also play a part. The Chinese in Shan however are chiefly Yünnanese who have spread across the border from China and in a sense are not much more foreign in the Shan States than the Shans; the Chinese other than Yünnanese are almost confined to the southern parts of Burman. The small numbers of foreign races in Chin and Salween represent chiefly the officers and police of the administration, and some part of their numbers in Shan is accounted for in the same way. Thus the foreign population is nearly confined to Burman division, which also includes practically all the Zerbadis and Arakan-Mahomedans, who are mixed Indo-Burman races which in some ways seem to attach themselves to the Burmese but in others are rather Indian. Of the indigenous races those of the Burma group largely exceed all others. The Talaings have now become so closely assimilated to the Burmese that for this table they are properly included in the same entry; their number is nearly 324 thousands of which all save a mere handful are in the Burman division. The entries for the Burma group include also other races than the Burmese proper, and the figures given in this line for Shan division include comparatively few Burmese and consist largely of such races as the Danu, Intha and Taungyo; but the figures given for Burman division consist chiefly of the Burmese and Talaing and such races as Arakanese, Yanbye, and Tavoyan which are so closely allied to the Burmese proper, that, apart from ethnological discussions, the term Burmese generally includes them. In this sense of the term, the Burmese race is much the most numerous in Burman division and is almost confined to it; so that this division is clearly distinguished as the domain of that race. With the Burmese are associated in Burman the majority of the Karens of the province; and most of these, as with the Burmese, are of a different character from most of those of the same ethnological group in the other divisions. The principal part of them are cultivators in the swampy rice-fields of Delta instead of jungle-folk living on hill-sides, as are many of those in the other divisions; and they have been affected by their close contact with the Burmese, a large number using Burmese as their ordinary or even sole language. Indeed while the Karens of Burman cannot be classed together with the Burmese in the same way as the Talaings, there is perhaps no way in which the essentially Burmese character of that division is more clearly shown than in the Burmese influence upon the Karens. Turning to Shans we find one-third of all in the province are in Burman division, but most of these, and in fact nearly one-fourth of all in the province, are in the North subdivision; even there they have become Burmanised, and in the other subdivisions where they are few they are often very much Burmanised. The other indigenous races of Burman are chiefly located in the hills in its extreme north and around its border; and they have little or no influence on anybody outside their own local areas.

The population of Shan has been incidentally described in some measure in the foregoing notes on Burman. Nearly one-half of it is Shan and another quarter of it is of the Burma and Karen groups; the remainder consists of the Yünnanese, whom one would expect to find in a district bordering on Yünnan, and numerous more or less primitive tribes of which some are localised in Shan and some are off-shoots from larger bodies in Yünnan. The proportion in Shan division of Indians or of other races from other places in the west is small. The population of the Chin division consists almost solely of Chins and the few officers and police of the administration; the Chins there are more primitive than those in Burman, most of whom have been largely influenced by contact with the Burmese. Salween is primarily a Karen division, although, as noted before, it includes only a little over one-fourteenth part of the total Karen population, of the province; Karens make up four-fifths of the entire population, and of the remainder four-fifths are Shans and one-fifth Burmese while a mere sprinkling is of other races.

20. The Subdivisions of Burman Division. – All the four natural subdivisions of Burman share the general characters of the division, namely, much the greater part of the population is Burmese by descent and culture, and the populated parts of the surface are level or gently undulating and of small elevation. Except along the boundaries of the division really considerable hills are confined to the North subdivision. At any place in Centre hills which bound that division can be seen stretching down the eastern and western sides like two large ramparts, but there is little highland actually within the division. A large part of Delta is so flat that a rise of twenty feet attracts attention and is regarded as a hill. In Coast the surface is more broken because there is little of it beyond the slopes of the hills which form the inland boundary. Amongst other things which distinguish the four divisions is the rainfall; the clouds which come up from the Indian Ocean break on the hills behind Coast subdivision and are drained of their moisture so that Coast becomes very wet and Centre is dry. Delta gets a good measure of rain although it has no very high hills to break the clouds and North also gets a fair measure. In the last column of the table placed in the margin hereby is shown the percentage of the whole cultivated area of each division which is devoted to rice. Following the nature of the rainfall this percentage is about 90 in Delta Coast and the plains of North but only about 30 in Centre. In Centre however other food-crops make up together a higher percentage than rice. Subsidiary Table I at the end of Chapter I, on which the marginal table has been founded, shows the percentage of the cultivated area devoted to various crops in each district; but in studying its figures one must remember that all gardens, including house-gardens as well as orchards, which exceed one-tenth of an acre, are assessed to land-revenue and included accordingly in column 16, *Other Crops*, where they have proportionally much more effect than in columns 6 and 7 in which of course they are also included. When this is noted, the degree to which cultivation is confined to rice outside Centre is even more striking. Centre division is in fact the only part in which there is a real diversity of crops. In other divisions crops other than rice are in large tracts quite unknown and are always of subsidiary importance; in Centre 30 per cent of the cultivated area is devoted to rice, 13 per cent to beans, 18 per cent to other cereals and pulses, 24 per cent to oil-seeds and 15 per cent to other crops. In recent years the cultivation of the ground-nut has been developed and extended and has enabled more profitable use to be made of much land on which it was difficult to cultivate other crops with advantage.

Rainfall in Burman Division and percentage of culturable area cropped with rice.

Subdivision.	Usual annual Rainfall.	General Character.	Rice Area.
	Inches.		
Delta ...	80 to 130	Wet ...	91
Coast ...	63 to 210	Very wet ...	86
Centre ...	34 to 38	Dry ...	30
North ...	60 to 79	Moderate	91

Subsidiary Table I of Chapter XI shows the racial characters of the four subdivisions and their relative contributions to the racial composition of Burman division. In Delta and Coast subdivisions there is a considerable Indian element in the population; but in the remainder of Burman the population is almost confined to indigenous races which thus make up nine-tenths of the population of the whole of Burman. On account of the importance and numerous differences of the four subdivisions, further notes on each will be given separately in the succeeding articles, throughout which all figures quoted for races by natural divisions are taken from Subsidiary Table I of Chapter XI.

21. Delta.—The Delta subdivision includes more than one-third (37 per cent) of the population of the province, although it has only between one-sixth and one-seventh (15 per cent) of the total area. It consists roughly of the old province of Pegu, and approximates to the area occupied by the former Talaing kingdom which disputed with the Burmese so long for the hegemony. Except in comparatively small areas, mainly in the Pegu and Thatôn districts, the Talaings have been completely absorbed by the Burmese, and no account is taken of the strain of Talaing blood which must exist in many of those of this division who are regarded as Burmese; most of these in fact are probably quite unaware of their mixed descent, and the Talaing language is in general use only by a little over one-quarter even of the Talaings in the division, and (so far as this subdivision is concerned) only in the Thatôn district. Much of the Burmese

population of Delta however is free from the Talaing strain, because large stretches of the division, which had either never been cultivated before or had relapsed into jungle after the ruthless wars of earlier times, have been colonized in the last thirty or forty years by Burmese from Centre subdivision. Besides the Burmese there are in Delta practically no representatives of any other race of the Burma group. Delta includes however most of the Karens, most of the Chinese other than Yunnanese and most of the Indians and other foreigners of the province. The Karens of this division are as a rule agriculturists living in the plains; they are on good terms with the Burmese and have their villages scattered amongst the Burmese villages, but they do not generally live in Burmese villages and they often limit their intercourse very closely to their own race. They extend however practically throughout the division. The Chinese of Delta include a large number of carpenters and other wood-workers who live generally in the towns; but a still larger number are engaged in trade of various kinds. They carry on a great deal of wholesale trade and take a great part in the collection of the rice-harvest and its transport to the husking mills; and, in every village large enough to support him, a Chinaman with a general shop will be found acting as a nearly universal provider. There are no Chinese villages nor (outside the largest towns) any large aggregations of Chinamen; they are sprinkled everywhere with one or perhaps two families in a village. The Indians form a much higher proportion of the population in the towns than elsewhere, and particularly along the railways and steamer routes; but in the more densely inhabited parts of Delta they are to be found in nearly every Burmese village, though generally confined to a particular part of it, and in addition they have many hamlets of their own. More of the Indians are engaged in cultivation than in any other single occupation; but this is not generally recognized because even in this occupation they still form only a small minority. In proportion to other races Indians are chiefly occupied in industries, transport and trade, which together occupy more of them than agriculture. A considerable number too are engaged in domestic service. It is in Delta that the employment of Indians for all organized industries, for all work of monotonous repetition or tedious application, and for toilsome manual labour of all kinds is so marked; but, as the Burmese have hitherto concentrated upon the agricultural development of their country, Indians also supply more than the proportion corresponding to their total numbers of those engaged in superior or more remunerative work as skilled workers in industrial establishments, shopkeepers, merchants, and in the learned professions. In some parts considerable areas of agricultural land have been bought by successful Indian traders of all kinds.

Physically Delta is not entirely deltaic in character; there are parts, chiefly towards the north, where, although the land was originally built up as a delta, the deltaic character has disappeared. But there is very little upland, and 91 per cent of the whole cultivated area is devoted to the swamp-cultivation of rice; in some districts the proportion of the cultivated area given to other crops than rice is as little as 2 per cent although many small gardens which are really house-compounds are included in this figure. Along the western part of the coast there is little population; a broad tract of mangrove forest runs across a great part and cuts off the few small fishing-villages on the coast from the main bulk of the population. Cultivation is eating into this forest on the northern side; but its progress though phenomenally rapid twenty years ago is now retarded because it has reached low levels in which salt tides enter and involve heavy expense for embankments, while the salt impregnation of the soil diminishes the outturn. A slow advance still goes on, anticipating in some measure the steady elevation of the land; but there is no longer the fevered development of the previous generation. Of the whole area the proportion actually occupied for cultivation is 35 per cent. The proportion culturable is shown by the Land Records Department as 55 per cent; but this includes much that could only be cultivated unprofitably, and the true figure for land profitably cultivable at the present time is certainly much less, and, allowing for rivers, fuel reserves and other forests and areas required for habitation, grazing farm-cattle and other purposes, is probably under 40 per cent. Thus the Land Records Department's estimate that 60 per cent of the culturable area is actually cultivated is also too low; probably the true figure, if the allowances just mentioned are made, is over 90. As time goes on however the process of slow elevation which has removed the deltaic character from the more northern parts will permit the extension of cultivation southwards into land on which salt

tides now render it unprofitable. Further extension of cultivation may also result from a wider adoption than at present of stall-feeding for cattle. The annual rainfall averages 218 inches in the Thatôn district, but in all other districts of the division it ranges from 80 to 130. There is thus no question of uncertainty of the harvest on the score of drought. Moreover, a large area in the most fertile parts of the really deltaic portion is irrigated twice daily by the tides, which in rising overflow the banks of the creeks and in falling drain the fields again, thus ensuring completely against stagnation or even temporary difficulties arising through irregularity of the rain. Many holdings, and in some places areas of moderate extent, are liable to loss of part or all of the crop through flooding; but for the main part some harvest is certain and its amount is liable to less fluctuation than in some other parts of the province.

22. **Coast.**—The Coast division consists of two separate narrow strips of littoral at the foot of a range of forest-covered hills and roughly coincides with the two old provinces of Arakan and Tenasserim. It occupies two distinct portions of the coast separated by the coastal portion of the Delta division. The northern portion of the division includes, besides the slope from the hills, the two large islands of Ramree and Cheduba and several smaller islands which together hold most of the population of the Kyaukpyu district; the southern portion includes the Mergui Archipelago, but with that there is little population associated. Both portions open out at their northern ends to a wider plain; and this is especially so in the case of the Arakan portion, where the Akyab district is largely deltaic in character. The association of two widely separate parts into one division is at first sight anomalous, and it must be admitted that there are many differences between Arakan and Tenasserim. Yet the resemblances seem to over-balance those differences and to make Coast a real natural subdivision and not a mere remainder.

The northern part of the subdivision is roughly the old kingdom of Arakan which was finally incorporated in the kingdom of Burma only in 1784. Originally the Arakanese were a part of the same stock as the Burmese, but they were separated from the main body about 2,000 years ago. Arakan however suffered many invasions at various times throughout its history by the kings of Burma, who often raised or deposed Arakanese dynasties; the Arakanese and Burmese races have thus been constantly in close contact, each affecting the evolution of the other. Differences between the two races have been caused by the intercourse of Arakan with Bengal and Chittagong. At one time Arakan was tributary to Bengal; at another time, in the fifteenth and sixteenth centuries, Arakan conquered Chittagong and retained it for half a century Such connections are only outstanding points in a history of much intercourse, and they imply a considerable influence of Bengal and Chittagong upon the development of the Arakanese race. The Bay of Bengal which has served to facilitate the contact with Bengal has also been a highway for Arab and other traders who have influenced Arakanese development; and even apart from these foreign influences the Arakanese on the sea-coast must have developed a little differently from the inland Burmese. But in spite of the many differences thus engendered, the Arakanese, Yanbye and Chaungtha races, who make up the main bulk of the population, are still essentially of the same racial stock as the Burmese, speak the same language with slight dialectical variations, and have the same religion and other main characteristics. An interesting illustration of this rule is afforded by the exception of the race of Arakan-Mahomedans, numbering 24 thousands, who are descended from unions of Chittagonians or Bengalis with the Arakanese; these object to being classed with their co-religionists the Chittagonians, and consider themselves much more closely related to the Arakanese Buddhists amongst whom they live.

For Tenasserim the sea has played a somewhat similar part by bringing various traders to its shores and inducing the establishment of trading colonies, chiefly Indian. In former times there was a trade-route through old Tenasserim town by which goods were exchanged from India and the East Indian islands. Tenasserim has not had so much contact as Arakan with the Burmese. In former times it was ruled sometimes by Talaings, sometimes by Siamese; and it was in the possession of the Siamese in 1757 when the Burmese king Alaungpaya (Alompra) followed up his conquest of the Talaings by depriving the Siamese of Tenasserim; but after that Burmese influence and population rapidly became

dominant. In the Amherst district the Talaing population is still, as the table in the margin hereby shows, over two and half times as great as the Burmese population which is also exceeded by the Karens. In the Tavoy district 128 thousands were returned in the census as Tavoyans, but these would be regarded by many as a local variety of Burmese; they themselves claim to be descendants of Mro sea-pirates of Arakan who were banished by the king of that country for attacking certain Indian trading ships. In Mergui almost none described themselves as Tavoyan or Merguese; and 82 thousands or four-fifths of the Buddhists described themselves as Burmese. Thus in the whole Tenasserim portion of the division, consisting of the Amherst, Tavoy and Mergui districts, the population of Burmese and closely related races, though only about two-fifths of the whole, is much greater than any other single element; and, if its numbers are combined with those of the Talaings who resemble it so closely in culture, the combination makes up two-thirds of the whole, which is about the same proportion as is given by a similar calculation for Burmese, Arakanese, Yanbye and Chaungtha in the Arakan portion of the division.

Population of Amherst district.

Class.	Thousands.
Burmese ..	69
Talaings ..	187
Karen ..	84
Others ..	78

Population of Amherst, Tavoy and Mergui districts.

Burma Group ...	288
Talaing	189
Karen	119
Indian	54
Others	67
Total ..	710

The other indigenous races of Coast division besides the Karens and the Talaings and the congeners of Burmese are chiefly the Chins in the Arakan portion of the division. These generally live under somewhat primitive conditions on the western slopes of the Arakan Yoma, which are the hills separating Chin division from the Arakan portion of the Coast division; they have been modified by contact with the Burmese and are not so wild as those of Chin division, but they have no appreciable influence upon the Arakanese and Yanbye and other more advanced races and do not therefore affect the general life of the division.

In spite of the intercourse with India the foreign element in the population of Coast, except in the Akyab district which borders on Chittagong, is much less than in Delta division. Of the 260 thousands of Indians shown in Subsidiary Table I of Chapter XI no less than 201 thousands are in Akyab district; 41 thousands are in the Amherst district in and around the port of Moulmein and only 18 thousands in the other districts. Of those in the Akyab district, a large number, possibly 35 thousands, were only adventitiously included in the Burma Census, being temporary immigrants from India who had come to reap the rice-crop; and the permanent Indian residents are chiefly located in about one-third of the district consisting of the parts which lie nearest to Chittagong and the immediate neighbourhood of Akyab port. Thus except in a few restricted localities the Indian population is small. The Indo-Burman races are proportionately more numerous in this than in other divisions, and the Arakan-Mahomedans are almost confined to the Arakan portion of this division. All the Zerbadis of Coast are in Tenasserim.

Cultivation is extensive only in the lower levels, and six-sevenths of the whole cultivated area is devoted to rice. This proportion diminishes to three-fifths in the southernmost district, Mergui, but the total cultivated area there is very small. The uncultivated portions consist chiefly of wild forest land. Tin and wolfram are found in Tavoy and Mergui, and during the war the production of wolfram was so stimulated that Burma became its main source for the British armaments; but the conditions are now adverse and the industry is languishing. The rainfall is heavy everywhere, averaging 190 to 200 inches except in the extreme south where it is still over 160 inches.

23. **Centre**—The Centre subdivision, which includes one-fifth of the area and one-third of the total population of the province, is the proper home of the Burmese race and formed its permanent sphere of influence and recognized habitat in its earlier history when it was contending with the Talaings of the south and the Shans of the east and north for the supremacy in Burma. It is still in many ways the heart of Burma in spite of the greater economic importance of Delta, much of which moreover was re-colonized in the last few generations by

people from Centre. The population is still essentially Burmese and homogeneous; Subsidiary Table I of Chapter XI shows that no less than 95 per cent of it is of the Burmese race proper; there are only a handful of people of other tribes of the Burma Group, and only 2 per cent of other indigenous races, 1 per cent of mixed Indo-Burman races and 2 per cent of others, chiefly Indians. The 2 per cent of indigenous races who are not of the Burma race-group consists of a few Karens in the southern parts and Shans on the eastern side near the Shan States and 81,000 Chins who are located almost entirely on the hills which form the western boundary of Centre and separate it from the Chin division. These Chins, who are only included in the Centre division because it is not possible to cut off from the districts on its western edge the strip of hills which is included in them but is of different character from the greater part of them, should be ignored if a true notion of the general population of the division is sought. Indians are proportionally much fewer here than in the other divisions and are confined to the traffic-lines of railway and river, and even there are almost confined to the towns. It is thus easy to realize that throughout practically the whole of the Centre division the population is purely Burmese.

Physically Centre consists principally of an undulating plain in the middle portion of the basin of the Irrawaddy and the lowest part of the basin of its tributary the Chindwin. The rainfall is small; all districts except Prome, which is the southernmost district and borders on Delta division, have an average rainfall of between 24 and 38 inches; even in Prome it varies between about 40 and 55 inches. Many parts are subject to drought, and cultivation has been carried on in large areas only by the aid of irrigation. Some notes about the crops have already been given in Article 20.

24. **North.**—The North division consists of the upper part of the basins of the Irrawaddy and its tributary the Chindwin. It includes various tribes of the Tibeto-Chinese family who were apparently left behind by the successive waves of migration from the north which eventually furnished the original Burmese population of the province. There are numerous ranges of hills, and most of the rivers flow swiftly; and these physical conditions, in combination with the preference of some races for life on the crests or slopes of hills and of others for life in valleys, have discouraged or prevented intercourse and tended rather to produce ever more varieties of tribes and languages confined to small areas. The Shans contended with the Burmese for supremacy over all this area; they extended their power across into Assam, and for the greater part of the last two thousand years dominion over the North division, though subject to the vicissitudes of the frequent wars, was generally with the Shans, whose power there was only finally broken by the Burmese king Alaungpaya in 1757 A.D. Relics of that power still remain in the two small Shan states of Thaungdut (Hsawnghsup) and Kanti (or Singkaling Hkamti) high up in the course of the Chindwin, and in the dominance of the Shans in the Putao District which occupies the extreme north of the division. The Burmese however eventually included all the lower levels in their kingdom and exercised some control over the hill-tribes. The Shans of North are now distinctly Burmanised; and they and the Burmese proper, each forming about one-third of the total population of the division, together occupy almost to the exclusion of all others the narrow plains along the courses of both the Irrawaddy and the Chindwin, while the remainder of the indigenous population is located chiefly on the hills. Of the races in the hills the Kachins are the most important, and they tend to absorb the others whose further movement southwards they have prevented by extending themselves first eastwards into the Shan states and then north-eastwards towards China. Subsidiary Table I of Chapter XI shows that the 88,000 Kachins and 52,000 of other indigenous races, added to the Burmese and Shans and about 7,000 or 1 per cent of Chinese, account for nearly all the population. The balance consists of 1,400 Zerbadis and 500 Europeans and Anglo-Indians and 24,000 Indians.

The broken physical character of the North subdivision has already been mentioned and is shown also by the hills indicated on the map which forms the frontispiece to this report. The rainfall is heavier than in Centre but not so heavy as in Delta; the averages for the four districts in which records are kept range from 60 to 79 and average 70 inches. Rice is the principal crop in the plains; the hill-tribes of course grow miscellaneous crops for household needs, but no statistics of these are collected.

CHAPTER I.

Distribution and Variation of the Population.

25. **Introductory.**—The date extent and method of the census of 1921 have been discussed already in Part I of the Introduction. It has there been shown that the record of a total population of 13,212,192 was obtained by such methods that it represents approximately the *de facto* population of the province on the night of the 18th March 1921, and that the same may be said of the statistics for the townships of each district and consequently for any district or group of districts, the approximation being always proportionally closer for a larger population.

26. **Statistics.**—The statistics of total population of each district and of each administrative division (as these existed on the 18th March 1921) are given in Imperial Tables I and II, the latter showing the population of each tabulated area at each census since 1872, while the former gives supplementary statistics of area and houses. In addition Provincial Table I gives statistics of the population and density in 1911 and 1921 for the same divisions and districts and also for the townships into which each district is divided for administrative purposes. Most of the other census tables have also been designed of course to show the population of districts and larger areas in various aspects, but the present chapter is concerned only with the total numbers of the people which are exhibited in the tables mentioned. As supplements to these tables and in order to throw further light upon the statistics contained in them ten subsidiary tables are appended to this chapter with the following titles:—

IA—Density, water-supply and crops in Burman Division.
IB—Density compared with rainfall and cultivated area (Burman Division only).
II—Distribution of the population by density-classes of townships.
III—Variation in relation to density since 1872.
IV—Variation in natural population, 1911 to 1921.
V—Comparison of census figures and vital statistics.
VI—Increase during the decade 1911 to 1921 of the total population of density-classes of townships.
(A) With classification of townships according to density in 1911.
(B) With classification of townships according to density in 1921.
VII—Average numbers of persons per house and of houses per square mile.
VIII—Growth of population in two decades by natural divisions, with particulars for certain religions.
IX—Variations of the population in the comparable area.

In addition Subsidiary Tables III and VII to X inclusive of Chapter V and Subsidiary Tables V and VI of Chapter VI are particularly relevant to the subject of the present chapter.

27. **Distribution of the Population.**—The population is not evenly spread over the province, but the greater part of it is concentrated in two large patches which may be associated with Rangoon and Mandalay and have populations of about 3·5 millions each, and two small patches of about one-eighth that population which may be associated with the ports of Moulmein and Akyab. The two small patches belong to the two portions of Coast subdivision, while the two large patches form the principal portions of Delta and Centre subdivisions respectively; but the comparatively densely populated central plain of the Prome district, though in the Centre subdivision, is connected by well-populated areas with the Rangoon patch and not with that of Mandalay. Map 6 in Article 40 below shows the four patches as including a number of townships with a high density of population. In all the remainder of the province the population is sparse on an average and rarely attains any high density if that is measured for any administrative division larger than a village-tract. None of the towns mentioned above except

Moulmein is in the centre of the patch associated with it. The Rangoon patch extends west and north-west from Rangoon and has its centre somewhere about Yandoon. The Mandalay patch cannot very well extend eastwards from that city because of the hills on that side; it lies towards the south-west and has its centre about halfway between Mandalay and Myingyan. The Moulmein patch is a strip of coast in the Thatôn and Amherst districts with Moulmein at about its middle. The Akyab patch lies chiefly along the coast to the north of Akyab and a short way up the Naaf river which divides Burma from Chittagong; but it really fills much of the Akyab district and is divided into two parts by a tract of sparse population in the hills which run down the centre of the district from north to south. There is no use whatsoever in the conception of a centroid of the population in Burma. That would come somewhere about the Thayetmyo district which forms a tract of sparse population between the Mandalay and Rangoon patches. The four dense patches, two large and two only one-eighth of their size, altogether occupying about one-third of the area of the province and including two-thirds of the population, give the simplest rough picture of the distribution of the population which can be had.

Another examination of the distribution of the population has already been given in terms of areas with defined boundaries in Article 18 of the Introduction in which the relative weights of the contributions to the population of the several natural divisions are discussed. Further discussions of the variations of density of population will appear later in this chapter.

28. Variation of Population.—In the earliest days of the British occupation of parts of Burma there was an annual census made of those parts, and the figures for 1862 are quoted in Marginal Table 1 later in this article. The first regular census as part of the Census of India was taken in 1872 and was confined to the area of 75,970 square miles then known as British Burmah. That area included the present Arakan, Pegu, Irrawaddy and Tenasserim divisions and part of the present Thayetmyo district, and so differed from the present Lower Burma by omitting those parts of the Thayetmyo district (roughly the present Minhla and Sinbaungwe townships) which were then within the territory of the King of Burma. The next census took place in 1881 so that the interval was only nine years; but since then the census has been taken regularly at intervals of ten years. Comparison of the results of successive censuses is rendered difficult by the changes of the area covered. The census of 1881 covered the same area as that of 1872, but in 1891 the addition of the more closely administered parts of Upper Burma and of the Mōng Mit Shan State nearly doubled the area of the census and added nearly 3,200,000 to the population it covered. In 1901 further additions of approximately the same area were made which had a population of over 1,500,000 of which about 340,000 were enumerated or estimated in various parts of Upper Burma omitted in 1891 and about 1,160,000 were enumerated or estimated in the Shan States and Karenni. As a result of these extensions the census of 1901 covered three times the area of those of 1872 and 1881 and 50 per cent more than that of 1891; and it included nearly all the administered part of the province and omitted only a comparatively small population along its north-western, northern and north-eastern boundaries. In 1911 further extensions were made to include by estimates a little over 53,000 persons in the unadministered portion of the Pakôkku Hill Tracts and in the areas in the Northern Shan States known as Kokang and West Manglün. The census of 1911 thus covered all the administered area of the province except the remote East Manglün, which is the area in the extreme east of the Northern Shan States shown as *Estimated* in the map marked "1921" on page 2 of this report. The areas omitted from the census of 1911 are shown in solid black in the map marked "1911" which is also printed on that page.

In the census of 1921 further extensions have been made. In East Manglün with its population of 26,701 and in the Somra Tract, half way up the western border of the Upper Chindwin district, with a population of 7,636, the extension was made only by estimate; but in the Myitkyina and Putao districts in the extreme north of the province new areas with a total population of 28,730 were censused non-synchronously forthwith. The extension of the synchronous area by the addition of the Coco Islands of the Hanthawaddy district with a population of only 46 was a trifle of no importance save to justify technically the statement that the whole district was included in the census. The total population thus censused for the first time was 63,113; the areas concerned are listed on the

title-page of Imperial Table II, and can be seen by comparison of the portions marked in solid black in the maps marked *1911* and *1921* respectively on page 2 of this report.

The area covered by each census having thus been extended in the next census, it is clear that a simple tabulation of the total populations shown at successive censuses would give no idea of the manner in which the population has varied. Marginal Table 1 shows the whole population recorded at each census and the population recorded for the same area at the next census, and also the population in 1921 of the census areas of 1872, 1891 and 1901. As the areas shown in the second column are all approximations, and the variations from year to year are due partly to the use of revised estimates, the precise increases of area shown in 1911 and 1921 cannot be taken as the areas of the regions in which the census was taken for the first time in those years. The figures given in column 6 for 1891 and 1901 differ from the corresponding figures given in the Burma Census Report of 1911 (Articles 48, 49 and 50); but the precise area to which the difference is due has been identified and the correction verified. Owing to the difficulty experienced in tracing the boundaries of some of the areas excluded from the successive censuses when extracting these figures from the tables, even those figures now given which involve the years 1891 and 1901 must be regarded as liable to small residual errors; but it is safe to say that these errors are negligible for all purposes in comparison even with the variations of the numbers involved. A great part of the information given by the table is summarised in the last column; but even for this column it must not be overlooked that the figures given in its upper part for successive years do not apply to a constant area, and that they have suffered some modification by the addition on each occasion of areas of different character. Since 1901 however the populations involved in extensions of the census have been so small in comparison with the whole that all the figures in the last column for the period 1901 to 1921 may be regarded as roughly comparable. Moreover, as the omitted populations since 1901 have been so small in comparison with the whole province, those figures may be regarded as representing broadly the proportional variation of the province as a whole.

1. Variations of Population in the areas of successive censuses.

Census.	Area of enumeration or estimate sq. miles.	Population.	Density.	Population of the same area at a later census.			Percentage increase in population or density.
				Census.	Population.	Density.	
1	2	3	4	5	6	7	8
1862	75,970	2,020,634	27	1872	2,747,148	36	36
1872	75,970	2,747,148	36	1881	3,736,771	49	36*
1881	75,970	3,736,771	49	1891	4,003,103	61	23
1891	152,218	7,739,053	51	1901	9,230,748	61	20
1901	226,209	10,490,624	46	1911	12,061,928	53	15
1911	228,709	12,115,217	53	1921	13,149,079	57	9
1921	233,707	13,212,192	57	...	...	...	...
1872	75,970	2,747,148	36	1921	7,058,009	93	157
1891	152,218	7,739,053	51	1921	11,489,817	75	49
1901	226,209	10,490,624	46	1911	12,061,928	53	15
				1921	13,087,906	58	25

* Increase for nine years.

The outstanding indication of the above tabulation is the reduction of the rate of increase from 15 per cent in the decade 1901–11 to 9 per cent, or only three-fifths as much, in the decade 1911-21. Subsidiary Table VIII at the end of this chapter has been prepared on the same lines as Marginal Table 1 to show the corresponding variations in the several natural divisions. By comparing columns 7 and 8 of Subsidiary Table VIII it is seen that a reduction of the rate of increase took place in every natural division, and that in the Chin, Salween and Shan divisions the reduction was larger than in the Burman division where naturally it is nearly the same as for the whole province because Burman forms so large a proportion of that. For Shan the rate of increase has fallen from 15 to 4 per cent; for Salween from 32 to 4; for Chin from a positive value of 31 to a negative value of—5. In the subdivisions of Burman the rates of increase have diminished by 5 in Delta, by 3 in Coast, 6 in Centre and 11 in North.

In the next article the variation of the population in the last two decades will be examined more closely, regard being paid to the different quality of the enumeration in different parts of the province.

29. The Comparable Area.—The population figures used in Article 28 included estimates of the population made in some remote parts at each census. Such estimates are for some purposes better than entire omission of the populations they represent; but a comparison of the results of actual enumeration at one census with the results of estimation at previous censuses in some areas shows that these estimates have not always been very accurate. In Marginal Table 2 examples of this inaccuracy in the estimates of 1901 can be seen in the cases of the Kachin villages of North Hsenwi and the Karenni states where the figures obtained by actual enumeration in 1911 are so much greater. It appears therefore that a more accurate comparison would be made if the areas in which the population was estimated either in 1901 or in 1911 or in 1921 were excluded as well as all other areas which were omitted from any of those censuses. Further as the population of the Chin division is so much more primitive than the greater part of the population of the other divisions, and as it has had the special experience of a rebellion and a military expedition in the last decade, it is proper to exclude the whole of that division although some parts of it were enumerated non-synchronously in 1901 as well as in 1911 and 1921. The areas thus excluded are shown in Marginal Table 2; and the remainder of the province after excluding them is conveniently called the *Comparable Area*, although strictly comparable figures could still be had if parts of the Chin division were added to it. Then arises the question of how much such an exclusion would reduce the field of the comparison; but this question is easily answered, for the populations to be excluded are, as shown by Marginal Table 2, less than 4 per cent of the whole populations involved. Moreover the territories concerned are in each case different in some way from the ordinary parts of the province, so that the value of the study is rather enhanced than diminished by their exclusion. There are some areas in the Bhamo and Upper Chindwin districts in which in 1901 the arrangements for enumeration broke down and only an estimate was made; but, as is shown in Marginal Table 3, these are too insignificant to affect the present enquiry. In the Myitkyina district the area estimated in 1901 was larger, but the enumeration of 1911 showed that the estimate was so approximately correct that its error would be quite insignificant for the present study; moreover there would be some objection to excluding this regularly administered portion of the province and some difficulty in compiling the 1921 population of exactly the same area. Accordingly no account has been taken in Marginal Table 2 of the figures of Marginal Table 3; but all other estimated areas are allowed for, and the population figures obtained in Marginal Table 2 for the comparable area may be regarded as strictly comparable figures, free from errors of estimations. The variations of population represented by these figures are given in Marginal Table 4, the last column of which shows that in the last decade the rate of increase in the comparable area, which

2. Comparable Populations since 1901.

—	1921	1911	1901
Territories and populations to be excluded from comparison.			
(*a*) All areas omitted from the census of 1901.	124,286	53,289	...
(*b*) The whole Chin Hills district.	110,979	119,556	87,189
(*c*) Administered portion of the Pakôkku Hill Tracts.	20,043	17,128	13,116
(*d*) The Hill District of Arakan.	26,914	22,834	20,682
(*e*) Kachin villages of North Hsenwi (in the Northern Shan States).	82,265	75,121	45,127
(*f*) All the Karenni States	63,850	63,628	45,795
Total excluded from comparison.	421,138	351,256	211,909
Total populations recorded.	13,212,192	12,115,217	10,490,624
Comparable populations	12,790,754	11,763,961	10,278,715

3. Omissions from exclusions in Marginal Table 2.

—	1911	1901
Bhamo ...	2,115	1,500
Upper Chindwin	223	183
Myitkyina ...	23,319	19,264

4. Increase of population in the Comparable Area.

Period.	Initial population.	Increase.	
		Absolute.	Per cent.
1901-11	10,278,715	1,485,246	14·4
1911-21	11,763,961	1,026,793	8·7
1901-21	10,278,715	2,512,039	24·4

constitutes the main body of the province, has been only three-fifths of that in the previous decade. If the same rate of increase has been maintained, the increase of population in the comparable area in the last decade would have been about 1,690,000; the actual increase falls short of this by 663,000.

In the introductory article of Chapter III below the natural population of any area is defined as the total of all living persons who were born within that area. Variations of the natural population thus make some allowance for emigration and immigration; and although that allowance is by no means complete it is useful to observe these variations and to study any large differences between them and the variations of the actual population. Subsidiary Table IV at the end of this chapter gives statistics of the natural population of the whole province and of each district in 1921 and of the whole province and of some districts in 1911, while Subsidiary Table II of Chapter II of the census report of 1911 gave similar statistics for 1901. To calculate the natural population of the comparable area, the figures corresponding to the territories excluded in Marginal Table 2 above must be deducted from the totals for the province given in those tables. The figures for emigration beyond India are not complete for the whole province, but are sufficiently so for the present purpose because both their deficiencies and the variations of those deficiencies are so small in comparison with the other numbers concerned.* For the excluded areas other than the Chin Hills and the Hill District of Arakan no figures for emigration beyond Burma are available, and even for these districts no figures for emigration beyond India; but these omitted figures are also insignificantly small. More serious than these defects is the fact that no figures are available for the natural population of any of the territories less than a whole district which are included in Marginal Table 2. The unadministered portion of the Pakôkku Hill Tracts may be taken from item (*a*) of that table and combined with item (*c*) to give an area for which in 1921 and 1911, as also for the Chin Hills and the Hill District of Arakan in all years, figures are readily available, the boundaries of these administrative units having remained unchanged since 1901. For the Pakôkku Hill Tracts in 1901 the best estimate is the actual population recorded. The conditions in the remainder of item (*a*) and in item (*e*) are such that only a quite small error can be introduced by regarding the actual recorded population at each census as equal to the natural population, and the errors in the deduced variations of population will be very small indeed. On account of this effect upon the variation of the figures this will also be the best plan on the whole for the Karenni States although actual figures for natural population in 1921 are available. Marginal Table 5 has thus been constructed parallel to Marginal Table 2 and with sufficiently close approximation to accuracy to show the natural population of the comparable area at successive censuses; and the variations of this natural population have then

5. Natural Population of the Comparable Areas.

—	1921	1911	1901
Territories and populations to be excluded from comparison			
(*a*) All areas omitted from the census of 1901 except the unadministered part of the Pakôkku Hill Tracts.	115,230	44,1	...
(*b*) The whole Chin Hills district.	110,867	118,598	86,349
(*c*) All the Pakôkku Hill Tracts.	28,870	26,091	13,116
(*d*) The Hill District of Arakan.	20,383	21,273	24,330
(*e*) Kachin villages of North Hsenwi.	82,266	75,421	45,127
(*f*) All the Karenni States	63,850	63,628	45,795
Total excluded from comparison.	431,766	349,177	214,717
Total natural populations recorded.	12,525,759	11,535,154	10,024,595
Comparable natural populations.	12,093,993	11,185,977	9,809,878

6. Increase of the Natural Population of the Comparable Area.

Period.	Initial Natural Population.	Increase.	
		Absolute.	Per cent.
1901-1911	9,809,878	1,376,099	14·0
1911-1921	11,185,977	908,016	8·1
1901-1921	9,809,878	2,284,115	23·3

* A discussion of the available records of emigration will be found in Chapter III of this report.

been exhibited in Marginal Table 6. As with the actual population the rate of increase in the last decade is about three-fifths of the rate in the previous decade. If the rate of increase of the previous decade had been maintained, the increase of natural population in the last decade in the area of this comparison would have been about 1,566,000; the actual increase falls short of this by 658,000. This may be compared with the corresponding result obtained for the actual population in the earlier part of this article, according to which the increase of the actual population of the comparable area in the last decade fell short of that in the previous decade by 663,000. As the figures subtracted for the natural population of excluded areas are less accurate than those used in the parallel calculations for the actual population, no conclusions can be drawn from the actual amount of the difference nor even from the fact that the figure for the actual population is the larger; but the smallness of the difference makes it improbable that any considerable part of the change in the rate of increase of the population has been due to changes in the amount of emigration or immigration. In each decade the increase of the natural population is affected by the amount of previous immigration because such children and subsequent descendants of immigrants as are born in the area considered are included; but in a comparison of the two rates of change this has little influence.

By following the plan of this article for the total population of each natural division and again for Buddhists in each natural division Subsidiary Table IX at the end of this chapter has been constructed. In the part of the table relating to the total population of all religions the total population excluded from the comparable area is a trifle over 3 per cent of the whole population of the province, while that excluded from the whole of Burman division and from each of its subdivisions except North is negligibly small. The population excluded from Shan division is about 11 per cent of the total population of that division; as however the area occupied by the excluded population consists of outlying parts of rather different character from most of the included portion, the table gains rather than loses validity and utility by this exclusion. For Buddhists the table gives an account which approximates even more closely to an account for the Buddhists of the whole province, as the restriction of the area in Shan excludes only about 4 per cent of all the Buddhists of that division, while in Burman division the only exclusion is one of 1·3 per cent in North subdivision, and for the whole comparable area the excluded part of the province is under 0·7 per cent of it. Comparison of the figures given for Buddhists with those for all religions shows also that the latter are controlled by the former which include seven-eighths of the total population of the whole comparable area and a not very different proportion in the part of that area which falls in each natural division.

Columns 7 and 8 of Subsidiary Table IX show that the reduction in the rate of increase of population in the last decade below the rate for the preceding decade took place in every subdivision of Burman division and in both the Northern and the Southern Shan States. The reduction in the rate for Buddhists is less in Delta and greater in North than in Coast and Centre; but North carries little weight in the total for the province. The greatest reduction is in the Shan Division where the Northern Shan States fall from the highest rate of increase in 1901-11 to the lowest in 1911-21 while the Buddhists of the Southern Shan States show a decrease of 0·7 per cent instead of an increase of 8 per cent.

30. **Effect of Migration upon the Increase of the Population.**—Imperial Table XI of the census of 1911 showed the numbers of persons enumerated in Burma in 1911 who had been born outside Burma, and Imperial Table XIA of 1921 gives corresponding figures for 1921. The increase is due to further arrivals during the decade, but it is not a measure of the effect of those arrivals in increasing the population. The part of those arrivals which goes to set off the number of the foreign-born persons enumerated in Burma in 1911 who left Burma during the decade can be left out of account; but another part of those arrivals replaced those foreign-born who were enumerated in Burma in 1911 but died in Burma before the census of 1921, and there are no records in the census or elsewhere of the number of these. Moreover, some of the arrivals during the decade produced children. Thus the increase of foreign-born persons is not so large as the part of the increase of the population during the decade which would not have taken place if there had been no fresh arrivals from outside. Similarly the increase of Burma-born persons who were outside Burma on the dates of two censuses is not strictly a measure of the diminution of the recorded population

owing to their departure from Burma, because their children born outside Burma are also lost to the population and because some of them, having replaced others who left Burma before the decade began and died during the decade, are really lost in the counting; so far as the records go however the numbers of this class are shown in Marginal Table 7. It is explained in Chapter III of this report that the figures shown for persons born in Burma who were living outside Burma in 1921 are incomplete, but as it is proposed to use only the differences of the figures from census to census this is not a serious defect while all the figures have similar errors.* The increase of the immigrants † diminished by the increase of emigrants † for the decade 1911-21 as shown in Marginal Table 7 is approximately 110 thousands as compared with 111 thousands for the previous decade. The bulk of the foreign-born persons in Burma in 1901 were Indians of certain kinds and ages, and in 1911 the bulk were again Indians of much the same kinds and ages; consequently, if the health conditions had been the same for the two decades, the reduction of the immigrants counted in 1911 by deaths during 1911-21 should exceed the similar reduction of the preceding decade roughly in proportion to the numbers at the beginning of each decade. In fact it is certain that owing to the influenza epidemic of 1918-19 the deaths of 1911-21 must have been even larger than this proportion requires. Thus the approximate equality of the numbers of 110 and 111 thousands reached above suggests that the net influx of population from outside has probably done rather more to increase the population in the decade 1911-21 than in the preceding decade. But no definite information is obtained in this way, and in fact the contrary is suggested by some other figures.

7. Immigrants and Emigrants in Burma at three censuses.

Census.	Enumerated in Burma, born outside Burma.	Born in Burma, enumerated outside Burma.
1921	706,749	20,316
1911	590,965	*Estimates* { 14,500
1901	475,489	{ 10,400

If a more satisfactory solution of this problem is sought by counting persons entering or leaving the province during the decade other difficulties are encountered. The statistics collected at the ports for arrivals and departures by sea are given in Marginal Table 8. Long and tedious calculations are required to make estimates (on the basis of the birthplace statistics) for the number of persons entering Akyab from Chittagong by land and crossing the boundaries of Assam and China. The best estimates framed in accordance with the records are an excess of 580 thousands of arrivals in the province over departures therefrom in the decade 1911-21 as compared with 360 thousands in 1901-11. Both these estimates omit persons crossing the boundary of the province in places other than those mentioned; but these omissions are not serious for a comparison. The excess of 220 thousands in the number of the last decade over that of the former is believed to be excessive because the departures from the ports have probably been underestimated. Further, the arrivals at Rangoon (which are the principal element) were over 2,600,000 in 1911-21 as compared with 1,700,000 in 1901-11, and nearly the whole of this addition of 900,000 will have been Indian labourers. Many of these come from India to Burma because of economic pressure in their homes, which for many of them has caused privation and consequent diminished power of resistance to disease and to the effects of the change of environment caused by their migration. They generally live laboriously

8. Arrivals and Departures by Sea, 1911-21.

Port.	Arrivals.	Departures.	Excess of arrivals above departures.
Rangoon ...	2,630,654	2,048,488	582,166
Moulmein ...			
Tavoy ...	129,371	142,325	—12,954
Mergui ...			
Akyab ...	291,317	393,777	—102,460
Kyaukpyu ...			
Total ...	3,051,342	2,584,590	466,752

* In the census report of 1911 the total number born in Burma who were enumerated anywhere in the world was given in Subsidiary Table II of Chapter II (and copied in Subsidiary Table IV of this chapter) as 10,902, while the part of the same number representing persons born in Burma and enumerated in India was given in Subsidiary Table V of Chapter III as 13,353. Evidently the former number is wrong, and 14,500 is a near estimate for a number with the same defects as that obtained for 1921. In a similar way 10,400 has been substituted for the 9,460 recorded in 1911 for 1901. These corrections are not of importance to the argument. If 14,500 is adopted for 1911 the entries for Province in columns 8 and 9 of Subsidiary Table IV of this chapter should be 14,500 and 11,538,752.

† *Immigrant* and *Emigrant* are shorthand for the headings of the columns of Marginal Table 7; see also the first article of Chapter III.

and in overcrowded and insanitary conditions; and, because they are endeavouring to save the greater part of their wages, either to remit to their families in India or to take back to India themselves after a short stay in Burma, many live penuriously and are ill-nourished. As a result of these conditions the ordinary death-rate among such labourers is naturally high, and with so large an increase in arrivals as 900,000 the extra reduction by deaths will be considerable in comparison with the 220,000 increase in the excess of arrivals over departures. Moreover, the conditions described are such as would expose the Indian labourers to special risk at the time of the influenza epidemic of 1918-19, so that the reduction of their number by deaths would be specially large in the decade of 1911-21 on this account too. As no estimate of the deductions from the 220,000 which are required on these several accounts can be made, the maximum value of 220,000 furnished for the enhancement of the ten-yearly increase of population by migration is of little use.

The problem in fact cannot be solved; but a way of nearly evading it is furnished by Subsidiary Table IX, in which as we have seen at the end of the preceding article, the figures for the total population are shown to be controlled by those of the Buddhists. There are in all the eleven millions odd of Buddhists only about 37,000 who are not of indigenous races, and it is known that the number of Buddhists of the indigenous population who migrate either into or out of the comparable area is negligible; Buddhists of indigenous races do not come or go in any numbers between the comparable area and either the excluded parts of the province or places outside the province. Thus the figures of Subsidiary Table IX for the Buddhists of the whole comparable area are free from all difficulties due to emigration or immigration, and all those difficulties are thrust into the figures given in the table for non-Buddhists. A patient analysis of the figures for non-Buddhists by the aid of the various census tables would perhaps permit some limits to be fixed to the possible effect of migration upon the figures, but there is no time or space for that here. The decline in the rates of increase of the Buddhist population in the last decade without any possibility of explanation by migration is obviously the most important matter for consideration in connection with the variation of the total population even from a purely numerical standpoint and without any reference to its effect upon the position of Buddhists with regard to the rest of the population. If the rate of increase of Buddhists in the decade 1901-11 had been maintained in the decade 1911-21 the increase in the latter decade would have been about 1,304,000 or roughly two-thirds as much again as the increase of nearly 786,000 which actually occurred. A small part of the increase shown for Buddhists in each decade is due to conversions from animism to Buddhism and to absorption into the Burmese and other Buddhist races of the children of women of those races who have married Indians or other non-Buddhist foreigners; but the number of these is small compared with the total number of Buddhists, and the effect of any change in their contribution to the increase of Buddhists is negligible.

31. Statistics of Births and Deaths.—One naturally turns for further knowledge of the diminished rate of increase of population exhibited in the foregoing paragraphs to the records of births and deaths collected and published by the Department of Public Health. These records do not relate to the whole province nor even to the whole of the comparable area; they are confined to the Delta, Coast and Centre subdivisions of the Burman division. Even from some districts in these some small backward or remote areas are excluded; but such excluded areas have only one-half per cent of the included population. In Subsidiary Table V at the end of this chapter the birth and death-ratios in the registration area of each district of which any part is excluded are assumed to hold also in that excluded part. As the excluded parts are always small in comparison with the whole districts this is quite valid and gives an approximately correct result. Unfortunately, as the table shows, there is, even after making the largest possible allowance for immigration, a large discrepancy between this result and the census figures, which must be due to errors either in the census or in the vital statistics. The census figures of either 1911 or 1921 or both may be wrong by showing between them a much larger increase of population than they should; but this is difficult to accept when they already show a surprisingly low increase. On the other hand the vital statistics are believed by the officers of the Department of Public Health who publish them to be grossly in error; the present use of collecting

them in fact lies not in their intrinsic value but in the effect of slowly accustoming the people to a system of registration and building up the necessary organisation for it. A very slight acquaintance with the system as worked in rural districts would convince any enquirer that accurate records could not be hoped for. In most discussions of it the assumption is made that the errors are due to failures to register births and deaths; but quite apart from this there is the lack of any guarantee that any birth or death recorded by the village-headman will be included in the district returns. If the separate slips of paper, each representing a birth or a death, which the policeman collects from the headman were one-rupee notes, there would be a much more thorough system for ensuring that the number entered in the Treasury accounts agreed with the number collected; and until as much care is taken with the birth and death counterfoils as is taken with the slips which represent persons in the tabulation-work of the census office, the rural vital statistics will never command confidence but must always be doubted even by the Health Department itself. As an example may be taken the Bassein district with its population of over 489,000 which was taken as an example in a discussion of the defects of the records by the Director of Public Health; the average recorded birth and death-rates for the decade, corrected for the increase of population according to census figures, were respectively 24·5 and 22·8; but the rates estimated by the Director of Public Health after considering various aspects of the matter are approximations to 52 and 40 respectively. Further an extract from the records of births and deaths as published for the whole actual area of registration is given in Marginal Table 9, showing that, according to these records, although the initial population for the decade 1911-21 was only 15·6 per cent higher than that for the decade 1901-11, and, in spite of the heavy mortality which is known to have occurred during the influenza epidemic of 1918-19 and is indeed indicated by the records themselves, the increase of population in the registration area in the decade 1911-21 was about 300 thousands larger than in the previous decade, or roughly twice as great. This alone would be enough to destroy all confidence in the record of the vital statistics even if the unsatisfactory nature of the system of the collection of the records were not known. The census returns are also liable to error; but they are not liable to such errors as to show an increase of population only three-fifths as large as that of the previous decade if there had really been twice as large an increase. It is clear that the vital statistics and the census figures are quite irreconcilable, and that there can be no hope of satisfactorily explaining the latter by the aid of the former. In fact if any attempt were made to do so, the strongest critic of the proceeding would probably be the Director of Public Health himself.

9. Recorded Births and Deaths.

Year.	Recorded births.	Recorded deaths.	Recorded excess of births over deaths.
Total 1901–1910	2,342,657	2,067,769	274,888
1901 ...	189,199	130,575	58,624
1902 ...	186,564	167,305	19,259
1903 ...	195,608	195,708	−100
1904 ...	190,421	178,732	11,689
1905 ...	201,577	204,391	−2,814
1906 ...	190,380	227,686	−37,306
1907 ...	278,533	225,692	52,841
1908 ...	295,627	239,459	56,168
1909 ...	306,807	257,862	84,945
1910 ...	307,941	240,359	67,582
Total 1911–1920	3,293,814	2,713,154	580,660
1911 ...	322,456	247,682	74,774
1912 ...	316,654	266,489	50,165
1913 ...	321,396	246,328	75,068
1914 ...	348,883	237,828	111,055
1915 ...	346,250	275,849	70,401
1916 ...	332,227	236,234	95,993
1917 ...	356,136	248,601	107,535
1918 ...	324,308	388,906	−64,598
1919 ...	293,672	305,461	−11,789
1920 ...	331,832	259,776	72,056

32. The Influenza Epidemic of 1918-19.—The outstanding event affecting the growth of population in the last decade was the world-wide influenza epidemic of 1918-19 which worked in Burma havoc unparalleled in at least the last sixty years. It first began to concern Burma directly by appearing in Rangoon about the middle of 1918 in a mild form; but after some weeks it suddenly became virulent, and meanwhile it spread throughout the province. It was not confined to towns, but appeared in the most remote parts; whole villages were stricken and some were literally more than decimated. The registration area (that is, the area in which vital statistics are recorded) consists of nearly the whole of the Delta, Coast and Centre divisions, and according to the census had a population of 9·8 millions in 1911 and nearly 10·8 millions in 1921; in this area, according to the reckoning of the Public Health Department*, influenza caused an

* See the annual report of that department for 1918. Marginal Table 9 on this page also justifies the estimate given

increase in registered deaths of 138,500 or 13 per thousand of the whole population (reckoned at 10·6 millions for that year) before the end of 1918. The magnitude of this is perhaps better appreciated when it is noted that it is one-half the ordinary annual registered death-rate from all causes and was concentrated into about four months. The epidemic reached its climax in Rangoon in October 1918 and in other districts in November or December; and it continued, though with fairly rapid abatement, up to the third quarter of 1919, so that there was in that year an increase in the registered deaths of about 40,000 which the Public Health Department ascribed to influenza. Many deaths from influenza were ascribed to "fever" or other causes; and the estimates quoted are not based upon the number of deaths from influenza reported, but upon a comparison of the total reported mortality from diseases other than small-pox, cholera and plague at the time of the epidemic and at normal times. The death records thus show altogether a total of 178,500 deaths from the influenza epidemic in the registered area, or about 1·68 per cent of the total population. But many deaths from influenza were not recorded at all because the registering agents were themselves ill or dead, or because the relatives and co-villagers of the deceased were suffering from the disease and were either too listless to report the death or too busy attending to the many children whose guardians were incapacitated. Having regard also to the fact, illustrated by the example of Bassein district which was quoted in the preceding article, that the recorded death statistics are only about two-thirds of the true numbers, considerable additions must therefore be made to the number indicated by the death-records to obtain the true number of deaths from influenza in the registration area, for which accordingly 250,000 is a reasonable estimate which is unlikely to be as much as 50,000 in error either way. This estimate is for actual deaths from influenza during the epidemic in excess of deaths which would have occurred in the same period if there had been no epidemic. Some of the people who died of influenza would have died in 1918 or 1919 in any case; but they are allowed for already in basing the estimate upon the excess mortality during the epidemic. The effect of influenza in diminishing the population recorded at the census two years later was not confined to these deaths. In addition there were the after-results due to the weakened constitutions of the sufferers and the stimulus to tuberculous infection which was shown by the continued high mortality from respiratory diseases in 1919, 1920 and 1921; and also the particularly disastrous effects of influenza upon pregnant and parturient women and indeed upon all women between 20 and 40, through which the population was reduced by the loss of prospective births as well as by actual deaths. Incapacity to tend crops or to reap the harvest led in many households to economic difficulties which would also cause some additional mortality. In making an allowance for these additional deaths caused indirectly by influenza regard must be paid to the fact that many of the people concerned would have died at about that time in any case. Moreover some of the deaths from influenza were anticipations of deaths of aged or weak which would in any case have occurred before the subsequent census, and accordingly the deaths between the epidemic and the census were correspondingly reduced. Further the reports from Rangoon showed that a considerable number of the deaths there took place among Indian immigrants; as many of these if they had not died, would have left Burma before the census their deaths also had no effect upon the population recorded then. Nothing approaching a precise statement is possible; but, having regard to all the considerations adduced, the effect of the influenza epidemic on the census of the registration area may be estimated at a reduction of the recorded population by 250 to 300 thousands. The population actually recorded for the registration area (as worked out by the Public Health Department from the census records) was 9,824,390 in 1911 and 10,771,190 in 1921. According to the estimate just reached the latter figure, if the influenza epidemic had not occurred, would have been between 11,020,000 and 11,070,000. The actual increase was 947 thousands; and what may be called the virtual increase, meaning the increase that was only prevented by influenza from appearing, was 1,197 to 1,247 thousands. Expressing this in percentages the actual increase was 9·6 per cent instead of a virtual increase of 12·2 to 12·7 per cent. Influenza thus accounts for a reduction by about 2·85 per cent of the rate of increase for the decade in the registration area.

The principal difference between the registration area and the comparable area consists of the parts of Salween and Shan divisions and of North subdivision which are included in the latter, and had in 1921 populations of 50, 1,272 and

643 thousands respectively. For these areas there are no complete statistics; but there are reports which show that in them the epidemic was just as severe as in the registration area. The Southern Shan States reported 24,369 deaths from influenza in 1918-19, or nearly 29 per 1,000; this is nearly the same rate as that estimated above for the registration area. For Kengtung, which occupies the eastern portion of the Southern Shan States, the reported figures amounted even to 57 per 1,000. Karenni reported whole villages unable to reap their crops. From all along the north-east frontier amongst the Kachins and other tribes came reports of similarly severe attacks, and from the north-west again came the same story. The Chin Hills suffered severely; the number of deaths was of course unknown, but was regarded as certainly over 5,000 or 45 per mille of the population. Indeed the epidemic appears to have been even worse amongst the more backward tribes than amongst the ordinary people. The parts of the Shan and North divisions which are included in the comparable area are adjacent to the registration area, and in population and conditions they resemble that rather than the areas of these backward tribes of whom they include very few; they are however surrounded by those backward tribes where they do not adjoin the registration area, and accordingly one would expect them to have about the same mortality as the registration area for the most part, but to suffer perhaps a little more severely in their outlying parts. As the latter have very little population the effect of this relatively greater mortality would be small compared with the deaths in the whole province. Moreover the report from the Southern Shan States quoted above is probably fairly correct as it is based on reports of responsible political officers with intimate knowledge of and contact with the people. The whole of the comparable population outside the registration area in the Salween, Shan and North divisions is only about 1,965 thousands or two-elevenths of the population within that area; so that an excess in its mortality-rate above the mortality-rate of the registration area would add only one-sixth as much to the mortality-rate of the two areas combined.

The remainder of the difference between the comparable area and the registration area consists of the exceptionally remote parts of districts of the Delta Coast and Centre subdivisions, which are excluded from the registration area; as these have a total population of only 54,000 (which is under one two-hundredth part of the total comparable area) their influenza-record would hardly affect that of the latter at all. Consequently within the limits of error of our previous estimate the reduction of the census population through influenza in the whole comparable area may be estimated at about 2·85 per cent of the 1911 population. No distinction has been possible in that estimate between Buddhists and non-Buddhists; but, as the excess deaths among Indian temporary immigrants have already been discounted, and Buddhists form seven-eighths of the total population of the comparable area, the same proportional estimate may be applied to the Buddhists as to the whole population. For non-Buddhists the proportion must be left as uncertain *.

Calculating the absolute numbers equal to 2·85 per cent of the total population and the Buddhist populations respectively of the comparable area, Marginal Table 10 has been prepared with the aid of Subsidiary Table IX to compare with the increase of population in 1901-11 the *virtual* increase of population in 1911-21, that is the increase which would have occurred in 1911-21 if there had been no influenza but other conditions had been as they actually were. (It must be remembered that the allowances made in the

10.—Virtual increase of population in the comparable area (nearest whole thousands for absolute figures).

—		1911-1921.		1901-1911.	
		Total Population.	Buddhists.	Total Population.	Buddhists.
Observed increase of population.		1,027	785	1,485	1,158
Loss by influenza ...		335	295	...	...
Virtual increase of population.	Absolute	1,362	1,080	1,485	1,158
	Per cent.	11·6	10·5	14·4	12·6
Absolute increase calculated at the actual rate of 1901-1911.		1,700	1,304	...	...
Virtual deficit from increase at the rate of 1901-1911.	Absolute	338	224	...	...
	Per cent.	2·9	2·1	...	...

* This is perhaps most clearly seen in the last line but one of Marginal Table 10 which apparently shows 114,000 for non-Buddhists. But the possible error in this, due to the possible errors in the numbers of which it is the difference, may be half as large as itself. So large an error is very improbable, but the actual amount is uncertain.

table do not represent the number of persons who died of influenza, but the reduction resulting from those deaths in the record of population in 1921; the actual deaths from influenza are however the chief constitutents of those numbers.) The deficit of total population which cannot be explained by influenza is thus 338 thousands, while among Buddhists there is a deficit of 224 thousands which can be explained neither by influenza nor by migration. For the total population this deficit is equal to the total loss by influenza; for Buddhists it is equal to three-quarters of that loss.

33. Public Health in two decades.—With the exception of the influenza epidemic, which having been discussed in the preceding article is entirely excluded from the present, there was nothing apparent in the last decade to distinguish it from the preceding decade in those conditions of the public health which would affect the course of the growth of population in the comparable area. Each decade saw epidemics, more or less widespread, more or less severe, of small-pox, cholera and plague; each saw occasional increases in the fever death-rate; each saw local and temporary outbursts of dysentery and other diseases. In every respect the one decade was a replica of the other; so that in the general health-record of the comparable area as a whole there was no difference of any kind which could be recognised in the absence of accurate death-statistics.

34. Food-supply and the Growth of Population.—A complete examination of the relation of the food-supply to the growth of the population would involve enquiries into the crops which are not used as food and the non-agricultural industries which supply products used to pay for imported food, clothing and other articles; but it is certain that the course of agricultural production is the main factor in the food-supply of the province. The agricultural records of the last two decades have been very similar. There were floods, droughts or capricious rains in some places at some times in every year of each decade; but, while some of these troubles were serious enough in their own localities, they never rose to the magnitude of widespread calamities. Each of the last two decades taken as a whole has shown average agricultural conditions, and there has been nothing to distinguish the one from the other in this matter. Statements of the areas occupied for cultivation each year in Burman division are published in the provincial Season and Crop Reports from which the figures in Marginal Table 11 have been extracted. For some of the areas included in the figures only rough measurements are available; but as such areas form only a minute proportion of the whole, the figures show clearly that cultivation has continued to extend in spite of the difficulty in obtaining the capital necessary for developing new land. The average rate of extension, measured by five-yearly periods, is shown by Marginal Table 11 to have diminished; but still there has been in the last decade an increase in the area occupied for cultivation by 10 per cent, which is not very different from the virtual increase of the Buddhist population to which the majority of the cultivators and of the total population of the area represented in the table belong.

11. Areas occupied for cultivation (Thousands of acres).

Year.	Total.	Irrigated.
1904-05	15,406	797
1909-10	17,171	1,057
1914-15	18,116	1,133
1919-20	18,874	1,249

Irrigation may either render cultivable land previously barren or improve land already cultivated; land for a discussion of the relation between food-supply and the growth of popu ation the results differ because the one represents increased food-supply with the use of more labour while the other commonly increases the food-supply without requiring a proportionate increase of labour. In a sense this is of course only a difference of degree; but in practice it takes effect as a difference in kind. Statistics of the irrigated area are shown in Marginal Table 11; but the value of the figures is impaired by the difference in significance of the term *irrigated* in different districts amongst the revenue surveyors who compile the original returns. In some parts of Centre subdivision there are systems of canals which convey to the cultivated land water from some reliable source which can give a supply either for the whole season or when the cultivated area is short of rain; this of course is in accordance with the ordinary conception of irrigation. There are also small areas, chiefly gardens of betel-vines, which have wells from which water is obtained. But a considerable part of the area recorded as irrigated has only some device for getting additional advantage from

rain which falls in the immediate neighbourhood of the cultivation and has no system of conserving any considerable quantity of water for use when the rain fails; quite commonly for instance there are only channels to lead into fields rain which falls on the uncultivated hillside adjoining them and would otherwise run largely to waste. In all these areas there is no water available when the rain fails for a few days, and the practical effect is of course quite different from that of a supplementary continuous water-supply. In most places the statistics ignore the second kind of irrigation; in others they include it. On the other hand there are no statistics of works such as drains and dams undertaken to preserve land from superfluous or salt water, although it is obvious that these have the same importance in their localities as irrigation in its localities. The statistics of irrigation in Marginal Table 11 thus have little value as absolute figures; but, as the records of different years have much the same defects, the increase of recorded irrigated area in about the same proportion as the increase of the total cultivated area indicates that there has probably been no loss of production through failure in this direction.

There has been some talk of a decline of fertility in recent years in some parts; but much of this is due to the world-old illusion that the old times were better than the present. Careful examination of the problem shows that the fertility of land which has been cultivated for a long time remains steady. So long as the method of cultivation is the same, the average outturn is limited by the average net production of new soil which results from weathering, silt-deposit, denudation and cropping; and a heavy crop one year must impoverish the soil for the next, while a light crop one year leaves a better soil for the next year's crop. Fallowing is thus a device for reducing the cost of cultivation by obtaining the total proper outturn of two years in one harvest, or of four years in three harvests, and so on; on an average the same annual outturn is obtained. Thus, in wide stretches in which the accidents of individual holdings are averaged out, the fertility remains constant for a given system of cultivation. In an area in which cultivation is extending the average fertility tends after a time to decline because the best land is taken up for the earlier cultivation; later a time comes when only the inferior land which was rejected by the first colonists is available, and extensions consist largely of inferior strips along the edges of existing holdings or of higher land with inferior soil or water-supply. The complaint that land has deteriorated represents in many cases a recognition that the land now available for new cultivation is not as good as that available in the past. There is still a sense in which there has been a real decline of fertility in the rice-growing tracts of Lower Burma which were colonised ten to thirty or forty years ago. The normal course of development of newly cultivated rice-land is a steady improvement of fertility for a number of years as the land grows more level and the roots and stumps of the former jungle are cleared away; after a period of varying from 5 to 15 years according to the conditions the virgin fertility of the land has not yet been diminished by heavy crops, but the conditions inimical to the growth of these have been largely removed by repeated ploughing, by the efforts of the cultivator specially directed to this end, and by the decay of organic matter in the soil. The land now begins to yield heavy crops, which of course consume part of the soil. Continual fresh deposits of silt compensate for this, and as the ground is still further developed heavier and heavier crops are obtained, which consume more and more of the nourishing constituents of the soil until there comes a time of maximum crops followed by a period in which the crops diminish until they reach an average which the annual supply of new soil, whether by ordinary weathering or from silt, is just able to maintain. After that the fertility remains steady unless some unusual influence intervenes. But the cultivators, comparing this steady outturn which is the true measure of the land's fertility with the temporarily enhanced outturn of the optimum years, naturally describe the phenomenon as a decline in fertility. Not all the land has reached this steady state at one time; some had approached it before other land had been cultivated at all; consequently there is no falling off in the total outturn of whole districts on this account; rather special temporary fertility has caused some anticipation of the increase of production which still further extensions of cultivation were due to furnish. In the newer cultivated parts of the Irrawaddy delta account must also be taken of the curious fact that the earliest colonists took up not the best land, but the slightly elevated land which is now assessed as second-class; that was easier and cheaper to bring under the plough than the swampy *kanazo* jungle, which lay about a foot lower in level and to colonists from

the dryer districts seemed too wet. But when the supply of higher land ran short and men were compelled to take up the lower land, they found this to their surprise so much superior as to repay the greater difficulty and far higher cost of development; and now land which was formerly *kanazo* jungle is recognised as the best. As the extensions in the large part of the delta to which this account applies were probably the most important of the decade 1901-11 and have been passing during the last decade through their period of highest fertility, there has been no reduction of average fertility in the cultivated area of the Irrawaddy delta as a whole.

Complaints have also been made of the decline of agricultural skill and of the laziness of cultivators. Such complaints have doubtlessly been made in most places and at most periods of history; we all know how excellently things were done when our fathers were young, and we are all convinced that they will never be done so well again. There is apparent truth in the complaint in some localities, because formerly the cultivators wove their own clothes and made many household-goods which now they buy. But this does not represent increased laziness; it represents increasing specialisation in cultivation and a higher standard of agricultural productivity. Probably many cultivators are unable to rise to this higher standard; their more able employers and neighbours, who have been unconsciously raising their own standards, only observe them relatively and declare them inferior to the earlier generation because they have made less progress than others. The allegation of laziness thus arises sometimes from delay on the part of cultivators in some locality to modify their practices to meet modern conditions. It arises more often from the fact that so few of those who make it have spent any time in the villages and fields in the cultivating season; they refuse to face even for a short visit the discomforts and drawbacks under which the cultivator works for months, and yet condemn him for the rest which is taken by him in the hot weather and is indispensable for his physical recuperation as well as for visits to friends and attendance at pagoda-festivals and other necessary parts of the non-economic side of his life. But that side of his life is indispensable; he cannot live by food alone.

An index of the relation between extension, improvement or deterioration of agriculture and the increase of population is afforded by the records of the export of rice. There is a determined demand for rice as the principal article of food by all the indigenous races even in areas in which other food-crops are grown; inferior areas in which millet was once commonly eaten have taken to rice as soon as it became available. There is no question of the province being regularly drained, for the export trade, of rice needed for its own consumption. Occasionally fear is expressed, when high prices for rice are ruling soon after the harvest, that cultivators will sell more than they should, and will not keep enough for their support until next harvest. As a matter of fact the practice of storing a whole year's rice is much more restricted in the more advanced parts of the province than is commonly believed, and many cultivators regularly buy their food for the greater part of the year with advances on the security of the next harvest; but in any case the matter has always resolved itself except in small areas and for a short time into a question of price, and there has been no difference between the last two decades in respect of such occasions. In some years, according to the market conditions, a considerable balance of one harvest is retained in the province by dealers until after the next harvest; while in other years the exports are larger. Thus over a series of years, although not in any one particular year, the rice available for export is a measure of surplus food-production. Marginal Table 12 shows the estimates made by Government of the surplus paddy (unhusked rice) available for export * in each of several years and also the record of actual exports compiled by the Customs Department. The former are estimates involving some rather rough allowances, while the latter figures represent observed facts, but are modified by the conditions of trade which at times cause export to be delayed in hope of better prices. Allowance being made for the disturbance of the figures by the war and the post-war conditions in Europe, there is no reason for supposing that there is serious pressure yet upon the food-supply.

12. Surplus of Paddy (Thousands of tons).

Year.	Exportable Surplus.	Actual Exports.
1899-00	2,661	2,548
1904-05	2,892	2,805
1909-10	3,101	3,353
1914-15	3,400	3,110
1919-20	2,151	2,666
1920-21	2,900	3,161
1921-22	3,100	3,325

* The greater part of the export is in the form of husked rice, but the equivalent in paddy has been given here so that figures for husked rice and paddy can be combined.

Marginal Table 13 shows the course of the wholesale price of paddy in Rangoon during the last two decades. The columns showing prices from January to March represent roughly the course of the prices received by rice-cultivators. The harvest is reaped and sold at different times in different districts; in some the grain is ready early in December while in others it is as late as March or even April. Thus the prices shown in the table differ from the average of those received in any particular locality; but the course of their variations represents fairly well the average course for all parts. The prices in the table differ also from those actually paid to cultivators by various costs incurred between the threshing-floor and the market and by the many accidents by which cultivators profit or lose by the daily and hourly variations of the market-price; but differences of the latter kind work out to nothing in an average for many cultivators and those of the former kind have tended to diminish. In some parts differences of the former kind have diminished quite considerably, and thus raised the income of the cultivator more than is apparent from the table. The cost of cultivation has increased in parallel with the rise of prices. But the greater part of that is payable nominally in produce; and although in actual fact much of that part is paid in cash advances in lieu of portions of the agreed amount of produce, the ratio of cash to produce in those instalments varies with the market, and the rise of costs has not much affected the amount of produce which represents the cultivator's cash income. The prices of 1915 to 1918 were low; and the high prices shown for 1919 and 1920 must be discounted for the fall in the value of money (*i.e.*, the general rise of prices) in those years. But the tenacity with which stocks were held off the market during the early months of 1922 suggests that land-owners and cultivators had not suffered on the whole by the variations in both the price of their produce and the cost of its production.

13. Wholesale Prices of Paddy in Rangoon,*

Year.	January to March.	Year.	January to March.
1901	88	1911	182
1902	82	1912	154
1903	104	1913	132
1904	92	1914	125
1905	100	1915	98
1906	106	1916	105
1907	119	1917	111
1908	135	1918	97
1909	103	1919	123
1910	100	1920	180
Average	103	Average	125

*The figures show nominal prices of 4,800 pounds weight of paddy. Actually the paddy is measured by bulk and the price calculated from this nominal price by additions for high specific gravity and deductions for chaffiness, dirt, colour or other defects.

A large part of the rural population however has to buy its rice at least for some part of the year, and the urban population must buy it of course all through the year. For all classes too the prices of other foods have risen; meat and still more fish rose very much in price towards the end of the war, and the rise for pulses, roots, vegetables and fruits was important. The rise in the cost of clothing caused much difficulty to all classes. It was noted in the Census Report of 1911 (Part I, Page 39, Article 51) that the Sanitary Commissioner of the province, after studying the agricultural conditions and the resulting scarcity or plenty of food in relation to the vital statistics, had formed the opinion that in Burma adverse changes in climatic conditions (that is, changes which affect cultivation adversely) do not have any appreciable effect on the increase of the population of the province; they may affect the distribution of the population by inducing migration, but they do not actively influence the birth or death-rates even of the localities in which they occur, much less those rates for the whole province. And in the annual provincial Reports on Sanitary Administration, in which the question continued to be discussed, that opinion was constantly reiterated and so re-stated that it seemed to have become regarded by the Health Department as settled that in Burma no connection can be traced between movements of the cost of food and the increase or decrease of either birth-rates or death-rates. But in the Sanitary Administration Report of 1920 the Sanitary Commissioner remarked that, but for the disturbing influence of the influenza epidemic of the preceding two years upon the vital statistics, "it seems unlikely that the distress which the dearness of provisions has unquestionably caused in certain areas, would not have been reflected to some extent in the mortality rate." Actually the difficulty of making ends meet in the household budget began to increase about 1916, and the increase led to economising and stinting in many directions. Still there was, as has already been shown, ample food in the country; and as prices of foods rose wages rose to some extent too, and though the diet became plainer and torn clothes had to be patched instead of being replaced, there was not such difficulty as could cause a change in the

general mortality. It is not suggested that such an effect would necessarily be shown by famine or by numerous deaths from starvation; even Malthus in his famous *Essay* supposed that the limitation which food-supply placed upon population would take effect rather in diminished resistance to the diseases through which deaths ordinarily occur. But the conditions actually observed at the time were that, while there was greater difficulty in housekeeping and consequently considerable nervous strain for many, there were few for whom the difficulty was so serious as to mean deprivation of the essentials of the physical support of life. The price of rice which is the main article of diet was low in 1917 and 1918, and the difficulty it caused was not for consumers but for the cultivators who got low prices for their crops. In 1919 the price of rice increased to be nearly half as much again as in 1918 and about 20 per cent higher than in ordinary times, and with other simultaneous rises a large rise in the cost of living then took place so that many began to feel the pinch very seriously. It seems probable accordingly, as the Sanitary Commissioner pointed out in his remark which was quoted above, that there was some rise in the death-rate. But this was not large enough to be recognised with the lack of correct statistics. A rise which would have been large enough to account for the whole 224 thousands of the Buddhist deficit would have required an addition to the death rate through the two years preceding the census of about one-third the influenza death-rate in the epidemic, even if the effect of the high prices had begun to take real effect upon the death-rate so early as March 1919; it is quite certain that even with the very defective statistics available quite a small fraction of such an effect would have been observed. In fact any comparable amount of mal-nutrition must have been noticed without such statistics. It must therefore be concluded that no considerable part of the defect of the increase of the population in 1911-21 below that of 1901-11 can be ascribed to any changes in the agricultural conditions, or in the available amount or the price of food.

35. **Resumé.**—It is convenient here to make a short resumé of the conclusions reached hitherto. The crude census totals of 1921 showed an increase of population only three-fifths as large as that of the previous decade. This change has special interest because some have drawn from it a conclusion that the Burmese are unable to populate their country and must therefore be displaced by others; but in any country at any time so large a change, whether it is welcomed or not, must receive careful attention to discover how it has come about and whether it is likely to persist. Fresh figures were worked out for the population of the comparable area so as to exclude the least reliable figures of each of the last three censuses and have a reliable set of population statistics; the excluded population being comparatively small the general nature of the result was the same as for the whole province, but more value could be set upon the particular magnitude of the change in the rate of increase from one decade to another. An attempt to measure the part played by emigration and immigration in causing the change in the rate of increase of the total population failed; but it was noted that no part of the change could be ascribed to this cause for Buddhists. The vital statistics being entirely unreliable the defect caused by influenza in the rate of increase in the last decade was estimated; and it was found that there was still a deficit of 224 thousand Buddhists and 338 thousand in the total population below the number required to show the same rate of increase in 1911-21 as in 1901-11 after the allowance for influenza had been made. The general conditions of health and food-supply which are likely to affect the population were then examined; but it was found that no large part of the deficit could be accounted for in this way. There are however only four ways by which the number of the population can vary, namely births, deaths, arrivals from other places, departures to other places. The influence of the last two on the total population is unknown, but for Buddhists it is *nil*. Deaths have been shown to be insufficient to account for any considerable part of the change, which for Buddhists must therefore be due to a deficit of births. For the total population too the greater part of the change is explained if the change for Buddhists is explained; the essential problem is therefore the investigation of the decline of births among Buddhists. But before the investigation of the conditions of that decline is taken up, the next article will be devoted to showing that the decline is not new but was indicated already in the decade of 1901-11.

36. **Variation of Population before 1901.**—Consideration of the decade 1891 to 1901 was omitted from the foregoing discussion of population in the

comparable area because the reduction of that area necessary to obtain strictly comparable figures for three decades is comparatively large. Moreover the introduction of a third decade would have made the discussion even more tedious than it is. But in the light of what has been done for the period 1901 to 1921 a rapid survey can now be made of the decade 1891 to 1901 too. For simplicity the survey will be confined to Buddhists.

The census of 1891, coming so soon after the annexation of Upper Burma, had naturally peculiar difficulties in that part of the province. Amongst them was the burning in the course of the Wuntho disturbances of some of the census records relating to the Katha and Bhamo districts, the latter including both the present Bhamo and Myitkyina districts. For a comparison of the populations at the two censuses it is not possible to reckon separately for the parts of these districts of which the records were burned or preserved; the only course is to exclude the whole of the Katha, Bhamo and Myitkyina districts for both 1891 and 1901. In addition the Shan States, including Möng Mit, have to be excluded as they were almost entirely omitted from the census of 1891. The Chin Hills and the Hill District of Arakan were excluded from the comparable area and may as well be excluded again; their numbers of Buddhists in 1891 and 1901 were however so small that it makes practically no difference whether they are excluded or not. The total deductions for all these areas and the resulting comparable Buddhist populations are shown in Marginal Table 14. The rate of increase is thus 17·2 per cent, which offers a striking contrast to the percentages of 12·6 and 10·5 shown in Marginal Table 10 for the decades 1901-11 and 1911-21 respectively after allowing for influenza in the latter decade. Some modification of these latter rates is proper to allow for the difference in the area compared. The area showing 17·2 per cent increase in 1891-1901 consists of the Delta Coast and Centre subdivisions with only small additions for the Upper Chindwin district and Mogôk subdivision. It is fairer therefore to calculate for comparison the rates of increase shown by Subsidiary Table IX for these three subdivisions of Burman. Adding 2·85 per cent for the effect of influenza the percentage rates of increase in the successive decades for approximately the same area are 17·2, 12·7 and 11·4. Thus even the decade 1901 which showed a so much larger rate of increase than 1911-21 had only a little over three-quarters as large a rate of increase as the preceding decade 1891-1901, and in the Delta Coast and Centre subdivisions alone showed a defect of about 350 thousands in the absolute value of the increase. It is probable that the recent unsettlement of the country had some effect upon the census of 1891; but the areas in which this effect was greatest have been excluded from the comparison. It is certain that no considerable part of this large number of 350 thousands can be accounted for in this way; and it is possible that only an entirely negligible part of it could be so accounted for. Yet if the histories of the two decades 1891-1901 and 1901-1911 are compared nothing is discovered which would diminish the rate of increase through the death-rate. There was no considerable migration of Buddhists to or from the area of comparison in either decade. The disturbances in the Shan States and in the Katha and Bhamo districts tended in 1891 to drive people into the area for which the comparison of the censuses of 1891 and 1901 has been made, and so to diminish rather than increase the growth observed for the decade before 1901. The only explanation is a deficit of births in 1901-11 proportionately not much smaller than that of 1911-21.

14. Comparison for Buddhists, 1891 and 1901.

	1891.	1901.
Total recorded figures ...	6,888,250	9,184,191
Deductions for comparability	103,892	1,232,754
Comparable populations ...	6,784,358	7,951,367

The natural enquiry whether such a decline in the rate of increase of the population occurred before the decade of 1891-1901 cannot be answered here because the census of 1881 was restricted to the part of the province which was in British occupation, and a comparison of its figures with the corresponding area in 1891 is too seriously affected by the incalculable element of migration to be of use. It will however be possible after the cause of the decline has been discovered to give a fairly assured decision on this question.

37. Decline of Births among Buddhists.—As the birth statistics are entirely unreliable only indirect evidence is obtainable with regard to a decline

of births for any class of the population. No evidence has been collected in the census with regard to the size of families, and no evidence on the subject which would be of use here has been collected at any other time in Burma. Nobody however has suggested that the Buddhists of the province—that is, chiefly Burmese, Karens and Shans—have less children now than formerly. Artificial sterilisation of marriage is known to some classes but is not practised among the Buddhists save on an entirely negligible scale. A certain amount of abortion goes on of course, but not on more than the small scale which has always been reached. The scarcity of 1919 and 1920 could not in any case account for a sufficient decline of births in so short a time to account for the deficit of the decade 1911-21, and there was no corresponding occasion in the preceding decade which already showed the larger part of the decline from the decade of 1891-01; while in fact scarcity, so far from being a possible cause of such a decline, is believed by some who follow Doubleday's theory * to cause rather an increase of fertility. There is in fact no reason for suspecting any decline in fertility; if sufficient evidence to account for the decline of births by some other cause can be found it would be entirely gratuitous to assume that any change in fertility amongst Buddhists has taken place. Such a cause is the relatively small reproductive power of the population in the last two decades which is revealed in the discussion of the age-distribution of Buddhist females in Chapter V of this report. That discussion shows that there is no escape from the conclusion that among Buddhists the proportion of births to the total population must have varied widely in the past thirty years simply because the proportion of women in the child-bearing period, and the distribution of that proportion among the more and less productive parts of that period, have changed so much. It is not possible to estimate precisely the numerical effect of the changes, because data from which correct specific birth-rates can be calculated are lacking; but it can at once be shown that the variations in the proportion of reproductive women have been large enough to be a sufficient explanation. Subsidiary Table III of Chapter V shows the proportion among 10,000 Buddhist females of all ages who were in each five-yearly age-group at successive censuses. The proportion of women between ages 30 and 40 was about the same in 1911 as in 1901; but the most actively reproductive ages are those between 20 and 30, and in 1911 the proportion between those ages was 1,656 while in 1901 it was 1,767 or roughly one-fifteenth greater. Other things being the same—such as fertility and the proportion of the married—these women would be expected to have children in proportion to their numbers, so that in 1901 the children born of mothers between 20 and 30 would bear to the whole population a proportion one-fifteenth greater than in 1911. If the same *relative* conditions held for the whole decade approximately the same difference would hold for the total births of each decade. Marginal Table 9 of this chapter has shown that nearly 3,300,000 births were *recorded* in 1911-21 for the registration area alone; and it is the opinion of the Public Health Department that the correct number is about double that. An addition of one-fifteenth to the correct number would increase it by 400,000, and for the whole comparable area the corresponding increase would of course be larger still; so that, even after allowing for high infantile mortality and the correction needed on account of women between 30 and 40, a net difference in the increase of the population of the order of 220,000 is not incredible. The assumption that the same relative conditions held for the whole decade is artificial, and there was also at work the other influence also revealed in Chapter V, namely a varying death-rate. But the calculation does show that the cause adduced is not inadequate to the effect observed.

The root of the explanation offered may be shortly described as a relative paucity of parents. There is no doubt that there has been such a paucity in the decade 1911-21 as compared with 1901-11 and in the latter decade as compared with 1891-1901; and that successive falls in the rate of increase of the population must have resulted. That no other influence is also at work cannot be proved because there are not available precise and accurate birth-statistics. But a reasonably sufficient cause has been discovered; and, unless some other influence can be adduced, the working hypothesis must obviously be adopted that there is no such influence. The relative paucity of parents, it should be noted, is not an hypothesis but an observed fact; the hypothesis is that there has been no other considerable influence at work. It will appear in Chapter VII that there is room

* Put forward in 1837 and revived recently by many; particularly in C. E. Pell's "*The Law of Births and Deaths*" published in 1921.

for suspicion that marriages tend to be contracted slightly later in life than formerly. But (1) this is not proved; (2) the postponement is very little; and (3) it is not at all certain that even a larger postponement would diminish the average size of the family while marriages take place as early as they do. Beyond a certain point the increased age of brides diminishes the average family by shortening the effective reproductive period; but before that point such an increase of age diminishes the number of children who fail to survive because their mothers are either physically immature or too inexperienced to understand their needs.

38. Discussion of Variation in the Comparable Area concluded.—Whether the paucity of parents in the last decade is the complete explanation or not of the variation in the rate of increase, the discussion of the age-distribution in Chapter V makes it clear that the rate of increase must vary from year to year and that the proportionate increases shown in a series of decennial censuses are merely arithmetical quantities which are accidents of the years in which the censuses are taken. If the Burma censuses had been taken in 1896, 1906, 1916 instead of five years later in each case, quite different decennial rates of variation would have been discovered. The actual rates of variation tabulated for the successive decades have in fact little meaning until the effect of the changing age-distribution has been elucidated; they show of course the difference between the numbers of people in the country at successive epochs, but they tell nothing whatsoever of the dynamic and developmental aspect of the problem. The population of Burma has not grown steadily in any decade from the total of one census to the total of the next. The average rate of increase shown for a decade is no indication of the rate at which the population was growing at any moment in that decade or at the time of enumeration; and most conclusions about the growth of population drawn from a comparison of such average decennial rates are unfounded and probably wrong. The decennial censuses as indications of the growth of population are like isolated pictures at long intervals in a cinema film. A spectator who leaves the theatre while a man is shown walking near the Palace of Mandalay and returns ten minutes later to see the same man walking near the Shwedagon at Rangoon does not conclude that the man has walked from Mandalay to Rangoon. He is aware that much may have happened in the intermediate pictures which he has not seen. So too with the census. The record of the variation of the population has its real meaning only when the whole story of the ten years' interval is known; and that in fact requires that the story of the preceding intervals shall also be known. It is possible to have a population with a stable age-distribution which remains approximately constant; but for the Buddhists of Burma the age-distribution is such that the annual or decennial rate of variation of the population cannot be stated correctly as a definite number but only by a picture of its constant variations. Two censuses might give the same decennial rate of increase; but, if at one census that rate of increase were itself increasing and at the other decreasing, the essential meaning might be quite different. The true rate of variation is not shown by a comparison of isolated pictures; it cannot be less than the whole story of the film which goes on for something like thirty years before it is repeated.

Various difficulties appear in Chapter V in dealing with the variation of the total population, and in fact its story cannot be adequately told. Marginal Table 10 of this chapter has shown that, of the defect below the average rate of increase of the decade 1901—11 which still remains for the decade 1911-21 after due allowance has been made for influenza, two-thirds is due to the similar defect among the Buddhists; the remainder is due to the combination of variations among the Animist, Christian and Mahomedan indigenous races (and the few of other religions who also belong to those races) with variations in the numbers of immigrant races due to both the continued migration of these to and from the province and the relative numbers of births and deaths amongst them. Measurement of the separate variations due to these separate causes is impossible.

39. Variation by Natural Divisions and Smaller Areas.—In Imperial Table II the population of every district is shown for every census since 1872; and in Subsidiary Table III of this chapter the variations shown in that table have been tabulated under the heading: "Percentage increase of density." All the figures

of Imperial Table II correspond, as nearly as is possible with the information available, to the present boundaries of each district. Actually for districts of which boundaries have been changed at any time correct adjustments are made for the last census before that change; but unless whole townships are transferred from district to district it is generally impossible with the available records to make the same correct adjustments for earlier censuses, and the assumption has had to be made that the transferred area had in each sex at all previous censuses the same proportion of the population of the whole township (or sometimes the whole district) from which it is transferred as it had at the last census for which precise records are available. A column has been added to the village census tables of the province, which are published for each district in the B-volume of the district gazetteer, to relate the village-tracts of 1921 to those of 1911; it should be possible in the future by using this column to make more and more precise adjustments at each successive census, but it is doubtful whether the column has been filled quite correctly throughout every district in this first attempt.* By summing the figures for the included districts the populations of the natural divisions are found at all successive censuses; and in these the changes of district boundaries have had little or no influence, both because changes which affect the boundaries of the natural divisions have been few, and because their effect is so much smaller in proportion to the whole than is the case in the change of boundary of a district. The variations shown for the natural divisions in columns 8 to 14 of Subsidiary Table III have been calculated to allow for extensions of the census and so take into consideration for each decade the population of only that part of the division which was included in the census at the beginning of the decade; in such a case the area for which the variation in the next decade is calculated is of course larger by the area of the extension of the census. In Subsidiary Table VIII the variation is shown on the same plan for the last two decades with details of the absolute numbers and for Buddhists, Hindus and Mahomedans separately as well as for the whole population. Subsidiary Table IX gives the variation for the strictly comparable area in each natural division for the whole population and for Buddhists. The amounts of these variations have already been noted earlier in this chapter and can be seen readily in the tables. In every case an allowance must be made for the effect of influenza and for the age-distribution, exactly as was done in the earlier part of this chapter for the comparable area, before any explanation of any of the variations can be attempted; and in addition there is always the incalculable effect of migration, which in these cases must be considered for Buddhists as well as for others. It is known however that migration between the natural divisions has greatly diminished, and that no large variations of population can be explained in this way in the last decade. In Subsidiary Table IX which gives the fairest set of comparisons the greatest reductions of the rate of increase are shown for North subdivision and Shan division. In the latter there is the striking effect of a fall by seven-tenths of 1 per cent in the number of Buddhists in the Southern Shan States, corresponding to a virtual increase of only something over 2 per cent. when due allowance is made for influenza. On examining the age-distribution of the Buddhist females of the Southern Shan States and Karenni taken together for the three censuses of 1901, 1911 and 1921 it is found that, compared with the Northern Shan States, there has been a deficit of children at ages 0 to 5 and 5 to 10 on each occasion although in 1901 and 1911 there was an excess for ages 20 to 40 taken together. Unfortunately details by five-yearly age-groups are not available for 1901 and 1911, so the comparison cannot be carried further. In 1921 the Southern Shan States and Karenni have 3,034 per 10,000 in ages 20 to 40 whereas the Northern Shan States have 2,974; but this excess is entirely in the least reproductive age-group 35 to 40, and there is actually a deficit of 13 in the ages 20 to 35. Either low fertility or high infantile mortality in the Southern Shan States seems to be indicated; but the data are inadequate to say definitely that either of these is the case.

Amongst the separate districts of Delta division Tharrawaddy shows a larger rate of actual increase than in 1901-11; while Rangoon, Hanthawaddy, Bassein and Pyapôn show a larger virtual increase if the average allowance is made for influenza. Low rates of increase are shown by Henzada, Ma-ubin and Toungoo. Ma-ubin however seems to have maintained the virtual rate (10 per

* This work was done in each deputy commissioner's office; the census office referred doubtful points back to the district office, but had no means of checking the work adequately.

cent) of 1901-11. The fall in Henzada was ascribed by the Deputy Commissioner of 1921 to emigration from the northern end of the district to the neighbourhoods of Bogale and Mawlamyainggyun in the Pyapôn and Myaungmya districts; but a comparison of the birth-place statistics for 1911 and 1921 does not account for any large numbers in this way. In Coast division the districts of the Tenasserim coast show large increases; those of the Arakan coast show only 8 or 9 per cent increase, but when allowance is made for influenza they have probably not differed much from their rate for 1901-11. If regard is paid to the absolute numbers, the principal falling off of the rate of increase is in Centre. Here Prome district shows a decrease and probably would have shown only 1 per cent increase even if free from influenza. All the other districts of Centre show only a small increase except Pakôkku, Magwe, Shwebo and Myingyan. Prome forms a striking contrast with the adjacent district of Tharrawaddy which, as already mentioned, shows a higher rate of increase than in 1901-11. But the conditions in these districts are quite different. In Prome the small and capricious rainfall makes cultivation precarious; and for various reasons, some of which are the physical conditions, the holdings are small in a large and the principal part of the district, whence also, as there is no room for extension of cultivation by present methods, people migrate to other places. Probably also the pinch of high prices for food was felt more by the Prome people than by most. Tharrawaddy, on the other hand, having sufficient rain and room for extension of cultivation receives population from other districts. The age-distributions of the two districts show that both in 1911 and in 1921 Tharrawaddy had a much larger proportion of its Buddhist population in each of the age-groups 0-5, 5-10, 10-15 than the province as a whole in the same years, while Prome had distinctly less in age-groups 0-5 and 5-10. Unfortunately sufficiently detailed statistics to compare the Buddhist females as was done for the comparable area earlier in this chapter are not available.

In the case of Kyauksè district which showed practically no change in the decade 1901-11 and less than 1 per cent increase in 1911-21 a study of the age-distribution at successive censuses shows that in 1891 there was a large proportion of the women between ages 25 and 35 and an extraordinarily small number of children between 0 and 5 and between 5 and 10, these deficits being due probably to the disturbances in the district in the years just before. There was also an extraordinary shortage at ages 15 to 20, possibly due to similar disturbances some time before. With an excess of women between 25 to 35 in 1891 an increase of 12 per cent to the population was managed by 1901; but these mothers had few successors. The very small cohorts of ages 0 to 20 in 1891 have resulted in small cohorts of child-bearing women since; and consequently there have been only small increases of population in 1901-11 and 1911-21. In 1918-19 moreover, Kyauksè was amongst the districts which suffered most severely from influenza. For 1901 and 1911 no sufficiently detailed age-statistics are available to be of use; for 1921 the age-distribution of Kyauksè is compared in Marginal Table 15 with the average for the province at the last four censuses. There is now a large proportion between ages 15 and 25, larger even than for the province as a whole in 1921, and a more rapid rate of increase in the future is to be expected. This more rapid increase appears in fact to have begun already, because if the average allowance of 2·85 per cent is made for influenza the virtual rate of increase for the past decade is about 3·5 per cent; and as the influenza was so much more severe in this district than in most others this rate ought probably to be raised to 4 per cent. It is believed that no part of this increase is due to immigration; it corresponds to the high proportion of women in 1921 between 20 and 30. The low proportion between 30 and 35 in 1921 corresponds to a low proportion between 20-25 in 1911 and explains in part at least the low rate of increase shown then; if we imagine a curve drawn to show the growth of the population of Kyauksè continuously, it seems there would be a depression in the curve with its lowest point close to the census of 1911 which thus gave the result it did. It is on record that in the days of the Burmese kings

15. Proportional age-distribution of 10,000 Buddhist females.

Age.	Kyauksè, 1921.	Average for Province.
0-5	1,153	1,377
5-10	1,028	1,292
10-15	1,029	1,122
15-20	1,081	1,008
20-25	1,025	906
25-30	811	809
30-35	606	711
35-40	522	555
40-45	633	536
45-50	507	378
50-55	498	398
55-60	318	243
60 and over.	789	665

Kyauksè district suffered so severely from malaria that it had to be repopulated periodically from other parts of the country. This effect was probably associated with the irrigation system that had been installed in very early times and made Kyauksè the granary of the comparatively large population in the arid tracts nearer to the Irrawaddy, and better control of the water and other obvious remedies should reduce the malaria; but the growth in the next decade will probably still be for this reason less than the age-distribution would suggest for ordinary areas. In this account some difficulties have been passed over; but something of the conditions of growth of population in Kyauksè is seen in this way, although there are probably some distortions from the true picture in the rough sketch presented.

Similarly every district requires detailed investigation if more than the bald statement of a change which is given in Subsidiary Table III is desired. For some districts there have been special influences at work such as the inauguration or extension of irrigation schemes, and the development of the oil-winning industry, which have caused the transfer of population from one district to another. The improvement of communications may be a cause of such a transfer, or it may be a result of an increase of population in other ways. In every district the circumstances must be specially examined with intimate local knowledge to obtain a satisfactory explanation. In some cases the variation is apparent rather than real because of temporary migration, which of course becomes even more important if the area studied is diminished to a township; a part of every study of local variations thus includes an enquiry into such adventitious modifications of the census figures. It is impossible to catalogue such modifications here; information about them will frequently be found however in the district census reports, which, as stated in Article 14 of the Introduction, have been placed in the library of the Director of Public Health in Rangoon.

A word must be added about extensions of cultivation which are often given in the district census reports as explanations of an increase of population. Generally such extensions are results, not causes, of an increase, save in the sense that where there is room for extension the loss of population by emigration may be saved. Extension of cultivation may be due to a practically simultaneous increase of population by immigration or to the natural increase of population of twenty years before. In the latter case the increase of population and of cultivation are both results of the same cause, namely the large proportion of young adults reaching a marriageable age and requiring land to support their young families. The principal extensions of cultivation in the last few decades were in the delta and paid a high toll to malaria. It is however one of the arguments advanced in support of the revival of Doubleday's theory of fertility* that the recent purging of the Suez Canal territory from malaria was followed by an extraordinary *fall* in the birth-rate; and, paradoxical as it may seem, it is possible that the defective nutrition associated with the strenuous labour, the imperfect food supplies, the malaria and other conditions of the lives of the colonists of the delta did in fact confer high fertility upon them, and that their extensions of cultivation may thus be regarded as causes of an increase of population beyond that normally corresponding to their age-distribution. Doubleday's theory however is at present the subject of fierce contention between people of opposing views, and the conditions mentioned had also an effect upon the death-rate.

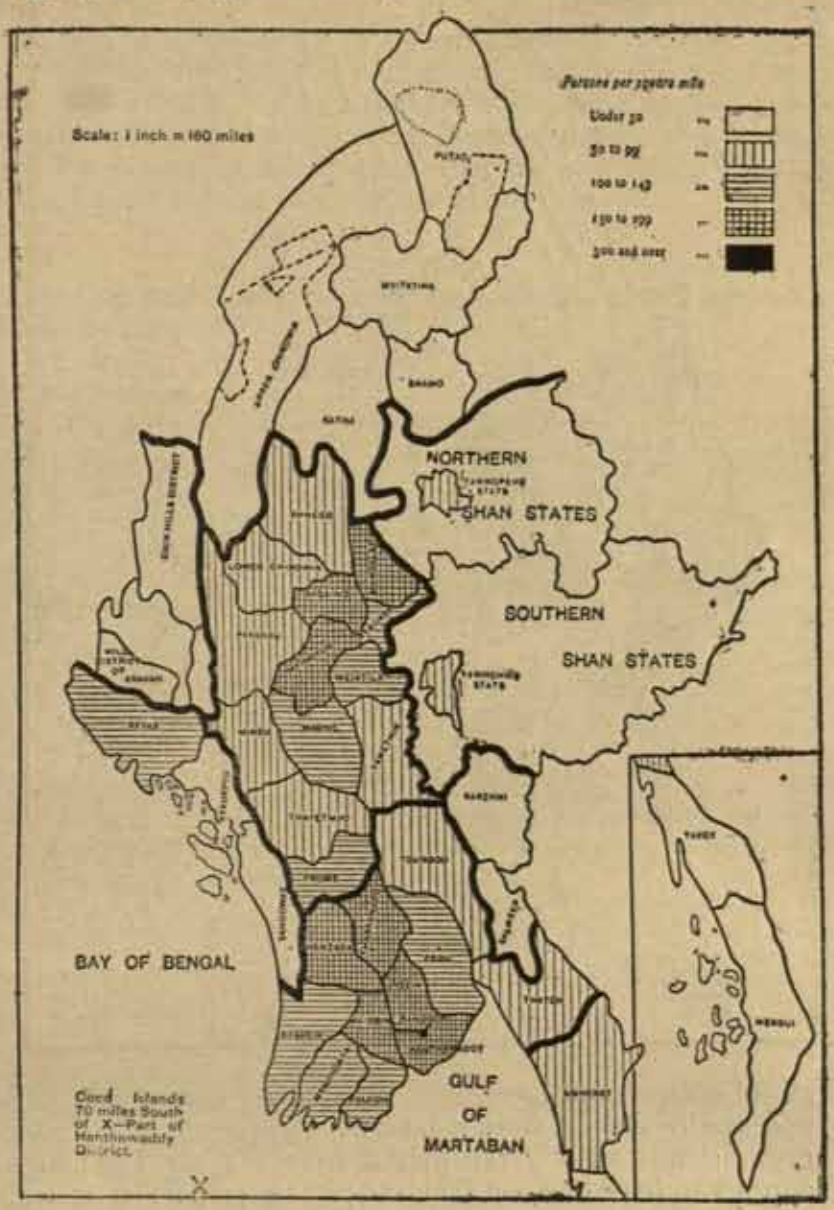
40. **Density of population.**—Statistics with reference to the density of population are given in Subsidiary Tables IA, IB, II, III, VIA and VIB of this chapter as well as in Provincial Table I which is published at the end of the volume of imperial tables and gives the density in 1921 for townships as well as districts. The results shown in Provincial Table I with reference to density are also shown in another way in Maps 5 and 6 hereby. But no statistics of density should be used except with particular caution; they should generally be regarded as mere arithmetical quotients until their applicability to the purpose in hand has been determined. For instance the relation of density to rainfall which was discussed in the census report of 1911 may be considered. No obvious correspondence was found to hold between the rainfall and density of the natural divisions; and

* See footnote on page 42.

none was suggested by the table which showed the rainfall and density for each district at about the time of the census of 1911. Subsidiary Table IA of the present chapter gives similar figures again for the census of 1921, and still no obvious correspondence holds. Neither is any high coefficient of correlation found by statistical methods. But the reason is twofold. The rainfall figures are the averages of the total annual rainfall at each of several stations in a district. The distribution of these stations depends chiefly upon convenience in getting the figures recorded from day to day, and, quite apart from rivers and irrigation, the unweighted average of the station totals is not a measure of the amount of water supplied to the area for direct consumption by the people and for their crops and industries. Even if the rain supply were known it would not be a measure of the utilisable water, because the wastage of rain by surface drainage and percolation differs from place to place, and so does the time-distribution of the rain through the year. The rainfall-average of a district is thus not a measure of anything having a very definite numerical relation to the capacity of the district to support its population. The density of population which is compared with the rainfall is also a much vaguer quantity than at first appears. Most Burma districts include areas of very varied character, and they include them in different proportions, so that the differing quotients obtained by dividing population by area do not represent the relative conditions of pressure of population in the districts. This is clear if the almost uninhabited forest-tract of one district is supposed to be transferred to the next district; the supply of water from the hillsides and all conditions in the actually populated areas would be exactly as before, but the density of one district would be raised and the other lowered perhaps in a large degree. The comparison of rainfall with density for administrative units thus resembles Alice's game of croquet in Wonderland, and is about as likely to establish any proposition. The first step in such an investigation must be to divide each district into homogeneous tracts of country, such as those which in Burma are formed into units (known as primary tracts) for the purposes of revenue settlement (but with some modifications on account of towns), each of which would have fairly uniform physical economic and social conditions. Each district or township should be treated separately when forming the density tracts, but these could afterwards be grouped

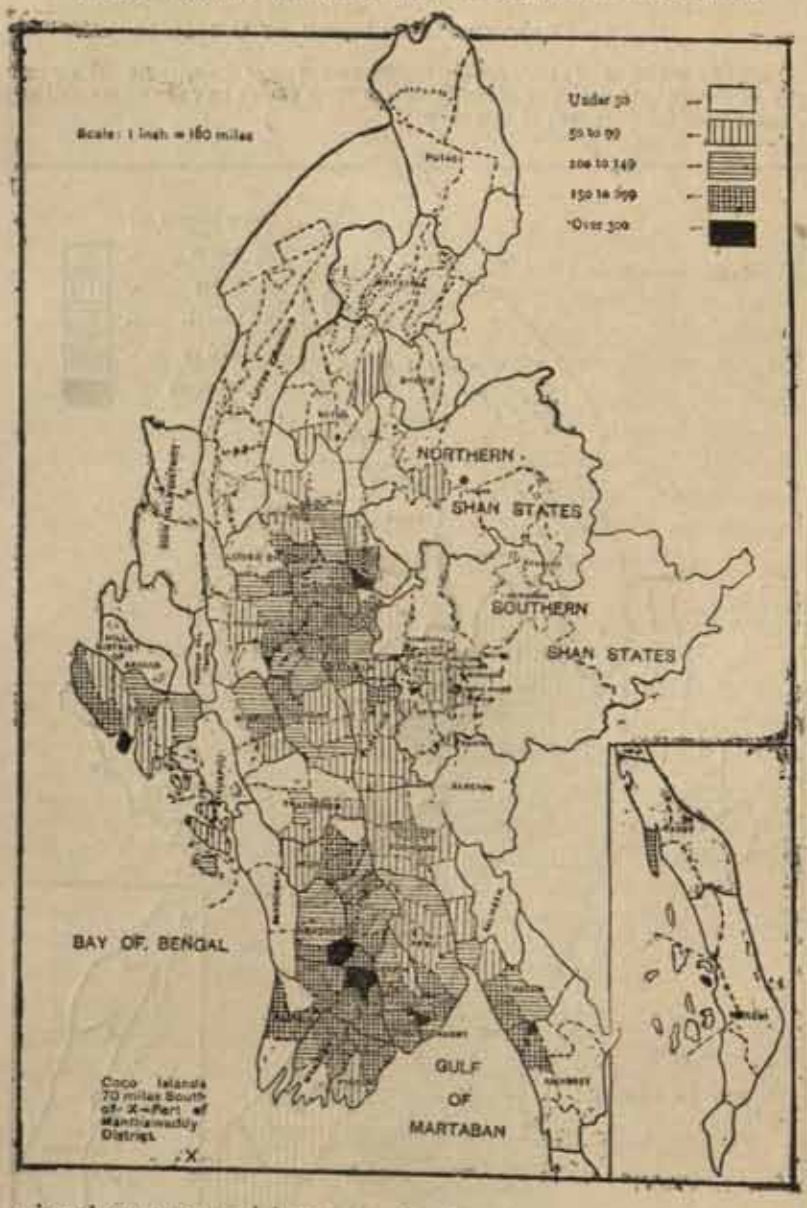
MAP 5.—DENSITY OF POPULATION BY DISTRICTS.

NOTES.—The heavy lines are the boundaries of natural divisions. States of the Northern and divisions of the Southern Shan States have been treated as districts for the purposes of this map.



in approximately homogeneous classes including parts of various districts. Then the questions would be whether there was any direct relation between density and rainfall in each class, and how that relation varied for different classes. It might be thought that a short cut could be taken by comparing density per unit of cultivated area or some similar unit with the rainfall as is done in Subsidiary Table IB. That table also fails to establish any relation; but as the difficulty with regard to the measurement of the rainfall has not been met, and the difficulty of heterogeneity of the areas has only been met in part, and the estimates of "cultivable area" are necessarily at least as uncertain as the definition of that term, no surprise need be felt. The relation of density to rainfall must be left an open question until the investigation is made with homogeneous tracts on the lines indicated above.

MAP 6.—DENSITY OF POPULATION BY TOWNSHIPS AND STATES.



The suggestion was advanced in the census report of 1911 that up to a limiting density of 150 persons per square mile, the population tends to concentrate in those townships in which it is already most densely distributed. The tendency of density to increase still more where already large arises because large density indicates either specially attractive conditions for cultivation or the existence of large villages or towns which are regional centres and have such advantages as communications or markets which necessarily attract more population to them. The tendency for urban areas to grow in this way is recognised everywhere. The limit of 150 per square mile appears to have been an accident of the proportion of cultivated land in each township and the average area worked by each farm-hand. The proposition was not formulated for densities calculated for areas less than whole townships, and in Burma up to the present every township has so much more rural than urban area, and large-scale manufacture is so little developed, that rural conditions control the average density of almost every township. Nevertheless the first page of Provincial Table I shows that in five districts of the Pegu Division (as constituted in 1921) there were 32 townships of which 21 had an average density of over 150 per square mile besides 2 (Syriam and Prome) in which the average is raised by the inclusion of a relatively large town. Similarly the Irrawaddy division shows in a total of 32 townships 17 apart from Bassein Town with a density exceeding 150. In several townships the density rises to 250; and as in practically every one of these the population is not spread over the whole but is excluded from some forest or other part, and as a considerable part of the area of many is occupied by water, their true average densities are much higher.

The variation of the density of the population from time to time for any given area is merely a manner of expressing in terms of a unit larger than a single person the variation of the total population, and calls therefore for no discussion here. The variation in 1921 from one part of the province to another is shown in Maps 5 and 6 on this and the next page in terms of districts and of townships respectively. These maps must not however be taken as giving any very exact pictures of the true variations of density. They show about as much as was stated in Article 29 of this chapter in which the general distribution of the population is discussed. But a comparison of the densities of different districts or townships, without first making allowance for the lack of homogeneity of the areas compared, is no better than a comparison of the total populations without regard to the extent of the areas; it does in fact simply disregard the difference in the extent of the inhabited areas or of areas inhabited under comparable conditions. For such a comparison the only density-figures of any use would be expressed in terms of those for such homogeneous tracts as those described above. These would be of interest in any intensive study of a district. The relations between the density and the soil, water-supply, usual crops, health, industries and communications for instance might be studied for the homogeneous density-tracts of every district, and those results compared and studied for the province. Such an undertaking is of course far beyond the scope of the present report.

41. Under-population and Over-population.—Perhaps the commonest use of the figures for the density of population in Burma is to say that they show the province is under-populated. Marginal Tables 16 and 17 give the average density of population in various areas for comparison with that of Burma. It is seen that Burma has an average density of population just one-quarter of that of all the provinces of India (including Burma) together. Of countries outside India Siam is the most interesting in Burma in this connection, because its physical conditions and population probably resemble those of Burma more closely than those of any of the other countries shown.

16. Density of population per square mile in Indian provinces (Census of 1921).

Province.	Population (Millions).	Density.
All India (including states) ...	318·9	177
All provinces of India ...	247·0	226
Burma	13·2	57
Bengal	46·7	608
United Provinces	45·4	496
Bihar and Orissa	34·0	409
Madras	42·3	297
Punjab	20·7	207
Bombay	19·3	157
Central Provinces	13·9	139
All other provinces	11·5	90

17. Density of population in various countries outside India.

Country.	Population (Millions).	Density.	Date of Census.
Burma	*13·2*	*57*	*1921*
Japan	77·0	295	1920
China Proper ..	302·1	197	*
Ceylon	4·5	177	1921
Siam	8·9	46	1919*
Egypt	12·8	1,043	1917
Belgium	7·6	666	1919*
England and Wales .	37·9†	649	1921
Holland	6·8	544	1920
Germany ..	60·9	332	1919*
Italy	36·1	326	1915*
France	41·5	195	1919*
Scotland	4·9	161	1921
U.S.A.	117·9	32	1920
Norway	2·7	22	1910*
Canada	9·0	2	1920*

* For entries marked thus the population was estimated.
† Preliminary unrevised figures.

It is really quite unjustifiable to argue from the figures in Marginal Tables 16 and 17 that Burma is under-populated. That may or may not be true; those figures are no evidence on the matter. In the first place it is necessary to consider what area should be taken to calculate the density of the population. The density of 57 is obtained by reckoning the area of the province as 233,707 square miles, that being an approximate measurement of the whole. But Subsidiary Table III shows that even if whole districts are taken as units Ma-ubin has a density of 201 and Sagaing 179. Ma-ubin happens to be a district with comparatively little uninhabitable territory besides the area occupied by its numerous deltaic creeks; and the populated part of Henzada is really more densely inhabited although a smaller average density is recorded for that district.

In exactly the same way the density of 57 recorded for the province is in no way a measure of those conditions of life in the province which would be measured by a density properly calculated. In the second place it is difficult to discover what is meant by the descriptions *over-populated* and *under-populated*. A country is obviously over-populated in a static sense when, even if all its resources were fully and most advantageously employed, it would be unable to support its population satisfactorily either with its own products or with goods obtained in exchange for its own products. The word *satisfactorily* makes this definition somewhat vague and dependent upon a constantly changing standard of comfort and efficiency; and moreover it is always impossible to say whether a country's resources are fully and most advantageously employed and what part of any dissatisfaction with the standard of living is due to defects of distribution. The world's average rate of wheat production is thirteen bushels per acre and in England in 1921 the average was 35·3; but Professor Biffen's "Yeoman" wheat has yielded 96.* There is much to be said about the employment of the full resources of English agriculture before calling England over-populated in the sense now considered. That Poland has increased her wheat and rye crops by 250 per cent in the last ten years suggests that the last word on food-production has probably not been said yet in Burma. Malthus, in his *Essay*, is commonly supposed to have had the static conception of over-population described above; but really he understood the term in the kinetic sense and described a country as over-populated when the rate of increase of the population exceeded the rate of increase of the supply of calories in the triple form of food, clothing and shelter. This is a very different conception indeed; a country might be over-populated according to either of these definitions without being overpopulated according to the other. Under-population might be ascribed to a country by its own people if they thought an increase of population would enable them to collect more capital or take advantage of better organisation and so raise their standard of life. It might also be ascribed in the case in which an increase of population, though it might either depress the standard of living or leave it unchanged, would free the country from dread of some military or economic invasion. It might also be ascribed to one country by the people of another, if the latter were looking for an area of less economic pressure to which they could emigrate. Moreover, as man does not live a human life on the minimum of economic support, other and wider considerations enter into the discussion. In any case it is clear that the particular meaning attached to the words *over-populated* and *under-populated* must be made clear in every case in which they are used. It is clear also that a discussion of the question whether Burma is under-populated in the more important senses must necessarily involve a discussion of matters which are not purely demographic but have vital political aspects which exclude them from a report of this nature; it is not a question which is decided by observing that a lower average density figure is recorded for Burma in Marginal Table 16 than for any other large province.

42. **Houses.**—A *house* was defined in the instructions to enumerators as the separate residence of a family; but to this definition notes were added to explain how to deal in the enumeration-record with residences shared by two families, and with monasteries, *zayats* and other peculiar cases. The full definition is given as Note 9 to Imperial Table I, where also it is indicated that in towns a *house* was usually a tenement. In the enumeration of persons in factories, ships and trains, and under some other special circumstances, it was sometimes convenient to mark off spheres of enumeration which were regarded as *houses* by the enumerators. The term *house* thus has a technical meaning adapted to the practical work of enumeration; it is simply the unit of enumeration intermediate between the *block* and the *person*; and the record of houses is not made with the intention of recording statistics either of housing accommodation or of the size of households or families. The number of houses is shown for districts in Imperial Table I, for townships in Provincial Table I, and for village-tracts and wards of towns in the Village Census Tables, while Subsidiary Table VII gives the number of persons per house; but care is necessary before drawing any conclusions from the statistics to consider the meaning of the number of houses in each case. In rural areas there is however less room for variation in the application of the definition than in towns; and, as the instructions were that only occupied houses should finally be

* See the chapter on Soil and Crops in Cressy's *Discoveries and Inventions of the Twentieth Century* (1922).

reckoned for the census tables, most of these differences should be automatically removed. But the counting of the houses had to be done in the district offices where the enumeration-books were kept, and there was no real check possible even in the district office. I personally have no confidence in the figures, as I think it extremely probable that in many cases the highest serial house-number has been taken lazily as a substitute for the number of occupied houses in a village-tract, and that there is no sufficient safeguard against the copying of wrong numbers into the registers. In any case it should be noted that the term *family* was used in a loose sense in the definition given at the beginning of this paragraph, and that *household* would have been better; in the Burmese edition of the instructions the term used was *ein-daung* which means a household. For the number in a family in the sense of the average number of children born to each mother there are no statistics of any sort available, although the concluding article of Chapter VII of this report deals with a related question.

It is also to be noted that the definition of a *house* used in the present census is the same as that used in 1911, but there is no means of determining whether its application and practical effect in the statistics were the same. For the census of 1901 a house was defined as "a building to which a separate number had been attached for census purposes"; this is essentially the same in spirit as the definition of 1911 and 1921, but it is impossible to compare the effects of its practical application. In Rangoon Town, the Census Superintendent of 1901 noted, the term *house* commonly meant only an "apartment," by which term I suppose he refers to the parts into which rooms are frequently divided by partitions. The distinction between census towns and urban areas which is pointed out in Chapter II must be considered with reference to the columns for houses in Imperial Table I; but it is probable that the average of persons per house in rural areas is not seriously affected by this.

In Subsidiary Table VII the figures for the average number of houses per square mile are subject to the defects of all density figures calculated by arbitrary administrative divisions as well as the defects involved in the definition and counting of houses.

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SUBSIDIARY TABLE IA.—*Density, water-supply and crops in Burman Division.*

Natural Divisions and Districts.	Mean density per square mile in 1921.	Percentage of total area.					Percentage of cultivable area.		Percentage of area cultivated in 1920-21 which is irrigated.	Normal rainfall (inches).	Percentage of gross cultivated area cropped in 1920-21 with				
		Not available for cultivation.		Cultivable.											
		Reserved Forests and Fuel Reserves.	Other.	Total.	Occupied for cultivation.	Cultivated in 1920-21.	Cultivated in 1920-21.	Double cropped.			Rice.	Beans.	Other cereals and pulses.	Oil seeds.	Other crops.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Burman	73	26	36	38	19	15	39	1	8	90	67	6	7	10	10
Delta ..	*137*	*21*	*24*	*55*	*36*	*33*	*60*	..	*2*	*111*	*91*	*1*	*1*	.	*7*
Rangoon * ...	...	...	61	39	38	36	90	...	4	99	56	...	...	...	44
Insein	154	21	9	67	49	47	70	...	.	..	93	..	...	...	7
Hanthawaddy ...	195	4	14	82	72	70	85	...	...	113	95	...	..	...	5
Tharrawaddy ...	172	38	3	59	33	32	55	...	...	88	89	3	2	1	5
Pegu	109	35	22	43	36	34	80	...	2	128	97	...	..	...	3
Bassein	119	15	32	53	32	29	55	...	1	109	91	...	1	..	8
Henzada	192	31	24	45	36	35	77	...	1	84	82	4	2	1	11
Myaungmya ...	140	17	13	70	47	44	62	...	..	105	95	...	...	...	5
Ma-ubin	201	...	15	85	48	45	53	..	...	96	83	5	1	1	10
Pyapôn	135	26	17	57	51	49	86	..	...	95	98	..	...	..	2
Toungoo	62	24	57	19	13	12	63	...	17	81	86	1	...	2	11
Thatôn	98	7	14	79	24	23	29	...	3	218	89	...	...	...	11
Coast ..	*45*	*7*	*56*	*37*	*9*	*8*	*21*	...	*1*	*191*	*86*	...	...	*1*	*13*
Akyab	112	1	29	70	25	22	31	...	...	196	93	.	...	1	6
Kyaukpyu ...	46	..	88	12	7	7	56	.	.	195	91	...	...	..	9
Sandoway ...	30	...	95	5	4	4	73	...	...	210	85	..	..	2	13
Amherst ...	59	9	38	43	12	11	25	..	2	189	86	...	...	1	13
Tavoy	30	15	54	31	5	4	14	..	1	193	69	..	...	1	30
Mergui	14	4	56	40	2	2	5	...	...	163	59	..	..	2	39
Centre ..	*99*	*21*	*33*	*46*	*31*	*19*	*41*	*4*	*17*	*38*	*30*	*13*	*18*	*24*	*15*
Prome	127	34	33	33	21	20	62	...	15	47	86	3	...	1	10
Thayetmyo ...	54	14	66	20	10	6	33	9	5	38	31	1	5	35	28
Pakôkku	75	21	46	33	21	14	41	3	3	24	16	13	34	28	9
Minbu	83	45	27	28	22	13	45	4	45	35	42	12	15	19	12
Magwe	115	16	28	56	47	22	39	11	6	32	10	7	18	46	19
Mandalay ...	168	20	50	30	20	13	45	1	47	33	53	27	3	5	12
Shwebo	68	13	35	52	37	16	32	..	38	33	73	7	5	10	5
Sagaing	179	..	15	85	69	46	55	1	2	29	9	17	23	27	24
Lower Chindwin ...	99	21	26	53	38	24	45	3	3	32	15	15	32	29	9
Kyauksè	111	28	31	41	33	22	55	6	67	30	50	10	3	14	23
Meiktila ...	127	20	13	67	47	27	41	10	17	33	15	30	16	26	23
Yamèthin ...	77	39	9	52	21	12	23	2	36	38	49	14	10	19	8
Myingyan ...	161	5	21	74	66	38	51	6	2	26	4	24	32	27	13
North † ..	*18*	*58*	*30*	*17*	..	..	..	..	*38*	*70*	*92*	*2*	..	*1*	*6*
Bhamo †	16	48	33	19	...	..	...	...	37	73	94	...	...	...	6
Myitkina † ...	11	51	36	13	...	..	...	...	42	79	85	..	...	...	15
Katha †	28	59	25	16	..	..	...	...	36	60	96	1	...	...	3
Upper Chindwin † ...	12	52	28	20	...	...	...	...	20	69	86	6	1	2	5

* Excluding Rangoon River and Cantonment.

† Records of cultivation are available only for a small part of any district in *North*; columns 6 to 9 are therefore left blank.

SUBSIDIARY TABLE IB.—*Density compared with rainfall and cultivated area (Burman Division only).*

District and Natural Division.	Mean Rainfall (inches).	Density per 1,000 acres of				* Ratio to the rainfall of the density as calculated for the			
		Total Area.	Cultivable Area.	Area occupied for Cultivation.	Area cultivated in 1920-21.	Total Area.	Cultivable Area.	Area occupied for Cultivation.	Area cultivated for 1920-21.
1	2	3	4	5	6	7	8	9	10
Burman ...	90	115	301	606	778	13	33	67	86
Delta ...	*111*	*224*	*393*	*620*	*656*	*20*	*35*	*56*	*59*
Rangoon ...	..	...	...	...	...	...	...	...	...
Insein ...	...	241	359	495	515	...	...	...	...
Hanthawaddy	113	305	371	423	438	27	33	37	39
Tharrawaddy ..	88	269	456	804	835	30	52	91	95
Pegu ...	128	171	399	467	497	13	31	36	39
Bassein ...	109	185	350	587	642	17	32	54	59
Henzada ...	84	300	661	846	861	38	79	98	102
Myaungmya ...	105	218	312	469	502	21	30	45	48
Ma-ubin ...	96	315	370	657	701	32	38	68	73
Pyapôn ...	95	210	370	408	429	22	39	43	45
Toungoo ...	84	97	517	760	820	12	64	94	102
Thatôn ...	218	152	193	630	672	7	9	29	31
Coast ...	*191*	*70*	*193*	*801*	*913*	*4*	*10*	*42*	*48*
Akyab ...	196	175	250	692	815	9	13	35	42
Kyaukpyu ...	195	71	608	948	1,087	4	31	49	56
Sandoway ...	210	46	936	1,188	1,278	2	45	57	61
Amherst ...	189	93	215	747	850	5	11	39	45
Tavoy ...	195	46	149	1,068	1,076	2	8	52	55
Mergui ...	163	22	54	955	1,012	1	3	59	62
Centre ...	*88*	*155*	*841*	*602*	*827*	*47*	*103*	*162*	*251*
Prome ...	47	199	613	931	990	42	130	199	211
Thayetmyo ..	38	84	429	876	1,317	22	113	231	347
Pakôkku ...	24	117	352	563	857	49	147	235	357
Minbu ...	35	130	457	583	1,025	37	131	167	293
Magwe ...	32	179	321	380	819	56	100	119	256
Mandalay ...	33	263	885	1,307	1,970	80	268	396	597
Shwebo ...	33	107	207	301	651	32	627	109	197
Sagaing ...	29	280	330	408	602	97	114	141	207
Lower Chindwin	32	154	289	405	650	48	90	127	203
Kyauksè ...	30	174	424	533	777	58	141	178	259
Meiktila ...	33	198	296	421	721	60	90	128	218
Yamèthin ...	38	121	230	599	985	64	121	316	518
Myingyan ...	26	252	339	379	669	97	130	146	257
North ...	*70*	*26*	*141*	...	...	*86*	*20*	...	...
Bhamo † ...	73	25	132	...	...	3	18	...	...
Myitkyina † ...	79	17	134	...	...	2	17	...	...
Katha † ...	60	44	272	...	...	7	45	...	...
Putao † ...	...	..	..	...	...	...	...	...	...
U. Chindwin †	69	18	90	...	...	3	13	...	...

* All ratios multiplied by 10.

† Columns 5, 6, 9 and 10 cannot be filled for this district—*see* footnote † to the preceding table. Columns 4 and 8 are also very doubtful.

SUBSIDIARY TABLE II.—*Distribution of the population by density-classes of townships.*

Natural Division.	Total Area (Square Miles).	Total Population in 1921 (Thousands).	Total Population in all townships with a population per square mile in 1921 of																	
			Under 50.		50-100.		100-150.		150-300.		300-450.		450-600.		600-750.		750-1,000.		1,000 and over.	
			Square Miles.	Thousands of Persons.	Square Miles.	Thousands of Persons.	Square Miles.	Thousands of Persons.	Square Miles.	Thousands of Persons.	Square Miles.	Thousands of Persons.	Square Miles.	Thousands of Persons.	Square Miles.	Thousands of Persons.	Square Miles.	Thousands of Persons.	Square Miles.	Thousands of Persons.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
Province ...	323,797	13,912	265,383	3,666	49,793	4,263	14,581	1,849	22,897	4,631	662	234	85	48	72	48	...	...	134	573
Burman ...	137,348	11,505	92,296	2,177	37,331	1,984	14,580	1,835	22,821	4,611	650	230	85	48	72	48	...	...	131	567
Delta ...	35,195	4,823	7,561	385	8,607	670	6,084	852	11,317	2,339	650	230	...	...	...	...	...	...	76	342
Coast ...	35,163	1,508	28,052	651	1,328	331	1,437	182	1,537	341	...	...	...	...	72	48	...	...	30	76
Centre ...	44,432	4,406	14,778	521	13,178	980	6,439	832	9,057	1,930	...	...	85	48	...	...	...	...	23	149
North ...	22,708	680	21,770	622	938	57	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Chin ...	13,600	160	13,600	160	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Salween ...	6,946	114	6,946	114	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Shan ...	35,313	1,434	33,539	1,313	1,462	179	121	14	80	16	12	4	...	...	...	...	...	...	3	6

SUBSIDIARY TABLE III.—*Variation in relation to density since 1872.*

NOTE.—All figures relate to the areas included in 1921 in the district or natural division named. The variation of density in any district or natural division in a period in which an extension of the census within that area took place has been calculated, as nearly as possible, for the portion included in the census of the beginning of the period; e.g. the entry for the Province in column II relates to Lower Burma as enumerated in 1881 and excludes besides Upper Burma all those parts of the Thayetmyo district which were under Burmese rule in 1881. None of the figures for remote parts in the earlier years can be supposed to be very accurate.

District and Natural Division.	Mean Density per square mile.						Percentage Increase of Density.					1891 to 1921	1872 to 1921
	1921	1911	1901	1891	1881	1872	1911 to 1921	1901 to 1911	1891 to 1901	1881 to 1891	1872 to 1881		
1	2	3	4	5	6	7	8	9	10	11	12	13	14
PROVINCE ...	57	53	¶ 46	51	§ 49	§ 36	8·5	15	20	23	36	49	157
Burman ...	73	68	59	53	...	...	9·3	15	11	...	...	...	...
Delta ...	*137*	*123*	*106*	*83*	*65*	*44*	*11*	*16*	*28*	*28*	*48*	*64*	*211*
Rangoon‡ ...	14001	12524	10480	7,775	5,729	4,216	17	20	35	36	36	88	246
Insein ...	154	139	119	97	73	46	11	17	23	33	60	59	238
Hanthawaddy	195	178	159	131	98	62	10	12	22	34	58	49	216
Tharrawaddy	172	151	139	118	95	60	14	10	17	25	59	45	188
Pegu ...	109	94	73	52	41	25	17	28	41	28	65	110	344
Bassein ...	119	107	95	78	65	49	11	13	22	20	32	52	142
Henzada ...	192	1,187	170	154	128	90	3	10	11	20	42	26	115
Myaungmya ...	140	127	107	69	40	22	11	18	56	73	85	104	552
Ma-ubin ...	201	185	169	130	105	76	8	10	30	23	39	54	165
Pyapôn ...	135	119	105	68	37	19	13	13	55	84	99	98	625
Toungoo ...	62	57	45	34	31	22	9	26	32	11	39	80	179
Thatôn ...	98	84	69	54	46	33	16	22	29	16	39	82	194
Coast ...	*46*	*40*	*35*	*30*	*26*	*20*	*12*	*15*	*17*	*18*	*24*	*54*	*120*
Akyab ...	112	103	94	81	70	54	9	10	16	16	30	38	108
Kyaukpyu ...	46	42	38	37	34	33	8	10	3	10	4	22	39
Sandoway ...	30	27	24	21	17	15	9	13	16	20	18	43	102
Amherst ...	59	52	43	33	26	18	14	23	29	29	39	79	222
Tavoy ...	30	25	21	18	16	14	16	23	16	12	18	65	118
Mergui ...	14	11	9	7	6	5	22	26	20	30	20	84	187
Centre ...	*99*	*92*	*82*	*76*	...	...	*7*	*13*	*9*	...	...	*31*	...
Prome ...	127	130	125	127	113	96	−2	4	−1	12	17	1	...
Thayetmyo ...	54	52	50	53	*36	*33	3	4	−4	*	8	2	...
Pakôkku ...	75	66	58	50			14	15	14	...	...	49	...
Minbu ...	83	80	71	65			5	13	8	...	...	27	...
Magwe ...	115	98	76	69			17	29	10	...	...	66	...
Mandalay ...	168	101	173	177	Not enumerated prior to 1891.		5	−7	−2	...	...	−5	...
Shwebo ...	68	62	50	40			10	24	24	...	...	70	...
Sagaing ...	179	171	152	132			5	12	15	...	...	35	...
Lower Chindwin	99	91	79	67			8	14	18	...	...	47	...
Kyaukse ...	111	110	110	99			1	Nil	12	...	...	13	...
Meiktila ...	127	123	111	95			3	11	16	...	...	33	...
Yamèthin ...	77	73	58	49			5	26	18	...	...	57	...
Myingyan ...	161	145	119	116			11	22	2	...	...	38	...
North ...	*16*	*15*	*15*	...	...	...	*6*	*17*	...	...	...	...	...
Bhamo ...	16	16	11	Reliable figures not available prior to 1901.			5	−36	...	...	...	...	...
Myitkyina† ...	11	10	8				14	25	...	...	...	...	...
Katha ...	28	28	25				3	12	...	...	...	...	...
Putao ...	38	...	...				...	...	...	...	...	...	...
Upper Chindwin	12	11	8				10	11	...	...	...	...	...
Chin ...	13	13	11	...	...	...	−5	31	...	...	...	...	...
H. D. of Arakan	14	15	13	10	10	6	−6	7	41	1	65	...	...
Chin Hills ...	14	15	11	Not enumerated prior to 1901.			−8	37	...	...	...	...	...
Pakôkku H. T.	9	7	6				10	19	...	...	...	...	...
Salween ...	16	16	...	...	...	...	4	...	...	...	...	...	...
Salween ...	19	17	14	12	11	10	8	23	20	5	15	...	...
Karenni ...	15	15	...	...	...	...	...	...	...	...	...	...	...
Shan† ...	25	25	21	Not enumerated prior to 1901.			4	15	...	...	...	...	...
N. Shan States	29	29	22				14	40	...	...	...	...	...
S. Shan States	23	23	21				1	9	...	...	...	...	...

* Figures of 1872 and 1881 are comparable with each other but not with those of 1901 and subsequent years.

† Allowances have been made for changes of area of enumeration.

‡ In estimating the density for Rangoon the area covered by water has been excluded and the density taken as the whole population (including persons enumerated on the river) divided by the land area of 23·42 square miles.

§ The censuses of 1872 and 1881 related to Lower Burma only.

¶ In 1901 the census was extended to the Shan States, Karenni, the Chin Hills and various Kachin Hill Tracts.

SUBSIDIARY TABLE IV.—*Variation in natural population.*

NOTE.—For the definitions of *Immigrant*, *Emigrant* and *Natural Population* see the first article of Chapter III. The figures of 1911 given in this table for the separate districts have been copied from the corresponding table in the census report of 1911. Districts which suffered a change of boundary between 1911 and 1921 are marked with an * and the figures given for them in columns 6 to 9 must be understood in each case to relate to the district as constituted in 1911; for the natural divisions corrected figures allowing for these changes of boundary are given, but the figures for North, Salween and Shan involve some estimations. In the figures of 1921 emigration to places beyond Burma has been ignored throughout except (1) the figures for the Rangoon, Akyab, Mandalay and Chin Hills districts, and the Hill District of Arakan and all figures including these take account of persons born in those districts and enumerated in India and (2) the first two lines of the table take account of all emigrants to India and also of all emigrants to places beyond India for which figures are available (see Article 68 of Chapter III). The figures for natural population in column 5 are correspondingly defective; but they are believed to be roughly comparable with those in column 9 for districts which have not changed their boundaries between the censuses and are not mentioned above. In column 10 emigrants beyond Burma have been excluded except in the first two lines because they are excluded from column 9.

District and Natural Divisions.	Population in 1921				Population in 1911.				Increase per cent in natural population 1911 to 1921.
	Actual population.	Immigrants.	Emigrants.	Natural population.	Actual population.	Immigrants.	Emigrants.	Natural population.	
1	2	3	4	5	6	7	8	9	10
PROVINCE ...	13,212,192	706,749	20,786	12,525,759	12,115,217	590,965	10,902‡	11,535,154	9
Burman ...	11,504,629	685,978	32,186	10,850,837	10,488,200	590,069	21,929	9,920,060	9
Delta ..	*4,820,745*	*725,924*	*44,636*	*4,139,457*	*4,832,402*	*743,099*	*29,068*	*3,618,361*	*14*
Rangoon ...	341,962	231,647	37,979	148,294	293,316	201,870	41,033	132,479	9
Insein * ...	293,083	72,544	13,771	234,310	...	...	...	...	*
Hanthawaddy *	304,624	75,555	32,637	321,706	539,109	128,824	30,816	441,101	*
Tharrawaddy ...	492,429	62,821	32,498	462,106	433,320	54,627	27,821	406,514	14
Pegu * ...	445,620	124,308	21,190	342,502	429,121	132,430	15,337	312,028	*
Bassein ...	489,473	51,128	27,232	465,577	440,988	41,322	25,190	424,856	10
Henzada ...	550,920	32,360	50,846	569,406	532,357	42,271	41,926	532,012	7
Myaungmya ...	370,551	83,205	9,351	296,700	334,852	78,122	2,327	259,057	15
Ma-ubin ...	330,106	45,148	33,436	318,394	305,073	50,030	30,627	285,670	11
Pyapôn ...	288,994	92,679	10,472	206,787	256,215	112,794	5,866	149,287	39
Toungoo ..	381,883	81,420	17,116	317,579	351,076	85,904	16,607	281,779	13
Thatôn * ...	471,100	38,751	23,747	456,096	416,975	40,021	16,499	393,453	*
Coast ...	*1,598,498*	*118,601*	*86,150*	*1,620,142*	*1,482,297*	*96,416*	*27,601*	*1,364,482*	*11*
Akyab ...	576,430	53,657	2,566	525,739	529,943	47,476	1,479	483,946	9
Kyaukpyu ...	199,873	3,940	9,373	205,306	184,916	2,817	6,188	188,287	9
Sandoway ...	112,929	3,628	5,142	113,543	102,803	2,750	3,987	104,040	9
Amherst ...	417,910	40,432	21,686	399,164	367,918	39,891	18,250	346,277	15
Tavoy ...	156,786	9,955	6,018	153,749	135,293	2,607	4,475	137,161	12
Mergui ...	135,465	14,739	1,915	122,641	111,424	7,664	1,011	104,771	17
Centre ...	*4,406,770*	*114,760*	*277,702*	*4,668,722*	*4,113,894*	*106,084*	*346,016*	*4,353,876*	*5*
Prome ...	371,575	23,204	44,370	392,741	378,871	22,762	43,276	399,385	−2
Thayetmyo ...	255,406	6,936	31,116	279,586	248,275	8,230	34,529	274,574	2
Pakôkku ** ...	465,771	11,908	32,652	486,515	409,909	6,393	35,680	439,196	11**
Minbu * ...	274,302	19,064	20,854	276,092	263,939	15,927	32,289	280,301	*
Magwe * ...	423,252	27,855	35,654	431,051	316,909	17,112	31,233	331,030	*
Mandalay ...	356,021	54,751	44,781	346,651	340,770	41,870	59,295	358,195	−3
Shwebo ...	391,284	19,053	33,240	405,471	356,363	12,225	37,868	382,006	6
Sagaing ...	326,908	14,158	32,067	344,817	312,111	8,424	31,147	334,834	3
Lower Chindwin	342,880	4,846	28,590	366,624	316,175	22,968	31,809	325,016	13
Kyauksè ** ...	142,677	16,999	5,833	131,511	141,426	12,918	4,390	132,898	−1**
Meiktila ** ...	289,897	10,771	42,735	321,861	279,822	9,589	44,203	314,436	2**
Yamèthin ** ...	323,189	34,955	22,865	311,099	307,419	30,736	23,766	300,449	3**
Myingyan * ...	442,008	7,324	40,019	474,703	441,905	9,715	49,161	481,351	*
North ...	*679,621*	*74,670*	*8,988*	*614,039*	*609,607*	*69,057*	*21,889*	*572,439*	*7*
Bhamo ...	112,960	19,787	4,535	97,708	107,811	21,334	3,063	89,540	9
Myitkyina† ...	118,382	30,780	2,134	89,736	85,577	21,653	912	64,836	†
Katha * ...	253,735	27,552	15,608	241,781	198,193	11,041	9,249	196,401	*
Putao ...	7,673	1,371	2,129	8,431	..	...	..	...	...
Upper Chindwin	186,881	15,920	3,907	174,868	170,622	11,447	21,210	180,385	−3
Chin ...	159,792	2,629	13,124	170,120	168,041	2,749	670	165,962	−2
H. Dt. of Arakan	20,914	1,134	603	20,383	22,234	1,020	59	21,273	−5
Chin Hills ...	110,079	1,175	11,963	120,867	119,556	1,548	590	118,598	−4
Pakôkku H. Tts.	28,799	323	394	28,870	2,6251	181	21	26,091	11
Salween ...	114,229	7,458	1,818	108,594	110,236	4,450	1,850	107,636	8
Salween ...	50,379	4,752	687	46,314	46,608	1,991	466	45,083	3
Karenni ...	63,850	3,006	1,436	62,280	...	...	...	...	...
Shan ..	1,433,542	60,448	28,114	1,396,208	1,348,740	34,444	27,200	1,341,496	4
N. Shan States*	585,024	51,952	14,953	548,925	458,952	17,489	11,287	452,750	*
S. Shan States *	847,618	17,750	17,415	847,283	900,202	11,118	20,938	910,022	*

See the note at the head of the table; ** means the change of boundaries was small.

† Figures of 1911 and 1921, are not comparable as a large portion of the district is excluded from the figures of 1911.

‡ Erroneous; see footnote * to Article 30 of Chapter I (page 31).

SUBSIDIARY TABLE V.—*Comparison of census figures and vital statistics.*

Natural Division and District.	Average annual rates per 1,000 for the years 1911-20*			Population in 1911.	Increase of Population.		Excess of column 7 *above column 6 due to migration and erroneous records.†
	Births.	Deaths.	Excess of births over deaths.		Corresponding to columns 4 and 5.*	According to Imperial Census Table II of 1921.	
1	2	3	4	5	6	7	8
PROVINCE ... ... (All that part in which Vital Statistics are collected.)	33·66	27·69	5·97	9,878,593	589,618	946,415	356,797
Delta ...	*32·03*	*26·68*	*5·35*	*4,332,402*	*231,784*	*488,343*	*256,559*
Rangoon	19·92	37·82	−17·90	293,316	−52,503	48,646	101,149
Insein	33·30	25·67	7·63	265,245	20,239	27,838	7,599
Hanthawaddy ...	31·98	25·03	6·95	332,569	23,114	32,055	8,941
Tharrawaddy ..	37·70	29·73	7·97	433,320	34,536	59,109	24,573
Pegu	35·43	28·35	7·08	382,166	27,057	63,454	36,397
Bassein	24·51	22·86	1·65	440,988	7,276	48,485	41,209
Henzada	39·05	28·26	10·79	532,357	57,441	18,563	−38,878
Myaungmya ..	33·62	27·56	6·06	334,852	20,292	35,699	15,407
Ma-ubin	30·68	22·83	7·85	305,073	23,948	25,033	1,085
Pyapôn	28·63	23·97	4·66	256,215	11,939	32,779	20,840
Toungoo	29·91	25·89	4·02	351,076	14,113	30,807	16,694
Thatôn	33·34	22·40	10·94	405,225	44,332	65,875	21,543
Coast ...	*33·66*	*24·18*	*9·37*	*1,432,297*	*134,168*	*166,196*	*32,028*
Akyab	30·32	25·23	5·09	529,943	26,974	46,187	19,513
Kyaukpyu	28·81	21·60	7·21	184,916	13,338	14,957	1,625
Sandoway ...	29·59	25·63	3·96	102,803	14,352	9,226	−5,126
Amherst	34·07	22·66	11·41	367,918	41,980	49,992	8,012
Tavoy	41·63	26·59	15·04	135,293	20,348	21,493	1,145
Mergui	39·61	24·19	15·42	111,424	17,182	24,041	6,859
Centre ...	*36·42*	*29·98*	*6·44*	*4,113,894*	*228,666*	*291,816*	*63,210*
Prome	33·61	31·62	1·99	378,871	7,540	−7,296	−14,836
Thayetmyo ...	37·46	30·57	6·89	248,275	17,106	7,131	−9,975
Pakôkku	39·92	28·61	11·31	409,823	46,351	55,948	9,597
Minbu	31·94	29·01	1·93	262,380	5,064	11,922	6,858
Magwe	35·80	24·46	11·34	361,538	40,999	61,714	20,715
Mandalay	37·60	44·96	−7·36	340,770	−25,080	15,851	40,931
Shwebo	39·51	33·65	5·86	356,363	20,883	34,921	14,038
Sagaing	33·39	25·02	8·37	312,111	26,124	14,797	−11,327
Lower Chindwin ..	36·27	28·05	8·22	316,175	25,990	26,705	715
Kyaukse	39·08	42·55	−3·47	141,598	−4,914	1,079	5,993
Meiktila	30·65	26·75	4·90	280,690	13,753	9,207	−4,546
Yamèthin	34·31	28·69	5·62	306,379	17,219	16,810	−409
Myingyan	32·12	23·94	8·18	398,921	32,631	43,087	10,456

* As parts of some of the above districts are excluded from the returns for vital statistics the following system has been adopted to fill the columns of this table. The figures of columns 2 and 3 for separate districts are the averages of the annual rates given in the annual Public Health (or Sanitary) Department's Reports and columns 4 and 6 have been deduced from them with the aid of column 5. For natural divisions and the whole province the figures of columns 2 and 6 have been obtained by totalling those of the districts; but to fill columns 2, 3 and 4 the total number of births and deaths in each district was calculated from columns 2, 3 and 5 and these were totalled to give the number of births and deaths in each division, from which the ratios in columns 2, 3 and 4 were then calculated with the aid of column 5. Thus all ratios are calculated with the 1911 population as basis, and column 6 relates to whole districts and divisions.

† There is no satisfactory way of exhibiting the effect of migration for comparison with column 8.

SUBSIDIARY TABLE VI.—*Increase during the decade* 1911—1921 *of the total population of density-classes of townships.*

A.—*With Classification of townships according to density in* 1911.

(*a*) ABSOLUTE INCREASES.

Natural Division.	Total increase of population.	Increase during the decade 1911—1921 of the total population in townships and states with a population per square mile in 1911 of								
		Under 50.	50–100	100–150	150–300	300–450	450–600	600–750	750–1,000	1,000 and over
1	2	3	4	5	6	7	8	9	10	11
PROVINCE	1,096,975	336,470	227,890	232,162	221,896	105	9,291	−1,851	..	70,512
Burman ...	1,016,429	254,972	230,278	213,597	219,861	105	6,291	−1,351	...	69,676
Delta ...	488,343	61,298	138,605	111 648	122 657	105	5,384	..	...	48,646
Coast ...	166,196	87,337	33,821	9,129	26,848	..	...	−1,351	...	10,412
Centre ...	291,876	39,654	54,521	112,820	70,356	...	3,907	...	...	10,618
North ...	70,014	66,683	3,331	...	...	...	...	...	...	...
Chin ...	−8,249	−8,249	...	...	...	...	...	...	...	...
Salween ...	3,993	3,993	...	...	...	...	...	...	...	...
Shan ...	84,802	85,754	−2,388	−1,435	2,035	...	...	...	...	836

(*b*) PROPORTIONAL INCREASES.

Natural Division.	Increase per cent in total population.	Increase per cent during the decade 1911—1921 of the total population in townships and states which in 1911 had a population per square mile of								
		Under 50	50–100	100–150	150–300	300–450	450–600	600–750	750–1,000	1,000 and over
1	2	3	4	5	6	7	8	9	10	11
PROVINCE ..	9	10	11	11	6	0	14	−3	..	14
Burman ...	10	11	13	11	6	0	14	−3	..	14
Delta ...	11	20	25	11	6	0	14	...	...	17
Coast ...	12	15	9	9	10	...	...	−3	...	16
Centre ...	7	8	6	11	5	...	9	...	...	8
North ...	11	12	5	...	...	...	...	...	...	...
Chin ...	−5	−5	...	...	...	...	...	...	...	...
Salween ...	4	4	...	...	...	...	...	...	...	...
Shan ...	6	8	−1	−7	12	...	...	...	...	16

B.—*With Classification of townships according to density in* 1921.

(*a*) ABSOLUTE VARIATION.

Natural Division.	Total increase of population.	Increase during the decade 1911—1921 of the total population in townships and states with a population per square mile in 1921 of								
		Under 50	50–100	100–150	150–300	300–450	450–600	600–750	750–1,000	1,000 and over
1	2	3	4	5	6	7	8	9	10	11
PROVINCE ..	1,096,975	823,961	168 725	169,414	358,458	8,849	8,907	−1,851	..	70,512
Burman ..	1,016,429	213,463	171 493	170,469	359,667	105	3,907	−1,351	...	69,676
Delta ..	488,343	49,188	88.534	100,821	201,054	105	...	...	...	48,646
Coast ...	166,196	87 337	29,043	7,835	32,930	...	...	−1,351	...	10,412
Centre ...	291,876	39,654	50,191	61,813	125,693	...	3,907	...	...	10,618
North ...	70,014	66,289	3,725	...	...	...	...	..	...	...
Chin ..	−8,249	−8,249	...	...	...	...	...	...	...	...
Salween ..	3,993	3,993	...	...	...	...	...	...	...	...
Shan ...	84,802	85,754	−2,768	−1,055	−1,109	3,244	...	...	...	836

(*b*) PROPORTIONAL VARIATION.

Natural Division.	Increase per cent in total population.	Increase per cent during the decade 1911—1921 of the total population in townships and states which in 1921 had a population per square mile of								
		Under 50	50–100	100–150	150–300	300–450	450–600	600–750	750–1,000	1,000 and over
1	2	3	4	5	6	7	8	9	10	11
PROVINCE ..	9	10	8	10	8	1	9	−3	...	14
Burman ...	10	13	9	10	8	0	9	−3	...	14
Delta ...	11	15	15	13	9	0	...	...	..	17
Coast ...	12	15	10	5	11	...	...	−3	...	16
Centre ...	7	8	6	8	7	...	9	...	...	8
North ...	11	12	7	...	...	..	...	...	...	...
Chin ...	−5	−5	...	...	...	...	...	...	...	...
Salween ...	4	4	...	...	...	...	...	...	...	..
Shan ...	6	8	−1	−7	−7	432	...	...	...	16

SUBSIDIARY TABLE VII.—*Average numbers of persons per house and of houses per square mile.*

District and Natural Division.	Persons per house.				Houses per square mile.			
	1921	1911.	1901.	1891.	1921.	1911.	1901.	1891.
1	2	3	4	5	6	7	8	9
PROVINCE ..	4·84	4·90	5·01	5·85	11·7	10·7	8·8	8·8
Burman ..	4·83	4·89	5·06	5·85	15·1	13·7	11·5	8·5
Delta ..	*5·08*	*5·14*	*5·89*	*5·62*	*28·9*	*24·2*	*19·9*	*15·8*
Rangoon ...	5·89	5·91	5·99	6·36	763·8	1774·1	2063·6	1288·5
Insein ...	4·89	5·06	5·32	5·27	31·6	34·9	30·1	26·1
Hanthawaddy ..	5·17				37·8			
Tharrawaddy ...	4·86	4·92	5·26	5·37	35·4	30·8	26·4	32·1
Pegu ...	5·02	5·16	5·43	6·04	21·7	18·9	14·6	20·5
Bassein ...	5·15	5·34	5·67	5·57	23·0	20·1	16·7	12·1
Henzada ...	4·80	5·09	5·21	5·42	40·0	36·8	32·5	36·1
Myaungmya ...	5·18	5·14	5·41	5·84	27·0	24·6	18·9	14·1
Ma-ubin ...	5·27	5·12	5·61		38·2	36·2	24·9	
Pyapôn ...	4·58	5·07			24·1	23·5		
Toungoo ...	4·45	4·58	4·65	4·72	14·0	12·4	9·7	5·4
Thatôn ...	5·38	5·45	5·55	5·11	18·1	15·6	12·2	7·2
Coast ..	*5·18*	*5·07*	*5·11*	*5·27*	*8·8*	*8·0*	*6·8*	*5·4*
Akyab ...	4·91	4·89	4·94	5·02	22·9	21·1	18·9	14·9
Kyaukpyu ...	4·48	4·43	4·47	4·78	10·2	9·5	8·6	10·9
Sandoway ...	4·97	5·19	5·17	5·52	6·0	5·2	4·6	3·8
Amherst ...	5·85	5·71	5·84	5·79	10·1	9·1	7·3	4·7
Tavoy ...	5·24	4·81	4·86	4·97	5·6	5·2	4·3	2·7
Mergui ...	5·36	5·43	5·53	5·46	2·6	2·1	1·6	1·7
Centre ..	*4·48*	*4·60*	*4·77*	*5·25*	*22·1*	*20·1*	*17·4*	*12·1*
Prome ...	4·46	4·71	4·89	4·85	28·6	27·6	25·6	25·7
Thayetmyo ...	4·47	4·44	4·82	5·11	12·0	11·8	10·5	15·7
Pakôkku ...	4·73	4·84	4·89	5·42	15·8	13·6	11·7	9·1
Minbu ...	4·51	4·75	4·67	5·03	18·5	16·8	15·2	13·9
Magwe ...	5·07	5·19	5·39	6·27	22·6	18·4	15·7	6·4
Mandalay ...	4·26	4·42	4·73	4·86	39·5	36·5	36·6	36·7
Shwebo ...	4·31	4·41	4·26	4·57	15·9	14·2	11·9	11·1
Sagaing ...	4·51	4·41	4·77	5·25	39·7	38·8	31·8	9·5
Lower Chindwin	3·72	4·48	4·53	5·58	26·5	20·3	17·5	12·2
Kyauksè ...	3·91	5·09	3·91	4·11	28·5	21·8	28·4	29·3
Meiktila ...	4·65	4·92	5·16	5·45	27·3	26·1	22·4	12·6
Yamèthin ...	4·64	3·06	4·96	5·42	16·7	18·2	11·5	4·4
Myingyan ...	4·82	4·68	4·88	6·24	33·4	30·3	23·3	15·1
North ..	*4·89*	*4·86*	*4·90*	*5·40*	*8·8*	*8·0*	*2·6*	*1·2*
Bhamo ...	4·60	4·87	4·59	5·30	3·6	3·2	4·2	1·0
Myitkyina ..	4·74	4·96	4·86		2·3	1·6	1·3	
Katha ..	5·10	4·83	4·97	5·72	5·6	5·7	4·95	1·9
Putao ...	5·10	...	...	...	7·5	...	...	...
Upper Chindwin	4·90	4·81	4·98	5·2	2·4	2·3	1·6	·9
Chin ..	4·55	4·61	8·87	..	2·8	2·8	2·0	..
H. D. of Arakan	3·94	4·08	4·32	3·82	3·5	3·6	·9	3·8
Chin Hills ...	4·69	4·68	3·68	...	2·9	3·2	2·9	...
Pakôkku H. Ts.	4·56	4·81	4·81	...	2·0	1·5	1·2	...
Salween ..	4·22	4·09	8·78	..	8·9	8·9	8·2	..
Salween ...	4·48	4·33	4·27	4·65	4·2	4·1	3·2	1·5
Karenni ...	4·03	3·93	3·37	...	3·7	3·8	3·2	...
Shan ..	5·14	5·18	4·88	..	5·1	4·9	4·0	..
N. Shan States	5·14	5·45	5·14	...	5·7	5·3	3·9	...
S. Shan States	4·97	4·95	4·83	...	4·7	4·7	4·1	3·9

SUBSIDIARY TABLE VIII.—*Growth of population in two decades by natural divisions, with particulars for certain religions.*

NOTE.—Throughout columns 5 to 8 increases of recorded population due to extensions of the census area have been excluded; increase shown for the decade 1911-21 thus relate precisely to the area censused in 1911, and similary those for 1901-11 to the area of 1901. Accordingly the figures of columns 5 to 8 cannot be obtained directly from columns 2, 3 and 4. The figures used for the *North* subdivision and the *Shan* and *Salween* divisions involve approximations, but the maximum error possible in these is insignificant for this table.

Natural Division.	Total Population Recorded.			Corrected Increase.			
				Absolute.		Per cent.	
	1921	1911	1901	1911 to 1921	1901 to 1911	1911 to 1921	1901 to 1911
1	2	3	4	5	6	7	8
ALL RELIGIONS.							
Province ..	18,212,192	12,116,217	10,490,624	1,088,862	1,571,304	9	15
Burman ...	11,504,629	10,488,200	9,149,648	980,017	1,338,552	9	15
Delta ...	4,820,745	4,332,402	3,741,328	488,297	591,074	11	16
Coast ...	1,598,493	1,432,297	1,240,316	166,196	191,981	12	15
Centre ...	4,405,770	4,113,894	3,647,330	291,876	466,564	7	13
North ..	679,621	609,607	520,674	33,648	88,933	6	17
Chin ...	159,702	168,041	120,987	−8,249	37,931	−5	31
Salween ...	114,229	110,236	83,632	3,993	26,604	4	32
Shan ...	1,433,543	1,318,740	1,136,357	58,101	168,217	4	15
BUDDHISTS.							
Province ..	11,201,948	10,884,579	9,184,121	786,561	1,188,460	8	18
Burman ...	9,989,682	9,212,244	8,175,800	771,011	1,036,444	8	13
Delta ...	4,056,051	3,696,354	3,290,414	359,697	405,940	10	12
Coast ...	1,199,407	1,088,464	942,564	110,943	145,900	10	15
Centre ...	4,225,111	3,950,305	3,516,915	274,806	433,390	7	12
North ...	509,113	477,121	425,907	35,565	51,214	5	12
Chin ..	2,488	1,917	1,782	571	100	30	6
Salween ...	45,829	42,480	13,791	3,349	6,683	8	48
Shan ...	1,163,944	1,127,938	992,748	10,020	115,223	1	12
HINDUS.							
Province ..	484,432	389,679	285,484	98,761	108,680	24	86
Burman ...	468,872	381,277	279,238	86,403	102,039	23	36
Delta ...	343,155	280,374	198,769	61,781	81,605	22	41
Coast ...	51,076	43,503	41,617	7,573	1,886	17	5
Centre ...	57,005	44,022	29,377	12,983	14,645	29	50
North ...	18,436	13,378	9,475	4,066	3,903	30	41
Chin ...	2,100	2,069	1,445	331	473	16	33
Salween ...	648	452	218	196	56	43	26
Shan ...	12,712	5,881	4,583	6,831	1,112	116	24
MAHOMEDANS.							
Province ..	500,582	420,777	389,446	79,678	81,071	19	24
Burman ...	495,124	417,028	336,636	77,959	80,392	19	24
Delta ...	157,786	127,043	92,943	30,697	34,100	24	37
Coast ...	259,887	220,558	189,005	39,329	31,553	18	17
Centre ...	70,676	61,927	49,127	8,749	12,800	14	26
North ...	6,775	7,500	5,561	−816	1,939	−11	35
Chin ...	102	205	109	−103	88	−50	81
Salween ...	770	660	168	110	240	17	143
Shan ...	4,596	2,884	2,533	1,712	351	59	14

SUBSIDIARY TABLE IX.—*Variations of Population in the Comparable Area.*

AREA.	1921	1911	1901	Increases. Absolute. 1911 to 1921	Absolute. 1901 to 1911	Per cent. 1911 to 1921	Per cent. 1901 to 1911
1	2	3	4	5	6	7	8
I. ALL RELIGIONS.							
Total Comparable Area	12,790,754	11,763,961	10,378,715	1,026,793	1,485,246	8·7	14·4
Burman ...	11,468,217	10,488,000	9,149,648	980,017	1,338,552	9·3	14·6
Delta ...	4,820,699	4,332,402	3,741,328	488,297	591,074	11·3	15·8
Coast ...	1,598,498	1,432,197	1,240,216	166,196	191,981	11·6	15·5
Centre ...	4,405,770	4,113,894	3,647,330	291,876	466,564	7·1	12·8
North ...	643,255	609,607	520,674	33,648	88,933	5·5	17·1
Shan	1,272,158	1,239,153	1,091,230	43,005	137,923	3·5	12·6
N. Shan States ...	424,540	392,579	320,671	31,961	71,908	8·1	22·4
S. Shan States ...	847,618	836,574	770,561	11,044	66,013	1·3	8·6
Remainder ...	50,379	46,808	37,837	3,771	8,771	8·1	23·2
II. BUDDHISTS.							
Total Comparable Area	11,195,571	10,340,689	9,182,339	784,882	1,158,350	·6	12·6
Burman	9,983,255	9,212,344	8,175,800	771,011	1,036,444	8·4	12·7
Delta ...	4,036,051	3,696,354	3,290,214	339,697	405,940	9·7	12·3
Coast ...	1,299,407	1,088,464	942,564	110,943	145,900	20·2	15·5
Centre ...	4,325,111	3,950,305	3,516,915	274,806	433,390	7·0	12·3
North ...	502,686	477,121	425,907	25,565	51,214	5·4	12·0
Shan	1,115,989	1,107,971	992,748	8,018	115,223	·7	11·6
N. Shan States ...	367,938	354,821	295,939	13,117	58,882	3·7	19·9
S. Shan States ...	748,051	753,150	696,809	− 5,099	56,341	−·7	8·1
Remainder ...	96,327	20,474	13,791	5,853	6,683	28·6	48·5
III. NON-BUDDHISTS.							
Total Comparable Area	1,665,183	1,423,272	1,096,376	241,911	326,896	16·2	29·8
Burman ...	1,484,962	1,275,956	973,848	209,006	302,108	16·4	31·0
Delta ...	784,648	636,048	450,914	148,600	185,134	20·2	41·1
Coast ...	299,086	343,733	297,652	55,353	46,081	16·1	15·5
Centre ...	280,659	163,589	130,415	17,070	33,174	10·4	25·4
North ...	140,569	132,486	94,767	8,083	37,719	6·1	39·8
Shan	156,169	121,182	98,482	34,987	22,700	28·9	23·0
N. Shan States ...	56,602	37,758	24,732	18,844	13,026	49·9	52·7
S. Shan States ...	99,567	83,424	73,750	16,143	9,674	19·4	13·1
Remainder ...	24,052	26,134	24,046	− 2,082	2,088	−8·0	8·7

CHAPTER II.

Towns and Villages.

A.—Towns.

43. Statistics.—Seventy-nine areas of an urban character which have been selected for the tabulation in Imperial Tables IV and V of certain statistics relating to their populations have been designated *Census Towns*. In Imperial Table IV these have been arranged in the descending order of the magnitude of their total populations in 1921, and the total population of each of these towns at six successive censuses since 1872 is given together with separate figures for each sex at the last three censuses. In Imperial Table V the order in which the census towns are tabulated has been so changed that all those of one district are together and the districts are in the usual order; in Part I of this table the total population of each town in 1921 as given in Imperial Table IV is classified by sex and religion, while in Parts II and III a similar tabulation is given for each of the two parts, called respectively the *Normal Civil* and *Adventitious* populations, into which the population of each town is divided in the manner described in Article 47 of this chapter. Imperial Table I compares for each district the portion of the population which was enumerated in its census towns with the remainder, and also compares the number of such towns with the number of villages or village-tracts in each district; but, as indicated in Part B of this chapter, some care is needed in interpreting the latter numbers. Provincial Table I compares the number of towns according to a different definition with the number of villages or village-tracts for each district and each township or state. Nine subsidiary tables are appended to this chapter giving additional information as follows:—

I.—Distribution of the population between census towns and village-tracts of various sizes.

II.—Number per thousand of the total population of each religion who were enumerated in census towns.

IIIA.—Population-classes of census towns in 1921 and some comparisons with 1911, together with details for Rangoon and Mandalay.

IIIB.—Population-classes of census towns 1891 to 1921.

IIIC.—Variations in population-classes of census towns at successive censuses.

IVA.—Population, density and sex-ratios in the towns of Rangoon and Mandalay at four censuses.

IVB.—The normal civil populations of Rangoon and Mandalay, 1921.

V.—Urban areas, census towns and rural population by natural divisions.

VI.—Normal civil population of urban areas in each natural division classified by religion.

After the census each Deputy Commissioner submitted a report relating to conditions affecting the census figures of each town, such as the absence of an unusually large part of the normal population on the date of the census. These reports have all been bound into a volume which has been placed in the library of the Director of Public Health in Rangoon. For some towns there is additional information of the same character in the District Census Notes of both 1911 and 1921 which have been similarly bound up and placed in the same library. Provincial Tables V and VIII also give statistics for age and civil condition and literacy in towns in which the population exceeded 10,000.

44. The Selection of Census Towns.—It is at once clear that statistics relating to the population of a specific town can rarely be of value unless the boundaries of the town are clearly defined. When a town consists of a compact block surrounded by a broad belt of land in which are only a few houses dotted here and there, the name of the town is sufficient definition at the time though the lack of further definition of the boundaries may cause difficulties in measuring growth at future censuses. But generally the edge of a town is not

so well marked all round by visible conditions and must be defined arbitrarily. Consequently census tables for towns must generally be confined to towns of which the boundaries have been authoritatively defined for administrative purposes.

Further the principal uses of such tables are in connection with vital statistics or the provision of municipal services; and these uses can only be made of them if the town is a unit for the collection of the related statistics or consists of an integral number of such units. The principal areas which satisfy these conditions are the municipalities and cantonments of the province, the "notified areas" which have a local government in some respects similar to that of a municipality, and areas in which the Towns Act is in force. As some selection from the various centres claiming description as towns had to be made for the purposes of the census tables all towns of these three classes were first selected to be included in the list of *Census Towns*, and then a few more were added because in one way or another they were important and of similar character to those already included, and in a few cases because they had been included in the tables of earlier censuses.

45. **Major and Minor Towns.**—It will be found convenient to describe as a *major town* any town which has a population exceeding 10,000, and accordingly to describe all smaller towns as *minor towns*. The 79 census towns will then include 24 major census towns and 55 minor census towns. In Imperial Table IV the major census towns are further divided into classes according as the population exceeds 10, 20, 50, or 100 thousands, while the minor census towns are divided into two classes at 5,000. The total populations of these classes are given in the table as well as the populations of the towns; and it must be particularly noted that the figures given for a class in any year are not the total of the populations in that year of the particular towns which are included in that class in 1921. Pakôkku, for instance, is tabulated in Class IV because its population in 1921 was between 10 and 20 thousands; but its 1911 population is included in the total given for Class III in 1911, because it then belonged to that class. The figures given for each class in any year thus represent the population living at that time in census towns of that magnitude; and the discussion of a later article may here be anticipated by remarking that for Classes I to IV these figures thus represent approximately the total population living in urban aggregates of those magnitudes in 1921 and in 1911 but not in 1901 when the total for Class IV ought to be increased by about 21,000 or 22,000 on account of the failure at that census to collect the records for the various details of Insein town into one aggregate and to include Mogôk as a census town. For Classes V and VI such a plain statement cannot be made, because of the arbitrary element in the selection of census towns.

46. **The Census Towns.**—Of the 24 major census towns, which, as noted in the preceding article, are also the 24 largest urban aggregates of population, there are eight which have a population exceeding 20,000, and all of these are ports. Five of them (Rangoon, Moulmein, Bassein, Akyab and Tavoy) are seaports and the others (Mandalay, Prome and Henzada) are the largest inland ports. Mergui is the only other seaport of consequence and stands as thirteenth in order of magnitude; Kyaukpyu in spite of its fine harbour takes only the 69th place in the list, while the so-called ports of Sandoway and Victoria Point are merely outposts to complete the customs cordon. Thus on the one hand the eight largest towns are all ports; and, on the other hand, of the nine seaports of the province only six are significant and five of these are included in the eight. Rangoon besides being the chief port has several large and many small industries and is the chief industrial centre as well as the capital of the province. Mandalay was the last capital of the Burmese kings and has many religious associations as well as small industries; but its chief importance at present is probably as the trading centre of Upper Burma. All the other towns which exceed 20,000 have rice-mills and saw-mills and are trading centres.

Most of the other sixteen major towns are essentially trading centres. Some have other activities besides; for instance, Allanmyo and Myingyan have cotton mills, Shwebo and Thayetmyo had cantonments until very recently. But only three of them—Syriam, Insein and Yenangyaung—are purely industrial centres owing their growth primarily to the establishment of industries, and all except these three and Maymyo owe the greater part of their

growth to trade. Some it is true are old towns which have played a part in Burmese history; but the various other activities which have distinguished them in that history seem generally to have chosen centres which had already established themselves and acquired importance by trading. For instance, although there is difference of opinion about some of the circumstances, it is agreed that Thatôn played an important part in the conversion of Burma to Buddhism; but it came to this distinction because it was formerly a seaport and came under the influence of Hindus, who made it one of the many trading centres they established along the coast from Bengal to Siam. The four towns which do not owe their growth primarily to trade are Maymyo, Syriam, Insein and Yenangyaung. Maymyo is the seat of government in the hot season, the principal cantonment and the headquarters of several departments of government. Insein is a suburb of Rangoon of comparatively recent growth, which the urban improvements consequent upon the concentration of population by its railway engineering works have made attractive to many who work in Rangoon but prefer the conditions of a smaller town and the accompanying economy in house-rent which is not entirely cancelled by the cost of a railway journey of nine miles to and from Rangoon. Yenangyaung is the oldest and still the most productive centre of the winning of mineral oil. Syriam, like Insein, is a suburb of Rangoon and separated from it by a journey of half an hour or so, but in this case the journey is by river instead of by rail; it is the location of large refineries in which the mineral oil of Yenangyaung and other oil-fields is treated and the products are loaded into ships for export or packed for distribution in the province. Formerly Syriam was an important seaport and trading centre; but that town dwindled to a small village, and the Syriam of the present day is an entirely independent growth beginning a little before 1900 and owing all its development to its petroleum refineries and none to the history of its predecessor.

Most of the minor census towns also owe their growth and importance chiefly to trade; and special mention need only be made of a few of the others. Mogôk is the centre of the ruby mines. Namtu-Panghai is an aggregate of persons engaged at the smelting headquarters of the silver and lead mines of the Northern Shan States. Namtu includes the smelters the workshops, the offices, and the residences of the superior employees, while the greater number of the labourers live in the adjacent village of Panghai; the two parts, although in different Shan states, have grown towards each other and coalesced into one compact town in which the only evidence of the state boundary is a narrow ditch, which is flattened out to a muddy patch where the road crosses it and only attracts one's attention by inducing in wet weather the reflection that such inconveniences are to be expected in the early years of mushroom towns. Some of the minor census towns owe their importance chiefly to being administrative centres. For instance, amongst the very small census towns we find Tharrawaddy which consists almost solely of the administrative offices of the district and the officials and lawyers engaged in them, and is really a suburb of Thônzè town though separated from it by about two miles.

47. **The Normal Civil and Adventitious populations.**—As a first approximation it may be said that the figures given in Imperial Table IV for the population of each census town at each census show the number of persons present within the boundaries of the town on the night of the census. But this is not quite true and it is not precise; and both these defects arise from the treatment of travellers. A person may be present in one town during part of the night and in another during another part of the night; he is probably enumerated in one or the other, but he may quite possibly be enumerated in a boat somewhere between them, and then he may be counted in either or neither town. Passengers by train or steamer may be enumerated either where they enter the train or steamer or where they leave it; they may quite well belong in no sense to either place, the railway or steamer journey being only one stage in a journey between two other places. The residue of passengers in a train on census night who have not yet been enumerated must be enumerated at daybreak; and they are then treated as present at the census of the place of enumeration, although they may continue their journey immediately, and possibly in the same train. The enumeration-records for a steamer travelling in the night are handed by the captain to the census officer at the first calling-place after daybreak and incorporated in the records of that place: some of the passengers may leave the vessel during the night before that place is reached, many may continue their journey to some other place. Thus it is quite normal for a

number of persons to be included in the population of a town who were only present in it on the census night in the sense that they passed through it, and even for some to be included who never reached the place at all. Even more clearly is this anomaly exhibited in the case of a seaport, where a census record for every vessel in the harbour on the census night or arriving from a port in India within fifteen days after that without having been censused previously is incorporated into the census records of the port. As there is no corresponding subtraction for persons leaving the port within the same period it cannot be said that the figures for the population of ships represent a class which is always present and probably approximately constant in composition although the individuals composing it are changed; they represent a selection of areas on the high seas added to the town for census purposes, and again many of the persons so enumerated may have no connection with the town; they may land and depart again at once to some other place in the province, or they may even stay on the ship and continue their voyage. The numbers involved are of no importance in the total population of the province or (as a rule) of a district; but they may be of considerable importance in proportion to the population of the particular port concerned, and still more so when that population is tabulated by separate wards. It would be possible to assign all travellers to their last place of domicile, a record of that being made for the purpose; and this could be justified in spite of the fact that travellers who had temporarily halted in a place would be treated differently. In the alternative persons on fishing vessels should be assigned to their homes as now, while those on coasting vessels, inland vessels and trains should be excluded from the populations of the towns and ports and included only in those of the districts or in that of the province as a whole. But the numbers actually given in Imperial Table IV, for 1921 as well as for earlier censuses, do as a matter of fact include all these adventitious numbers. For some towns this adventitious addition is small, for others it is considerable; and various municipal statistics may be affected by it, *e.g.*, density of population; birth and death rates; distribution by age, sex or race; average rate of taxation or of water-consumption per head. Of these the age and sex distributions and the related problem of the birth-rate are probably the most important, and with these are associated the difficulty introduced by these adventitious figures into records of the variation in the population of a town from census to census. The size of these adventitious additions is largely accidental; for any given town they may be large at one census and small at another, and without some knowledge of this all discussion of the variation of population is liable to be invalid and misleading. And this is particularly true for sanitary authorities who constantly find themselves compelled to study local areas within a town; in such a case the allowance for the adventitious population (including the other classes besides travellers mentioned in the next paragraph) may be of immense importance.

For discussions of vital statistics and of the variation of the population other classes of persons besides travellers are also of importance. The number of soldiers present in a cantonment town on census night depends upon a variety of considerations which have nothing to do with the ordinary matters for which population figures are required. The number might be increased or reduced permanently or temporarily for any military reason; and while this might be a consideration of interest in explaining the variation of the civilian population of the town it ought not to affect the measure of that variation. Such considerations have led to the division of the population recorded for each town into two classes which have been called the *Normal Civil Population* and *Adventitious Population* respectively. The former includes all who are not specially assigned to the latter; and the latter includes:—

(1) the inmates (not the staff) of jails, reformatories, hospitals, lunatic or leper asylums,
(2) the inhabitants of military areas or of military police lines,
(3) travellers enumerated in boats or trains or at railway stations or in camps travelling on roads on which travellers were comparatively numerous, and all persons on boats or ships in ports who were not local shore residents,
(4) persons (not local residents) assembled at a pagoda festival,
(5) railway construction camps,
(6) other classes of persons enumerated away from home either in groups simultaneously assembled or at points where the number of such persons appearing successively justified the appointment of a special enumerator.

The inclusion of some of these items in the adventitious population is admittedly open to theoretical criticism, particularly as visitors staying in hotels, etc. or with friends in private houses have been included in the normal civil population. It must however be noted that the term adventitious describes not so much the presence of any particular class of population as the character of its variation from time to time and its effect upon statistics of births, deaths, etc. The problem has been regarded chiefly from the practical standpoint of the health officer. The numbers of travellers and of other classes in the adventitious population of each census town have been tabulated in the Town and Village Census Tables which are reproduced in the district gazetteers; for any other than the census date the number of inmates of the jail and the numbers for some other adventitious classes can be discovered from official or other records and a correct allowance made accordingly; for the remaining classes the figures give useful aid in estimating the proper allowance for any date. It may fairly be claimed that variations in the normal civil population from census to census are very approximately the true index of the changes in the constitution of the town's population which are of practical interest; and if a parallel classification is made in the vital statistics, the normal civil population for each ward or for the whole town affords a fairer basis for the calculation of ratios for comparison with standards than does the undifferentiated total of normal civil and adventitious population. It is the importance of these ratios which has led to the inclusion of some classes in the adventitious population. The statistical composition of a jail population may be unchanged for many years; but it would affect comparisons with other wards or towns although it might not affect seriously a study of a town as a whole from year to year. The birth and death rates are both largely diminished by the presence of a jail. On the other hand many of the deaths in hospitals which are taken to increase the town's recorded death-rate are of persons from areas outside the town; these deaths ought to be ignored in calculating that local death-rate although they must be included in the calculation of the death-rate for the township or larger area. The error introduced into death-rates by treating in the census as adventitious population those hospital in-patients who were residents of the town as well as those who were not is negligible, but can be corrected (if desired) by the hospital records or removed at next census by a further refinement. There should also be noted the inclusion amongst the adventitious population at ports of sampan-wallas and others who definitely belong to the town although they live in boats and have no shore residence, and the inclusion in the normal civil population of prisoners in town lock-ups. Passengers on ferries within the ports who were residents of the town should have been included in the normal civil population by being treated at their homes as only temporarily absent; but it is possible that some were recorded as adventitious population by mistake and this point should receive special attention in future. The treatment to be given to these and some other classes should be determined solely by its effect upon the meaning of the vital statistics of the towns. If it should prove that the treatment given in this census is unsuitable a change can be made at any future census; in the meantime the error is less than the error of confusing the normal civil and adventitious populations throughout. It may be objected that the difficulties of absence from the town of some persons belonging to the normal civil population have not been met. But indeed they are met for the most part because only variations on the date of the census from the normal number of absences need be considered. Occasionally there are special variations; for instance, the population recorded for Bassein town in 1911 was reduced by the absence of about 700 boys and masters of the Sgaw Karen school who had gone to a conference of Karen churches. But special enquiries about such cases could be made at the time of the census. In one or two places in 1921 the absence of residents at a pagoda-festival only few miles away was met by the procedure ordinarily applied for persons going to entertainments within a town on the night of the census; the enumerators in the town treated as present in their homes all who were known to have gone to the festival, while the enumerators at the festival omitted all residents of the town. (The small loop-holes of this arrangement could be stopped by a system of tickets if necessary.) At the time of inventing the distinction of the normal civil population I had no knowledge that anything of the kind had been done elsewhere. I have recently learned that this problem has been treated for New York City by recording even the division of the city in which each person is resident; but, although much of the population treated there is illiterate, there is a superior class of paid enumerators employed to make

the record. It is doubtful whether a similar record could be made in Burma with success; it is not very difficult for every enumerator in the town to note with approximate correctness whether each person he enumerates is normally a resident of the town or not; but there are difficulties in getting the rural enumerators to make the record for visitors from the towns and in getting the records tabulated. This solution was considered initially and rejected; and the failure of an attempt made in 1921 to record birthplaces in Mandalay City (see Article 55 below) confirms, I think, my view of its difficulties. But even if the classification by residence is achieved the distinction of *adventitious* should still be maintained, although it will only be required then for such well-defined classes as the military police and soldiers, which must be separated from the normal civil population for any really valid discussion of vital statistics or of variations of the population, whether of the whole town or of any part or class, in the tables of successive censuses. The normal civil population is a definite property of the town of which the variation can be measured with advantage; but from the viewpoint of a student of variations the total population recorded in Imperial Table IV is an accident.

48. Statistics of the Normal Civil and Adventitious populations of Census Towns.—In Parts II and III of Imperial Table V are separately tabulated by sex and religion the normal civil and adventitious populations of each census town. The total of these adventitious populations is 94,330 or 8 per cent of the total of the normal civil populations. In some towns the ratio is less than this, even nil, but the general and almost constant tendency of errors in the classification of the population has been to diminish the figures for adventitious which should therefore be regarded as minima throughout. In some cases the proportion exceeds 8 per cent; and a perusal of Imperial Table V will show several towns in which the proportion is much higher. Insein, for instance, which has a total population of 14,308, includes in that an adventitious population of 2,534 or nearly 18 per cent. The abnormally large figures for the adventitious population of Akyab (adventitious 13,132; normal civil 23,437) are due largely to the classification as such of 5,207 males, chiefly employed in rice mills, who were only present in the town temporarily and proposed to leave it shortly. Every year there is a similar inflation of the population of the town for a short season, but the figures obtained by including these immigrants are merely accidents of the census date which falls within the regular season of their departures. The remainder of the adventitious population of Akyab consists of persons on vessels in the harbour or on the river in the vicinity on census night or arriving in the harbour from another port in India or Burma within fifteen days after the census night. In the case of Maymyo the normal civil population is enlarged by the inclusion of the members (with their families) of various government offices transferred thither for the hot-weather season during which the census took place. It would be neither profitable or convenient to deal with each town separately and in detail here; that must be left for the local authority or other enquirer specially interested in each town; the duty of the census is discharged in providing the data of Imperial Table V, which gives a classification by sex and religion for both the normal civil and the adventitious populations of every census town, and Provincial Table V which further classifies the population of each religion in each of the major towns by age and civil condition. Here only a few points can be noted.

The order in which the census towns are arranged in Imperial Table IV is the order of their magnitudes as determined by their total enumerated populations; if the towns are ranged according to their normal civil populations, their order is somewhat changed. Only thirty however change their serial number by more than one, and fifteen by more than two places, while only the seven noted in the margin change by four or more. Amongst the major towns Akyab goes down two places to be below Tavoy and Prome; Myingyan and Pegu, Thatôn and Pyinmana, Insein and Paungdè exchange places; and then Maymyo, in spite of including an influx of Government officers, descends to come below Paungdè; Yenangyaung and Thayetmyo also change places and between them comes Letpadan instead of Shwebo, which falls out of the list of the twenty-four largest towns to give room to it.

Town.	Serial No.	
	Table IV	By N.C.P.
Maymyo ...	14	18
Amarapura ...	32	28
Namtu-Panghai ...	40	34
Gyobingauk ...	41	35
Yamèthin ...	30	38
Meiktila ...	31	44
Bhamo ...	39	54

The ratio of females to males in all the census towns taken together is 0·66 if the whole population is considered, but 0·73 or 10 per cent larger for the normal civil population as compared with 0·96 for the total population of the province. For Buddhists alone in census towns this ratio is 1·05 in the normal civil and 0·99 in the total population, while for the total Buddhist population of the whole province it is 1·03.

The percentage of the total population in all census towns taken together which follows each religion is as shown and compared with similar figures for the whole province in Marginal Table 1. The concentration and comparative strength in the census towns of Hindus, and in somewhat less degree of Mahomedans, is clearly shown. The last column of the statement gives the corresponding figures for the sixty-three census towns of the census of 1911. The census towns of 1921 exclude four of those and include twenty additional towns, but the figures may still be accepted as indicating little change in the religions of the larger towns of the province during the decade.

1. Percentage of population which follows each religion.

Religion.	Whole Province.	Census Towns, 1921.		Census Towns of 1911, (Total Population).*
		Total Population.	Normal Civil Population.	
Buddhist	85	60	61	61
Animist	5	2	2	2
Hindu	4	19	19	18
Mahomedan	4	13	12	13
Christian	2	4	4	4
Other	...	2	2	1

49. Variations in the Populations of Census Towns.—As soon as the attention has been drawn to the distinction between the normal civil and the adventitious population of a town one finds a difficulty in discussing variations in the populations of census towns, because there is little or no information to show how much of the population recorded at former censuses belonged to each of these classes. There is no reason for supposing that the adventitious population has formed any constant proportion of the whole; it is in fact quite clear that it has not. If a steamer happened to leave Akyab for Chittagong a day before the census the adventitious population might be reduced forthwith by 1,000 or more. Alterations during the decade in their time-tables, or accidental delays suffered by trains and steamers on the night of the census may make very large proportionate differences in the variation of the population of a town. In 1911 Myaungmya appeared to be a particularly progressive town because its population was recorded as 4,711 in 1901 and 6,561 in 1911; but of this increase of 1,850 the jail, which was opened only after the census of 1901 had been taken, provided no less than 1,100. It happens that, as the jail did not really form part of the town in 1911 any more than it did in 1921, the whole of this jail population ought to have been excluded, and a correction has accordingly been made in Imperial Table IV of 1921 for the population of this town in 1911; but the principle is clearly shown. The result is that it is not generally possible to draw from the census records valid conclusions about the growth of any particular town. In the margin is a list of towns for which the normal civil population in 1921 exceeds the total population in 1911 and therefore probably exceeds the normal civil population of that year. Where

Serial No. in Table IV.	Census Town.	1921 Normal Civil	1911 Total.
1	Rangoon	317,687	293,316
2	Mandalay	142,642	138,299
4	Bassein	37,199	37,081
11	Myingyan	17,430	16,379
12	Pegu	17,985	17,104
13	Mergui	17,106	14,889
14	Maymyo	12,515	11,974
15	Syriam	15,072	10,897
17	Pyinmana	14,527	14,074
19	Paungdè	13,934	13,104
20	Sagaing	11,737	10,917
24	Yenangyaung	9,041	8,895
25	Letpadan	9,674	9,147
29	Shwedaung	9,068	9,021
32	Amarapura	8,497	7,866
33	Wakèma	7,839	7,031
36	Pyapôn	7,489	7,066
37	Magwe	7,308	4,957
40	Namtu-Panghai.	7,099	449
41	Gyôbingauk	7,603	7,410
42	Nyaunglebin	7,243	6,642
43	Kyaikto	7,062	6,127
44	Nyaung-u	7,094	5,736
46	Zigôn	6,783	5,218
47	Kyônpyaw	6,746	5,429
52	Kawkareik	6,553	5,559
55	Myaungmya	5,925	5,461
58	Taunggyi	5,210	5,180
63	Bogale	4,309	3,979
65	Nattalin	4,898	4,165
67	Pyawbwe	4,659	4,571
69	Kyaukpyu	3,518	3,783
72	Sandoway	3,434	3,360
73	Tharrawaddy	3,398	3,246

*The entries in this column fail to total 100. In some other examples in this volume a series of percentages will be found to total 101. The reason in each case is the omission of decimals less than 0·5 and the reckoning of a greater decimal as a whole unit. A similar effect often appears in tables showing nearest whole thousands, the total entered being uniformly the nearest whole thousand of the correct total of the complete figures, not the total of the abbreviated entries. In future cases explanations of such discrepancies in totals will not generally be given.

these figures show a considerable difference they may generally be taken to represent a real increase; but as any errors in classifying population as normal civil or adventitious generally tend to enhance the former, slight excesses in the 1921 figures in this table are not worth much as a rule. Moreover the omission of any town from the list must not be taken as an indication that it is stationary or declining; the total population in 1911 with which the normal civil population of 1921 is compared may have included a large adventitious contribution, and even when the total population of 1921 is less than that of 1911 the fall may be only in the adventitious portion. Shwebo may be cited as an instance, its population of 10,605 in 1921 being almost the same as in 1911 when it was 10,629. Of this Marginal Table 2 suggests the explanation. The change in the number of Christians and of *Others* is due to the removalof the garrison which included in 1911 nearly 600 Europeans; and if we turn instead to the Buddhists we find an increase of over 10 per cent in the total population, and even find the normal civil population of 1921 is 2 per cent above the total population of 1911, which was possibly as much enhanced by Buddhists in the adventitious population of that census as it was in 1921. So too for most other towns there are various special conditions affecting the interpretation of the figures for the total population. Actual decreases in the total population may be shown by towns in which the normal civil population is increasing, and increases by others in which it is decreasing; rarely can the variation shown be a true measure of the change in the normal civil population even when the indication of an increase or a decrease is correct. In the lack of any figures for the normal civil population in 1911 it is thus impossible to divide the census towns into the three classes of progressing, stationary and declining. Amongst the thirty-four towns listed above special interest attaches to Mandalay, Pyinmana, Shwedaung, Amarapura and Magwe which showed a decline in 1911 (possibly due in some cases or at least in some measure to changes in the adventitious population) but now show a normal civil population greater than the total population of 1911. Special consideration will be given to the city of Mandalay later in this chapter. Of most and perhaps all of the other 33 towns it is probably safe to say, that they are amongst the progressing towns; but no measure of their progress can be given and it cannot be said whether other towns are progressing or not. A valid discussion of the variations of population in any town, to be of any use for guidance in administration, would involve not only a distinction between the normal civil and the adventitious populations but also a detailed examination of the former as classified by age, sex, civil condition, race or religion and possibly other qualities; and a whole chapter would be required for each town. A discussion of this kind for the total population of all the census towns taken together would have little real use because the conditions in different towns vary so widely, and, as will appear in the succeeding articles of this chapter, the census towns as a whole do not include the whole urban population of the province.

2. Population of Shwebo Town.

Religion.	1921.		1911.
	Total Population.	Normal Civil Population.	Total Population.
Total ...	10,605	9,384	10,629
Buddhists ...	8,004	7,417	7,253
Animists ...	131	108	97
Hindus ...	970	746	1,053
Mahomedans ...	877	731	1,085
Christians ...	448	324	1,120
Others ...	175	58	23

50. Urban Population not confined to Census Towns.—The total of the populations of the census towns at successive censuses has frequently been regarded as representing the urban population of the province, and this view is involved in the heading prescribed by the Government of India for Imperial Table I, namely *Urban Population* for the population of census towns and *Rural Population* for the remainder of the population. The propriety of this depends upon the definition of *urban* or *town*. The selection of census towns has never been made with the object of dividing the population of the province into the two classes of urban and rural, but only with a view to providing certain statistics for certain towns for which such statistics were likely to be required for administrative purposes. The census towns of 1921 include all areas defined as towns for the purposes of the Burma Towns Act, and also all municipalities and notified areas and cantonments, and some other areas in addition. But there are other areas of somewhat similar character which are often regarded as towns but have been excluded from Imperial Tables IV and V either because they are small and

not considered sufficiently important from the provincial standpoint to justify the additional labour and expense of including them, or because they lack defined boundaries and administrative unity. It would thus be quite artificial to regard the total of the populations of the census towns as the total urban population. On account of the arbitrary inclusion and exclusion of various areas at successive censuses it is not even justifiable to regard the variations in the totals of the populations of census towns as representing the variations in the urban population of the province. Even if the description *town* is restricted to areas described as such for administrative purposes the difficulty is not removed, for the word is used with one meaning in the Towns Act and the Village Act, and with two other meanings in the revenue laws of Lower and Upper Burma respectively. All the fifty-four areas which were towns according to the Towns Act in 1921 were treated as census towns in that year and are indicated in the tables; but the Towns Act is not necessarily applied even in a municipality, and it would be difficult to justify a definition of urban population which covered only the population of these fifty-four towns. It would be less difficult indeed to justify such a definition in terms of the revenue-towns, because the application of special revenue laws to the land has frequently been a reflection of the growth of urban conditions. But even this is not always true; other considerations have applied, and there are areas which are not revenue-towns but are in many essential ways similar to such towns.

Some writers in Europe and America have stated that the distinction between urban and rural life is that the former is more communal and the latter more individualistic. They point out in support of this that in cities water-supplies, sewers, means of transport and various public utilities are provided by the community as such and used in common, whereas in villages each household has its own well, its own garden and its own cesspool and generally supplies its own needs in a greater degree than in the cities. Even in Europe and America it is not difficult to throw a different light on this. Many of the public utilities of cities are paid for by individuals in proportion to the use made of them just as much as if they were provided by a private agency, and villagers on the other hand often share a limited number of wells. But in any case these are mere externals. In the more important matter of their inner lives townsfolk are always far more individualistic than villagers. It is indeed a mere platitude now to say that the larger the city the more intense the isolation one may feel or ensure in it; while many have resented the facility with which their private affairs become known to their neighbours in villages. The same truth is illustrated in the development of any village into a city. At first everybody is known to everybody else and has some degree of intercourse with everybody of about the same age, and is interested in at least a general way in his affairs; every marriage, funeral or other domestic festival or ceremony is attended by the whole village, and there are often village festivals or ceremonies to which all contribute. But as the population grows this state of affairs changes until at last nobody pays any attention in the ordinary way to the affairs of anybody else outside a limited circle of friends and acquaintances, and the celebration of communal festivals is generally entirely given up. In Burma the matter is very plain. Few towns have developed municipal services to any great degree. On the other hand the theory behind the administration is that the village is a community with communal responsibilities, while the town is rather an aggregate of people concentrated on a comparatively small area. Even those who deplore the decay of the communal spirit in villages imply thereby that such a spirit existed once; in that case the village must still bear its impress, however obliterated.

If we put aside artificial or exotic definitions of *town* and turn to the ordinary person's use of that word in Burma, we shall find that in some particular place or places the physical, economic and social conditions differ in a particular way from those in a typical small village, and that places which have similar conditions are then regarded as towns. The meaning of the term is thus relative to the experience of the person using it. None will fail to recognise the great difference between life in an ordinary village and life in the more densely populated quarters of Wakèma or Thônzè, to say nothing of such large towns as Bassein, Prome, Mandalay and Rangoon. But there is a continuous gradation of conditions which leads to differences of opinion whether some places should be regarded as large villages or small towns, and even affects the conception of a town in many minds. In such a case it is best to consider first the characters found towards the ends of the scale.

If we take the end at which are the areas which all recognise as towns we find such characters as size, density of population, high land-values, administrative system, corporate feeling, variety of population and of occupations, the convergence of lines of communication, the provision of public utilities, the possession of markets or shops, schools, pagodas, courts of law or revenue offices, each of which may be and generally is at once the cause and the effect of the development of the others. The resultant of these characters is that the town is the focus of a region. The most influential of them perhaps are the closely related ones of occupations and markets. A small village shop cannot stock and supply goods which are not in continuous daily demand by the people in its immediate neighbourhood; goods which any one household only replaces at long intervals can only be supplied by a shop at the focus of a wider region. The same consideration applies also to the practice of many crafts. Once established as a focus the resulting advantages are such an attraction to new shops and craftsmen that the focal character is steadily more emphasised; and a rival focus can only arise as a rule through a fundamental change of conditions, such as the opening of a railway, the silting-up of a river, the development of new customs. The forces which make the town the focus of a region also create a focus within the town itself, which thus tends to have a typical plan; one part, which may be in the centre or on an edge, is the scene of the busy intercourse of the people and the focus of the town, while most of the residences are in other parts of the town. If factories are developed they are often controlled from an office within the focus although they will probably be situated outside it.

It is generally the lack of the internal focus which most clearly distinguishes a town (according to the popular usage of the word) from the groups of contiguous villages which are found in many parts of the province. As a rule such a group is formed by the continuous extension of villages along a line of communication until a continuous residential area is formed in which no village-boundaries are obvious; and this mode of growth also has the effect that as a rule such an area is a long narrow strip, in which the life of the residents is not distinguished in any marked manner from the life of residents in a normal large village. On the other hand there are places often smaller than many such village-groups, which are popularly regarded as towns because they have a focal character. By collecting rural produce and distributing those goods which are in such frequent demand by the rural population that dealers in them, giving in exchange for a small increase in price the convenience of a local supply, can be supported by smaller areas than the regions of the larger towns, such towns act as intermediaries between those larger towns and their regions. They thus form minor foci in subdivisions of those regions, and as a result they generally develop an internal focus too. Some villages also have an internal focus—for instance around a landing-place on a river bank—and sometimes shops begin to concentrate around it; but if they serve only a very small area, and if for the majority of persons living in the village life is much the same as if the focus were not there, nobody would be tempted to call such a village a town. Generally in fact the focal character and the conditions of life associated with that are the criteria which determine whether a place is to be regarded as a *town* or *village* in the mind of the ordinary person; and in practical application there are far fewer places on the border line than might be imagined.

As a rule, then, it is not difficult to select in any given area those aggregates of population which would generally be accepted as composing the urban population. Those places about which a difference of opinion arises are generally found to be villages in the process of developing an urban character; and no serious error will be made whether these are regarded as urban or not. Thus a definite meaning can be given to the term *urban population* and its number can be ascertained; and this is the conception inevitably brought to mind when numbers for the urban and rural populations are contrasted. But it will rarely be the case that this urban population of a district is confined to census towns. Not only will there be urban aggregates of population quite apart from census towns; but a census town will often have suburbs or extensions, which, in spite of administrative separation, are as intimately associated with it in other ways which affect the daily lives of their inhabitants as are its own wards with one another. Unless therefore it is clearly stated that the description *urban* is confined to the population of the artificially defined or selected administrative or census towns, the total population of such towns in any area should not be described as the urban population of that area. As however the larger towns

in Burma do not often have suburbs outside their municipal administration, but rather include a belt of agricultural land cutting them off from less closely administered villages, it may be said that the total population of all census towns of more than 10,000 persons is the total population living in urban aggregates of that size.

51. **Urban Areas.**—As a first step towards ascertaining the relation between the urban and rural populations in any locality the term *Urban Area* was adopted to describe any continuous area which constituted a town in the ordinary everyday use of the word, and which therefore had what is understood by urban as distinct from rural population. Conventionally two places on opposite banks of a river but in such continuous communication (whether by bridge or ferry) that they form essentially a single regional focus are regarded as forming a single urban area if they are in the same district. Conventionally too the whole of every census town is included in any urban area which includes any part of it; but otherwise administrative boundaries are entirely disregarded, and the physical economic and social conditions are the sole determinants. Any continuous area of urban character is regarded as a single urban area even if it extends into two or more village-tracts or is partly in a village-tract and partly in an administrative town; while if only part of a village-tract has an urban character the remainder of the tract is excluded from the urban area.

52. **Urban Population.**—For the gazetteer of each district of the province two tables have been prepared from the census records by the Deputy Commissioner to show the urban areas of the district and their population classified by sex and religion. Where the whole of a village-tract has not an urban character, only those census blocks which have such a character have been included in the statistics compiled for the urban area of which they form part; on account of the comparative smallness of census blocks (not more than forty houses and often much less) and the method of arranging them, statistics so compiled represent very closely the precise urban area. The tables were not prepared for the purpose to which it is proposed to apply them here, but primarily to furnish local officers with statistics of urban areas for which the table of populations of village-tracts did not give useful figures. Thus some urban areas which include the whole population (although possibly not the whole area) of a single village-tract are probably omitted. In some districts too the tables are open to some other criticisms; but they still give a more reasonable account of the relation of urban and rural populations than does Imperial Census Table I. A summary of the tables is given at the end of this chapter in Subsidiary Tables V and VI on which the figures in the marginal tables of this article are founded. Only the normal civil population is reckoned in those tables for either urban areas or census towns. The adventitious populations of the towns or urban areas consist partly of persons from the normal civil populations of other towns or urban areas, but the error introduced by ignoring this fact is small. Similarly the whole population apart from the normal civil population of the urban areas has been collected together as rural population although it includes the populations of military and military police areas and other parts of adventitious populations which are permanently located in towns; the error in this is negligible in comparison with the whole rural population.

The total number of urban areas tabulated was 490 as compared with 79 census towns. Delta and Centre naturally supply the largest numbers of the urban areas. Marginal Table 3 shows the percentage of the total population of the province and of the natural divisions and also of the total in the province of each religion who form the normal civil population of urban areas and are properly regarded as urban population. As might be expected the largest proportion of urban population is in Delta, while North and Shan have little urban population at all. Converting the percentages into simple fractions, one-fifth of the population of Delta, one-sixth of that of Coast or Centre and one-seventh of that of the whole province is urban.

3. Urban and Rural Populations as percentages of the whole.

Religion.	Urban.	Rural.	Census Towns.
Total ...	15	85	9
Buddhist	13	87	7
Animist ...	5	95	3
Hindu ...	54	46	47
Mahomedan	36	64	29
Christian	22	78	19
Other ...	84	...	81
Burma ...	17	83	10
Delta ...	*19*	*81*	*13*
Coast ...	*16*	*84*	*9*
Centre ...	*16*	*84*	*9*
North ...	*8*	*92*	*3*
Shan ...	2	98	2

By religions Marginal Table 3 similarly shows that rather over one-half the Hindus and one-third of the Mahomedans (including Burma Moslems) of the province are in the towns, but only one-eighth of the Buddhists. For *Other Religions* the proportion of urban population is five-sixths, but it cannot be said that the remaining one-sixth is rural because so considerable a part of it belongs to the adventitious population of the urban areas; the total population of *Other Religions* however is so small that it only forms 1 per cent of all the urban population.

Marginal Table 3 also affords a comparison between the census towns and the urban areas, the former of which may be regarded roughly as the largest amongst the latter. The column of the table headed *Census Towns*, like the column for urban areas, relates only to the normal civil population of those towns. It appears that the smaller towns have about 6 or 7 per cent of the whole population in each subdivision of Burma division. The figures in Marginal Table 3 for the separate religions show that these smaller towns have also about 6 per cent each of the Buddhists, Hindus and Mahomedans of the province, and thus have these religions in about the average proportion of the whole province.

Subsidiary Table VI classifies the normal civil population of the urban areas by religion, and in Marginal Table 4 its figures are reduced to percentages and compared with similar figures for census towns, rural areas and the whole province. Here as in Marginal Table 3 the Mahomedans include the Burma Moslems, without whom they may be estimated to form about one-sixteenth of the population of urban areas instead of one-eleventh as shown in the table. Hindus form one-eighth of the urban population and Buddhists nearly three-quarters. In the census towns the proportions of Hindus and of Mahomedans are one-half as large again, while Buddhists are reduced to three-fifths of the whole. The table illustrates the fact that the more the urban character is emphasised the smaller the proportion of Buddhists tends to be and the larger the proportion of Hindus and Mahomedans.

4. Percentage classification of populations by religion.

Religions.	Population of			
	Urban Areas.	Whole Province.	Rural Areas.	Census Towns (Normal Civil).
Buddhist ...	73	85	87	61
Animist ...	2	5	6	2
Hindu ...	13	4	2	19
Mahomedan	9	4	3	12
Chrisian ...	3	2	2	4
Others ...	1	...	...	2

As no statistics for urban areas have previously been compiled no comparison of the statistics of urban population with those of earlier censuses is possible. Comparisons of figures for census towns are shown in Subsidiary Tables IIIA, IIIB and IIIC of this chapter; but all their figures, except those representing major towns in 1911 and 1921, depend too much upon the arbitrary selection of census towns to be of real value.

53. **Rangoon Town.**—Some particulars for the population of Rangoon Town are given in Subsidiary Tables IIIA, IVA and IVB of this chapter, and as the Rangoon Town District includes only an area of the Rangoon River in addition to the town, the statistics given in any table for the Rangoon Town District may be taken as relating to the town according to the ordinary system by which the adventitious is not distinguished from the normal civil population. The rate of increase of 17 per cent in the decade 1911-21 was not as high as many expected. But the increase of population in Rangoon, where the female population is less than one-third of the total, depends much more upon immigration from outside than upon the natural increase, and during the war of 1914-18 the conditions of immigration and emigration from outside Burma were abnormal. In fact however the population of Rangoon in previous years has not really been known precisely, and consequently the rate of increase is uncertain. As explained earlier in the chapter passengers on inland-vessels coming to Rangoon may be added to the Rangoon population even if they leave the vessel before it reaches Rangoon, and there is a natural tendency for such vessels to save their records to give up in Rangoon rather than at a small place outside. It is an instruction of the Government of India not only that all ships in harbour on the night of the census should be censused, but also that all persons on ships arriving within fifteen days thereafter and coming from ports in India must be added to the census if not censused already in India. It is not true that the number so taken in at each census is the same; there may be a difference of one or two

ships to or from India which would account for possibly 2,000 to 5,000 persons. Further it is believed that in 1911 all persons leaving Rangoon by train after 7 p.m. were enumerated at the railway station; but in 1921 all residents of the suburbs of Rangoon, including Insein, were omitted from this enumeration and included in the enumeration of their homes, thus diminishing the apparent increase of population in Rangoon. On the other hand the days before and after the census of 1921 witnessed at the Shwe Dagôn Pagoda a great *pongyibyan* (cremation of a Buddhist monk) which brought a number of people from outside Rangoon; most of these camped round about the pagoda where 1,275 non-residents of Rangoon were enumerated and went to swell the apparent increase of population of the town. The total adventitious population of Rangoon in 1921 amounted to 24,275 as is shown in Marginal Table 5; such a large adventitious population—probably considerably larger in 1911—is susceptible of variations which may have a marked effect on the apparent variation of the population of the town and certainly affects perceptibly the age-distribution and sex-ratio. Strictly no valid measure of the increase of the population can be made except in terms of the normal civil population; but that is not known for any year previous to 1921. It should also be noted that in the opinion of the Census Superintendent of 1911 (expressed in one of his office records, not in the census report) there were about 10,000 Indian labourers in the mills of Rangoon who were omitted from the census of 1911 because of the difficulty of enumerating them and the hostility of some mill-owners who feared the census might supply evidence for a prosecution for overcrowding. I presume the estimate was meant to indicate that the number was a matter of some thousands; there seems to have been no way of checking it. I suppose too that there were similar omissions in 1921 again, but I can have no idea whether the number involved was greater or less than that involved in 1911.

5. Adventitious Population of Rangoon.

Class.	Males.	Females.
Afloat	12,847	280
Irrawaddy Flotilla Company's steamers arriving at Rangoon	553	121
Travellers by Railway ..	1,607	569
Pongyibyan	848	497
Inmates of Hospitals, Jail and other institutions	3,306	256
Military Police lines	805	82
Military area	1,670	904
Total ...	21,636	2,639

In Marginal Table 6 the age-distribution in Rangoon is shown in terms of certain wide age-groups of particular importance to have remained approximately constant for both sexes since 1901. In the last column of the same table is shown in a similar way the average about which the age-distribution of the Buddhists of the whole province has varied in the four censuses since 1891. Compared with that average Rangoon has an excess of both sexes in the important age-group 20 to 40, owing no doubt to immigration. In the next age-group of 40 to 60 the proportion is about the same in Rangoon as for the Buddhists of the province, but for ages over 60 Rangoon not only has less than the province but amongst females its proportion tends to diminish. The low proportion of children is due partly to immigration and partly to the abnormal conditions of life for a large part of the population of the city which is represented by the relative proportions of the sexes shown in the Subsidiary Tables IIIA, IVA and IVB of this chapter and in Article 109 of Chapter VI.

6. Percentage of Rangoon population in certain age-groups at five censuses.

Age-group and sex.	Rangoon.					Buddhists of the province.
	1921	1911	1901	1891	1881	
Males—						
0—15	16	15	16	16	17	37
15—20	9	10	9	9	9	10
20—40	55	57	56	56	54	30
40—60	17	16	16	16	17	17
60	3	2	3	3	3	6
Females—						
0—15	31	31	31	33	34	37
15—20	11	10	11	11	11	10
20—40	39	39	38	36	34	30
40—60	15	15	15	15	15	16
60	4	5	5	5	6	7

The natural population of Rangoon consists of (1) persons born in Rangoon and shown in Imperial Table XIA as enumerated in Burma; (2) persons born in Rangoon and enumerated in India, of whom the numbers are determined in Article 62 of Chapter III to be approximately 1,994 males and 1,245 females;

and (3) persons who were born in Rangoon but were out of India on the date of the census. The numbers of the first two classes are shown in Marginal Table 7; the numbers of the latter are not known.

7. Natural Population of Rangoon.

Place of Enumeration.	Males.	Females.
Burma ...	73,765	71,990
India ...	1,904	1,245
Elsewhere	?	?
Total ...	75,669	73,235

Subsidiary Table IVB shows that two-thirds of the males and one-third of the females of the normal civil population of Rangoon are Indians. It also shows a fact which is not commonly realised, that one-half the female population is of indigenous races. Amongst the indigenous races and in both sexes all except about 3 to 4 per cent are Burmese and a little under 2 per cent are Karens.

54. Overcrowding in Rangoon.—Rangoon is the only town in Burma in which any problem of congestion of population is found on a serious scale. It was proposed that an enquiry into this should be made in connection with the census, and that tables should be prepared similar to those prepared for Calcutta and Bombay in 1911 showing the relationship between buildings and rooms and their inhabitants. The Local Government however accepted my criticisms of those tables and my contention that the subject was entirely unsuitable for inclusion in a census and could only be investigated by intelligent and trained persons specially engaged in that task. No statistics of overcrowding therefore can be presented. The number of persons per acre in the various wards could be calculated, but the results would be worthless without a detailed study of the proportion of the areas occupied by streets, non-residential buildings, etc., and also of the type of building. The fact that there is a shortage of house-accommodation at the moment has been learned without collecting statistics; the newly-formed Rangoon Development Trust has already made great headway in dealing with the matter.

55. Mandalay City.—The racial constitution of the normal civil population of Mandalay is shown in Subsidiary Table IVB of this chapter; 82 per cent of the people are of indigenous races and are almost entirely Burmese, 7 per cent are of Indo-Burman races and 9 per cent Indian. The variation of the total population since the first census of the city in 1891 is shown in Subsidiary Table IVA. In the last decade the increase was 8 per cent or nearly the same as the average for the province; in the preceding decade there had been a decrease of 25 per cent and before that a decrease of 3 per cent. In 1911 the decrease of the two preceding decades were explained by—

(1) the removal of the garrison and of some offices of civil administration and the consequent migration of people whose livelihood had depended upon these;

(2) the opening of the railways to Myitkyina and the Shan States which had curtailed the importance of Mandalay as a distributing centre;

(3) an extensive fire which destroyed over a square mile of the most populous part of the city a few months before the census of 1911; and

(4) plague, which had broken out in several of the years of the decade 1901-11 and was actually raging at the time of the census, and was estimated to have caused 10,000 persons to be absent from the city temporarily on the date of the census.

If the estimate of the temporary absence of 10,000 persons was correct the real population in 1911 was 10,000 more than that recorded, and the variations of population have been as shown in Marginal Table 8. If all the 10,000 temporary absentees are supposed to have belonged to the municipal area, and none of them to the cantonments, the corrected percentages of increase, like the uncorrected, are about the same for the municipal area as for the whole city including the cantonment. The comparisons made here are not quite fair because the figures used for the population include the adventitious population which in 1921 amounted to 6,275. But as already noted the same proportional variations are found for the municipal area in which the adventitious population of

8.—Variations in population of Mandalay City.

Decade.	Recorded increase.		Corrected increase.	
	Absolute.	Per cent.	Absolute.	Per cent.
1911-21	10,618	8	618	0·4
1901-11	−45,517	−25	−35,517	−19
1891-01	−4,999	−3	−4,999	−3

1921 was only 2,602; as the variations of this adventitious population are not likely to have been large in comparison with the total population, there is no large error in comparing the total populations, but a comparison of figures for the normal civil population alone might have given percentages differing from those calculated above by a unit or so. There was a change in the boundary of the city in 1917 which added an area on which 141 males and 83 females were enumerated in 1921; but this is not large enough to be worth notice. It is stated in the census report of 1901 that the reduction of population in 1891-1901 was due partly to a reduction of the garrison but that the greater part of the reduction was in the municipal area outside the cantonment. Taking all these points into consideration, and recognising that the estimate of 10,000 for the absentees of 1911 can only be rough, it appears that the percentages of Marginal Table 8 must be translated into the rather indefinite terms that in the last decade, instead of increasing at the average rate for the province as at first appears, the population of the municipality (or of the whole city) has varied only slightly one way or the other; while in the previous decade it decreased by something between 15 and 25 per cent and in the decade before that the variation was a small decrease apart from the reduction of the garrison.

The reasons given for the decrease of 1901-11 do not seem to apply to the decade 1911-21 except that of plague-mortality. Outbreaks of plague in 1913-14, 1915-16, 1917-18, 1919-20, resulted in 1,313, 1,933, 2,429, and 1,432 deaths respectively; and there were a few deaths from plague varying from 4 to 260 in all the other years. But in spite of the special dread of plague it is noteworthy that respiratory diseases, even apart from the influenza years, have killed just as many persons. Deaths from influenza in 1918 and 1919 were said to be 1,154, but probably an equal number were recorded under other diseases. For the whole decade the total births were 50,642 and deaths 71,792, so that the average birth-rate was about 40 and the average death-rate about 57 while the loss of population through natural causes was 21,150 or about 14 per cent of the whole population. Thus it appears that the population has been maintained only by migration from outside. An effort was made in the enumeration to measure this migration by distinguishing persons born in the city from those born outside it; but detailed examination of the records showed that they were unreliable; the name of the city and district being identical, the records of them had been confused.

Some light is thrown on the matter by a study of the age-distributions shown in Marginal Table 9 of the Buddhists who form four-fifths of the entire population. The last column of the table shows for comparison the average age-distribution of Buddhist females in the whole province at the four censuses since 1891. The striking features of the figures for Mandalay City are the small proportion of children; the large proportion of both sexes, and particularly of women, between 40 and 60; and the extraordinarily large proportion in 1891 of women over 60 which though it has now diminished is still very large. The presence of all these old women at the seat of government of the Burmese kingdom is a mystery which cannot be cleared up without careful study of the history of Mandalay before annexation. Comparison of Marginal Table 9 with the age-distributions shown and studied in Chapter V shows at once that the variations of the population in Mandalay must be abnormal. It seems clear in fact that other forces

9.—Proportionate age distribution per 1000 males or 1000 females amongst Buddhists in Mandalay City.

Males.		Age-group.	Females.				
1921.	1911.		1921.	1911.	1901.	1891.	Province Average.
921	1,211	0—5	991	1,150	1,088	1,153	1,377
808	969	5—10	910	1,124	1,000	931	1,292
946	1,003	10—15	1,010	1,066	933	877	1,173
1,103	989	15—20	968	933	873	958	1,008
1,155	1,016	20—25	1,000			898	906
1,039	886	25—30	901	2,970	3,163	801	809
878	762	30—35	811			720	711
676	762	35—40	619			748	555
651	611	40—45	628			634	536
478	431	45—50	522	1,871	1,977	464	378
483	390	50—55	547			473	398
292	240	55—60	301			304	243
3,776	4,172	0—20	3,879	4,313	3,894	3,919	4,709
3,748	3,476	20—40	3,331	2,970	3,163	3,147	2,981
1,904	1,678	40—60	1,998	1,871	1,977	1,875	1,555
570	730	60 and over.	792	846	966	1,059	665

have been at work besides those mentioned in the census report of 1911. Not only plague but the conditions of general sanitation and water-supply contribute to the high death-rate; but its curious age-distribution, combined with its particular sex-constitution which is described in Chapter VI of this report, has probably had as much effect as these in determining the stationary character of the population in the last decade.

B.—VILLAGES.

56. Character of the Village.—The characteristic village in Burma is the Burmese village. The Karens who live in the plains amongst the Burmese villages have a very similar kind of village, and so have the Shans of the Shan States. The more primitive indigenous races also live as a rule in village-communities which are probably of the type from which the Burmese village has evolved as the race advanced. As was shown earlier in this chapter the Indian population is largely confined to towns; in the districts near Rangoon and in the delta in which Indians are numerous outside the towns, they sometimes live in an annexe of the Burmese village and sometimes in a separate hamlet which is commonly regarded as an adjunct of the Burmese village that takes no part in the village-life. Usually these separate Indian villages are inhabited by poor people who struggle to get a meagre livelihood from the land which was rejected by all others as not worth working; consequently they are usually strikingly lacking in all the amenities of the ordinary Burmese village. In some parts of Lower Burma a number of the wealthier Indian landowners have established patriarchal hamlets in which they live in good houses with gardens and are surrounded by their labourers and dependents. This has been done in defiance of the law that isolated homesteads may not be established without the sanction of the Deputy Commissioner; but in the parts in which Indians are numerous that law has not been rigorously enforced, and many feel it would be undesirable to enforce it and some are asking for its abolition, though this is for the sake of the Burmese not for that of the Indians. In any case the Indians rarely enter into the associated life of the Burmese villagers, but remain as individuals or a small group apart.

The following description of a Burmese village given by Mr. Morgan Webb in his census report of 1911 is still true :—

> Though the Burman ideal is to dwell in a town, it is seldom capable of realisation; and it is almost impossible to obtain an impression of his national characteristics except in a setting of village life.
>
> The Burman satisfies his craving for the amenities of social life by congregating in the largest village which will permit of reasonable access to his daily occupation. The solitary farmhouse in the centre of the agricultural holding is not a feature of the Burmese landscape. Conditions of security of life and property, rigidly enforced by legislative enactments, preclude the possibility of any such system. During the cultivating season a temporary hut in the vicinity of a holding distant from a village may be necessary, and permission is readily given by the administrative authorities to meet such cases. But with the harvesting of the crop such dwellings are dismantled and abandoned, and village life resumes its accustomed course.
>
> In its rudimentary form, the Burmese village consists of two long rows of bamboo dwellings extending on each side of the road which forms its means of communication with the outer world. There are necessary modifications where it is situated on the banks of a stream or on one bank of a larger river. In the larger villages shorter supplementary roads run parallel with the main artery and are connected with it by small subsidiary pathways. The main road is generally raised and occasionally paved with bricks set edgeways in chessboard patterns. In a conspicuous part of the village, usually at one of its extremities are the pagodas, the monasteries, the shrines and the rest-houses essential to the complete religious life of the community. In Upper Burma all villages are enclosed in a fence of thorn or bamboo, two or more gates, which are closed and guarded at night, giving access from the main points of approach. In most districts of Lower Burma, partly owing to the custom of fencing having been allowed to lapse after the British occupation, partly to the difficulty of obtaining fencing material, and partly to the rapid rate of expansion, villages are rarely fenced, though in a few districts adjoining Upper Burma fencing is rigidly enforced. Each house is detached from its neighbours and is set in a compound combining in various degrees the respective characteristics of orchard, farmyard and vegetable garden. Industrially, the Burmese village is not a self-sufficing unit to the same extent as the village in India. For the greater part of the year it is independent of the outside world for its requirements, but as harvest approaches it is drawn into contact with the wider life of the community in many ways. First, the peripatetic broker, the representative of some local or central paddy firm, arrives to arrange for the purchase of the crops, the price paid generally varying inversely with the necessity for an immediate payment or advance. Then the harvest and the movement of the crops to the nearest railway station or landing place occurs, followed immediately by the arrival of travelling pedlars with general requirements for the villagers until their next harvest matures. Necessities having

been provided and religious obligations fulfilled, surplus proceeds are usually devoted to recreative purposes, theatrical companies travelling from village to village being the principal means of satisfaction. After a few eventful months, the village lapses into its state of semi-independence of the external world until its next harvest approaches.

57. **Number of Villages.**—The statutory definition of a village in all the main part of Burma is an area appropriated to dwelling-places not included within the limits of an area which has been declared to be a town under the Burma Towns Act. This is not nearly such a clear definition as at first sight it appears, and in any case no attempt was made to organise the census on a basis of villages, or to arrang the record by villages. Such a method was used in the census of 190, with the result that the village-census-tables became chaos; and in 1911 as again in 1921 the unit of census organisation was the *village-tract* which is the jurisdiction of a village headman, including a village or group of villages and adjacent lands. In Lower Burma particularly a village-tract may include in practice no true village at all, but only a number of clusters of houses scattered through a comparatively extensive area. Many of these clusters of houses are too small to be called hamlets, as they consist only of the houses of a landowner or tenant and of his relations or dependents. One case within my own knowledge, which may be given as an example, is a village-tract of twenty-three square miles with a population in 1911 of 2,581 in 625 houses; in 1917 when I visited this place I found one hamlet of possibly 60 to 80 houses and no other hamlet approaching this size, all the other houses being in small groups widely scattered over the whole village-tract. At the same time the standard village-tract has its population concentrated in villages and hamlets. Yet there is generally no record of the number of villages maintained. Probably in Upper Burma such a record could be made; but in Lower Burma there would be great difficulties in defining a village. The number of village-tracts furnishes no assistance; a discussion of that number would be only a discussion of artificial administrative divisions, and have no bearing upon real social conditions whatsoever. Imperial Table III which classifies village-tracts by their populations is also of no interest except for administrative purposes, save in the Shan States and Karenni and in the various hill-tracts and hill-districts in which primitive people live and the village-tract system is not in force. For these the numbers in both Imperial Tables I and III represent villages, and commonly there would be no difficulty in interpreting this word in each locality, although the cultivators of temporary clearings on the hill-sides occasionally live in fairly isolated places.

An effort has been made in the present census to make good part of the deficiency in the census-records of villages by inserting two columns in Provincial Table I to show the number of villages with over 100 houses and the number with over 40 houses but less than 100. As the exclusion of all with less than 40 houses excludes all doubtful cases of homestead-clusters and petty hamlets, the definition of a village as a continuous group of residences not in a town (as defined in the Towns Act) is a clear definition for these figures. But still divisions of such a group by the boundary of a village-tract introduce an anomaly because the parts into which that boundary divides the group have been treated as separate villages. Many of the urban areas are thus represented in the table by separate entries for two or more parts of them which are under different village-headmen. But although subject to these limitations the figures do give an approximation to the number of villages exceeding 40 houses, and the details by townships in Provincial Table I give a fair idea of the tendency in each township to live in large or small clusters. For the whole province the number of villages with over 100 houses is given as 4,711 and the number with 40 to 99 houses as 15,067.

58. **Rural Population.**—The difficulties in counting villages also affect of course the counting of the population of villages. No attempt was made to tabulate the population of the villages exceeding 40 houses; only the numbers of villages were treated. For the entire rural population however the figures entered in Marginal Table 3 of Article 52 of this chapter, obtained except in the case of *Other Religions* by subtracting the urban percentage from 100, are sufficiently accurate; for *Other Religions* the rural percentage must be very nearly nil. Marginal Table 4 in Article 52 shows that in rural areas the Hindus and Mahomedans account for only 2 and 3 per cent respectively of the whole population, five-sixths of which is Buddhist. For all areas outside census towns the percentage distribution by religions is identical with that for rural areas. No comparison of the figures for rural areas in 1921 with those of earlier censuses is possible.

SUBSIDIARY TABLE I.—*Distribution of the population between Census Towns and Village-tracts of various sizes.*

NOTE.—Throughout this table the description *residing in a town* is applied only to the normal civil population. The total of columns 11 to 14 inclusive differs from 1,000 by the proportion enumerated as *Adventitious* in the whole of each natural division which is shown in column 15 and includes some classes such as military police and jail prisoners who in a sense are residents of the census towns or of villages although excluded from this table. There is no necessary relation between the size of the population for a village-tract and for the villages included or partly included in it.

Natural Division.	Average population per		Number per mille residing		Number per mille of urban population residing in census towns with a population of					Number per mille of population other than that of census towns residing in village-tracts with a population of				Adventitious population.
	Census Town.	Village-tract.	In Census Towns.	Elsewhere.	20,000 or over.	10,000 to 20,000.	5,000 to 10,000	2,000 to 5,000	500 to 2,000	5,000 to 10,000	2,000 to 5,000	500 to 2,000	Under 500	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Province ...	25,134	349	91	909	543	162	242	50	2	7	143	560	290	20
Burman ...	18,398	335	181	809	550	181	233	40	2	8	162	631	191	24
Delta ...	18,384	781	120	871	606	122	220	41	--	4	111	710	141	22
Coast ...	19,580	704	86	914	777	125	68	31	--	...	121	687	184	27
Centre ...	14,809	330	87	913	433	261	278	28	--	17	201	560	202	20
North ...	4,387	267	29	971	...	...	732	177	91	...	65	384	575	28
Chin ...	...	128	...	1,000	...	...	...	...	...	...	...	238	689	13
Salween ...	...	140	...	1,000	...	...	...	...	...	...	33	383	515	...
Shan ...	4,110	76	23	977	...	...	506	405	31	...	4	50	940	6

SUBSIDIARY TABLE II.—*Number per thousand of the total population and of each religion who were enumerated in Census Towns.*

NOTE.—The percentages in column 2 are rather larger than the corresponding figures in column 4 of Subsidiary Table I because they relate to the total population of the towns whereas that relates to the normal civil population.

District and Natural Division.	Total population.	Buddhist.	Animist.	Hindu.	Mahommedan.	Christian.	Others.
1	2	3	4	5	6	7	8
Province ...	91	69	38	331	238	223	852
Burman ...	109	78	80	327	337	229	885
Delta ...	138	82	181	320	308	190	941
Rangoon ...	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Insein ...	49	31	40	116	167	100	583
Hanthawaddy ...	62	56	64	168	265	136	718
Tharrawaddy ...	88	72	304	544	568	120	508
Pegu ...	59	47	112	134	215	69	237
Basein ...	115	89	378	365	668	25	...
Henzada ...	70	60	166	449	452	83	746
Myanaung ...	56	41	254	216	391	28	222
Maubin ...	64	50	71	387	308	42	433
Prapin ...	97	7	288	235	485	97	154
Toungoo ...	85	63	81	249	581	54	1,000
Thatin ...	47	28	197	138	178	87	...
Coast ...	98	71	87	380	186	264	671
Akyab ...	63	41	12	382	68	893	583
Kyaukpyu ...	19	16	3	418	172	170	...
Sandoway ...	34	30	3	577	200	158	...
Amherst ...	103	93	484	710	454	439	873
Tavoy ...	175	102	391	391	891	102	500
Mergui ...	128	109	191	814	210	70	636
Centre ...	93	72	210	807	531	691	672
Prome ...	133	118	481	705	770	394	722
Thayetmyo ...	80	72	28	708	785	415	1,000
Pakkoku ...	49	40	43	835	667	443	370
Minbu ...	45	41	40	872	470	511	109
Magwe ...	57	51	544	884	398	870	881
Mandalay ...	197	138	953	830	834	981	922
Shwebo ...	34	27	448	455	124	868	636
Sagaing ...	36	31	355	508	344	379	333
Lower Chindwin ...	27	23	617	977	739	793	1,000
Kyaukse ...	43	39	172	781	91	286	679
Meiktila ...	33	31	186	892	309	602	816
Yamethin ...	88	65	399	474	381	252	252
Myingyan ...	59	53	851	706	751	857	453
North ...	35	24	16	818	438	111	666
Shamo ...	60	50	13	823	750	75	898
Myitkyina ...	42	28	5	871	842	241	471
Katha ...	53	40	23	886	496	171	343
Putao ...	...	...	...	...	...	...	...
Upper Chindwin ...	13	8	22	771	288	78	229
Chin ...	...	...	...	...	...	...	...
Salween ...	...	...	...	...	...	...	...
Shan ...	85	29	9	515	521	223	745
Northern Shan States ...	87	18	13	511	585	314	748
Southern Shan States ...	83	30	5	521	479	77	...

SUBSIDIARY TABLE IIIA.—*Population-classes of Census Towns in* 1921 *and some comparisons with* 1911 *together with details for Rangoon and Mandalay.*

NOTE.—All towns have been classified for this table according to their population in 1921.

Class of Census Town.		Number of Census Towns in each class in 1921.	Population of each class.				Percentage which each class contributes in 1921 to the Population of—		Number of Females per 1,000 Males.	
			Persons.	Persons.	Increase 1911 to 1921.					
Serial No.	Range of Population (expressed in thousands).		1921	1911	Persons.	Per cent.	(a) All Census Towns.	(b) Census Towns above 10,000 population.	1921	1911
1	2	3	4	5	6	7	8	9	10	11
I	100 and over ..	2	490,879	431,615	59,264	14	38·0	51·9	561	552
	Rangoon ...	1	*341,962*	*292,316*	*49,646*	*17*	*26·5*	*36·2*	*445*	*409*
	Mandalay ..	1	*148,917*	*138,299*	*10,618*	*8*	*11·5*	*15·7*	*915*	*984*
II	50 to 100 ..	1	61,301	57,582	3,719	6	4·8	6·4	610	639
III	20 to 50 ...	5	156,330	152,011	4,319	3	12·1	16·5	608	604
IV	10 to 20 ...	16	238,504	219,494	19,210	9	18·5	25·2	763	748
V	5 to 10 * ..	39	285,834	271,098	14,736	5	22·1	..	802	823
VI	Under 5 * ..	16	58,679	62,126	—3,447	—6	4·5	...	757	733
I to IV	All Census Towns over 10,000.	24	947,014	860,502	86,512	10	73·4	100	619	613
	All Census Towns* ...	79	1,291,527	1,193,726	97,801	8	100	...	662	659

* For three towns in class V and seven in class VI the population in 1911 is not known; in order to give correct figures for 1921 and retain comparability as far as possible the 1911 figures for columns 5 for these cases have been assumed to be the same as in 1921, namely 20,718 in class V and 2,588 in class VI. The error in columns 6 and 7 is thus negligible for class V and for the grand total of all census towns, but somewhat uncertain for class VI. In columns 11 these towns have been omitted.

SUBSIDIARY TABLE IIIB.—*Population-classes of Census Towns* 1891 *to* 1921.

NOTE.—For each year the term Census Town denotes a place described as such in the census of that year; the list of census towns changes from census to census.

Class of Census Town.		Number of towns and persons in each class of Census Towns (Each town reclassified each year according to its population in that year.)								Ratio of Persons in each class of towns per 1,000 total population of the province.			
		1921		1911*		1901*		1891					
Serial No.	Range of Population (expressed in thousands).	Towns.	Persons.	Towns.	Persons.	Towns.	Persons.	Towns.	Persons.	1921	1911	1901	1891
1	2	3	4	5	6	7	8	9	10	11	12	13	14
I	100 and over	2	490,879	2	431,615	2	418,697	2	369,139	37	36	40	48
II	50 to 100 ...	1	61,301	1	57,582	1	58,446	1	55,785	5	5	6	7
III	20 to 50 ...	5	156,330	6	172,021	5	142,046	4	118,372	12	14	14	15
IV	10 to 20 ...	16	238,504	16	213,957	14	188,131	13	188,787	18	17	18	24
V	5 to 10 ..	39	285,834	32	228,608	23	161,167	21	149,281	22	19	15	19
VI	Under 5 ..	16	58,679	6	23,092	7	22,887	11	31,020	4	2	2	4
	All Census Towns above 10,000.	24	947,014	25	875,175	22	807,320	20	732,083	71	74	77	95
	All Census Towns	79	1,291,527	63	1,126,875	52	991,374	52	912,384	97	93	95	118
	Areas outside Census Towns.	...	*11,920,665*	...	*10,988,342*	..	*9,499,250*	...	*6,809,669*	*903*	*907*	*905*	*882*
	Whole Province	...	*13,212,192*	...	*12,115,217*	..	*10,490,624*	..	*7,722,053*	*1,000*	*1,000*	*1,000*	*1,000*

*The figures given for these years differ from those in the Census tables of these years owing to the corrections described in Notes 17 and 18 of Imperial Table IV of 1921.

SUBSIDIARY TABLE IIIC.—*Variations in Population-classes of Census Towns at successive Censuses.*

Class of Census Town.		Percentage of total population of Census Towns included in each class at the census of each year shown.				Increase per cent. during the succeeding decade of the total population of the specific towns included in each class at the census of year shown.			Increase per cent. between 1901 and 1921 of the total population—	
Serial No.	Range of population (expressed in thousands).	1921	1911	1901	1891	1911	1901	1891	(a) of the specific towns included in each class in 1921.	(b) of each class as constituted in 1901 and 1921.
1	2	3	4	5	6	7	8	9	10	11
I	100 and over ...	38	38	42	40	14	3	13	33	33
II	50 to 100 ...	5	5	6	6	6	—1	5	10	10
III	20 to 50 ...	12	15	14	13	2	7	—9	—3	32
IV	10 to 20 ...	18	19	19	21	6	3	3	11	26
V	5 to 10 ...	22	21	16	16	1	1	7	4	101
VI	Under 5 ...	5	2	2	3	29	124	67	185	98
	All Census Towns over 10,000	73	77	81	80	9	3	6	19	29
	All Census Towns ...	100	100	100	100	8	5	9	22	42

SUBSIDIARY TABLE IVA.—*Population, Density and Sex-ratios in the Towns of Rangoon and Mandalay at four Censuses.*

NOTE.—For this table *Municipality* means in the case of Rangoon the whole town less the areas comprised within the Cantonment and the Port, and in the case of Mandalay the whole town less the Civil and Military area of the Cantonment in which are included the whole of the Fort (with the jail) and the Shore Cantonment. In each case travellers (except in Rangoon Port) are included in the population of the municipality as there are no means of separating them before 1921. Figures for the municipalities before 1921 are approximate throughout on account of the difficulty in deciding to which part of the town some of the figures belong; but the errors due to this are not serious.

—		Rangoon.						Mandalay.			
		The Whole Town.			The Municipality.			The Whole Town		The Municipality	
		Persons.	Males.	Females.	Persons.	Males.	Females.	Persons.		Persons.	
1		2	3	4	5	6	7	8		9	
Population ..	1921	341,962	236,689	105,273	321,690	218,749	102 941	148,917		134,839	
	1911	293,316	208,111	85,205	274,967	192,138	82,829	138,299		124,914	
	1901	234,881	165,545	69,336	210,519	146,057	64,462	183,816		167,721	
	1891	180,324	124,767	55,557	158,021	106,341	51,680	188,815		170,071	
Increase of population.	1911–21	48,646	28,578	20,068	46,723	25,611	20,112	10,618		9,925	
	1901–11	58,435	42,566	15,869	64,448	46,081	18,367	— 45,517		— 43,207	
	1891–01	54,557	40,778	13,779	52,498	39,716	12 782	— 4,999		— 2,350	
Percentage increase of population	1911–21	17	14	24	17	13	24	8		8	
	1901–11	25	26	23	31	32	28	— 25		— 26	
	1891–01	30	33	24	33	37	25	— 3		— 1	
		A	B		A	B		A	B	A	B
A = Density per sq. mile. B = Density per acre.	1921	4,503	7.04		14,650	22·9		5,957	9·30	7,079	11·1
	1911	3,863	6.03		12,503	19·5		5,532	8·64	6,510	10·2
	1901	3,292	5 05		9,588	15·0		7,353	11 5	8,768	13 7
	1891	2,397	3.74		7,177	11·2		7,553	11·8	8,960	14 0
A = Excess of males over females. B = Ratio of females to 1,000 males.	1921	131,116	445		115,808	471		6,609	915	3,395	951
	1911	122,906	409		109,309	431		1,137	984	—1,282	1,021
	1901	96,209	423		81,595	441		3 350	964	— 399	1,005
	1891	69,210	445		54,661	486		—1,809	1,019	—6,907	1,085

SUBSIDIARY TABLE IVB.—*The Normal Civil Populations of Rangoon and Mandalay*, 1921.

Class according to birthplace or race, etc.	Rangoon.						Mandalay.					
	Numbers.			Percentage of Normal Civil.			Numbers.			Percentage of Normal Civil.		
	Persons.	Males.	Females.	Persons.	Males	Females	Persons.	Males.	Females	Persons.	Males	Females
1	2	3	4	5	6	7	8	9	10	11	12	13
Normal Civil Population.	317,687	215,053	102,634	100	100	100	142,642	72,435	70,207	100	100	100
Birthplace—												
In the district* ...	108,273	52,161	56,112	34	24	55	116,485	55,034	61,451	82	76	88
Burma outside the district.	38,598	20,682	17,916	12	10	17	16,101	9,313	6,788	11	13	10
India outside Burma	153,167	129,145	24,022	48	60	23	8,519	6,810	1,709	6	9	2
Elsewhere ...	17,649	13,065	4,584	6	6	5	1,537	1,278	259	1	2	...
Race—												
Indigenous races ...	99,216	48,662	50,554	31	23	49	117,518	56,529	60,989	82	78	87
Chinese ...	23,192	15,367	7,825	7	7	8	1,664	1,338	326	1	2	...
Indo-Burman races	8,584	4,217	4,367	3	2	4	9,884	4,536	5,348	7	6	8
Indian races ...	173,721	139,597	34,124	55	65	33	13,212	9,364	3,848	9	12	4
(a) *Born in Burma*	21,288	10,537	10,751	7	5	10	2,786	1,785	1,001	2	2	1
(b) *Born elsewhere*	152 433	129,060	23,373	48	60	23	9,426	7,579	1,847	7	10	3
European ...	3,424	2,456	968	1	1	1	271	161	110	...	...	...
Anglo-Indian ...	8,088	3,979	4,109	3	2	4	1,047	481	566	1	1	1
Others ...	1,462	775	687	1	...	1	46	26	20	...	...	...
Indian Races— (Analysis of above figures)												
Mahomedans—												
(a) Born in Burma	7,301	3,826	3,475	3	2	3	993	568	425	1	1	1
(b) Born elsewhere	40,377	36,205	4,172	13	17	4	3,215	2,906	309	2	4	...
Other Indians—												
(a) Born in Burma	13,934	6,708	7,276	4	3	7	1,793	1,217	576	1	2	1
(b) Born elsewhere	113,056	92,855	19 201	35	43	19	6,211	4,673	1,538	4	6	2
A = Density per acre	A		B	C			A		B	C		
B = Excess of males over females.												
C = Ratio of females to 1,000 males.	21·1†		112,419	477			10·8‡		2,228	961		

* Rangoon Town is conterminous with the Rangoon Town district. † Ignoring the area covered by water. ‡ For the Municipality only.

SUBSIDIARY TABLE V.—*Urban Areas, Census Towns and Rural Population by Natural Divisions.*

Name.	Total Population.		Rural Population and Adventitious Population of Urban Areas.		Urban Areas (Normal Civil Population).		Census Towns (Normal Civil Population).		Number of Urban Areas.	Number of Census Towns.
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.		
1	2	3	4	5	6	7	8	9	10	11
Province ..	6,755,969	6,455,123	5,662,672	5,358,031	1,093,297	896,192	693,902	503,798	490	79
Burman ...	5,893,779	5,610,850	4,820,901	4,734,581	1,072,877	876,269	674,383	489,885	482	71
Delta ...	2,507,902	2,352,843	2,021,865	1,878,174	543,637	374,669	388,481	234,540	167	34
Coast ...	838,657	759,836	701,036	648,753	137,621	111,083	77,544	59,515	57	7
Centre ...	2,139,893	2,105,877	1,776,998	1,905,492	362,895	360,385	197,158	187,875	239	26
North ...	347,327	332,294	318,603	308,162	28,724	24,132	11,200	7,955	27	4
Chin ...	78,089	80,833	78,089	80,833	...	...	...	...	...	...
Salween ..	57,940	56,289	57,039	55,776	901	513	...	...	1	...
Shan ...	726,991	707,351	706,772	693,841	19,519	13,410	19,519	13,410	8	8

SUBSIDIARY TABLE VI.—*Normal Civil Population of Urban Areas in each Natural Division classified by Religion.*

Name.	Total Population.	Buddhists.		Animists.		Hindus.		Mahomedans.		Christians.		Others.	
		Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Province ...	1,883,489	695,351	734,592	26,492	8,150	106,967	56,123	122,086	59,201	99,320	85,220	13,111	5,906
Burman ...	1,949,148	683,648	722,181	24,859	7,919	102,874	55,248	120,158	58,680	86,368	85,572	19,073	5,869
Delta ...	918,306	273,528	282,470	13,880	4,252	151,260	38,800	74,007	26,540	19,937	17,473	11,025	5,134
Coast ...	254,704	90,854	95,796	3,516	1,296	21,651	5,123	18,959	12,517	2,479	2,388	168	63
Centre ...	723,880	299,313	324,576	5,566	2,314	26,789	10,109	24,734	18,081	5,362	5,414	1,111	491
North ...	52,256	19,953	20,339	1,897	657	2,174	1,216	2,458	1,542	587	397	675	181
Chin ...	...	...	...	...	...	...	...	...	...	...	...	...	...
Salween ...	1,414	469	513	18	10	126	86	187	38	91	56	...	...
Shan ...	31,009	11,234	11,828	1,615	221	3,967	849	1,711	683	864	592	138	37

CHAPTER III.

Birthplace.

59. Definitions.—According to the usage of the census the *Immigrants* of any area are the persons enumerated at the census within that area who reported a birthplace outside it; while conversely, the *Emigrants* of any area are persons enumerated outside it who reported a birthplace within it. The term *Migrants* includes both the immigrants and the emigrants of the area with respect to which it is used; and *Migration* is the movement from place to place by which persons become migrants. All the foregoing terms are defined in terms of the places of birth and enumeration; none of them has any reference to the place of permanent residence. If a man, who has lived all his life in the village in which he was born, has a wife who was born in a different district, and goes with her to visit her birthplace temporarily and happens to be enumerated there, he who lives permanently in his birthplace will be tabulated as an emigrant from his own district and an immigrant to his wife's, while she who has left her birthplace to live in a different district will not be tabulated as a migrant at all.

The *Natural Population* of any area is the total number of persons living on the date of the census who were born within that area, and is thus the sum of the actual population and the emigrants of the area diminished by its immigrants.

60. Enumeration.—The twelfth column of the enumeration-schedule was headed *Birthplace* and the principal instruction to enumerators for filling it was as follows:—

> Enter the district in which each person was born; and if the person was not born in Burma add the name of the province to the district of birth. If the person was born out of India or in a part of India where there are no districts, enter the country; *e.g.* Northern Shan States, Siam, Afghanistan, Ceylon, China. The names of villages and townships are not to be given.

Supplementary instructions were given to supervisors and higher census officers to enable them when checking the schedules to obtain correct entries for cases too difficult for enumerators. These gave a complete list of Indian provinces, a list of the more important Indian States, a list of the districts of Madras, and notes on some particular names of somewhat indefinite meaning, such as *Shan Pyi* which is sometimes used as a contraction for *Yodaya Shan Pyi* to mean, not the Shan States, but Siam.

No record regarding birthplace was made in areas in which the census was made only by estimate: such areas are therefore omitted from all the related tables and excluded from the purview of this chapter.

61. Statistics.—The primary statistics compiled from the entries in column 12 of the schedules are exhibited in Imperial Tables XIA and XIB. The former classifies by birthplace the population of the whole of each district except estimated areas and areas omitted entirely from the census; the latter classifies by birthplace the representatives of certain Indian races in selected districts of Burma. Imperial Tables VIB and XIII also have regard to the classification of certain classes according as they were born in or out of Burma; and in Part III of Imperial Table XXIIB workers in certain industrial establishments are similarly classified by birthplace. Subsidiary Table IV of Chapter I shows (with some qualifications) the immigrants and emigrants and the natural population of each district and natural division; Subsidiary Table IVB of Chapter II gives some abbreviated statistics for birthplaces of the normal civil populations of Rangoon and Mandalay. In addition six subsidiary tables are printed at the end of this chapter to show the following particulars:—

I.—Immigrants of each district or natural division classified by birthplace.

II.—Emigrants from each district or natural division to other parts of Burma.

III.—Proportions of migrants to the actual population of each district and the ratio of the sexes amongst them.

IV.—Migration between natural divisions—comparison between censuses of 1921 and 1911.

V.—Migration between Burma and other parts of India, 1921, with classification by sex.

VI.—Migration between Burma and other parts of India compared for 1911 and 1921.

In all these tables the district is the smallest unit by which birthplaces are differentiated, because it is a necessary result of the relevant instruction for enumerators, which was quoted in the preceding article, that no further differentiation could be made. To the Superintendent of Census Operations of each Indian province or state was sent a report of the number of persons born in each of its districts who were enumerated in Burma; but as there were only a few such districts for which the figures were large enough to be worth reproducing in the printed census tables, statistics are generally given in those only by whole provinces or states. Even for some provinces or states separate figures are given only for all enumerated in Burma, several being grouped together in one entry in the tabulation for separate districts of enumeration. For birthplaces within Burma more detailed figures are given. Part III of Imperial Table XIA shows the population of each district or other ordinary tabulation-unit classified in detail by the district (or other ordinary tabulation-unit) of birthplace. On the basis of Imperial Table XIA and some reports from other provinces mentioned in the next article, the Subsidiary Tables have been compiled. But while the figures in those for immigration are complete, those for emigration from the province as a whole are incomplete in the manner and degree noted in Article 62 below.

As statistics of the movement of population from one area to another all the records of migration (as defined in the first paragraph of this chapter) have limitations. They make no distinction between permanent and temporary migration, and place a casual journey to a regional market on the same footing as a permanent migration to the other end of the province. A casual visitor from a village near a district boundary to a neighbouring village of the next district, or a visitor at a pagoda-festival who comes from some place outside the district, is recorded as a migrant although another visitor at the same place who has come a longer journey entirely within one district is not. A person born in one district and taken by his parents while still an infant to another district, even if he remains in that home all his life, is treated as a migrant; but if administrative changes are made which extend the boundary of his birth-district to include his home he ceases to be a migrant. A person enumerated while travelling by train will become a migrant if enumerated outside his birth-district, although both ends of his journey may be within that district; it will make no difference whether he returns the following day or not; on the other hand he may be migrating permanently to a different district altogether, but he will be recorded as an immigrant of the district of enumeration, not of the district of his destination. Another example of an anomaly is given in the first paragraph of the chapter, and an endless series of others could be given. Many such anomalies are clearly exceptional cases which if they stood alone could be neglected; but their sum total makes the record of birthplaces a very confused record indeed if regarded as a record of changes of residence. The records for districts moreover are frequently unreliable even as records which compare only the district of enumeration and the district of birth, because, on account of numerous changes of district boundaries in Burma, it is so difficult for many people to know what is the district of their birth. For instance, to quote an illustration given by Mr. Morgan Webb in the Burma Census Report of 1911, a resident in a part of the Dedaye Township, who had never left the village of his birth, might report with truth that he was born in any one of the Rangoon, Thôngwa, Ma-ubin or Pyapôn Districts, his village having been included successively in each of these. There is thus an added reason for discounting the record of birthplaces in terms of districts. The records in fact are of little or no use in terms of districts except when very large numbers are shown; they are of real use only for streams of migration between the natural divisions of the province or similar broad areas and for migration to and from places outside the province.

Notes on certain figures in the Subsidiary Tables.

1. If the number of persons enumerated in district A who were born in that district is added to the corresponding number for district B, the total is not equal to the number of persons enumerated in A and B together and born in one or other of them, because it lacks the migrants between A and B. The total numbers of emigrants and of immigrants for the sum of the two districts are also of course different for a cognate reason from the

sum of the corresponding numbers for the two separate districts; this difference is however reduced to zero if the computation is restricted to migration to or from areas outside both districts. Consequently the figures given for natural divisions or for the province in columns 2, 3 4 of Subsidiary Tables I and II, the figures in the diagonals of large numbers in Subsidiary Table IV, and the actual numbers of migrants represented by the ratios in columns 2 and 5 of Subsidiary Table III of this chapter are not the sum of corresponding figures for the districts comprised by these natural divisions or the province; and similarly the figures for the province are not the sum of those for the natural divisions. In columns 5 to 10 of Subsidiary Tables I and II and in the actual numbers represented by the ratios in columns 3 and 4 and 6 to 11 of Subsidiary Table III of this chapter there is a similar difference due to a different reason; in these cases the meaning of the column-heading is not the same for any group of districts as for any member of that group.

2. For emigrants in Subsidiary Table III of this chapter and also in Subsidiary Table IV of Chapter I further differences are introduced by the exclusion from all figures, except those relating to the whole province or to Burman division, of emigrants to all places outside India and of emigrants to India born in districts other than Akyab, Rangoon, Mandalay, the Chin Hills or the Hill District of Arakan. It has been assumed that all emigrants born in unspecified districts were born in Burman division.

62. Restriction of the Emigration Statistics.—Marginal Table 1 shows the figures which are available with respect to persons in places outside India and Burma who reported in their respective censuses of 1921 that they were born in Burma. These figures have the two defects that they cannot be divided according to the districts of birth, and that they are restricted to so few places of enumeration. The census reports of the United Kingdom do not distinguish persons born in Burma from those born in other parts of India; and no figures are available in Burma at this moment for any other part of the world beside those shown in the margin. The United Kingdom is probably the most important omission, but Siam and China would also have considerable contributions to make. It is therefore impossible to give any figures for emigration from any one district of Burma to places outside India and Burma, or to give complete figures for emigration from Burma as a whole to such places. As the total number of persons born in Burma who were enumerated in other parts of India in 1921 was 19,086 and in 1911 was 13,353, the omissions are probably of significant magnitude for an attempt to discover the correct total of emigrants from Burma,—that is persons born in Burma who were residing or travelling outside Burma on the date of the Burma Census. But it is equally clear that they are of no significance in proportion to the total population of Burma, and that no serious error will result in any study of that total population from disregarding emigration beyond India and Burma altogether. Indeed a similar statement can be made quite safely for every district in Burma; those districts from which any considerable number of emigrants are likely to have gone beyond India have a large enough population for that number to be neglected. The truth of these statements is even more clear when it is remembered that the emigration of Indians ordinarily resident in Burma to places outside India is certainly small, and that there is almost no emigration of persons of indigenous races to places outside Burma; thus most of the omitted persons are children of foreigners, either from Europe or America or from China or Siam, who were residing in Burma only temporarily, so that in a sense Burma is only accidentally the country of birth of the children. Still more is it true for many of those born in Burma of European parentage that the particular district of birth is an accident, as their parents were apt to change their residence from one district to another.

1. Emigrants beyond India and Burma.

Place of Enumeration.	Born in Burma.		
	Persons.	Males.	Females.
Ceylon ...	76	66	10
Straits Settlements ...	97	57	40
Federated Malay States	976	885	91
Other Malay States ...	28	21	7
Union of South Africa ...	50	44	6
Southern Rhodesia ..	1	1	...
Kenya ...	1	...	1
Falkland Islands ...	1	1	...
Total ...	1,230	1,075	155

For emigration to India more complete records are available. The census staff of each other province or state compiled and sent to the Burma Census Office a statement of the number of persons which its records showed as born in each district of Burma, and the totals of these statements have been compiled in Subsidiary Tables V and VI of this chapter, which show the number of persons born in Burma and enumerated (at the time of the Burma Census) in all parts of British India and in all Indian states—that is in all India except French and

Portuguese territory, for which however the figures would not be large. Thus for the province as a whole the total number of emigrants to India is determined with close approximation ; making allowances for French and Portuguese India and for some names of birthplaces in Burma which the census officers in other parts of India were unable to identify, the numbers shown in Subsidiary Tables V and VI indicate something above 19,086 for this total, and 20,000 may be adopted as a complete estimate for it. But it is impossible to classify all these 20,000 persons according to the district in Burma in which they were born. It is true that the statements from which these figures were compiled purport to classify in that way the persons represented in them. But outside the Andaman Islands all except a very few of these persons were Indians ; and it does not require a very vivid imagination to picture Indian enumerators having some difficulty in recording the names of Burmese districts as spoken by them. The enumerators in Burma often produce extraordinary results when trying to record the names of districts in India as pronounced by Indians born in those districts : but they have the names pronounced correctly and make only the one transmutation in their efforts to find familiar approximations to the unfamiliar syllables, while the Burma-born Indian enumerated in India has already made a similar transmutation in giving the name of his birth-district to the Indian enumerator, who may be of a different race and almost certainly makes further changes if he takes the trouble to record the district. Frequently of course the difficulty is met by recording only " Burma." Moreover, a considerable number of the Indian emigrants from Burma are probably ignorant of the name of the district in which they were born. The enumeration-records having been made with these defects, the census tabulation offices proceed to deal with them. A list of the Burma districts was furnished to the census offices of all other provinces, and local names like Sittwe, Pathein, Myeik and Pyi were included in the list as well as the official names ; but nearly all the names would be foreign and unpronounceable for those using the lists, and it is not difficult to see that mistakes would be made in identifying the districts indicated in the enumeration-records and that the statistics based on them must be regarded critically.

The total numbers born in the several districts of Burma and enumerated in all the various provinces and states of India (except Burma) taken together are shown, as reported by the various census offices in India, in Marginal Table 2 ; and it will be seen that for nearly one-third of the emigrants the birth-districts could not be discovered at all. In the case of emigrants from Burma to Assam there are special circumstances which facilitate identification of the birth district, because of the total of 7,413 there were only 215 who did not declare they were born in one of the two districts adjacent to Assam (the Chin Hills and the Hill District of Arakan), for which no doubt there are local names perfectly intelligible to the census officers of Assam, who are accustomed to dealing with people of the same or closely related tribes and languages. In the case of the Andaman and Nicobar Islands too the statistics of Marginal Table 2 are fairly reliable because most of the persons concerned are convicts from Burma, many of whom are Burmese and could give the required information clearly ; but even here the birth-district was unspecified for one-fourth of the total. Moreover, even these figures require modification

2. Emigrants to India (Crude figures).

Birth district.	Total.	To the Andamans and Nicobars.	To other parts.
Akyab ...	422	...	422
Hill District of Arakan ...	299	119	180
Rangoon ...	3,239	423	2,816
Hanthawaddy ...	...	...	...
Insein ...	...	...	...
Pegu ...	177	157	20
Bassein ...	155	120	35
Pyapôn ...	1	...	1
Toungoo ...	48	36	12
Amherst ...	442	404	38
Minbu ...	59	56	3
Mandalay ...	812	157	655
Bhamo ...	95	1	94
Chin Hills ...	7,067	...	7,067
All other districts ...	196	59	137
Unspecified districts ...	6,074	528	5,546
Total ...	19,086	2,060	17,026

3. Emigrants to Assam (including Manipur).

Birth-district.	Males.	Females.
Chin Hills ...	3,456	3,610
Hill District of Arakan ...	64	68
Mandalay ...	32	22
Other specified districts ...	37	21
Unspecified ...	77	26
Total ...	3,666	3,747

in respect of 119 persons shown by the census office which dealt with the Andaman census as born in the Hill District of Arakan. This is true also of 48 persons similarly shown in the reports for other provinces or states apart from Assam. Very few of these 167 persons can have been born in the Hill District of Arakan; they must have given *Arakan* as their birth-place, using that term as it is so commonly used in the Arakan Division, to mean the eastern coast of the Bay of Bengal, which constituted the old kingdom and province of Arakan and is still not included in the term *Burma* in the ordinary conversation of its inhabitants. For most of the emigrants concerned *Arakan* doubtlessly means the Akyab District; it is therefore approximately correct to transfer the *Arakan* figures for all provinces except Assam to the Akyab district. As this special use of the term *Arakan* makes it improbable that any considerable part of the emigrants from "unspecified districts" hailed from Arakan, it may further be supposed that the total figures thus obtained for Akyab are approximately complete With these corrections also the figures for both the Hill District of Arakan and the Chin Hills represent emigrants to an adjacent area (the Chittagong district, Assam or Manipur) and are probably fairly correct for the reason given above in discussing emigration to Assam. If the figures obtained for these two districts and Akyab are excluded, and also those for emigrants to the Andamans, there is a balance of 9,357 emigrants, of whom 5,546 are from unspecified districts, and 3,811 from specified districts; while of the last number no less than 2,816 specified Rangoon and 655 Mandalay. When however it is observed that Hanthawaddy and Insein districts were not specified by any emigrants anywhere, and Pyapôn was returned by only one, while Bhamo is credited with 94, it is difficult to accept even these figures. The figures for Bhamo cannot possibly be accepted, but must be transferred to "Unspecified district." It is known that Thatôn and Thayetmyo were confused at first in the records for the Andaman Islands, this mistake being put right later; and it is quite likely that the report of 12 emigrants born in the Salween district is due to a confusion of Papun (the headquarters town of that district) and Pyapôn; Bhamo too may possibly owe some of its figures to its very antithesis Pyapôn. A little special consideration must be given to the large figures shown for Rangoon, amounting to over 2 per cent of the natural population of that town. The total number of Indian females in the province is about 233 thousands, of whom 31 thousands were enumerated in Rangoon; if it were assumed that of the children born to Indian women in different parts of the province a uniform proportion would be found amongst the emigrants to India, Rangoon ought to be represented by about 2,250 emigrants to other places than the Andamans. As persons born and reared in Rangoon are more likely to face a journey to India than those of rural parts, and as the proportion of the Indian women of the province who were living in Rangoon was probably larger in the past than at present (because they would probably be slower than men to venture further afield) it is reasonable to expect Rangoon to provide a slightly larger share than this; thus the recorded figure is probably of the correct order of magnitude. The lack of any returns for the Hanthawaddy and Insein districts is a reminder that the headquarters offices of the Hanthawaddy district have always been in Rangoon, and until 1910 the greater part of the Insein district was included in the Hanthawaddy district which thus entirely surrounded Rangoon. At present too a large Indian population lives along the road which connects Insein town with Rangoon, and most of them probably would associate themselves with Rangoon if they went to India and were asked about their residence. Probably therefore some of the figures shown for Rangoon really belong to the Hanthawaddy or Insein district. Probably also Rangoon has been recorded for other districts reached from India through Rangoon. On the other hand, although it seems likely that persons born in Rangoon would generally state that correctly to the enumerator, and that in many cases so well-known a name would be recorded correctly, it is still probable that some of the emigrants with unspecified birth-districts belonged to Rangoon. These errors have opposite effects on the recorded figures, which, it has already been noted, are probably of the right magnitude; thus it may fairly be assumed that the net error of adopting the recorded figures for Rangoon would probably not be large and would certainly be less than the error of ignoring them. The recorded figures for Rangoon may therefore be adopted. Similarly for Mandalay, which is a name well enough known to be returned and recorded correctly in many cases, but may also have been wrongly recorded for other places in Upper Burma, and would reasonably be expected to provide something more than 540 of the

emigrants to places other than the Andamans, so that the recorded figures are probably of the right magnitude. Adopting the recorded figures for Rangoon and Mandalay as well as the figures already adopted for the Akyab and Chin Hills districts and the Hill District of Arakan, there remain 5,886 emigrants to other places than the Andamans, and for only 246 of these is the district of birth specified. It is therefore clear that no use can be made of the figures for specified districts, and that Marginal Table 4 gives all that can be accepted with any confidence for emigration to India as a whole.

4. Emigrants to India (Revised figures).

Birth-district.	Persons.	Males.	Females.
Akyab ...	589	452	137
Hill District of Arakan	132	64	68
Chin Hills ...	7,067	3,457	3,610
Rangoon ...	3,239	1,794	1,445
Mandalay ...	812	537	275
Unspecified districts ...	7,247	4,704	2,543
Total ..	19,086	11,208	7,878

63. Emigration to India.—The number of persons born in Burma and enumerated in India at successive censuses has been 9,460 in 1901, 13,353 in 1911, 19,086 in 1921. These numbers include convicts from Burma incarcerated in jails in India. Excluding the emigrants in the Andamans, and so excluding most convicts and all those of indigenous races, the numbers for 1911 and 1921 respectively are 11,634 and 17,026; and the increase is 5,392 or 32 per cent. It is known that very few persons of the indigenous races of Burma ever migrate to India; these figures for emigration to other parts than the Andamans, although they possibly include a few Anglo-Indians and persons of other races, may be taken as representing Indians born in Burma, and chiefly the off-spring of Indian parents temporarily resident in Burma at some time.

64. Natural Population and total of Emigrants.—The natural population of Burma, that is the total of living persons who were born in Burma, is distributed about the world in the manner shown in Marginal Table 5. The entry given there for Burma however includes 21,453 males and 21,640 females in the areas in which the census was by estimate; no record of their birth-places was made, but it is assumed that approximately all of them were born in Burma and they have been added accordingly to the total of 12,462,350 born in Burma who are shown in Imperial Table XIA. The total number of emigrants indicated by Marginal Table 5 is 20,316; but this is incomplete in the ways described in Article 62 above. In Marginal Table 7 of Chapter I this figure was used however with estimates for the corresponding figures of 1911 and 1901. Subsidiary Table IV of Chapter I gives statistics for the natural population by districts and natural divisions.

5. Natural Population of Burma.

Place of Enumeration.	Persons.	Males.	Females.
Burma	12,505,443	6,170,102	6,335,341
British India	16,721	10,024	6,697
Indian States	2,365	1,184	1,181
French and Portuguese India	?	?	?
Places outside India shown in Article 62 ..	1,230	1,075	155
Other places	?	?	?
Nearly complete total natural population	12,525,759	6,182,385	6,343,374

65. Sources of Immigrants.—The relative numerical importance of the principal sources of the immigrants enumerated in the province at the time of the census is shown by Marginal Table 6, in which the figures represent nearest whole thousands of persons. The first line of figures shows the numbers born in Burma as a standard for comparison. India and China stand in a class apart but the figures for both are affected by the selection of a date in March for the census. In the case of the Chinese this affect is an exaggeration which is probably almost confined to the Northern Shan States in which a birth-place in China was recorded for 24,514 persons; the exaggeration cannot exceed 10 and probably does not reach 5 thousands. There is possibly an exaggeration of another kind because many of the Chinese in Burma consider that no birth-place elsewhere is so respectable as one in China, and it is probable that some have reported China as

their birth-place who were really born in Burma or round about the Malay Peninsula; but the number of these cannot be such as to alter Marginal Table 6 significantly and it may accordingly be neglected. For the number born in India the matter is different. The Rangoon Port Authorities divide the Indian ports chiefly concerned with Indian passenger traffic into three groups under the titles Calcutta, Madras and Coromandel; and their returns show that while the traffic from Burma to Calcutta fluctuates comparatively little during the year, the arrivals from Calcutta and both the arrivals from and departures for Madras and Coromandel are seasonal and fluctuate widely. The number of passengers by ocean steamers alone (besides persons entering Akyab district from Chittagong by road and river) who travel between Burma and India is about 300,000 per annum in each direction, and large seasonal fluctuations in so large a traffic would obviously affect significantly the total of 573,000 immigrants from India shown in Marginal Table 6. Taking all the Indian ports together however, and considering the traffic in both directions, it appears that in April and more slowly in May and still more slowly in June, July and August the number of Indians in Burma is decreasing. In September to December come large increases; but while January and March also see many arrivals from Calcutta, the large numbers of departures, for Calcutta, Madras and Coromandel alike, so bring down the number left in Burma in March that that month is now the most fairly representative time of the year for the census of Indians in Burma, although it was not so at earlier censuses. But even if the census were taken in August when the number of Indians is at or near its lowest, the number of Indian immigrants shown in Marginal Table 6, would still be about 500 thousand, and India would thus still be shown in Marginal Table 6 as the birth-place of roughly 80 per cent of the foreign-born in Burma, with China in the second place with only one-fifth as many, and all other birth-places making up only 5 per cent between them.

6. Birthplaces (by nearest whole thousands).

Birth-places.	Natural Division of Enumeration.		
	Province.	Burman.	Chin, Salween and Shan.
Burma	12,462	10,840	1,622
India	573	560	13
China	102	74	28
Nepal	14	10	4
Siam	8	3	4
Europe, etc.*	7	7	...
Elsewhere	3	3	...
Total ...	13,169	11,497	1,672

* The small figures due to America and Australasia have been added to those for Europe here.

NOTE.—This table omits the population of the estimated areas for which no record of birth-places was made; probably most of the population of these—7,685 in Burman and 88,857 elsewhere—was born in the province, but there may be immigrants from China in the latter figure and a few from India in the former.

For the Burman division the order of importance of the various sources of immigrants is the same as for the province save that Siam takes a place below Europe. The relative importance of India is however even greater than for the province as a whole, as for Burman it supplies about 85 per cent of the foreign-born population; while the share of China is reduced to about 10 per cent. In the column of Marginal Table 6 for Chin, Salween and Shan together, Shan is the most important contributor to every entry; for birthplaces outside Burma the principal contribution of China is 1·5 thousands born in India, and the principal contributions of Salween are 1 thousand born in India and 2 thousands born in Siam.

The change from the conditions of 1911 which these figures imply is shown approximately by Marginal Table 7. Here there is an omission of fifty-nine thousand persons for whom no record of birthplace was made in 1911; but remarks similar to those in the note below Marginal Table 6 apply in this case too, and the figures deduced for the increases of immigrants from places outside Burma are substantially correct for the whole province. India shows much the largest absolute increase and there is not yet any question of its

7. Immigrants in 1921 and 1911 (Nearest whole thousands).

Birth-place.	1921.	1911.	Increase.	
			Absolute.	Per cent.
India	573	494	79	16
China	102	75	27	36
Nepal	14	6	8	129
Siam	8	4	4	91
Europe, etc. ...	7	9	−2	−18
Elsewhere	3	3	...	8
Total Immigrants ...	707	591	116	16
Total Burma-born population.	12,462	11,524	938	8

position as the largest contributor to the immigrant population being challenged even by China, for which however the figures are striking. Nepal and Siam both show a higher percentage increase, but China shows a 36 per cent increase upon an already large number. The increase for Nepal too is due in part to the employment of more Gurkha soldiers, and largely to the number of them who are settling down near Maymyo and in the Myitkyina district and the Shan States; but the latter class are not numerous enough to have any influence upon the life of the province.

For Siam it is interesting to tabulate the districts of enumeration and to note the reductions in Pegu, Toungoo and Thatôn districts and the large increases in Mergui and in the Shan States and Karenni. Amherst district shows a moderate increase; but Tavoy district, although it separates Amherst from Mergui which has so large an increase, seems to have little attraction for immigrants from Siam, as it had only 15 of them in 1911 and 40 in 1921.

8. Immigrants from Siam.

District of enumeration.	1921.	1911.
Pegu	45	76
Toungoo	168	245
Salween	953	59
Thatôn	87	557
Amherst	1,899	1,636
Mergui	1,008	187
Southern Shan States ...	2,226	1,157
Karenni	1,080	
Others	179	78
Total ...	7,645	3,995

The number of immigrants from Europe decreased by 1,784 from 8,337 at the census of 1911 to 6,553 at that of 1921. Most of this decrease is due to a decrease of the British garrison. Exact figures for this are not available either for 1911 or for 1921; but the military department has furnished figures which, though incomplete by the omission of women and children and only approximate for the men, are still better than nothing. If these figures are adopted, and, on the approximately correct assumption that all in British regiments were born in the United Kingdom, are deducted from the census figures for birthplaces, the result is that shown in Marginal Table 9. The decline since 1911 is now reduced to 672; and, as the omission of women and children from the military figures is probably a little greater for 1911 than for 1921, this number is probably excessive. To it Germany contributes 201 and Austria 137, clearly as a result of the treatment of enemy subjects inaugurated during the war. Immigrants from some other countries also doubtlessly went away in many cases for reasons connected with the war or with post-war trade conditions. Some of the smaller numbers recorded for various countries are accidents of the particular ships that happened to reach ports in Burma within fifteen days of the census dates, and post-war trade conditions would have an effect here too. Details for immigrants from the separate countries of Great Britain and Ireland are given in Marginal Table 10 with rough deductions for the military population according to the figures supplied by the military authorities and on the assumption that the numbers born in Ireland and in Great Britain were respectively proportional to the number of the Irish regiment and the number of the English, Scotch and Border regiments. The resulting figures after this correction are altogether more reasonable; but the assumption as to birthplaces is not entirely justifiable, and it would be still more risky to obtain separate figures for England and Scotland by assuming that the numbers born in England and Scotland were proportional to the numbers in English and Scotch regiments.

9. Immigrants from Europe, excluding the Army.

Birthplaces of Europe.	1921.	1911.
United Kingdom ...	4,309	4,454
France	204	211
Germany	13	214
Austria-Hungary ...	...	137
Others	239	421
Total ...	4,765	5,437

10. Immigrants from the United Kingdom.

Country.	Crude figures.		With estimated military correction.	
	1921.	1911.	1921.	1911.
England and Wales ...	4,211	5,105	3,954	4,145
Scotland	1,531	1,040		
Ireland	355	1,209	355	309
Total ...	6,097	7,354	4,309	4,454

66. Immigrants from India.—Subsidiary Tables V and VI of this Chapter are specially devoted to the study of migration to and from India, and in Marginal Table 11 figures are extracted from them and the corresponding tables of the census reports of 1901 and 1911. The increases shown are the net result of further immigration, and of the return to India of some and the deaths of other immigrants who were counted as such in the earlier census.

11.—Immigrants from India (nearest whole thousands in first 5 lines.)

Immigrants.		In all Burma.			In Near Districts.			In Distant Districts.		
		Persons.	Males.	Females.	Persons.	Males.	Females.	Persons.	Males.	Females.
Total	1921	573	487	86	56	47	9	517	440	77
	1911	494	423	71	50	44	6	444	379	65
	1901	416	354	62	80	63	17	336	291	45
Absolute increase	1911-21	79	64	15	6	3	3	73	61	12
	1901-11	78	69	9	—30	—19	—11	108	88	20
Increase per cent.	1911-21	16	15	21	11	6	52	17	16	19
	1901-11	19	20	14	—37	—30	—66	32	30	43

The increases thus represent the net increases in the India-born portion of the population, and consist almost entirely of Indians. For the whole province the absolute number of the total increase in the last decade exceeds that of the increase in the preceding decade by a trifle of about one and a half per cent and is equal to only 16 instead of 19 per cent of the number of immigrants from India at the beginning of the decade; but the distribution of the increase between the sexes has changed much more. For the whole province the number of females born in India has grown proportionally half as fast again as in the previous decade while the increase of males is proportionally only three-quarters as large. These figures wear a somewhat different aspect if the province is divided into "Near Districts" and "Distant Districts" as in Article 165 of Chapter XI, and separate figures are calculated for the two parts as is done in the middle and right-hand sections of Marginal Table 11. The Near Districts are the four districts of Arakan Division and the Upper Chindwin and Chin Hills districts, into which numbers of Indians can and do filter across a land boundary; the Distant Districts are those which Indian immigrants only reach by a sea-journey and form that part of the province in which Indian immigration is a matter of particular interest. In the near districts the number of immigrants recorded is largely an accident of the date of the census, and the decrease in the decade 1901-11 may have been due solely to the census of 1901 taking place at such an early date as the 1st March.* But the changes in the date of the census have had proportionally little effect upon the numbers of Indian immigrants in the distant districts, where the rate of their increase has been only about one-half in the last decade of what it was in the former, and the falling off in this rate for females has been proportionally the greater.

67. Migration between Burma and Indian Provinces and Districts.—Marginal Table 12 exhibits figures extracted from Subsidiary Tables V and VI of this Chapter to show the numbers of immigrants to Burma from each Indian province from which large numbers come; it also shows for each province in 1921 and 1911 the excess of the number born in that province and enumerated in Burma over the number born in Burma and enumerated in that province, that is the net excess of immigrants over emigrants. Whether the total immigrants or the net excess of immigrants over emigrants is considered Madras, Bengal and the United Provinces supply much larger numbers than any other province; Bihar and Orissa, the Punjab and Bombay form a trio of the second magnitude and the

12. Immigrants from India (nearest whole thousand).

Province.	Total, 1921.	Net.		Net Females, 1921.
		1921.	1911.	
Madras ...	273	271	245	46
Bengal ...	146	144	*	15
United Provinces ...	71	69	49	8
Bihar and Orissa ...	20	20	*	3
Punjab and Delhi ...	21	19	14	3
Bombay ...	13	12	12	2
Assam ...	2	—5	*	—3
Andamans ...	...	—2	—1	...
States and Agencies ...	17	14	8	2
Others and unspecified	11	11	4	2
Total ...	573	553	481	78

* For 1911 the figures for Assam, Bengal and Bihar and Orissa combined were 189 thousands.

* See also the paragraph on *Akyab* at the end of Article 164 of Chapter XI.

other provinces are negligible. For every province, except Assam and the Andamans and a few cases where such small numbers are concerned that the net figure is an accident of the particular year of the census or is of no importance, the figures for immigration to Burma exceed those for emigration from Burma. The figures for Assam are explained by a migration from the Chin Hills district in 1920-21 and the previous years when conditions there were disturbed by a rebellion and a punitive expedition; the figures of the Andamans represent the excess of convicts sent to the penal settlement over those returning. Comparing with 1911 the Punjab is the only large province showing a decrease; and as the unspecified figures for 1911 were so much less than those for 1921 (2,114 against 8,419), there is some doubt about the actual change in such a case. Madras, the United Provinces and the combination of Bengal, Assam, Bihar and Orissa all show large increases. The Indian states and agencies also show a comparatively large increase chiefly arising in the Bombay States and Rajputana Agency. If female immigrants alone are considered the order of importance is not changed, but the share of Madras is proportionally greater; that province furnished 49 per cent of all net immigrants and 59 per cent of all net female immigrants recorded in the census.

Detailed statements of the districts in each province in India in which immigrants recorded in the census of Burma were born are given in Part I and in section 2 of Part II of Imperial Table XIA. Part I gives details showing for every district of enumeration the number born in each of four districts in Bengal, seven in Madras, three in Bihar and Orissa and four in the United Provinces. These eighteen districts supplied no less than 305,418 or 53 per cent of the grand total of 572,530 immigrants from India, and probably supplied a considerable proportion of the large number, roughly 170,000 for whom the district of birth could not be identified; while all other districts and states of India together supplied only about 100,000 besides their share of the 170,000. The most important single districts are shown in the margin with the nearest number of whole thousands of immigrants corresponding; these nine alone supply one-half the total of all the immigrants from India and 57 per cent of all those for whom the district of birth could be identified. For Calcutta the figures have probably been exaggerated, because when Burman enumerators failed to understand the district-names given by some immigrants, but were told something of the route travelled, they probably seized for their record upon the one familiar name of Calcutta which came into the narrative. Further consideration is given to this possibility in the next article.

Chittagong	...	88
Ganjam	...	49
Vizagapatam	...	36
Godaveri	...	26
Fyzabad	...	18
Tanjore	...	14
Ramnad	...	13
Sultanpur	...	12
Calcutta	...	11
Total	...	268

68. Religion and Race of Immigrants from India.—The 573 thousands of immigrants from India are classified by religion in Marginal Table 13 which shows also the marked defect of women amongst them. The Indian Animists number only 4,254 males and 874 females, and are added to the Hindus in both Marginal Tables 13 and 14 because they are in fact the same kind of people. Amongst Hindus and Animists and amongst Mahomedans the principal races of the immigrants are shown in Marginal Table 14. In that table the people known in Burma as Coringhis and Chulias are included as Telugus and as Mahomedan Tamils respectively. The figures for Punjabis do not include Sikhs; the number of Punjabi Sikhs born out of Burma is not precisely known, but there are figures which show that the total number of Punjabi immigrants other than Mahomedans must be a little over 9,000 males and 2,000 females. The meanings of the other racial description are probably clear enough, and the substitution of these racial classes for castes is discussed in Chapter XI.

13.* Sex and Religion of Immigrants from India (nearest whole thousands).

Religion.	Persons.	Males.	Females.	Females per 100 males.
Hindus and Animists	392	330	62	19
Sikhs, Aryas and Brahmos.	5	4	1	23
Mahomedans ...	163	146	17	12
Others ...	12	7	5	76
Total ...	573	487	86	18

* Marginal Tables 13 and 14 have both been prepared on the assumption that all Indians and Kathis of Peoples VIII and X in Appendix A to Imperial Table XX were born in India, the entries for *Others* in Marginal Table 13 being calculated to give the correct totals according to Imperial Table XI. The error due to assuming that all Indians of the religions specified in Marginal Table 13 born outside Burma were born in India is negligible, especially for a table showing only nearest whole thousands. Marginal Table 14 cannot be derived from published figures.

In Imperial Table XIB is presented for the first time a statement of the birthplaces of persons of each of the six races which are most numerous among the immigrants. There were various difficulties in compiling the table, and as will appear from the following notes some of its figures at least must be taken as only rough approximations to the truth. For Hindustanis separately, only birth-districts in the United Provinces have been tabulated, Fyzabad and Sultanpur heading the list. There is however some uncertainty attaching to the figures for Hindustanis owing to the probable confusion of Hindu religion Hindustani race and Hindustani language by enumerators. Thus the provinces of Bengal and Madras are each shown as the birthplace of about 11,000 Hindustanis. For persons born in Calcutta Imperial Table XIA shows a total of 11,000; while Imperial Table XIB shows that only 3,000 of these were Bengalis or Chittagonians. Probably most of the remaining 8,000 were shown as Hindustanis; and it is impossible to say what proportion were people from the United Provinces stating their port of departure from India in mistake for their birth-district. Any error due to confusion between *Hindu* and *Hindustani* must affect also the figures for other races; but as it is shared by them it is not so serious as for the Hindustanis. For Tamils the figures are again unsatisfactory because for over one-half of them the district of birth could not be identified; it is rather striking that for Telugus this failure was much less pronounced. So far as the figures for Tamils go Ramnad and Tanjore are the principal districts of origin. Telugus hail chiefly from the Ganjam, Godaveri and Vizagapatam districts and on a much smaller scale from Kistna. It is noteworthy that of the three principal districts, Ganjam while it sends most males sends fewest females; Vizagapatam is easily first for females. Ganjam besides providing the largest number of Telugus—one quarter of the whole—provides also two-thirds of the Oriyas and thus provides more immigrants than any other Indian district except Chittagong which is adjacent to Burma and involves a much smaller journey. Of the 89,000 Bengali and Chittagonian immigrants from Bengal 70,000 come from the Chittagong district, and no other single district makes a large contribution.

14.* Sex and Race of Hindu or Animist and of Mahomedan Immigrants from India (nearest whole thousands).

Race.	Hindus and Animists.		Mahomedans.	
	Males.	Females.	Males.	Females.
Bengali ...	11	2	33	3
Bihari ...	3	2	...	...
Chittagonian ...	5	...	50	4
Gurkha ...	12	4	...	...
Hindustani ...	70	11	90	3
Oriya ...	47	1	1	...
Punjabi ...	6	1	5	1
Tamil ...	49	19	16	3
Telugu ...	115	18	2	...
Others ...	13	3	20	3
Total ...	330	62	146	17

* *See* note under Marginal Table 13.

15. Males and females amongst Telugus from the principal sources.

District.	Males.	Females.
Ganjam ...	21,907	1,366
Godaveri ...	18,539	2,576
Vizagapatam	21,113	4,175

Variations in the number of immigrants of each race or religion are not discussed as figures for earlier censuses are not available.

69. Sex and age amongst immigrant Indians.—The figures of Marginal Table 14 show at a glance the abnormal disparity of the sexes among the immigrant Indians of Burma. Marginal Table 16 shows their age-distribution in two ways in comparison with the age-distribution of all Hindus and Mahomedans in India in 1911. The lines of the table for which *Burma* is shown in column 3 relate to Hindu or Mahomedan males or females, as the case may be, born outside Burma but enumerated

16. Age-distribution of Immigrant Hindus and Mahomedans in Burma in 1921 compared with all in India in 1911.

Religion.	Sex.	Place of Enumeration.	Age-distribution per 10,000.				Proportion to 1,000 of age 20 to 40.	
			0—20.	20—40.	40—60.	60 and over.	40 to 60.	60 and over.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Hindu	Males ...	India	4,031	3,218	1,973	480	540	149
		Burma	1,356	6,331	2,002	309	316	48
	Females	India	4,509	3,276	1,642	573	501	174
		Burma	8,303	5,454	1,779	461	326	84
Mahomedan.	Males ...	India	4,964	3,047	1,493	496	489	162
		Burma	1,408	6,212	1,941	436	312	70
	Females	India	4,985	3,123	1,395	497	445	159
		Burma	2,048	4,587	2,035	728	443	158

in Burma on the 18th March 1921; no Burma Moslems are included in these and very few indeed of non-Indians*. In each line columns 4 to 7 of the table show, for the class to which the line relates, the proportional distribution of 10,000 persons in the four age-groups. The general defect of persons under 20 and over 60 in the Burma lines is to be expected; but there is a curious exception to this in the Mahomedan females over 60 who are proportionally nearly 50 per cent more numerous in Burma. If however the table is transformed as in columns 8 and 9 to show the proportion of persons aged 40 to 60 or aged over 60 to 1,000 of age-group 20 to 40, it is seen that for ages over 20 the age-distribution of immigrant Mahomedan females in Burma is, for these wide age-groups, the same as for all Mahomedan females in India. Attention will be called in Chapter V to the fallacies which may arise from the use of wide age-groups; but for the other classes than Mahomedan females in Marginal Table 16 the differences between the India and Burma lines are too great to be due to this. For Mahomedan females Marginal Table 17 gives by small age-groups details of the figures in columns 8 and 9 of Marginal Table 16, the columns marked I and B relating to the *India* and *Burma* lines respectively of the latter table. The figures of column B therefore may again be taken to represent Indian immigrants alone. In the upper part of Marginal Table 17 the figures have been considerably affected by errors in stating ages and particularly by the tendency to give the age as a whole multiple of ten; the effect of this tendency is removed by using the age-groups shown in the lower part of the table. The similarity of the two columns there may possibly represent a similar average mortality in India and in Burma for Mahomedan females over age 35; but the evidence is insufficient, and it is difficult to understand why the indications for Mahomedan males in columns 8 and 9 of Marginal Table 16 should be so different from those for females.

17. Mahomedan females.

Age.	I.	B.
20—25	296	309
25—30	290	294
30—35	253	281
35—40	161	156
40—45	183	181
45—50	95	80
50—55	137	140
55—60	42	42
60—65	86	85
65 and over	73	73
25—35	543	575
35—45	344	337
45—55	222	220
55—65	128	127
65 and over	73	73

70. Permanent and Temporary Immigration of Indians.—No more for Indians than for others is there in general any distinction in the record between those who have come to Burma to stay as permanent residents and those who have only come for a short season or for a limited number of years. An attempt was made to draw such a distinction in the Special Industrial Census, and a tabulation of the results is given as Part III of Imperial Table XXIIB. The figures relate to labourers employed in the principal industries relating to rubber, minerals, wood, metals, rice, oil-refining and the construction of means of transport. Of 62,498 male Indian labourers born outside Burma and engaged in these industries only 2,598 or 4 per cent reported that they intended to spend the rest of their lives in Burma. It is unfortunately impossible to hazard any opinion whether the same percentage would hold good of Indians employed in agriculture or in trade or in other industries not included in the tabulation.

71. Migration within Burma.—Statistics of immigration from and emigration to other parts of Burma are given for each district and natural division in Subsidiary Tables I and II of this chapter; but as explained in Article 61 the figures given in Subsidiary Table IV, in which each natural division or sub-division is treated as a unit area, are more reliable. At the date on which the synchronous census was held the annual temporary migration from Centre to assist in the cultivation of Delta and the reaping of its harvest would in any case have had little effect upon the figures, as the greater number of such migrants would by that time have returned to their homes. But this temporary migration has greatly fallen off in recent years. The conditions in Centre have been improved by irrigation and the introduction of the ground-nut crop and by the improvement of communications which has led to the receipt by cultivators of higher prices for their produce; on the other hand the population of Delta has grown and there is no longer the same demand as before for temporary immigration. In the districts close to Rangoon (that is Pegu, Insein, Hanthawaddy, Pyapôn) the Indian immigrants

* The statements for Peoples VIII and X in Appendix A of Imperial Table XX show the figures, save that People X includes 6,425 Indian Animists who are not included in Marginal Table 16.

go out in large groups to reap the paddy, disposing of each holding in a few days; and many people have the idea that this practice is universal in Delta. It extends a short way beyond the districts mentioned and is found near Bassein and Moulmein; but generally the reaping problem is solved in a different way. The conditions of water-supply and flooding commonly demand the use of different varieties of rice sown at different times for different parts of each holding; the selection is so made that various parts ripen successively and permit a small number of labourers to complete the harvest in a long period. In some extreme cases in Myaungmya district reaping goes on for three months in holdings of a size which would be disposed of in three or four days in the Hanthawaddy district with its Indian reaping-gangs. This difference of practice is of importance in the problem of improving the strain of paddy grown; meanwhile it makes the labour-supply of Delta so nearly sufficient that there is little attraction now for men from Centre, and the Season and Crop Reports of the last few years have accordingly remarked on the decrease of the migration. Another factor has probably been the fall in purchasing power. The cultivators of Delta have been getting apparently high prices for their harvest, but these have not conferred the same purchasing power as did considerably lower prices before the war; there has consequently been less attraction to Upper Burmans to bring cattle and goods to Lower Burma for sale. The reduction in the numbers of these would have some effect on the figures of Subsidiary Table IV; but for the most part that table represents persons who have moved permanently from one division to another.

The most noteworthy figures of Subsidiary Table IV are for the migration from Centre to Delta. Formerly the movement of people from Centre to Delta to colonise the uncultivated areas of the latter was one of the features of the province. But in recent years, while the conditions in Centre have been improving, the supply in Delta of good land culturable without large capital expenditure has come almost to an end. There is no question of former migrants from Centre to Delta returning to Centre; the steady diminution in their numbers is due to deaths; and as a large proportion must now be at age 50 or more, their number may be expected to diminish still more rapidly during the decade 1921-31. Persons born in North and enumerated in Centre were unusually numerous in 1911; there were only three thousand such in 1901 and a return has been made to the same figure in 1921. The abnormal part of the figures of 1911 was due to 18,613 persons born in the Upper Chindwin district and enumerated in the Lower Chindwin district; some temporary scarcity in the former district may have been the cause of this. A small increase from 25 to 30 thousands is shown in the number born in Coast and enumerated in Delta, and represents the movement of small numbers of Arakan people along the sea-coast southwards from Kyaukpyu and Sandoway and then eastwards to the Delta. These migrants are shown in Imperial Table XIII as Arakanese, but they are probably Yanbye of Ramree island wrongly described as Arakanese because this term is generally used outside Arakan to cover all who come from that division.

Thousands of Migrants from Centre to Delta.	
1921 ..	239
1911 ...	312
1901 ...	385

SUBSIDIARY TABLE I.—*Immigrants of each district or natural division classified by birthplace.*

(All numbers given in this table are nearest whole thousands.)

Natural Division or District in which ENUMERATED.	BORN IN																	
	The area shown in column 1.			Districts of Burma contiguous to the area shown in column 1.*			Other parts of Burma not shown in columns 2 to 7.			Assam, Bengal, Madras or associated States.			Other parts of India not shown in columns 2 to 13.			Places outside India.		
	Persons.	Males.	Females.	Persons.	Males.	Females.	Persons.	Males.	Females.	Persons.	Males.	Females.	Persons.	Males.	Females.	Persons.	Males.	Females.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Province —	12,505	6,170	6,335	...	...	...	...	...	...	402	338	64	150	108	42	134	100	34
Burman ...	10,819	5,317	5,490	99	36	63	...	...	...	417	354	63	143	101	41	97	75	22
Delta ...	*2,095*	*2,034*	*2,061*	*110*	*34*	*45*	*185*	*108*	*77*	*209*	*152*	*46*	*95*	*80*	*14*	*48*	*38*	*9*
Rangoon ...	110	53	57	8	5	4	36	21	15	127	108	19	40	35	5	19	15	5
Insein ...	221	110	111	26	14	12	20	11	9	16	13	3	8	7	1	3	3	...
Hanthawaddy	280	144	145	10	6	4	16	11	6	42	33	8	5	5	...	3	3	...
Tharrawaddy ...	430	208	222	11	17	14	19	11	8	7	6	1	4	3	1	2	1	...
Pegu ...	321	160	161	43	22	21	44	28	16	36	21	6	8	5	3	4	3	1
Bassein ...	438	216	222	18	10	8	11	7	4	14	13	1	5	5	...	2	2	...
Henzada ...	519	252	266	9	5	4	13	8	6	7	6	1	2	2	...	1	1	...
Myaungmya ...	287	142	145	28	15	13	34	20	14	13	12	1	4	4	...	4	3	...
Ma-ubin ...	285	140	145	16	8	8	18	10	9	8	7	1	2	2	...	2	2	...
Pyapón ...	196	98	98	23	13	10	47	27	20	17	14	3	3	3	...	2	2	...
Toungoo ...	300	149	152	31	16	14	30	16	14	7	6	1	11	8	3	2	2	...
Thatón ...	452	238	214	21	6	5	7	4	3	18	15	3	3	3	...	2	2	...
Coast ...	*1,481*	*743*	*740*	*8*	*5*	*3*	*6*	*4*	*2*	*77*	*67*	*10*	*10*	*9*	*1*	*13*	*11*	*2*
Akyab ...	523	264	258	4	3	1	1	1	...	45	39	7	3	2	...	1	1	...
Kyaukpyu ...	196	94	102	2	1	1	...	...	...	2	2	...	...	...	...	...	...	...
Sandoway ...	108	52	56	2	2	...	...	...	...	1	1	...	...	...	...	...	...	...
Amherst ...	277	141	136	7	4	3	5	3	2	20	18	2	3	2	1	2	2	...
Tavoy ...	148	73	74	1	1	...	2	1	1	2	2	...	1	1	...	2	2	...
Mergui ...	121	61	60	1	1	...	1	1	...	6	6	...	1	1	...	1	1	...
Centre ...	*4,291*	*2,053*	*2,238*	*13*	*7*	*5*	*26*	*15*	*11*	*35*	*30*	*5*	*30*	*26*	*5*	*10*	*8*	*2*
Prome ...	348	167	181	10	5	5	3	1	2	5	4	1	2	2	...	1	1	...
Thayetmyo ...	248	120	128	3	2	1	1	1	...	1	1	...	1	1	...	...	...	...
Pakôkku ...	454	216	237	0	0	0	2	1	1	1	1	...	1	1	...	...	...	...
Minbu ...	253	124	131	12	6	6	4	2	2	1	1	...	1	1	...	...	...	...
Magwe ...	308	159	304	13	8	5	4	2	2	6	6	...	3	3	...	1	1	...
Mandalay ...	308	145	157	13	7	7	14	9	5	11	9	2	11	9	2	5	4	1
Shwebo ...	272	133	139	13	7	6	3	2	1	1	1	...	2	1	...	...	...	...
Sagaing ...	313	148	165	9	4	5	3	2	1	1	1	...	1	1	...	...	...	...
Lower Chindwin	228	153	125	2	1	1	1	1	1	1	1	...	1	1	...	...	...	...
Kyaukse ...	126	61	65	14	7	7	3	1	1	1	1	...	1	...	...	...	...	...
Meiktila ...	279	130	149	3	1	2	2	1	1	1	1	...	2	1	...	1	...	...
Yamèthin ...	288	140	149	20	11	9	7	4	3	3	4	1	3	2	1	1	1	...
Myingyan ...	438	208	229	3	2	1	2	2	1	1	1	...	1	1	...	...	...	...
North ...	*605*	*298*	*307*	*29*	*17*	*12*	*6*	*4*	*2*	*6*	*5*	*1*	*7*	*6*	*1*	*20*	*17*	*3*
Bhamo ...	93	48	46	3	2	1	2	1	1	...	...	...	2	2	...	11	6	5
Myitkyina ...	88	47	44	14	8	6	6	4	2	1	1	...	2	2	...	9	6	3
Katha ...	226	111	115	13	8	6	6	4	2	2	2	...	2	1	1	4	3	1
Putao ...	6	3	3	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...
Upper Chindwin	171	84	87	10	6	4	1	1	...	2	1	1	1	1	...	1	1	...
Chin ...	157	77	80	1	...	...	...	...	...	1	...	...	1	1	...	1	...	...
H. D. of Arakan	20	10	10	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Chin Hills ...	109	53	56	...	...	...	...	...	...	...	...	...	1	1	...	...	...	...
Pakôkku Hill Tracts.	28	14	13	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Salween ...	107	52	54	1	1	1	1	1	...	1	1	...	...	...	...	1	1	1
Salween ...	46	23	22	1	1	1	1	1	...	1	1	...	...	...	...	1	1	...
Karenni ...	61	29	32	...	...	...	1	1	...	...	...	...	...	...	...	1	1	...
Shan ...	1,373	664	709	12	7	5	4	3	1	4	3	...	7	6	1	34	24	11
N. Shan States	551	264	287	12	9	6	3	2	1	3	2	...	3	4	...	17	12	5
S. Shan States	830	413	418	1	1	1	1	1	1	1	1	...	1	2	...	7	5	2

* 1,815 immigrants from unadministered territory of Burma into Myitkyina and Putao Districts and the Hill District of Arakan have been reckoned in columns 5, 6 and 7 for those districts, but in columns 2, 3 and 4 for the natural divisions which contain them.

SUBSIDIARY TABLE II.—*Emigrants from each district or natural division to other parts of Burma.*

NOTE.—Emigrants to India and to places outside India are ignored in this table because classification to decide the entry in column 1 to which they belong would be possible for so few of them. See Article 62 and the Notes below Article 61.

Natural Division or District in which BORN.	Enumerated in								
	Area shown in column 1.			Districts of Burma contiguous to the area shown in column 1.			Other parts of Burma not shown in columns 2 to 7.		
	Persons.	Males.	Females.	Persons.	Males.	Females.	Persons.	Males	Females.
1	2	3	4	5	6	7	8	9	10
Province ...	12,505	6,170	6,335	...	...	...	...	...	...
Burman ...	10,819	5,327	5,492	19	12	7	...	...	...
Delta ...	4,095	2,034	2,061	19	11	8	22	13	9
Rangoon ...	110	53	57	8	4	4	27	15	12
Insein ...	221	110	111	11	6	5	3	2	1
Hanthawaddy ...	289	144	145	28	16	13	4	3	2
Tharrawaddy ...	430	208	222	26	14	12	6	4	3
Pegu ...	321	160	162	14	8	7	7	4	3
Bassein ...	438	216	222	20	10	10	7	4	3
Henzada ...	519	252	266	32	17	15	19	10	8
Myaungmya ...	287	142	145	7	4	3	3	2	1
Ma-ubin ...	285	140	145	28	15	13	6	3	3
Pyapôn ...	196	98	98	6	3	3	4	2	2
Toungoo ...	300	149	152	19	6	5	5	3	2
Thatôn ...	432	218	214	21	12	10	2	1	1
Coast ...	1,485	743	742	17	10	7	17	10	7
Akyab ...	523	264	258	1	1	...	1	1	...
Kyaukpyu ...	196	94	102	5	4	1	4	3	2
Sandoway ...	108	52	56	4	2	2	1	1	...
Amherst ...	377	191	186	9	5	4	12	7	5
Tavoy ...	148	73	74	3	2	1	3	2	1
Mergui ...	121	61	60	...	...	...	1	1	1
Centre ...	4,291	2,053	2,238	119	67	52	158	93	65
Prome ...	348	167	181	24	13	11	20	11	9
Thayetmyo ...	248	120	128	15	8	7	16	9	7
Pakôkku ...	454	216	237	13	7	5	20	12	8
Minbu ...	255	124	132	4	3	2	16	9	7
Magwe ...	395	192	204	14	8	6	22	12	9
Mandalay ...	302	145	157	16	9	7	28	16	12
Shwebo ...	372	173	199	13	7	6	21	13	8
Sagaing ...	313	148	165	17	8	9	15	9	6
Lower Chindwin	338	153	185	12	7	5	17	11	6
Kyauksè ...	126	61	65	4	2	2	2	1	1
Meiktila ...	279	130	149	15	8	7	27	16	12
Yamèthin ...	288	140	149	17	9	8	6	3	2
Myingyan ...	435	208	227	14	8	6	26	15	11
North ...	605	298	307	6	4	2	3	2	1
Bhamo ...	93	45	48	3	2	1	1	1	...
Myitkyina ...	88	43	44	1	1	...	1	1	...
Katha ...	226	111	115	15	9	6	1	...	...
Putao ...	6	3	3	...	...	...	2	1	1
Upper Chindwin	163	81	83	2	1	1	2	1	1
Chin ...	157	77	80	4	2	2	1	1	...
H. D. of Arakan	20	10	10	...	...	...	...	...	...
Chin Hills ...	109	53	56	4	2	2	1	...	...
Pakôkku H. Tracts	20	10	10	...	...	...	...	...	...
Salween ...	107	52	54	1	1	1	1	...	...
Salween ...	46	23	23	...	...	...	...	...	...
Karenni ...	61	29	32	1	1	...	...	...	...
Shan ...	1,373	684	689	8	4	4	15	9	6
N. Shan States ...	507	251	257	8	4	4	7	4	3
S. Shan States ...	830	415	415	8	4	3	10	6	4

SUBSIDIARY TABLE III.—*Proportions of migrants to the actual population of each district and the ratio of the sexes amongst them.*

NOTE.—The first two lines of entries include all emigrants from Burma to other parts of India and all emigrants to places beyond India for which figures are available (see Notes below Article 61). In all other entries in columns 5, 7 and 11 emigrants to places outside Burma are ignored except emigrants to India born in the Rangoon, Akyab, Mandalay or Chin Hills districts or the Hill District of Arakan.

Natural Division or District.	Number per 1,000 of actual population.						Number of females to 1,000 males amongst			
	Immigrants.			Emigrants.			Immigrants.		Emigrants.	
	Total.	From contiguous districts of Burma.	From other places.	Total.	To contiguous districts of Burma.	To other places.	From contiguous districts of Burma.	From other places.	To contiguous districts of Burma.	To other places.
1	2	3	4	5	6	7	8	9	10	11
Province ...	54	...	...	2	...	2	...	204	...	654
Burman ...	60	3	57	2	2	...	784	194	623	555
Delta ...	*151*	*21*	*130*	*9*	*4*	*5*	*831*	*307*	*689*	*654*
Rangoon ...	677	25	653	111	23	88	872	249	841	741
Insein ...	248	88	159	47	37	10	846	407	890	827
Hanthawaddy ...	207	27	180	90	78	12	794	275	818	708
Tharrawaddy ...	128	63	65	66	53	13	846	449	853	721
Pegu ...	279	96	183	48	32	16	939	519	871	652
Bassein ...	104	37	67	56	41	15	821	239	926	729
Henzada ...	59	16	42	92	59	34	921	434	877	796
Myaungmya ...	225	76	148	25	18	7	865	404	836	737
Ma-ubin ...	137	47	90	101	85	17	933	476	844	836
Pyapôn ...	321	81	240	36	22	14	807	510	852	835
Toungoo ...	213	81	132	45	31	14	879	570	865	609
Thatôn ...	82	24	58	50	45	5	856	258	853	670
Coast ...	*71*	*5*	*66*	*22*	*11*	*11*	*593*	*170*	*756*	*689*
Akyab ...	93	6	87	5	2	3	459	172	659	347
Kyaukpyu ...	20	9	11	47	26	21	619	152	373	651
Sandoway ...	32	20	12	46	35	11	245	150	711	316
Amherst ...	97	16	81	52	23	29	643	199	818	754
Tavoy ...	58	9	49	38	20	18	608	126	522	728
Mergui ...	109	14	95	14	3	11	575	157	654	709
Centre ...	*26*	*3*	*23*	*63*	*27*	*36*	*703*	*282*	*779*	*692*
Prome ...	62	27	36	119	65	54	824	343	826	797
Thayetmyo ...	27	13	14	122	60	62	639	301	843	795
Pakôkku ...	26	18	7	70	27	43	732	298	683	614
Minbu ...	70	44	26	76	16	60	909	507	673	779
Magwe ...	66	32	34	84	33	51	668	218	832	739
Mandalay ...	154	37	116	126	45	80	1,043	314	810	720
Shwebo ...	49	32	16	85	32	53	827	412	859	616
Sagaing ...	43	28	16	98	52	46	1,112	586	1,034	656
Lower Chindwin ...	14	4	10	83	35	48	866	347	755	578
Kyauksè ...	119	98	21	41	28	12	931	448	858	741
Meiktila ...	37	12	26	147	53	95	836	360	892	760
Yamèthin ...	108	61	47	71	53	18	864	423	896	683
Myingyan ...	17	6	11	91	32	59	616	259	816	704
North ...	*112*	*43*	*69*	*13*	*9*	*5*	*666*	*426*	*511*	*700*
Bhamo ...	175	30	145	40	29	11	948	590	895	408
Myitkyina ...	260	107	153	18	10	8	732	395	957	635
Katha ...	109	57	51	62	59	3	740	379	698	641
Putao ...	179	18	161	277	15	262	813	174	18	897
Upper Chindwin ...	85	54	31	21	11	10	728	365	591	585
Chin ...	16	3	13	81	28	53	636	309	917	905
Hill Dist. of Arakan	54	16	38	99	4	95	697	375	421	706
Chin Hills ...	11	...	10	109	39	70	476	283	909	964
Pakôkku Hill Tracts	11	5	6	14	1	13	582	191	*	410
Salween ...	65	20	45	16	11	5	521	276	653	380
Salween ...	94	29	66	14	8	6	609	264	626	439
Karenni ...	47	12	35	22	18	4	280	384	695	300
Shan ...	42	8	34	16	5	11	716	392	982	790
North, Shan States	89	25	63	26	14	12	704	409	890	709
South, Shan States	21	6	14	21	9	12	706	349	717	707

* As all were females the ratio is meaningless.

SUBSIDIARY TABLE IV.—*Migration between Natural Divisions—Comparison between Censuses of* 1921 *and* 1911.

NOTE.—The population of all estimated areas is included as born in the natural division of enumeration, and all numbers represent the nearest whole thousand of persons.

Natural Division in which born.	Year.	Natural Division in which enumerated. Whole Province.	Burman.	Chin.	Salween.	Shan.	Details for Subdivisions of Burma Division. Delta	Coast.	Centre.	North.
1	2	3	4	5	6	7	8	9	10	11
Whole Province	1921	12,503	10,845	158	121	1,379	4,780	1,492	1,330	640
	1911	11,514	9,977	106	103	1,344	3,944	1,151	1053	580
Burman	1921	10,835	10,809	1	3	16	4,765	1,438	1,283	623
	1911	9,980	9,898	...	1	10	3,917	1,340	1,949	874
Delta	1921	4,136	4,132	...	2	2	4,094	9	26	2
	1911	3,621	3,617	...	1	1	3,589	8	18	1
Coast	1921	1,520	1,519	...	...	...	20	495	3	...
	1911	1,361	1,364	...	...	...	85	537	3	...
Centre	1921	4,558	4,557	...	...	20	230	3	4,231	24
	1911	4,354	4,345	...	...	9	228*	4	4,088	22
North	1921	614	610	...	...	4	2	...	3	605
	1911	574	572	...	...	...	1	...	†20	551
Chin	1921	163	6	157	...	...	...	...	3	3
	1911	108	1	105	...	...	...	...	...	1
Salween	1921	119	2	...	107	...	1	...	...	...
	1911	103	2	...	100	...	1	...	...	...
Shan	1921	1,395	92	...	1	1,272	12	1	4	6
	1911	1,341	93	...	1	1,244	15	2	3	6

* For 1911 the corresponding number is 885.

† For 1911 the corresponding number is 8.

SUBSIDIARY TABLE V.—*Migration between Burma and other parts of India,* 1921.

	Immigrants from India to Burma. Males.	Females.	Emigrants from Burma to India. Males.	Females.	Net gain by immigration and emigration. Males.	Females.	Excess Males above Females.
1	2	3	4	5	6	7	8
Grand Total	486,799	85,731	11,208	7,878	+475,591	+77,853	+397,738
British Territory	465,748	80,933	10,024	6,497	+455,718	+74,436	+381,282
Assam	1,791	219	3,811	3,174	−1,947	−2,955	+1,008
Bengal	129,910	18,013	1,431	941	+128,519	+17,157	+111,362
Bihar and Orissa	17,374	2,515	91	55	+17,283	+2,460	+14,823
Madras	223,008	43,441	917	918	+222,651	+42,605	+179,846
Ajmer-Merwara	38	8	31	10	...	−2	+2
Andamans and Nicobars	102	96	1,994	66	−1,892	−40	−1,852
Baluchistan	24	5	190	18	−166	−13	−153
Bombay and Aden	10,028*	2,711	319	319	+9,709	+2,389	+7,320
Central Provinces and Berar	797	263	34	34	+763	+234	+529
Coorg	3	...	...	1	+3	−1	+4
North-West Frontier Province	916	109	56	15	+860	+94	+766
United Provinces of Agra and Oudh	61,953	8,541	900	401	+61,053	+8,140	+52,913
Punjab	16,460	3,344	881	530	+15,579	+2,814	+12,765
Delhi	933	92	37	23	+896	+69	+827
States and Agencies	15,274	3,491	1,184	1,381	+14,090	+2,110	+11,980
Cochin	101	53	2	6	+100	+47	+53
Travancore	213	53	9	10	+204	+43	+161
Other Madras States	45	9	12	7	+33	+2	+31
Manipur	854	611	575	573	+279	+38	+241
Bengal States	29	10	7	8	+22	+2	+20
Bihar and Orissa States	349	78	49	91	+300	+56	+244
Hyderabad States	...	3	...	...	...	+3	−3
Baroda	318	84	29	43	+289	+41	+248
Bombay States	4,510	1,025	91	91	+4,419	+1,004	+3,415
Central India Agency	453	40	72	44	+437	+2	+435
Central Provinces States	318	42	7	5	+311	+37	+274
Gwalior	128	7	4	...	+118	+7	+111
Hyderabad	310	218	230	94	+280	+124	+156
Kashmir	131	13	4	4	+127	+9	+118
Mysore State	1,191	448	156	182	+1,035	+266	+769
North-West Frontier Province (Agency and Tribal Area).	11	1	24	...	−13	+1	−14
Punjab States	963	171	102	64	+861	+107	+754
Rajputana Agency	2,518	600	10	17	+2,508	+583	+1,925
Sikkim	10	2	...	4	+10	+1	+9
United Provinces States	82	32	16	3	+83	+29	+54
French and Portuguese India	563	85	7	7	+563	+88	+475
India (Unspecified part)	7,220	1,199	...	...	+7,220	+1,199	+6,021

* Includes 7 males and 4 females born in Aden.

SUBSIDIARY TABLE VI.—*Migration between Burma and other parts of India compared for* 1921 *and* 1911.

—	Immigrants to Burma.			Emigrants from Burma.			Excess (+) or Deficiency (−) of Immigration.	
	1921	1911	Variation.	1921	1911	Variation.	1921	1911
1	2	3	4	5	6	7	8	9
GRAND TOTAL ..	572,580	493,699	+78,831	19,038	13,853	+5,733	553,444	+481,846
British Territory ..	*546,695*	*482,022*	*+64,673*	*16,721*	*12,734*	*+3,987*	*529,974*	*469,288*
Assam ...	1,513			6,315			−4,802	
Bengal ..	146,058	143,717	+24,043	2,352	5,082	+3,731	+143,706	+138,635
Bihar and Orissa	20,189			146			+20,043	
Madras ...	272,511	247,360	+25,151	1,895	2,021	−126	+270,616	+245,339
Ajmer-Merwara	40	199	−159	48		+48	−8	+199
Andamans and Nicobars.	128	451	−323	2,060	1,719	+341	−1,932	−1,268
Baluchistan ...	29	30	−1	208	39	+169	−179	−9
Bombay and Aden	12,816*	12,782	+34	668	632	+36	+12,148	+12,150
Central Provinces and Berar.	1,065	548	+517	68	236	−168	+997	+312
Coorg ..	3	5	−2	1	..	+1	+2	+5
North-West Frontier Province.	1,045	740	+305	71	29	+42	+974	+711
United Provinces of Agra and Oudh.	70,767	50,595	+20,172	1,361	1,426	−65	+69,406	+49,169
Punjab ...	19,804	25,595	−5,054	1,451	1,550	−22	+18,353	24,045
Delhi ..	727			77			+650	
States and Agencies ..	*16,765*	*8,718*	*8,047*	*2,366*	*619*	*1,746*	*+14,400*	*8,099*
Cochin ...	155	53	+102	8	..	8	+147	+53
Travancore ..	319	124	+195	19	22	−3	+300	+102
Other Madras States.	54	704	−650	20	..	+20	+34	+704
Manipur ...	1,505			1,098		+1,098	+407	
Bengal States ..	29	1,449	+512	9		+9	+20	+1,449
Bihar and Orissa States.	427			71		+71	+356	
Baluchistan States	2	...	+2	..		...	+2	...
Baroda ...	652	131	+526	88	63	+25	+574	+73
Bombay States .	5,655	39	+5,616	187	...	+187	+5,468	+39
Central India Agency.	505	221	+284	66	13	+53	+439	+208
Central Provinces States.	360	75	+285	12		+12	+348	+75
Gwalior ..	129	..	+129	4	...	+4	+125	...
Hyderabad ..	404	1,575	−1,031	213	185	+28	+281	+1,390
Kashmir ...	141	423	−282	8	...	+8	+141	+423
Mysore State ..	1,640	933	+707	322	273	+49	+1,318	+660
North-West Frontier Province. (Agency and Tribal Area).	12	3	+9	24	...	+24	−12	+3
Punjab States ...	1,131	505	+626	165	...	+166	+968	+505
Rajputana Agency	3,418	1,780	+1,638	27	53	−26	+3,391	+1,727
Sikkim ..	15	..	+15	4	..	+4	+11	...
United Provinces States.	191	688	−497	19	10	+9	+82	+678
French and Portuguese India.	*651*	*845*	*−194*	*?*	*?*	*?*	*? 651*	*? 845*
India Unspecified ..	*8,419*	*2,114*	*+6,305*	..	..	..	*+8,419*	*+2,114*

* There are 11 immigrants from Aden to Burma included in this number; corresponding figures for the other columns are not available but are not of significant magnitude.

CHAPTER IV.

Religion.

72. Enumeration.—The instructions issued to the enumerating staff for obtaining the record upon which the statistics of religion in 1921 are based were as follows :—

Ask every person to name the religion according to which he worships and record that. Carefully distinguish *race* from *religion*. Some Burmans and some Chinese profess the Mahomedan religion ; if they do you must write Mahomedan for them in this column.

For children ask the parents according to what religion the children are being brought up. Sometimes if mother and father have different religions some of the children have one and some the other religion ; the parents will tell you correctly for each child.

There are special things for you to remember about Hindus and Christians.

(*a*) *Hindus.*—Ask every person who says he is Hindu if he is a Jain, Sikh, Brahmo or Arya. (These are special kinds of Hindus.) If he says he is none of these write *Hindu*; if he is one of those write that name and do not write *Hindu*.

(*b*) *Christians.*—For Christians you must write the name of the sect below the word *Christian*. The sects in Burma to which most Christians belong are those shown in the list below ; but there are others besides. If any person mentions a sect which is not in this list ask him whether it is the same as one of these; if it is, write it down accordingly ; if not, write down what he says or ask him to write it himself or to show you the name written somewhere so that you can copy it correctly :—Church of England, Baptist, Roman Catholic, Methodist, Presbyterian, Greek, Lutheran, Armenian, Seventh Day Adventist.

Caution.—Do not write Protestant.—That is not the name of a sect. If a person says he is a Protestant ask again for his sect ; mention the names of the sects given above, asking if he belongs to any of those or to some other. Then he will understand and tell you.

The special note about Hindus in the above instructions would probably receive severe criticism in most parts of India. But it was not intended for use in India by enumerators to whom some aspects at least of Hinduism were familiar ; it was for use by Burman enumerators who have generally an exceedingly vague idea of Hinduism, and suppose that all Indians are either *Hindus* or *Pathis* (Mahomedans). The special instruction for Christians has regard to an effort which was made to secure the co-operation of the leaders in Burma of all the Christian churches towards the attainment of a complete and correct record. With this object a letter was issued five months before the census to the Deputy Commissioner of every district pointing out the principal difficulties met in the enumeration of Christians at previous censuses and asking them to take measures to meet these. It was suggested that Christian enumerators should be appointed wherever there was a sufficient number of Christians to render that course advisable, and that the Deputy Commissioner should enlist the co-operation of the leader of each denomination of Christians in his district in instructing persons of his denomination how to reply to the question about their religion. It was suggested that all clergymen and pastors should make an announcement of the reply proper for their denomination at each service held in February or March up to the date of the census, so that the whole of every congregation would be quite familiar with the proper term ; and that in addition every church or other community which issued a magazine or any kind of periodical should include instructions on the same point in every issue from the 1st February to the 18th March. It was further suggested that all clergymen and pastors should prepare slips of paper with the names of their denomination written upon them in the language of the local enumeration-record, and should distribute these to all members of their church who were likely to have any difficulty in getting their denomination properly recorded ; special attention was drawn to the need for this in the cases of Karens and Tamils who would often be unable to give the name of their sect in Burmese or English. It was pointed out that a similar difficulty might arise even in the case of Europeans where the record was made by an enumerator not acquainted with English, and it was suggested that in such cases the enumerators should ask the person to make his own record of his religion. Attention was also drawn to the modification of these suggestions needed in the areas of the non-synchronous census. At the same time a copy of this letter was sent to the leader of every church or denomination in the Province

with another letter explaining more fully the object of the suggestions and asking for his co-operation by adopting a single definite name to be used in recording his denomination, by communicating that name to all pastors and other leaders of that denomination in all districts, and by asking these to get into communication with the Deputy Commissioners of their respective districts and to give them all possible assistance in obtaining a correct record. This appeal was also published in the newspapers at the time, so that any omission amongst the addressees would be remedied; and a reminder, with a supplementary copy of the letters, was sent to each addressee a little before the preliminary enumeration began.

73. Statistics.—The first division of the people for census tabulation is everywhere sex; but immediately after this the Indian census takes religion as the basis of its classification, and in all the other provinces of India this classification by religion underlies nearly every census table. Thus Imperial Tables VII and VIII show civil condition and literacy respectively by age and sex in each of the religious classes; and religion underlies the classification by caste and race in other tables. As the census of Burma has been undertaken as a part of the census of India it has been necessary to follow this system even in Burma where it is not so appropriate. Some concessions however have been made at the census of 1921 to the special conditions of Burma, and in the tables of this census religion plays a less important part than in those of previous censuses, and has to some extent been replaced by race as the basis of classification. Indeed, apart from Table XV which classifies Christians by sect, Imperial Tables VII and VIII which have just been described are the only tables not directly devoted to religion in which religion is the real basis of the classification. Imperial Table V classifies completely by religion the population of each census town, and Imperial Table VIA classifies in the same way the population of the whole province and of each district. Provincial Table I classifies the population of each township by religion, but gathers all the religions which have few adherents in Burma into one class of *Others*. Imperial Table VIB, which is a table specially devised for Burma and has no counterpart in the census tables of other provinces, divides the adherents in each district of the numerically important religions other than Christianity into broad racial classes and thus affords some connection between the religious and the racial basis of classification; for Christians a similar classification is afforded by Parts I and II of Imperial Table XV. Imperial Table XIII which classifies the population by race gives a classification by religion of the major part of some races and also classifies the whole population simultaneously by peoples and religions. In addition the following subsidiary tables have been prepared and appended to this chapter :—

I.—General distribution of the population by religion and its variation since 1891.

II.—Proportion of each religion per 10,000 persons in each district and natural division at each census since 1891.

III.—Statistics of certain classes of Hindus, Mahomedans and Christians in each natural division.

IV.—Distribution by religion of the population in each natural division inside and outside census towns.

V.—Proportion of certain religions in each 10,000 population of certain age groups.

VI.—Distribution of Christians of indigenous and of Indian races by natural divisions in 1911 and 1921.

VII.—Distribution of Christians by race in 1921, 1911 and 1891.

74. The Meaning of the Statistics.—Many attempts have been made to define *Religion*, but the principal impression obtained by comparing the definitions is their extreme diversity and inadequacy. One writer has defined religion as that which is both good and beautiful; this seems to be a reminiscence of the princesses of the fairy tales, and even when it is explained as a "combination of a true feeling for beauty with that force in man which makes for goodwill", one does not seem to get much real help. Another view is that religion is a means of attaining one's ends by the propitiation of spirits. This covers a wide field; but its exclusion of pure Buddhism is rather a serious defect in Burma, where Buddhism claims the great majority of the people. The difficulty is due to the extreme breadth of the concept of religion, and the tendency to confine the term to a particular class of religions or even to what is regarded as the one true

religion. For the purposes of the census no definition of religion was needed or given. Large bodies of men are willing or eager to accept one of the labels *Buddhist*, *Hindu*, *Mahomedan*, *Christian*, as an indication of a certain outlook upon and attitude towards the universe; and generally the acceptance of one of these labels implies the adherence to certain beliefs, the professed obedience to certain rules of conduct, and, in the case of Hindus at least, the acceptance also of certain principles of social organisation. The label in fact implies a certain type of culture or orientation of life. As a rule each label is held to forbid the claim or assignment of any of the others; and the psychological and mental attitude towards the universe, and the immediate consequences of this, represented by any particular one of these four labels which is chosen by a person, is by common consent called his religion. Then for all others the term religion is conveniently used to denote that which fills in their minds the place occupied by these four religions in the minds of their adherents; and the instruction to enumerators which was reproduced at the beginning of this chapter was designed to obtain the proper record according to this definition.

The meaning of the label *Buddhist*, which was claimed by five-sixths of the population, forms the subject of the next article. Following that are articles dealing with animism and the religions of the Chinese. No discussion of the meaning of the other labels used is necessary or appropriate in this report.

75. Buddhism.—Since for the purposes of the census the religion of each person is the label which he claimed at his enumeration, the class tabulated as Buddhist is logically correctly described as such. But it would not follow that the people of this class are Buddhists according to the ordinary meaning of that term; and accordingly, having regard to the large part of the population concerned, it is desirable to give some consideration to the right of those people to claim that label.

The opinion expressed by Mr. Eales in the census report of 1891 was that there was really very little Buddhism amongst the Burmese; he was "struck with the very vague notion which the ordinary lay Burman has about the religion he professes", and in each subsequent census report there has been quoted his description of Burmese Buddhism as "a thin veneer of philosophy laid over the main structure of Shamanistic belief" or devil-worship. To this Mr. Lowis added in the census report of 1901: "Let but the veneer be scratched, the crude animism that lurks below must out. . . . . To the end of time the Buddhism of the Burmese will never be anything more than a polish." These opinions were accepted also by Mr. Morgan Webb in the census report of 1911, and they have hitherto passed unquestioned in official publications. But there is something more to be said.

It is interesting first to consider a curiously similar opinion, in which the similarity was implied even more than stated, in the reports on Christianity in England as it was revealed in the war of 1914-18. There are numerous passages in the literature of the time which give the same views; two written from different standpoints are quoted here:—

"Before the war it may well be doubted if outside certain limited circles there was any real and deep knowledge of the sacred writings among the vast majority of our countrymen. Inquiries made from various quarters into the mind of the youth of our nation in the armies have revealed a startling ignorance as to religious truth, which makes it very difficult to believe that their minds have ever been brought into intelligent contact with the truths of revelation. None who have any real first-hand knowledge of the mind of the younger generation will maintain that most of them have had anything but the dimmest knowledge of the deeper meaning of the literature of Revelation. It may well be questioned if this was not also true even of that fraction brought up within the churches."

[Dr. Cairns: *The Reasonableness of the Christian Faith*, 1918.]

"Europe is still considered, in common parlance, as a Christian continent. . . It may be doubted, however, whether in any real or deep sense, European society, or any considerable proportion of European men and women, in any one of the seventy generations which have elapsed since Christianity became the official religion of the Roman Empire, has ever accepted, or even endeavoured to understand and apply, the teaching and outlook of its Founder. There has indeed never been a generation without Christians, but their influence upon public affairs has been limited and intermittent. . . . The ex-Church school scholars who fought in France were found by the chaplains to be as ignorant of the faith and as indifferent to their ministrations, as their more reputedly godless comrades. . . . . The war has often been described as proof of the impotence of the Christian Churches. It would be truer to say that modern life as a whole is a demonstration that neither the world nor the churches have even attempted to be Christian."

[A. E. Zimmern: *Europe in Convalescence*, 1922.]

These seem to put in a different light the "vague notion which the ordinary lay Burman has about the religion he professes," particularly when regard is had to the compactness of England, the wide extension there not only of literacy but of the practice of reading, and the activity of the various Christian Churches. For my own part I have often been struck with the fullness of knowledge of quite slightly educated Burmans and even of some ordinary uneducated cultivators about their religion. Regard must be paid to variations in different localities. All over the well-cultivated parts where the bulk of the people live there are numerous Buddhist monasteries and pagodas which keep their religion continuously before the eyes and in the minds of the people; the children go to school in the monastery; the monks preach and at least the older folk listen to them; the same older folk spend frequent days in meditation. The younger adults may seem to be careless and to give only a passing thought to their religion on special occasions, but they have in their hearts the firm intention of copying their elders when their own time comes; possibly some critics of Burmese Buddhism have known other countries in which other religions prevailed but the younger men behaved in the same way. As one goes out to the less populated parts one finds the influence of the monks in spreading a knowledge of Buddhism grows less. Monasteries are fewer and more widely scattered; people have less intercourse not only with monks but with each other; their minds have less development altogether, and with this there is less knowledge and realisation of Buddhism. These also are the people who in a superficial way see more of the working of physical nature, for which they are inexorably compelled to furnish some explanation; and if they devise or support explanations which seem to some to be not strictly in accord with their religion, they are not the only people who have done so. They represent a stage through which the more advanced part of the people have passed; but they are not typical of the population and they are on their way to the stage which the typical part has reached. Of some of these it may be said with some truth that animism is their religion and Buddhism a veneer, but there is not the same truth in applying that to the typical Burmese villager. Not that he is free from all that is not Buddhist. An advanced religion when first given to a people never finds in their minds a clean slate to write upon. The heritage of many generations is not completely blotted out even in its leaders by an intellectual assent to new ideas; and the masses of the people only follow far behind their leaders, combining a little and a little more of the new religion with the old. Thus no advanced religion is quite the same as it is expounded by its teachers and as it is regarded by the masses of their followers; and the existence of many non-Buddhist beliefs and practices amongst the Burmese Buddhists would not be a denial of their claim to be Buddhists.

What moreover is Buddhism? Gotama's doctrines were the outcome of a development of thought amongst Hindus which began long before his day, and Buddhism as he taught it involved many ideas which had come down from earlier stages of culture. His teaching was naturally directed to his new and specific doctrines, and the current culture of the time was a background which his teaching generally took for granted except in so far as he proposed to change it. After Gotama's day, and especially after the great promulgation of his religion by Asoka, there was in India a continual decline from his standpoint and a continual approximation of the Buddhist views to those of the other philosophies and religions of India. The belief in a soul was revived and gradually gained the upper hand, and presently the popular gods and superstitions were once more favoured by Buddhists themselves. Buddhism at last faded away and gave place to a re-instatement of the old popular Hindu pantheon transformed and enlarged. It may be said that Asoka's mission came to Burma before this decline took place. But although so much mystery conceals the true account of the origin of Buddhism in Burma, it is certain that Burma was not converted in a day or in a year; and even if the origin of Burmese Buddhism is assigned to Asoka's mission, it is clear that a stream of other teachers must have come and that their views would be coloured by the changes going on in India. In any case Buddhism, even in its heyday in India, included much of the old religion and culture which had preceded it; and this must be true of the Buddhism which was brought to Burma and there came into contact with the previous culture of the Burmese and Talaings or their forbears. Thus Thakya Min, the King of the *Nats*, or spirits, whatever he may have been before, became the Burmese interpretation of the old Hindu god Indra; and his *nats* are the beings that inhabit his sphere. There has been a confusion of thought between the *nats* who are the devas of the six abodes

(in Burmese, *nat-pyi-chauk-tap*) and the local animistic *nats*, and often a Burman speaking of the former is wrongly supposed to be speaking of the latter or is himself confusing the two. Originally no doubt the *nats* were the spirits of the primitive pre-Buddhist religion, and there are still *nats* everywhere in every village, forest, or field. But generally the Burmese attitude to the nats, although it was not learned from him, is that of Confucius, who gave the advice: "Pay all respect to spiritual beings, but keep them at a distance." The Burmese Buddhist in the ordinary populated parts of the province makes offerings to the *nats* because that is the way of defending himself against them; this is not a contradiction of his Buddhism, but like the fence he builds around a lonely new settlement in the jungle to keep out tigers at night, it is to ensure a continuance of the life and conditions in which Buddhism may be practised. Even the so-called *nat*-worship has been modified by Buddhism; and it is difficult to accept the description of it as Shamanism with all the connotations of frenzy and priestcraft which go with that name. There are no priests of the *nat*-worship; the *nats* are simply essential facts of the universe of which each person must take account just as he does of gravity, friction, inertia and fire. There are still a few *nat*-festivals held, such as that at Taungbyon near Mandalay where certain women dance after *nats* have taken possession of them; but these are about as representative of Burmese thought as Jack-in-the-Green is of English. Much of the *nat*-culture is on the same footing as the fairy-tales in the folklore of Europe; the rest is simply Burmese science.

Actually the Burman thinks and speaks as a rule of his whole national culture as Buddhism. Instead of postulating the Mahayana and Hinayana schools of Buddhism and rejecting as not Buddhism all that will not fit these moulds, we should rather define Buddhism in Burma as the religion of the Burman with its modifications amongst the Shans and other indigenous races. In recent years the opinion has grown, particularly through study of inscriptions and frescoes in Pagan, that the Mahayanist influence upon Burmese Buddhism though less than the Hinayanist, has been considerably greater than was formerly supposed. Burmese Buddhism however is not simply the result of a clash between the Mahayana and Hinayana schools; with each of those came a whole culture which was partially absorbed by the Burmese and Talaings and combined with their own native cultures and modified by their outlooks; and there have since been centuries of development in which, although fresh inspiration has frequently been sought from India and particularly from Ceylon, the national mind has still selected and sifted and interpreted all that has been received. Thus Burmese Buddhism is a national product which cannot be adequately described in terms invented to describe Buddhism in India, Tibet and Ceylon. But its essential doctrines are those propounded by Gotama, *e.g.*, the Four Noble Truths, the Eightfold Middle Path, the Law of Causation, the Doctrines of Non-self (*Anatta*) and Nirvana; and its claim to be regarded as Buddhism cannot therefore be denied.

76. Animism.—The instructions to enumerators quoted at the beginning of this chapter required that for every person should be shown the religion he claimed. The record of Animism or spirit-worship for people of the primitive races of the province was really an exception to this, because such people have no conception of claiming to belong to any particular religion; they know of only one religion and are therefore unconcious of having any religion at all. Strictly the animists proper should be regarded as the negative class amongst the uneducated or comparatively uneducated, who were recorded as spirit-worshippers because they did not claim any one of the recognised labels. There is of course another negative class amongst the educated population who were not included under *Animists* although they asserted that they had no religion; but this class would have only very few members and they are excluded from the definition of animists by their education. Those actually recorded as animists however include as is shown by the figures of Imperial Table VIB which are reproduced in Marginal Table 1, a number of Chinese and Indians to whom the application of the description *Animist* presents some difficulty. These cases are discussed in Articles 77

1. Races of Animists.

Race.	Males.	Females.
Indigenous races	293,467	299,355
Chinese ...	70,716	32,624
Indians ...	5,005	1,420
Total ...	369,188	333,399

and 78 where it is shown that they would have been better recorded otherwise than as animists. This term should therefore be applied only to the 592,822 persons of indigenous races for whom it was recorded.

77. **Religion of the Chinese.**—The particular religion recorded for Chinese was largely a matter of accident. There may be a few exceptional people here and there; but generally there is no real difference of religion between the 14,131 Chinese who were recorded as Confucians and the 103,340 who were recorded as animists and a large part (though perhaps not the majority) of the 28,959 who were recorded as Buddhists. This diversity of the record is due to the ignorance of Chinese culture on the part of enumerators. The ordinary Burman regards the religion of the ordinary Chinaman as largely a matter of texts, joss-sticks and fireworks; and he probably regards the writings rather as magic than as texts. He knows that the Chinese often behave like Buddhists in lighting candles at the pagoda, and praying or at least making obeisance there; but all sorts of people do that, and the Burman does not regard a man as a Buddhist merely because he occasionally worships in the Buddhist fashion. Spirit-worship indeed is the description which any ordinary Burman will give of the religion of an ordinary Chinaman. Some follow Buddhism more closely than others, especially those who are partly of Burmese and only partly of Chinese descent. Some of the latter indeed are possibly as thoroughly Buddhist as the Burman; but they generally cling in some measure to the Chinese view. In some cases probably a Chinaman was asked if he took refuge in Buddhism, and merely answered in the affirmative without troubling to say that he combined other religions with it. There are of course differences of religion amongst Chinamen nominally of the same religion corresponding to differences of education and status, just as there are differences amongst those associated under the name of Buddhist or Christian; but the records of Confucianism probably represent generally not a greater leaning of certain Chinese to the teaching of Kung Fu, but a little erudition on the part of the enumerator or his supervising officer. In very few cases was a record actually made of Confucianism. For a few tabulated as Confucian the record was the Burmese for *Chinese religion*;* but for the great majority the actual record was *Confusion*. This name was not altogether wrong for the Burmese view of the varying combinations of Confucianism, Buddhism and Taoist animism which make up the religions of Chinamen; but it is hardly possible to use it as the name of a class in the tabulation, and for want of a better word the term *Chinesism* will be used in this chapter for the religion of the ordinary Chinaman. Chinesism is largely animist in character but there is certainly something different from the ordinary animism of primitive races like the Chins in the animism of China, where a spirit which persistently rejects prayers or sacrifices may be punished by deprivation of rank or banishment.† It is therefore proper to take out the Chinese from amongst the total recorded as animists in Imperial Table VIA and combine their number with the number recorded as Confucians. Amongst the Chinese shown as Buddhists a large proportion are doubtlessly distinctly different in religion from the ordinary Chinamen; but the majority have still a leaning to Chinesism, and for a large number the record of *Buddhist* was as much an accident of that of *Confusion* for others. If all the Chinese Buddhists are reckoned under *Chinesism* the error caused in the number of

2. Chinese classified by religion.

Religion.	Total Chinese.		Yunnanese		Other Chinese.	
	Males.	Females.	Males.	Females.	Males.	Females.
1	2	3	4	5	6	7
Buddhism	19,282	9,677	963	253	18,319	9,424
Animism	70,716	32,624	35,202	22,657	37,514	9,967
Confucianism	9,964	4,167	499	127	9,465	4,040
Total *Chinesism*	99,962	46,468	34,664	23,037	65,298	23,431
Mahomedanism	1,076	441	1,076	441	...	...
Christianity	839	274	12	2	827	272
Total Chinese races	101,877	47,183	35,752	23,480	66,125	23,703

* *Tayok batha*, more properly translated perhaps as *Chinese culture*.
† H. A. Giles, *Chinese Literature*.

Buddhists will be negligible and that for *Chinesism* will not be large and will be less than if they are all reckoned as Buddhists. The Confucians shown in Imperial Table VIA were all Chinese by race, and the numbers of these and of Chinese of other religions (taken from Imperial Tables VIB and XV) are collected in Marginal Table 2, where the numbers of Yünnanese included in the total of Chinese are separately shown.

78. **Accuracy of the Statistics.**—The questions put by enumerators to discover what religion each person desired to have recorded for him necessarily took various forms according to the language used and the mentality of the enumerator and of the person for whom he was making a record. In the majority of cases the enumerator would be recording for a co-villager whose religious practices were as well known to him as his own; and he would probably record *Buddhist* without asking, and get a mere gesture of confirmation as he mentioned it. In the case of an Indian I am afraid the enquiry would commonly be reduced to a Burmese articulation of *Tum Hindu walla hai? tum Mahomet walla hai?* But generally the practical effect would be to induce the person interrogated to indicate correctly the religion which he desired to have recorded for him, and there is no reason to suppose that the record was not generally made honestly and accurately. The tradition of tolerance in Burma is too strong and universal for anything else to be believed without good evidence, and there is no evidence at all of any deliberate falsification of the record in this particular.

It is not possible to put the question, What is your religion? to an animist of a primitive race in any intelligible form. But no hair-splitting is necessary to obtain a correct record for such cases. As a rule the enumerator would know that animism was usually the proper record for the kind of people he was enumerating; and unless he knew there were Buddhists or Christians in the neighbourhood he would probably record *spirit-worshipper* for a whole village without troubling to enquire for each individual. As enumerators in such cases were generally clerks acting under the close supervision of an administrative officer, the errors arising in this way would be negligible.

More errors would arise in the enumeration of Indians in the towns and well-populated parts of Lower Burma. In some cases Indian enumerators were employed, but most were Burmese. As a rule however small colonies of Indians in or near Burmese villages include some who know enough Burmese to understand the enquiry about religion and would prompt their friends with the proper answer, while in villages or towns which have larger colonies the enumerator would be able to get the help of some Burmans who have a smattering of Hindustani. Thus for persons who understood Burmese the record would generally be correct, and probably not many errors in the record would arise even for those who knew only Hindustani. Doubtlessly many enumerators recorded *Hindu* immediately, even without enquiry, for Indians of certain kinds who are distinguished by economy in clothing or have that general appearance which the more or less contemptuous Burman associates with the term *Hindu-kala*. Enquiry about their religion from uneducated Tamil or Telugu labourers who knew little or nothing of either Burmese or Hindustani would be difficult even in the towns, but there help would generally be forthcoming from an interpreter. To an Indian in an ordinary village the enumerator would probably explain volubly in uncomprehended Burmese what he wanted to know, and bystanders would commonly throw in remarks in the same language intended to assist; the distracted Indian would probably find one arm pulled this way and one arm pulled another by persons eager to explain the question to him; pantomime would be freely called upon to help; and eventually the enumerator would decide to record Hindu, and would generally be right in this The 6,425 Indians recorded as animists would have been better recorded as Hindus because they differed in no way religiously from a large class of those who were so recorded; the primitive Indian tribes who are called animists in India do not migrate to Burma, and these are only the people who happened to be enumerated by a rustic Burman who had little conception of religions other than Buddhism and spirit-worship, and really meant *non-Buddhist* by his record. In future censuses, whether race is substituted for religion or not as the fundamental basis of classification, all animist Indians in Burma should be put into one class with Hindus. It is probable that some Indian Christians have been recorded as Hindus; this is discussed in a Note at the end of this chapter, and although the number of the correction is vague it seems probable that it is below 5,000. Thus the total recorded number of Hindus is

augmented by the inclusion of some Christians and reduced by the omission of 6,425 Indians recorded as animists and may therefore be taken as having no very serious error. A transfer of 5,000 from Hindus to Roman Catholics means an increase of two per cent from 257,106, to 262,000 Christians; but as only a part of these 5,000 were firmly attached to the Christian church the error is not as large as at first appears and the recorded figures for Christians will also be treated as correct in the remainder of this report.

The number of Theosophists cannot be regarded as correct; and I have verified, by examination of the enumeration record, that although none are shown in the tables as Christian Scientists or as "No religion" there were some for whom these records were made. There has evidently been an error in transferring the records for these persons to the slips used to represent them in tabulation, but I have been unable to discover the religion to which any of these have been assigned. The numbers involved are in any case only a few units, and it would be a mere waste of time and money to endeavour to correct such small errors as are involved; these errors were not discovered until the tabulation had advanced so far that the waste would have been comparatively large. There may possibly have been other records too which have disappeared in tabulation. But so far as I can discover the numbers actually given for any minor religion other than Confucianism are sufficiently correct. In any case the total number of adherents of any of them, after the Confucians have been transferred to *Chinesism*, is so few that the numbers involved in any possible errors are of no importance in comparison with the numbers of Buddhists, Hindus, Mahomedans, Christians or Chinesists.

79. Comparative Numbers by Religion.—Marginal Table 3 shows the distribution of the population first according to the actual enumeration and then with the corrections for Indian Animists and Chinese suggested in Articles 77 and 78 the "as enumerated" figures shown for *Chinesism* being really those for Confucianism.

3. Distribution by Religion.

Religion.	As Enumerated.	Corrected.		
		Persons.	Males.	Females.
Buddhist ..	11,[illegible]1,[illegible]43	11,172,984	5,505,877	5,667,107
Animist ...	7[illegible]2,587	592,892	293,407	299,355
Hindu ...	484,132	490,857	383,182	107,675
Mahomedan ...	500,592	500,592	314,527	186,065
Christian ..	257,106	257,106	132,498	124,608
Chinesism ...	14,131	146,430	99,962	46,468
Minor religions ...	8,308	8,308	6,003	2,305
Total ...	13,169,099		6,735,516	6,433,583

According to the corrected figures the whole population of Burma except only about 1 in 1,600 is tabulated in one or other of the six classes Buddhist, Animist, Hindu, Mahomedan, Christian and Chinesist. Amongst these six classes the Buddhists are much the most numerous. Non-Buddhists number roughly two millions altogether or only 15 per cent. of the whole population. Buddhists are more than five-and-a-half times as numerous as all the non-Buddhists put together, and are nearly nineteen times as numerous as the Animists who are the next most numerous class. The Hindus and Mahomedans each form about a quarter of the non-Buddhists, the latter being slightly the more numerous; while the Christians number a little more than half as many as each of these.

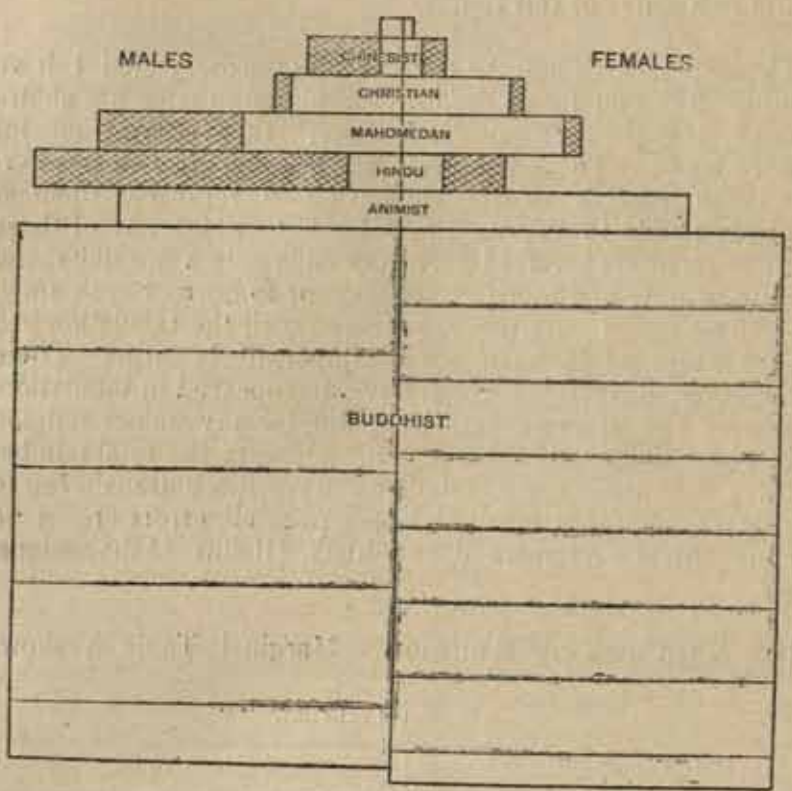
Marginal Table 4 shows the relative magnitudes of the corrected numbers of Marginal Table 3 in a form more readily grasped. Amongst the women of the province seven-eighths are Buddhists, while Hindus make only one-sixtieth and Mahomedans one-thirty-fourth. Amongst males the proportions of Hindus and Mahomedans are greater because of the excess of males amongst immigrant Indians of these religions; but even so the Hindu and Mahomedan males together make up only 10 per cent of the whole male population.

4. Average distribution of 1,000 persons by religion, 1921.

Religion.	Persons.	Males.	Females.
Buddhist ...	848	817	881
Animist ...	45	44	47
Hindu ...	37	57	17
Mahomedan	38	46	29
Christian ...	20	20	19
Chinesist ...	11	15	7
Others ...	1	1	...
Total ...	1,000	1,000	1,000

The relative numbers of the various religions are shown again in the marginal diagram which is drawn on a scale of one square inch for a million persons with males to the left and females to the right of the centre-line. The total numbers for each religion include the shaded as well as the white portions of the strips. The horizontal strips into which the area for each sex of Buddhists is divided represent a number equal to the total of the same sex of all other religions together; so that it is at once obvious that there are about 4·5 times as many Buddhist as other males and more than 7 times as many Buddhist as other females. The relative insignificance of the number outside the six main religions is clearly shown by the small area at top of the diagram which has only one-half the depth of the strips below it; and the marked inequality of the numbers of the sexes amongst Mahomedans and Chinesists and particularly amongst Hindus will be more clearly realised by some from the diagram than from the figures. The hached portions of the diagram represent immigrants, so that the white portions represent the Burma-born of each religion.* The approximate equality of the sexes in the Burma-born instead of the marked inequality in the total numbers of Chinesists, Mahomedans and Hindus is perhaps the first feature noticed. The total non-Buddhist white area is a trifle (about one-thirty-eighth part) larger than one-half of one of the divisions of the Buddhist male area, so that the Buddhists of either sex are shown to be between 8 and 9 times as numerous as indigenous persons of all other religions together. The small proportion of Hindus in the indigenous population is also brought out vividly by the diagram, as well as the small proportion of immigrant Christians of either sex and of immigrant Mahomedan females; in either sex or in both the indigenous Mahomedans are 3 to 3·5 times as numerous as the indigenous Hindus†, and this ratio is still 2 to 2·5 even if the Burma Moslems and other indigenous races are excluded. But in Marginal Tables 16, 17 and 18 of Chapter XI it will be shown that the exclusion of Akyab District would make a great difference to these ratios.

DISTRIBUTION OF THE POPULATION BY RELIGION.



A comparison of the proportions of each religion in each ten-yearly age-group beginning at 5 to 15 is furnished by Subsidiary Table V of this Chapter. Naturally the proportions of Hindus and Mahomedans are highest and of Buddhists least in the age-groups between 15 and 45 to which most immigrants belong.

80. Variation in Comparative Numbers.—The numbers of adherents of each of the major religions which have been recorded in Imperial Table VI at

* Estimates have been used in marking the Burma-born portions of Chinese and Christians, but the maximum possible errors in these are too small to be perceived in a diagram on this scale. Most of the *Others* are immigrants but this is not shown as it would confuse this small portion of the diagram. Immigrant Buddhists also are not shown; their area would be only a tiny speck in the whole Buddhist area, too small to print clearly.

† The term *indigenous Hindu* used in this article should be distinguished from *Hindu of indigenous race*; it means a Hindu born and enumerated in Burma. Similarly for Mahomedans.

each census are translated in Subsidiary Tables I and II at the end of this chapter into proportionate numbers per 10,000 of population. Corrections in the figures for earlier censuses cannot be made exactly because records of the numbers of Indian animists and of Chinese of each religion are not available; but, as Indian animists are few absolutely and Chinese Buddhists are few compared with the total of Buddhists, the figures of Marginal Table 5, in which the former are ignored and estimates are made for the latter, are approximately correct. A further correction has been made because in the tables of the census of 1911 it was assumed that all the population in the estimated areas were animists, whereas in the census of 1921 it has been shown that a considerable number of them were Buddhists; Marginal Table 5 has accordingly been corrected on the assumption that Buddhists and animists were in the same proportion in those areas in 1911 as in 1921. The proportion of Hindus has continually approached that of Mahomedans, but only because of the immense number of male Hindu immigrants. The increase of Christians and decrease of *Others* is due to conversions of animists to Christianity. The decline in the proportion of Buddhists does not represent a decline in their absolute numbers but a slower rate of increase than the Hindus, Mahomedans and Christians. The increase of these religions relative to that of Buddhism has in fact been even greater than Marginal Table 5 shows, because the figures of that table are affected by the successive extensions of the census area, which have depressed slightly the proportions of these three religions by bringing in additional Buddhists and Animists. Subsidiary Table VIII of Chapter I shows the increases for the main religions in each of the last two decades in the area enumerated at the beginning of that decade; and the figures of that table which show the percentage of increase are reproduced in Marginal Table 6. This limitation of area is not quite fair to the Hindus and Mahomedans because the people of these religions in the areas of the census extensions are migrants from the areas represented in the table; but the numbers of such migrants are too small to affect the percentages shown, according to which Hindus and Mahomedans have been increasing more rapidly than the total population, while the Buddhists have increased more slowly than that total. If the comparable area in which the variation of the population was measured in Chapter I is considered, the proportions of Buddhists in 1,000 of the total population in 1901, 1911 and 1921 respectively are 893, 879, 870. The decrease in 1901-11 is here less than in Marginal Table 5 because the additions of animists brought in by extensions of the census are discounted, but the decrease in 1911-21 is the same. The number of Buddhists converted to other religions is negligible, and the continued decline in their proportions is due chiefly to the immigration of Hindus, Mahomedans and Chinese. In the last decade there has been an added cause in the simultaneity of a low rate of natural increase among Buddhists with a high rate amongst Indians. This cause is discussed further in Chapter V in connection with the age-distribution of the Indian population; and it is shown there that the conditions have changed in or about 1921 so that the natural rate of increase among Buddhists tends now to become the higher. A forecast of this tendency is already shown in Subsidiary Table V of this chapter in which the proportion of Buddhists in that part of the whole population which is between the ages of 15 and 25 is seen to be larger than in 1911, in spite of the large number of immigrants between those ages who have come since that year. The increased proportion of Buddhists in this age-group indicates that the Buddhists will be increased by a larger proportion of the children born in the decade 1921-31, or at any rate in the latter half of it, than in the previous decade. This conclusion will be clearer after Chapter V has been read.

5. Corrected proportional distribution by religion.

Religion.	1921.	1911.	1901.	1891.
Buddhist ..	84⅛	857	885	903
Hindu ...	37	32	28	23
Mahomedan	38	35	33	33
Christian ...	20	17	14	16
Others ..	57	59	40	25
Total ...	1,000	1,000	1,000	1,000

6. Percentage increase from census to census corrected for changes of area.

Religion.	1911-21	1901-11.
All ...	9	15
Buddhist ...	8	13
Hindu ..	24	36
Mahomedan	19	24

81. Religion and Race.—Imperial Table VIB gives for the first time an analysis by race of the population of each religion, and some of its entries are amplified by Imperial Table XIII; but in this article the figures will be slightly modified in accordance with the transfer of Chinese to Chinesism. For Christians the figures are obtained from Imperial Tables XIII, XV and XVI without correction for Roman Catholics tabulated as Hindus.

7. Buddhists classified by Race.

Race.	Persons.	Proportion per 1000 of whole.
Burma Group	8,614,901	771
Talaings ..	322,689	29
Karens ..	943,878	84
Shans ...	1,009,750	90
Other indigenous races.	273,174	25
Indo-Burma races.	781	...
Indians ...	7,155	1
Others ..	566	..
Total	11,172,984	1,000

The Buddhists are classified by race in Marginal Table 7. More than three-quarters belong to the Burma group of races, and this is still true if we exclude the Danu, Intha, Taungyo and other races (A9 to A16 in Imperial Table XIII) and regard only the Burmese proper and their particularly close relatives such as the Arakanese and Tavoyans. Shans make up one-eleventh of all the Buddhists, Karens one-twelfth, Talaings one-thirty-fourth and all other indigenous races one-fortieth. Only a little over one Buddhist in 1,600 is an Indian.

The Hindus are of course practically all Indians. The exceptions are 6,889 Kathè or Manipuri Hindus who have been treated in this census as an indigenous race of the Chin Group, and 9 male and 3 female Singhalese. Less than one-seventh of the male and less than three-sevenths of the female Hindus were born in Burma; almost exactly three-quarters of the whole are immigrants amongst whom females form only a very small proportion. Subsidiary Table III gives some statistics of interest relating to Hindus, Sikhs, Aryas and Brahmos taken together as one class.

Of the Mahomedans almost exactly one-quarter are made up of Burma Moslems (Mahomedan Zerbadis and Arakan-Mahomedans) who are of mixed Indian and Burman descent and of a number of persons who described themselves as Burmese by race and Mahomedan by religion. There are also a few Arakan-Kaman, Chinese and Malays, but the great majority are of Indian races. The Indian Mahomedans differ from the Hindus in that a majority of them were born in Burma; three-fifths of the males were born elsewhere but only one-seventh of the females. Some statistics of the Burma Moslems and of Chinese Mahomedans (known commonly as Panthays) and of Indian Mahomedans born in and out of Burma respectively are given in Subsidiary Table III of this chapter.

8. Mahomedans classified by race.

Race.	Males.	Females.	Proportion per 1,000 of whole.
Burma Moslem ..	57,869	59,388	234
Burmese	2,683	5,913	17
Chinese	1,076	441	3
Indian—			
(i) Born in Burma ...	103,461	99,439	406
(ii) Born elsewhere ...	146,139	17,242	326
Others	3,299	3,632	14
Total	314,527	186,065	1,000

For Christians a classification by race is given in Part II of Imperial Table XV and summarised in Marginal Table 9. More than two-thirds of the Christians are Karens; as other indigenous races make up one-ninth, approximately one-fifth belong to non-indigenous races. Of this remainder of one-fifth, one-half is contributed by the Christian races (that is the European and allied races, the Armenians and the Anglo-Indians), and over one-third by Tamils, leaving only a small balance of Telugus and other Indian races and of Chinese and other non-Indian races. Subsidiary Table VI of this chapter shows the increase in the number of Christians of indigenous and Indian races respectively since 1911.

9. Christians classified by race.

Race.	Persons.	Per 1,000 of the whole.
Burma Group ...	14,611	57
Karens	178,225	693
Other indigenous races ..	14,924	58
European and allied races and Armenians.	8,630	33
Anglo-Indian ..	16,658	65
Tamil	17,737	69
Telugu ...	2,184	8
Other Indians ...	2,741	11
Others	1,456	6
Total ...	257,100	1,000

Subsidiary Table VII shows the distribution of Christians by race in 1921 and shows approximately their distribution in 1911 and 1891; but the figures for these earlier censuses have many difficulties. It must be noted that the details for indigenous races are given generally in terms of race-groups. The numbers shown for the Burma group in 1911 are those given in the last appendix to Imperial Table XIII of 1911 for *Burmese*, but it is unlikely that those figures related to Burmese only; the meanings of nearly all the entries in that appendix are uncertain. No figures at all are given for 1901 in this subsidiary table because the tables of 1901 do not admit of the extraction of them. Even some of the figures which have been entered involve estimations, but it is believed that the largest possible errors in these are small in comparison with the numbers in which they are included.

82. Religion in Urban and Rural Areas.—Some notes on the distribution by religion of the population of census towns, urban areas and rural areas have already been given in Article 52 of Chapter II. Reference may be made to Subsidiary Tables II and VI of that chapter and to Subsidiary Table IV of this.

83. Sects of Christians.—The term *Sect* is used in Imperial Table XV as a generic name for the classes of Christians separately tabulated. Objection to it was raised by some clergymen who preferred to emphasise rather the aspect of unity amongst the churches; but none was able to offer a better word, and *Sect* has had to stand as a technical term with no invidious implications. *Sect* differs from *Church* or *Denomination* because there is a Protestant sect in the table and because the Methodist sect includes both Wesleyans and Episcopal Methodists while the Baptist sect includes both the English and the American Baptists. Two small sects peculiar to Burma are described in the next article.

10. Christian Sects.

Sect.	All Races.		Excluding Christian Races.	
	1921	1911	1921	1911
Baptist	160,656	129,265	158,206	120,549
Roman Catholic ..	71,941	60,282	61,434	50,770
Anglican	20,410	20,734	10,466	9,999
Presbyterian ..	1,508	1,009	119	67
Methodist	1,424	1,675	861	1,179
Other definite sects ...	1,061	687	705	272
Protestant and indefinite	106	3,363	97	2,706
Total ..	257,106	210,015	231,818	185,542

In Burma, as Marginal Table 10 shows, there are only three sects of which the numbers of adherents are considerable; namely the Baptist, Roman Catholic and Anglican in the diminishing order of those numbers. If European and allied races, Anglo-Indian and Armenians—which may be called the Christian races—are excluded, the numbers for the other races are as shown in the last two columns of Marginal Table 10. Each of the three large sects shows an increase; but as it is doubtful how many of the 2,706 insufficiently described persons of 1911 were Anglicans the figures for this sect (in which the increase is less than 2,706) are really inconclusive. There must also be a little doubt about the change of the Roman Catholics on account of the discrepancy between the figures given by the census and those compiled by the Church. According to the Catholic Calendars the numbers of Roman Catholics in Burma in 1921 and 1911 were 93,158 and 81,838 * respectively.

It was suggested by one clergyman of the Church of England that a mistake had been made in interpreting the name *Ye-byan* given by some Burmese and Karen Christians for their sect; he thought that in some cases it meant a Wesleyan. Enquiry was made in several districts, particularly Mandalay, Toungoo, Moulmein and Myaungmya, but it was found that in all cases the term had been used in the enumeration-record for the Church of England alone. Only in Myaungmya district could the complainant specify any particular villages; for these the enumeration-books were obtained and shown to him and he professed himself satisfied. The term *Ye-byan* was always interpreted as Church

* Assuming the census figures for the Burma part of the Dacca diocese were correct; these are only 578 and 434 and are admittedly nearly right, so that their error would be insignificant in the grand total for the province. See the Note at the end of this chapter.

of England in the tabulation office. There seems moreover to be no reason to suppose that such an error was made with regard to any other sect of Christians.

In previous censuses the non-Christian races have not been differentiated in the tabulation by sect; but it has been done on this occasion in Part II of Imperial Table XV, and the figures are summarised in Marginal Table 11. (Race - groups are explained in Imperial Table XIII.)

11. Christian Sects among Non-Christian Races, 1921.

Race.	Total Christians.	Baptists.	Roman Catholics.	Anglicans.	Others.
Burma Group and Talaings	15,381	7,265	6,335	1,293	488
Karen Group	178,225	134,924	36,506	6,782	213
Other indigenous races ...	14,154	12,127	1,821	179	26
Tamils and Telugus ...	19,861	2,868	14,216	2,028	749
Other Indians	2,741	1,022	2,555	384	236
Others	1,456				
Total ...	231,818	158,706	61,434	10,466	1,712

84. Christian Sects peculiar to Burma.—The Christian Karens pay much attention to Bible-reading, and have a way of fixing upon some particular text and giving it an interpretation of their own. For instance a number of old Karens near Wakèma in the Myaungmya district, contemplating the text "Except ye become as little children," thought the doors of Heaven were shut against them as old people, and began to organise themselves as a band of children, playing children's games and wearing children's clothes. This tendency to discover and apply new interpretations makes the Karens particularly apt to form new sects; most of these naturally die out, but some endure. There are now two of these;—the Kleebo and Silein sects.

The Kleebo sect was originally founded in about 1907 by a Karen priest of the S.P.G. Mission in Toungoo, Thomas Pellako by name. He with a number of other Christian Karens broke away from the Church of England and formed a separate sect under the name of Kleebo. They were of opinion that Kree (the Karen name for Christ) was a misnomer and ought to be Klee, so they use the name *Klee* or the fuller form *Klee-bo* for Christ. In Karen *bo* means beloved while *klee* means a bow for shooting arrows; so the bow and arrow have been taken as the symbol of the sect, and the Burmese call the religion *Le-batha* which also means the bow-religion. An arrow is made of the stalk of a certain kind of flower and an endeavour is made to shoot it over the roof of the Church; if the effort is successful the shooter is assured that his sins are forgiven. A clergyman of the S.P.G. in Toungoo, where the sect first arose, expressed the opinion that the Kleeboists should be regarded in the census "as a schismatic Christian sect". Kleeboist however was not recorded on a single slip from the Toungoo district. A few were recorded in one township of Bassein district; but the Burmese name was written (with a numeral) as the four religions, the reason being that the Burmese word for *four* is identical with that for *arrow*. I suppose the Burmese enumerator understood what he meant; but, as I knew only the name *Kleebo* for the sect at the time, I did not understand, particularly as the Bassein district office—apparently deceived exactly as I was—treated the people for whom *Le-batha* was recorded as if they belonged neither to the Christian nor to any other of the five largest religious classes of the province. An enquiry was however addressed to the Bassein office and it was learned that in the townships in which the Kleeboists were most numerous they had been recorded as animists. This is just about as appropriate as recording them as Christians; so the "four religion" people were then treated as animists in the same way, and consequently no Kleeboists appear in the tabulation. The 44 Karen animists recorded in Bassein district are probably all Kleeboists; of the number in Toungoo there is no indication but it is probably only a few hundreds. There are possibly some more in Bassein who have been recorded under the Church of England, of which they would presumably regard themselves as a branch; most however have definitely reverted to animism. There are said to be some in and around Danubyu.

The Silein sect started only in about 1920 at Padoywa near Nyaunglebin, and spread through Hlègu, Letpadan, Okkan and Danubyu. They were originally Baptists who fixed upon various instructions in their Bibles that an anointing oil

should be used, and accordingly administered baptism with an oil purchased from the European chemists, probably macassar oil. The name of the sect (which means *oil anointing*) is derived from this practice. Some members of the sect who were consulted estimated the total number at 2,000 to 3,000; but the estimate given in Marginal Table 12 is probably nearer the truth. Even so however the majority were not recorded in the census, as Marginal Table 12 also shows. Probably the others have been regarded as a class amongst the Baptists to whom they formerly belonged. In fact I suspect that in most cases when the enumerator was told the name of their sect, and found it was not one of the names in the list of the principal sects which (as noted at the beginning of this chapter) had been given to him to assist him, he asked them whether their new name was equivalent to one in his list. In that case he would naturally be told to record Baptist. The numbers are too small to affect those of the Baptists seriously.

12. Silein.

District.	Estimated.	Recorded.	
		Males.	Females.
Insein ...	300	43	4
Hanthawaddy	100	97	...
Tharrawaddy	100	5	14
Pegu ...	100	...	...
Ma-ubin ...	200	5	4
Total ..	800	80	22

A Note on the Number of Roman Catholics.

The figures for the separate sects of Christians were published in the newspapers as soon as they were obtained. A few corrections had to be made subsequently as further information about vernacular names of sects was obtained; but all these except one were trifling, and that one not very large. The record of the number of Roman Catholics was severely criticised by the *Voice*, which is the journal of the Roman Catholic Church in Burma. The *Voice* of July 1922 estimated the Roman Catholics of Burma as 92,474 and declared that the defect of over 20,500 below this in the census figure (71,941) was to be accounted for by the wrong attribution in the census to other sects of many "Catholics of the ignorant class and of the native races" who described their religion inaccurately to the enumerators of the census. Father Loizeau also wrote in the *Voice* of August that some Roman Catholics in Salween district had been recorded as Baptists. On investigation it was found that in the village to which Father Loizeau referred all had been shown as animists except nine persons in three families who had been shown as Roman Catholics; and when Father Loizeau was asked to give the names of the Christians who had been omitted he wrote: "In that same village there were really two more families who were baptised about nine years ago; but as I had not been able to visit them for several years, they turned back to nat-worship. I was trying to get them back at the time of the census. Most probably they gave their religion as Buddhist or Animist." During this enquiry I was made suspicious about the record in Thatôn district, and after investigation there by the Deputy Commissioner it was found that by a mistake of the enumerators all the Tamils in certain villages had been recorded as Hindus although there were some Roman Catholics included amongst them. These were mostly living in isolated houses in the fields, not in villages. Father Boulanger who was in spiritual charge of the area gave figures by which the error may be estimated at 300. Meanwhile the records of the separate Vicariates of the Church had been separately compared with the census returns. It was found that in the Northern and Eastern Vicariates the census differed from the Church by only seven persons and that there was no difficulty about the figures for the portion in Burma of the diocese of Dacca; the whole defect was in the Southern Vicariate. The records of 1911 were also investigated with similar result. The records of the Church do not permit comparison district by district, but it was possible to show that the discrepancy indicated in Marginal Table 13 hereby was shared by every part of the Southern Vicariate both in 1911 and in 1921.

13. Catholics in the Vicariate of Southern Burma.

Record.	1921.	1911.
Church *	60,730	56,526
Census ...	39,620	33,061

* 180 Catholics of Nyaungbin have been deducted as they have been counted towards the Eastern Vicariate for comparison with the census figures.

The figures of Marginal Table 14 involve estimates because the Church figures are kept partly in terms of classes of people instead of areas; but they are near enough to show the discrepancy extended everywhere and was not very different in any part at the two censuses. Study of the Church figures year by year shows that baptisms, conversions and deaths should afford an increase of roughly 1,000 per annum in the Southern Vicariate, whereas the Church shows a much smaller increase; the figures given above for 1911 were raised to 59,423 in 1912, leaving only 1,457 increase for nine years 1912-21. There is thus according to the church a loss in some unexplained way of nearly 1,000 Catholics per annum; and this cannot be explained by emigration. The matter was discussed with Father St. Guily the Vicar of St. Mary's Cathedral; he was unable to accept an estimate of less than 56,000 for the Southern Vicariate because a lower estimate would raise the average annual rate of baptisms (of which there is of course a perfectly reliable record) above 30 per 1,000, which he thought the highest that could be assumed having regard to the disparity of the sexes. At the suggestion of Father St. Guily the Kyauktan subdivision was selected as a test area, and a joint enquiry there was made by Maung Ba E, K.S.M., A.T.M., the Subdivisional Magistrate and Father Chave the local missionary. Over a year had then elapsed since the census, and the enquiry failed to establish much; the priest claimed that some Indians living in isolated huts were omitted from the census, but the local headman asserted that those who were actually named were away from their homes at the season of the census.

14. Defect of Census from Church figures.

Local Area.	Estimated defect of Census figures.		Total in Catholic Calendar of 1921.
	1921.	1911.	
Rangoon and along the railway to Prome.	7,800	8,150	23,046
Bassein and Myaungmya.	6,400	6,600	13,567
Henzada ...	4,300	4,750	8,609
Delta ...	2,850	3,600	11,050
Tenasserim ...	600	500	4,708

To cut a long story short, the indications with regard to the Southern Vicariate seem to be as follows:—

(1) The omission to record the 300 Tamils in Thatôn district as Christians is probably not an isolated instance; probably *Hindu* was noted for many others, possibly without enquiry but perhaps because of the difficulty of language.

(2) But some claims by the Church can no more be admitted than the claim of Father Loizeau to count the converts whom he was still trying to reconvert after a return to animism.

(3) Considerable numbers of the Roman Catholics are only loosely held by the Church; hence the loss of 1,000 every year in spite of some backsliders being kept on the list (as in Father Loizeau's case) because reconversion was hoped for. In the Eastern and Northern Vicariates the Roman Catholics are less scattered and the priests thus have more influence over them and get them recorded as Roman Catholics in the census.

(4) The hold of the Church upon its converts has been weakened by the depletion of the ranks of European missionaries. Some priests went to Europe to join the French army and between 1914 and 1921 ten out of 46 (of the Southern Vicariate alone) died in Burma; but no recruits came after 1914 to take any of these places. The priests therefore could not visit places where only a few Roman Catholics lived, and thus would be ignorant of the loss of just those who were most likely to fall away.

(5) The *Voice* itself (August 1922) has drawn attention to the limited nature of the financial resources of the Roman Catholic Mission in the following terms: "Money is the sinews of war, and this old saying applies to missionary work . . . . The pecuniary resources of our mission are scanty in the extreme . . . [The American Baptist Mission] is able to engage and pay for the services of a large number of workers, both imported and indigenous, and particularly to throw in the field a large army of *sayas* and catechists. Here undoubtedly we stand at a great disadvantage, and the number of converts is accordingly very limited in our case and rapidly increasing in the case of the Baptists." This disadvantage obviously applies not only to getting new converts but to retaining those already made.

(6) Women and married men living a regular family life would be less likely to fall away than bachelors and married immigrants whose wives had been left in India; the numbers of births and baptisms would therefore diminish in smaller proportion than the whole number of Roman Catholics, and would perhaps not diminish at all. An assumed Catholic population of 45,000 would make the birth-rate about 38·35; Father St. Guily, judging by normal times, thinks this too high, but the times have not been normal.

(7) Some allowance should possibly be made for seasonal migration from India.

(8) There is no reason for supposing that any Roman Catholics have been assigned in the census to the Baptist or any other Christian sect. All the discrepancy is exactly in those parts where Indians are numerous, and the Baptist authorities believe the census figures agree closely with their own—although precise comparison is not possible because the Baptist record is in terms of households instead of persons.

(9) The agreement of the church and the census in the Eastern and Northern Vicariates suggests that there was nothing in the census organisation or in the instructions to enumerators to militate against a correct record being made.

(10) The true figures for Roman Catholics in the Southern Vicariate lie between the census estimate (say 40,000) and the church figures (56,000 to 60,000). It is difficult to say what is the correct figure because there is difficulty in determining whether some people really are Hindus or are Christians. If the census figure were raised to 45,000 it is probable that a large proportion of the extra 5,000 would not be very Christian, and that it would be at least doubtful in some of these cases whether Christian would be more correct than Hindu. The attachment to Christianity of the last 10,000 of the Church's estimate is probably very slight indeed. The number of Roman Catholics in the Southern Vicariate may be put at 40 to 45 thousand, and thus the number for the province at 72 to 77 thousand instead of 71,941 as recorded.

(11) The Roman Catholic Church authorities can prevent the same difficulty arising at next census by adopting the suggestions issued from the census office to them in common with all other churches for ensuring a correct census record of their adherents. It is very evident that the missionaries did not follow this plan, and it is probable that they would have had all their converts correctly recorded if they had. Even with few missionaries they could achieve this by an early beginning and careful organisation.

SUBSIDIARY TABLE I.—*General distribution of the population by religion, and its variation since* 1891.

Religion and Natural Division.	Actual number in 1921.	Proportion per 10,000 of population in				Increase per cent. of the figures in columns 3 to 6.			Percentage of net variation * from column 6 to column 3.
		1921	1911	1901	1891	1911-1921	1901-1911	1891-1901	
1	2	3	4	5	6	7	8	9	10
BUDDHISTS.									
Province	11,201,943	8,506	8,572	8,862	9,053	-1	-3	-2	-6
Burman	9,989,682	8,689	8,783	8,958	9,105	-1	-2	-2	-5
Delta ...	4,056,051	8,414	8,532	8,795	8,980	-1	-3	-2	-6
Coast ...	1,199,407	7,503	7,599	7,599	7,941	-1	...	-4	-6
Centre ...	4,225,111	9,588	9,602	9,642	9,631	...	...	..	..
North ...	509,113	7,576	7,827	8,557	9,237	-3	-9	-7	-18
Chin	2,488	165	114	165	?	45	-31	?	...
Salween ...	45,829	4,012	3,854	?	?	4	?	?	?
Shan	1,163,944	8,273	8,363	9,098	?	-1	-8	?	-9
ANIMISTS.									
Province	702,587	534	579	385	221	-8	50	74	142
Burman	288,524	251	258	200	170	-3	29	18	48
Delta ...	57,994	120	137	95	94	-12	44	1	28
Coast ...	70,188	439	454	458	464	-3	-1	-1	-5
Centre ...	31,308	71	94	100	119	-24	-6	-16	-40
North ...	129,034	1,930	1,752	1,085	260	10	61	317	638
Chin	145,173	9,612	9,714	9,637	?	-1	1	?	...
Salween	56,622	4,957	5,671	?	?	-13	?	?	?
Shan	212,268	1,509	1,524	816	?	-1	87	?	85
HINDUS.									
Province	484,432	368	321	275	228	15	17	21	61
Burman	468,672	408	364	306	226	12	19	35	81
Delta ...	342,155	710	647	531	367	10	22	45	93
Coast ..	51,076	320	304	336	288	5	-10	17	11
Centre ...	57,005	129	107	80	82	21	34	-2	57
North ...	18,436	274	219	184	299	25	19	-38	-8
Chin	3,400	159	123	134	?	29	-8	?	19
Salween	648	57	41	?	?	39	?	?	?
Shan	12,712	90	44	42	?	105	6	?	116
MAHOMEDANS.									
Province	500,592	380	347	328	333	10	6	-2	14
Burman	495,124	431	398	369	335	8	8	10	29
Delta ...	157,786	327	293	248	197	12	18	26	66
Coast ...	259,887	1,626	1,540	1,524	1,219	6	1	25	33
Centre ...	70,676	160	151	135	132	6	12	2	21
North ...	6,775	101	123	118	121	-18	4	-2	-17
Chin	102	7	12	10	?	-42	20	?	-30
Salween	770	67	60	?	?	12	?	?	?
Shan	4,596	33	21	23	?	57	-8	?	41
CHRISTIANS.									
Province	257,106	195	173	142	159	13	22	-11	23
Burman	232,830	203	190	159	160	7	19	-1	27
Delta ..	189,653	393	381	326	358	3	17	-9	10
Coast ...	17,582	110	101	81	89	9	25	-9	24
Centre ...	19,078	43	40	33	29	8	21	14	48
North ...	6,517	97	51	30	58	90	70	-48	67
Chin	850	56	14	3	?	300	367	?	1,767
Salween	10,360	907	374	?	?	143	?	?	?
Shan	13,066	93	48	16	?	94	193	?	469

* In the cases of the Chin and Shan divisions the figures of this column relate to the variation from column 5 to column 3 for each religion.

SUBSIDIARY TABLE II.—*Proportion of each religion per* 10,000 *persons in each district and natural division at each census since* 1891.

Natural Division or District.	BUDDHISTS.				ANIMISTS.				HINDUS.				MAHOMEDANS.				CHRISTIANS.			
	1921	1911	1901	1891	1921	1911	1901	1891	1921	1911	1901	1891	1921	1911	1901	1891	1921	1911	1901	1891
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
Province	8,506	8,572	8,882	9,053	534	579	385	221	368	321	275	228	380	347	318	333	195	172	140	159
Burman	8,689	8,783	8,958	9,105	252	458	200	170	408	364	306	246	431	398	369	335	203	190	159	160
Delta	8,414	8,532	8,705	8,980	120	137	95	94	710	647	530	367	327	273	248	197	393	381	326	358
Rangoon	3,303	3,313	3,560	4,128	84	248	313	27	3,656	3,604	3,583	3,308	1,112	1,102	1,031	1,309	730	726	721	703
Insein	8,220	8,180	8,360	9,329	110	88	66	40	841	703	494	319	273	200	189	175	532	541	370	155
Hanthawaddy	8,684	8,755	8,627		143	82	53		1,898	1,283	976		351	329	278		159	111	66	
Thurrawaddy	9,418	9,541	9,579	9,784	43	54	95	53	186	170	213	83	110	80	79	48	104	139	109	91
Pegu	8,830	8,624	9,090	9,386	151	156	54	37	612	871	583	505	419	370	336	111	220	197	207	165
Bassein	8,755	8,967	8,898	9,141	67	46	51	35	305	288	321	151	304	284	163	122	667	633	571	563
Henzada	9,533	9,567	9,674	9,882	36	25	7	2	122	124	88	70	45	89	62	37	313	198	167	187
Myaungmya	8,752	8,974	9,300		109	87	31		257	183	89		309	212	152		578	542	452	
Ma-ubin	9,175	9,300		9,505	83	84		27	207	176		87	182	159		82	363	345		293
Pyapôn	8,792	8,954	9,576		131	139	54		369	474	233		108	135	114		313	284	280	
Toungoo	7,803	7,589	8,113	7,910	542	637	561	547	513	495	103	188	214	181	151	157	928	944	978	1,495
Thaton	9,135	9,119	9,397	9,114	49	142	26	482	448	403	503	196	285	345	200	84	82	89	60	119
Coast	7,593	7,599	7,599	7,941	430	454	458	463	580	304	338	282	1,626	1,590	1,524	1,219	120	101	81	89
Akyab	5,467	5,708	5,814	6,304	639	639	658	670	253	273	296	235	3,685	3,306	3,221	2,868	11	11	15	22
Kyaukpyu	8,923	8,970	8,983	8,804	803	736	828	847	32	53	25	13	224	196	217	262	7	5	7	8
Sandoway	9,005	8,858	8,734	8,814	497	645	715	708	51	37	61	23	467	424	450	406	85	48	58	50
Amherst	8,499	8,423	8,330	8,694	82	118	68	191	600	649	844	574	658	688	600	455	169	185	160	148
Tavoy	9,858	9,579	9,806	9,781	132	102	98	10	228	62	50	34	189	215	102	84	189	148	150	181
Mergui	7,723	8,041	8,664	8,513	475	397	198	259	488	308	86	116	980	881	802	717	454	407	248	308
Centre	9,588	9,610	9,642	9,631	71	94	100	119	197	107	80	82	160	151	135	132	43	40	33	89
Prome	9,588	9,498	9,603	9,687	115	245	251	256	248	150	71	66	112	93	78	63	33	26	17	27
Thayetmyo	9,385	9,186	9,102	9,068	441	614	651	690	76	88	98	101	70	87	101	86	18	23	37	38
Pakôkku	9,880	9,837	9,884	9,788	72	84	54	122	18	28	27	59	22	22	30	43	7	7	5	7
Minbu	9,608	9,021	9,677	9,867	177	218	234	249	78	100	55	43	45	40	39	51	6	6	8	6
Magwe	9,700	9,832	9,890	9,917	15	11	31	18	171	83	26	35	89	51	30	33	27	15	6	10
Mandalay	8,899	8,634	8,901	9,112	70	44	26	40	510	472	356	300	651	612	555	491	834	193	119	84
Shwebo	9,078	9,077	9,008	9,517	10	3	4	6	65	64	58	155	105	177	151	250	51	77	86	58
Sagaing	9,820	9,817	9,865	9,845	3	3	3	1	60	56	32	51	86	90	65	57	99	32	50	35
Lower Chindwin	9,918	9,985	9,983	9,950	4	2	2	2	58	34	33	16	30	28	25	18	10	9	7	1
Kyaukse	9,468	9,540	9,672	9,830	11	1	4	3	52	57	43	43	402	350	245	247	48	48	31	15
Meiktila	9,714	9,712	9,808	9,873	18	3	5	5	91	105	66	54	148	152	106	61	27	24	20	15
Yamèthin	9,238	9,370	9,429	9,409	84	70	110	95	118	122	87	104	400	359	332	331	75	58	41	31
Myingyan	9,718	9,918	9,950	9,902	9	4	8	6	50	40	19	39	26	34	19	34	8	7	5	17
North	7,576	7,887	8,357	9,237	1,090	1,752	1,085	260	874	210	184	209	101	123	118	121	97	51	30	58
Bhamo	4,912	4,961	5,976	8,450	1,221	1,496	3,847	501	124	153	118	635	174	208	238	177	550	185	100	152
Myitkyina	3,370	3,595	3,100		5,054	5,372	2,762		746	723	627		103	222	229		84	66	54	
Katha	9,330	9,350	9,378	9,350	370	378	389	165	137	153	142	321	98	92	67	140	29	25	...	49
Putao	7,980	...	...	...	603	...	...	...	1,893	...	...	...	40	...	...	...	42	...	...	...
Upper Chindwin	9,502	9,602	9,734	9,862	205	218	189	123	180	104	72	147	57	63	50	65	50	10	15	10
Chin	185	114	165	...	9,822	9,774	9,837	...	159	223	134	...	7	12	19	...	56	14	3	...
Hill Dt. of Arakan	1,084	807	731	823	8,632	8,915	9,054	8,914	285	255	201	250	22	19	5	12	7	3	1	1
Chin Hills	32	7	31	...	9,737	9,816	9,775	...	149	173	118	...	4	12	11	...	78	19	8	...
Pakôkku Hill Tts.	64	12	...	...	9,885	9,943	...	...	91	58	...	...	4	3	...	...	5	3	...	...
Salween	4,012	3,854	...	...	4,957	5,671	...	...	87	48	...	...	67	60	...	...	907	374	...	...
Salween	5,226	4,803	5,645	1,375	4,488	5,379	6,364	8,485	70	58	58	55	100	87	44	66	150	82	49	55
Karenni	3,854	3,459	...	...	5,339	5,985	...	...	46	85	...	...	57	40	...	...	1,304	588	...	...
Shan	8,473	8,383	9,096	...	1,509	1,521	816	...	90	44	48	...	32	22	23	...	93	48	26	...
N. Shan States	7,437	7,818	9,289	...	2,344	2,805	897	...	140	54	118	...	41	26	48	...	53	7	8	...
S. Shan States	8,985	9,003	9,613	...	958	889	907	...	55	37	13	...	27	1	13	...	131	73	80	...

SUBSIDIARY TABLE III.—*Statistics of certain classes of Hindus, Mahomedans and Christians in each natural division.*

Class.	Natural Division.	Actual number in 1921.	Proportion per 10,000 of total population of same natural division.	Proportion per 100 of total of class named in column 1.	Actual number in 1921.	Proportion per 10,000 of total population of same natural division.	Proportion per 100 of total of class named in column 1.
1	2	3	4	5	6	7	8
		Born in Burma.			Born outside Burma.		
Hindus, Sikhs, Aryas and Brahmos.	Province ..	99,763	76	20	396,655	301	80
	Burman ...	96,691	84	20	383,188	334	80
	Delta ...	67,471	140	19	280,950	583	81
	Coast ...	10,415	65	20	41,298	258	80
	Centre ...	13,989	32	23	46,371	105	77
	North ...	4,816	72	24	15,009	223	76
	Chin ...	932	62	38	1,500	99	62
	Salween ..	78	7	12	570	50	88
	Shan ...	2,062	15	16	10,957	78	84
		Burma Moslems.			Chinese Mahomedans.		
Mahomedans	Province ...	117,257	89	23	1,517	1	...
	Burman ...	116,298	101	23	1,112	1	...
	Delta ...	29,308	61	19	478	1	...
	Coast ...	47,345	296	18	59	...	...
	Centre ...	38,218	81	54	193	...	...
	North ...	1,427	21	21	382	6	6
	Chin ...	2	...	2	...	...	...
	Salween ...	94	8	12	44	4	6
	Shan ...	863	6	19	361	3	8
		All other Mahomedans born in Burma.			All other Mahomedans born outside Burma.		
	Province ...	218,046	166	44	163,772	124	33
	Burman ...	216,895	189	44	160,819	140	32
	Delta ...	31,976	66	20	96,024	199	61
	Coast ...	169,643	1,061	65	42,840	268	16
	Centre ...	13,993	32	20	18,272	41	26
	North ...	1,283	19	19	3,683	55	54
	Chin ...	35	2	34	65	4	64
	Salween ...	153	13	20	479	42	68
	Shan ...	963	7	21	2,409	17	52
		Indigenous Races.			Indian Races.		
Christians	Province ...	207,760	158	81	22,602	17	9
	Burman ...	184,616	161	79	22,287	19	10
	Delta ...	155,152	322	82	17,789	37	9
	Coast ...	13,919	87	79	1,056	7	6
	Centre ...	9,675	22	51	3,310	8	17
	North ...	5,870	87	90	132	2	2
	Chin ...	788	52	93	16	1	2
	Salween ...	10,329	904	100	4	...	...
	Shan ...	12,027	85	92	295	2	2

SUBSIDIARY TABLE IV.—*Religions inside and outside Census Towns.*

Natural Division.	Number per 10,000 in Census Towns.						Number per 10,000 outside Census Towns.					
	Buddhist.	Animist.	Hindu.	Mahomedan.	Christian.	Others.	Buddhist.	Animist.	Hindu.	Mahomedan.	Christian.	Others.
1	2	3	4	5	6	7	8	9	10	11	12	13
Whole Province	5,956	195	1,963	1,310	423	153	8,784	570	194	279	170	2
Burman ...	5,943	185	1,965	1,327	423	156	9,026	259	217	321	175	2
Delta ...	4,978	163	2,663	1,414	539	242	8,966	113	396	153	370	2
Coast ...	5,448	253	1,906	2,081	296	15	7,727	459	147	1,576	90	1
Centre ...	7,758	161	847	901	290	44	9,777	62	56	85	18	2
North ...	5,128	751	1,974	1,243	306	597	7,665	1,963	213	59	89	11
Chin ...	...	...	...	...	...	...	165	9,612	159	7	56	2
Salween ...	...	...	...	...	...	...	4,012	4,957	57	67	907	...
Shan ...	6,402	558	1,871	697	417	54	8,321	1,533	45	16	85	...

SUBSIDIARY TABLE V.—*Proportion of certain religions in each* 10,000 *population of certain age-groups.*

Age.	Buddhists.		Hindus.				Mahomedans.				All others.	
			1921			1911	1921			1911		
	1921	1911	Born in Burma.	Born outside Burma.	Total.	Total.	Born in Burma.	Born outside Burma.	Total.	Total.	1921	1911
1	2	3	4	5	6	7	8	9	10	11	12	13
All ...	8,506	8,626	74	294	368*	224	255	125	380	350	746	700
0—5 ...	8,717	8,872	160	37	198	151	304	12	377	311	710	766
5—15 ...	8,755	8,926	114	73	187	130	324	29	353	294	895	750
15—25 ...	8,474	8,412	60	339	399	432	239	158	397	424	870	732
25—35 ...	7,909	8,050	50	658	708	663	239	266	505	475	878	812
35—45 ...	8,228	8,439	34	522	556	451	182	201	383	353	833	757
45 and over ...	8,806	8,931	19	236	255	199	160	119	278	252	660	618

* If Indian Animists are added in this figure is raised to 373.

SUBSIDIARY TABLE VI.—*Christians of Indigenous and Indian Races.*

NOTE.—For 1911 the figures for indigenous races have been obtained by subtracting from the figures for *Native Christians* in Table XVII of 1911, the figures given in Table XIII of that Census for (1) 23,089 Indian Christians and 452 *Race not returned* and (2) 424 Chinese and 10 of other races which have been distributed by estimate guided by the figures of 1891 and 1921 as their territorial distribution is not known. The errors involved in these estimates are too small to have any significant effect on the figures obtained.

Division.	Indigenous Races.				Indian Races.		
	1921.	1911.	Increase 1911-1921.		1921.	1911.	Absolute increase.
			Absolute.	Per cent.			
1	2	3	4	5	6	7	8
Whole Province	207,760	161,567	46,193	29	22,602	23,089	−487
Burman ...	184,616	151,867	32,749	22	22,287	22,273	14
Delta ...	155,152	131,148	24,004	18	17,789	18,022	−233
Coast ...	13,919	11,123	2,796	25	1,056	1,039	17
Centre ...	9,675	7,541	2,134	28	3,310	3,005	305
North ...	5,870	2,055	3,815	19	132	207	−75
Chin ...	788	200	588	294	16	13	3
Salween ...	10,329	363	9,969	Very Large	4	3	1
Shan ...	12,027	9,137	2,890	31	295	800	− 505

SUBSIDIARY TABLE VII.—*Christians classified by race in* 1921 *and* 1911 *and* 1891(‡) (*Including Non-Christians of European, Anglo-Indian and allied races.*)

Race-group.	1921		1911		1891	
	Males.	Females.	Males.	Females.	Males.	Females.
1	2	3	4	5	6	7
SUMMARY.						
Total	132,543	124,628	111,043†	99,048	66,138	54,792
Indigenous Races	103,039	104,721	78,574	82,993	47,365	46,195
Chinese	839	274	249	175	175	119
Zerbadis	27	19	...	...	...	...
Indian Races	13,674	8,928	15,857	7,232	2,116	1,311
Tamils	*10,146*	*7,591*	...	...	*2,013*	*1,280*
Telugus	*1,521*	*603*	...	...		
Others	*2,007*	*734*	...	...	*103*	*31*
European and allied races, Anglo-Indian and Armenians.	14,758	10,595	16,063	8,480	13,080	5,718
Christians	*14,713*	*10,575*	*15,992*	*8,481*	*13,078*	*5,717*
Others	*45*	*20*	*71†*	*5*	*7*	*1*
Other races	206	91	10	...	212	152
Race unknown	...	...	290	162	3,365	1,416
DETAILS FOR INDIGENOUS RACES BY RACE-GROUPS.						
A—Burma*	6,686	7,925	9,277	8,391	5,632	5,725
Burmese	*6,304*	*7,504*	...	...	*5,567*	*5,675*
Arakanese and Yanbye ...	*51*	*28*	...	...	*65*	*50*
Others	*331*	*357*	...	...	...	...
B—Lolo	2,284	2,150	...	...	...	...
C—Kuki-Chin	2,017	2,029	119	101	325	310
D—Naga	...	...	...	...	...	...
E—Kachin*	2,243	2,308	924	943	65	58
F—Lui	2	4	...	...	...	...
G—North Assam	...	...	...	...	...	...
H—Mro		...	...	...	...	...
I—Shan	489	537	4,793	4,837	257	141
J—Malay	4	1	...	...	17	13
K—Mon	363	407	897	1,014	[illegible]	351
L—Palaung-Wa	70	13	...	...	...	...
M—Khasi	2	1	...	...	...	...
N—Karen	88,879	89,346	62,564	67,707	40,667	39,597
Tribe not specified ...	*11,457*	*10,901*	...	...	...	
Sgaw	*48,295*	*49,554*	...	...	*18,956*	*19,521*
Pwo	*13,887*	*13,807*	...	...	*21,356*	*19,762*
Taungthu	*128*	*113*	...	...	*25*	*26*
Others	*15,112*	*14,911*	...	...	*330*	*288*
O—Man	...	...	...	...	...	...

* No figures are available for Christians in 1911 of the Atsi, Maru and Lashi races (which in 1921 are included in the *Burma* group and number together 315 males and 347 females), nor for those of the Lolo Group, and it is not known under which race-name any of these were tabulated; they appear to have been distributed amongst Burmese, Kachins and Shans. The figures of 1911 for Mons also probably include races of some other groups. The numbers of Arakanese in 1911 were given as 125 males and 97 females; but these figures may include other races besides Arakanese and Yanbye.

† Erroneously given as 111,033 and 61 respectively in 1911 through the omission of 10 European Buddhists in Tables VI and XVII (*vide* Note to Table XVIII of 1911).

‡ No figures are given for 1901 as there are certain difficulties in the tables of that year which prevent the extraction of reliable figures.

CHAPTER V.

Age.

85. Enumeration.—The records of age were made in the seventh column of the enumeration-schedule, for which the principal instruction was that the entries should show the number of years of age each person had completed on the 18th March 1921. Emphasis was laid upon the word *completed*; and in the supplementary instructions to supervisors this was reiterated, and an example was given of a child who would reach the age of one year between the preliminary and final enumerations and should therefore be shown as one year old. Supervisors were asked to use special care about the record of age. Warnings were given of the danger of the ordinal numbers of some persons' age-years being given instead of the cardinal numbers of completed years. For households in which ages could not be stated readily it was suggested that the children should be ranged in serial order beginning with the youngest, and so assistance given to the parents in stating the ages not only of the children but also of themselves. The plan of relating the dates of marriages and births to some well-known local event of known date such as a flood or the erection of a pagoda was also suggested. It cannot be pretended that the result was an unqualified success; but when, later in this chapter, attention is given to the manner and degree of its failure, the record will be found to be sufficiently accurate for much important information to be derived from it with certainty.

86. Statistics.—The statistics of age are presented as Imperial Tables VIIA, VIIB, and XIV and as Provincial Tables III, IV and V. Part I of Imperial Table VIIA gives for the whole province the statistics of age in five-yearly periods for each sex of persons of each religion, with separate figures for each of the first five years of age; Parts II and III of the same table give for the five religions with largest numbers similar figures for Divisional Burma and the Eastern States respectively. Imperial Table VIIB gives similar statistics for every district separately in five-yearly age-groups from 0 to 20 and ten-yearly groups thereafter, separate figures being given throughout for persons of less than one year of age. In Imperial Table VIIA separate figures are given for Hindus born in Burma and for Hindus born elsewhere as well as for the total of all Hindus; and similarly for Mahomedans. In Imperial Table VIIB the figures for Hindus or Mahomedans born outside Burma have been omitted to reduce the length of the table, but can be obtained by subtraction of the figures given for the total of each religion and for those born in Burma. Imperial Table XIV gives statistics of the age-distribution in a number of the races represented in the province; generally not all the persons of a race are included, but all those in some selected districts in which the particular race is most strongly represented. In the cases of Indian races Imperial Table XIV gives separate figures for Hindus and for Mahomedans and for those born in Burma and those born elsewhere. Provincial Table III gives the age-distribution of Buddhists in each civil condition by townships, and also supplements Imperial Table VIIB by furnishing figures which in effect make that table give the age-distribution of Buddhist females by five-yearly age-groups up to age 50. Provincial Table IV gives statistics of age and civil condition for selected races by districts; and Provincial Table V gives similar statistics for persons of the principal religions in all towns of more than ten thousand population.

Further the following Subsidiary Tables are appended to this chapter:—

I.—Age-distribution of a sample of 100,000 Burmese Buddhists of each sex (1) as recorded (2) smoothed.

II.—Age-distribution of 10,000 of each sex in each national division.

III.—Proportional distribution by age-periods of 10,000 Buddhists of each sex at four successive censuses.

IV.—Age-distribution for selected races.

VA.—(*i*) Proportion of children under 10 and of persons over 60 to those aged 15 to 40; and

(*ii*) Proportion of married females aged 15 to 40 to all females.

VB.—Proportions in 1921 of children under 10 and persons over 60 to those aged 15 to 40 and of married females aged 15 to 40 to all females compared for Buddhists and the total population.

VI.—Percentage increase in population of certain age-periods.

VII.—Reported annual birth-rate in the registration-area by sex and natural division, 1911 to 1920.

VIII.—Reported annual death-rate in the registration-area by sex and natural division, 1911 to 1920.

IX.—Ratio of deaths per annum in each age-group to total living of that age-group in 1911 for the whole decade 1911-20 and for selected years thereof.

X.—Average annual number of reported deaths from certain diseases in the decade 1911-20.

In addition Subsidiary Tables V and VI of the next chapter give the absolute numbers of births and deaths at various ages corresponding to the ratios of subsidiary Tables VII, VIII and IX of this chapter.

87. Age-periods.—In all the tables of this census the limits of successive age-periods seem to overlap; *e.g. 5-10* and *10-15* both apparently include age 10. This nomenclature is in accordance however with present general practice, and every age-group includes all who on the 18th March 1921 had completed the number of years shown as the lower limit and all older than that up to those who had just not completed the number shown as the upper limit. The description *5-10* thus means "5 to just not 10 completed years."

88. Accuracy of the age-statistics.—Mr. Lowis, reporting on the Burma Census of 1901, recorded his opinion that the age-statistics obtained in the Burma census "were probably a closer approximation to the actual facts than those obtained in any other province of the Empire; in fact, in the matter of accuracy, not far behind those of European countries." This unfortunately is not such high praise as might appear; age-statistics are defective everywhere, and there are only a few countries in which the defects can be regarded as really small.

Subsidiary Table I of this chapter gives the age-distribution according to the enumeration schedules of a perfectly representative and very approximately homogeneous sample of 100,000 Burmese Buddhists of each sex. To ensure the representative character of the sample ten townships were so selected that no two were in the same district and that the ten were fairly regularly distributed over the whole of the main part of the province; in selecting them care was taken to choose those in which, according to the census of 1911, people of races other than Burmese were comparatively few, the object of this being to secure further definiteness and homogeneity in the racial character of the samples. The records (slips) for these were received in small bundles of a few hundreds of Buddhists of each sex representing census circles or groups of villages with an average of 400 houses each; and for each sex in each selected township such bundles were taken one by one at random from the parcel of the whole township and all Burmese Buddhists sorted from them and put aside until 10,000 had been obtained. The age-distribution in the whole sample of 100,000 thus obtained from ten representative townships is accordingly representative of Burmese Buddhists throughout the main part of the province. The columns of Subsidiary Table I which are headed "As recorded" show the number found at each age in all ten samples together, and immediately convict the enumeration-record of inaccuracy. It is not true, although some might at first be disposed to think it should be true, that the numbers at successive ages in a population free from immigration or emigration must form a series which would be represented by a curve that bends the same way at all parts of its length; but it is certain that there cannot be the violent changes from age to age which are shown in the table.

District.	Township.
Insein	Tantabin
Pegu	Pegu
Prome	Thègon
Bassein	Bassein
Henzada	Henzada
Thatôn	Thatôn
Minbu	Sagu
Mandalay	Madaya
Sagaing	Sagaing
Meiktila	Meiktila

It is not to be concluded however that the age-records are entirely wrong. Appendix A to this report gives an account of the attempt made to deduce correct figures for separate years of age from the recorded figures for Burmese. These attempts failed, but the mutual consistencies in the families of four curves in the diagram of the next article of this chapter afford a pragmatic proof that the crude figures are already approximately correct if they are collected for five-yearly age-groups. If the variations of the age-record from the truth were at all large

in any of these age-groups they would be reproduced in the *same* or possibly an adjacent age-group at the next census, not in the age-group of persons ten years older; and when this translation of irregularities by ten years occurs not in one isolated age-group but throughout the length of the curves of three censuses and in a modified degree for a still earlier census, it is impossible to doubt that the five-yearly age-groups for Buddhists do give something approximating to correct figures, and it may be assumed that the figures for the Burmese Buddhists are at least equally correct if collected into similar groups. In the Imperial Tables the figures for all classes *e.g.* Buddhists, are already collected into five-yearly (or larger) age-groups; underlying these but never exposed by separate tabulations are presumably the same errors in the numbers for separate ages as in Subsidiary Table I for Burmese Buddhists, but there is no need to be concerned about them. As the residual errors are not the same for the two sexes, the ratio of the numbers of the sexes at any age is not correctly given; but for the same sex at different censuses the figures are fairly comparable. With larger age-groups the proportional errors in the age-distribution are still further reduced. But the figures whether for all Buddhists or for Burmese Buddhists are to be regarded as showing the truth somewhat distorted and clouded; if the cloud is thinned by using smaller age-groups the distortion is increased; if the distortion is reduced by expanding the age-groups the essential characters of the statistics are more seriously clouded.

The non-Buddhists include (besides others) 128 thousand Zerbadis and others of Indo-Burman races and Mahomedan Burmese, 25 thousand Europeans and Anglo-Indians and 209 thousand other Christians who are not Indians and are chiefly of indigenous races. Amongst all these 262 thousands the age-records are probably of the same quality as among Buddhists or better; possibly European and Anglo-Indian women have understated their ages in some cases, but their total numbers are small and a large proportion of them have probably given their ages correctly. The other non-Buddhists number roughly 1,600 thousands of whom 887 thousands are Indians, 593 thousands are Animists of indigenous races and 119 thousands are Chinese. The Indians include a proportion of educated people who would give their ages correctly, but there are a much larger number for whom the record would have all the defects found in the age-records of the Indian provinces, especially Madras, Bengal and the United Provinces. The indigenous animists are probably unable as a rule to state their ages; most of them were enumerated non-synchronously and the ages recorded for many of them are probably estimates according to their appearance made by the enumerator; the record would thus depend upon the bias in the judgments of a number of enumerators which might or might not average out in the total. I am unable to say what is the probable nature of the record for Chinese; one would expect it *a priori* to be fairly correct. On the whole the age-record for the 1,967 thousand non-Buddhists may thus be expected to be inferior in accuracy to that of the 11,202 thousand Buddhists; as the non-Buddhists are less than one-fifth of the Buddhists the record for the population as a whole would accordingly be of a little lower quality than that of the Buddhists.

89. **The Age-distribution of Buddhists.**—In Subsidiary Table III at the end of this chapter the proportion of persons in each age-group as shown in Imperial Table VIIA has been tabulated for Buddhists for four successive censuses. The census of 1911 omitted from the age-tabulation some areas included in the tabulation of 1921; and that of 1901 omitted also some other areas included in the tabulation of 1911. But the following three points excuse the preparation for the present purpose of a special table covering the same area at each of these three censuses: (i) the changes in the *proportions* by age would not be large because the total *Buddhist* populations of the extensions in 1901 and 1911 of the census area were only small fractions of the whole; * (ii) as separate age-statistics for such extensions of the census area are not available only rough allowances could be made (iii) the age-records themselves are only approximate in any case and no conclusions based on fine differences can be drawn from them. For 1891 the matter is more difficult, as then the Buddhist population of the Shan States was omitted and probably exceeded one-tenth of the whole population included; it will however be sufficient to bear this in mind when the figures of that year

* Near the end of Article 29 of Chapter I it was shown that the comparable area excluded only 0·7 per cent of all the Buddhists of the province.

are involved in the comparison. If we now examine the numbers of either sex in age-group 15 to 20 in Subsidiary Table III of this chapter we discover a much larger proportion of persons in this age-group in 1921 than in the other census-years; and corresponding to this a similar excess for age-group 5 to 10 in 1911 above the proportion in that age-group in other census years. Similarly a low proportion for age-group 10 to 15 in 1901, as compared with 1891 and 1911, corresponds with a low proportion for age-group 20 to 25 in 1911 as compared with 1901 and 1921. In each of these cases, as the Buddhist population is so nearly free from additions or subtractions otherwise than by births and deaths, the persons in the later age-group are the survivors of those in the earlier age-group of the previous census: so that the high proportion in the later census is clearly a result of the corresponding high proportion at the earlier census. The high proportion at 20 to 25 in 1921 and at 10 to 15 in 1911 can thus be seen to originate in the large proportion of children under 5 in 1901; there was as it were a wave of babies round about the year 1903 which persists as a wave of high proportions at ages near 10, 20, etc., at successive censuses. It might be objected that a high death-rate at the higher ages for some time before a census would naturally increase the proportion of persons in the lower age-groups; but it would increase all proportionally and could not give the appearance of a wave persisting through successive censuses. Moreover although the proportions in the highest age-groups do indeed diminish for females at successive censuses there is no such diminution for males. Taking further examples the relatively low proportion at ages 30 to 40 in 1921 corresponds to similarly low proportions at ages 20 to 30 in 1911 and at 10 to 20 in 1901; pushing back still further to 1891 there ought to be found a correspondingly low proportion of children aged 0 to 10, but instead there is an irregularity. This irregularity is due partly to the defects of the age-record, particularly in the census of 30 years ago which followed so soon after the annexation of Upper Burma that some parts were still disturbed, and partly perhaps to the difference in the area of enumeration. (An illustration of the defects is afforded by a comparison of the figures of 1891 in Subsidiary Table III for males and females of age-group 10—15 or 15—20.) The difficulty may also quite well be due largely to the wave in the population not synchronising exactly with the census years. Although therefore the irregularity must be noted it does not destroy the general impression which is obtained from tracing one generation after another through Subsidiary Table III. In such a study the whole of that table takes on the aspect of the births of each year marching diagonally from right to left down the table; a large cohort of young children at one time can be traced through life as far as the table goes; a small cohort at another can be traced in the same way; and these phenomena occur at the same times for both sexes. A reduction by death of the number of old people at any time cannot explain this. Subsidiary Table III indeed obtains its particular character from the varying rate of additions to the population at the lowest ages and not from variations in the death-rates of adults. The varying additions of children may be due either to large numbers of births or to small numbers of infant deaths. But then it must be observed that a high proportion of children in age-group 0—5 and a high proportion of each sex at the reproductive ages of 20 to 35 both come in 1901.* As many of the latter class were still between 25 and 40 during the latter part of the decade 1901-11 the fall of age-group 0 to 5 in 1911 is moderated. But by 1921 the passing of most of that class beyond the reproductive period, and the substitution for it of the small cohort born about 1896 bring down the proportion of age-group 0-5 considerably without any reason to assume a decline of fecundity or a variation of mortality. The variations in the additions of children correspond in fact to the variations in the proportions of women of reproductive ages.

If the results of a long series of censuses were available it would be possible to show the march through life and reproductive activity of the successive cohorts in a series of curves, each of which showed on successive ordinates the proportion at each successive census of persons of a particular age or age-group; but in the present case the restriction to four censuses, representing a period of only 30 years, or approximately one generation, deprives that method of its use. Another simple graphic representation of Subsidiary Table III

* Of course it is not to be overlooked that in a series representing proportions any decrease in one term must be compensated for by an increase elsewhere, so as to keep the total constant; but when that increase is localised in a few terms, as it is here, it represents a genuine increase and not mere arithmetical compensation.

is obtained by drawing for each census a curve which shows on successive ordinates the proportion of the population in successive age-groups. A separate family of four such curves was drawn for each sex, and by adding a fifth curve to represent the mean of the four curves it was found possible to trace the phenomena described above, although it could not be said that they were clearly shown. The curves are not reproduced here because the phenomena are brought out so much more clearly by taking two further steps to draw the two families of curves shown on the next page.* The curves have been drawn only for females, because, as they relate to Buddhists and are therefore nearly free from the effects of migration, the curves for males would necessarily follow those for females very closely, while the latter are more closely connected with the essential problem of this report, namely the variations in the rate of increase of the population. For the upper family of the diagram the average of the figures for each age-group in Subsidiary Table III was first calculated, and then the variations from the average at each census were plotted; the curves thus show upon an enlarged scale the variations from the mean in the second family of curves described above. In the lower family of the diagram a further step has been taken by showing instead of the absolute variations from the averages the proportion which those variations bear to the corresponding averages. Either family represents the whole Buddhist female population because its ultimate origin is Imperial Table VII-A, which covers the whole population; but the actual variations according to the scale shown for the upper family correspond to an average sample of 10,000 Buddhist females, while the ordinates of the lower family represent percentages true for an average sample of any size or for the whole. In each part of the diagram the horizontal axis represents the average age-distribution of the four censuses considered, and the successive ordinates represent the successive five-yearly age-groups. As the ordinates themselves and not the spaces between them represent the age-groups, the boundaries of the reproductive period cannot properly be shown in the figure; but as its limits are naturally vague, and as the arguments based on the figure only require approximate knowledge of the relative positions of the curves in the early and late parts of this period, the boundaries shown in the figure are useful as an aid to the memory.

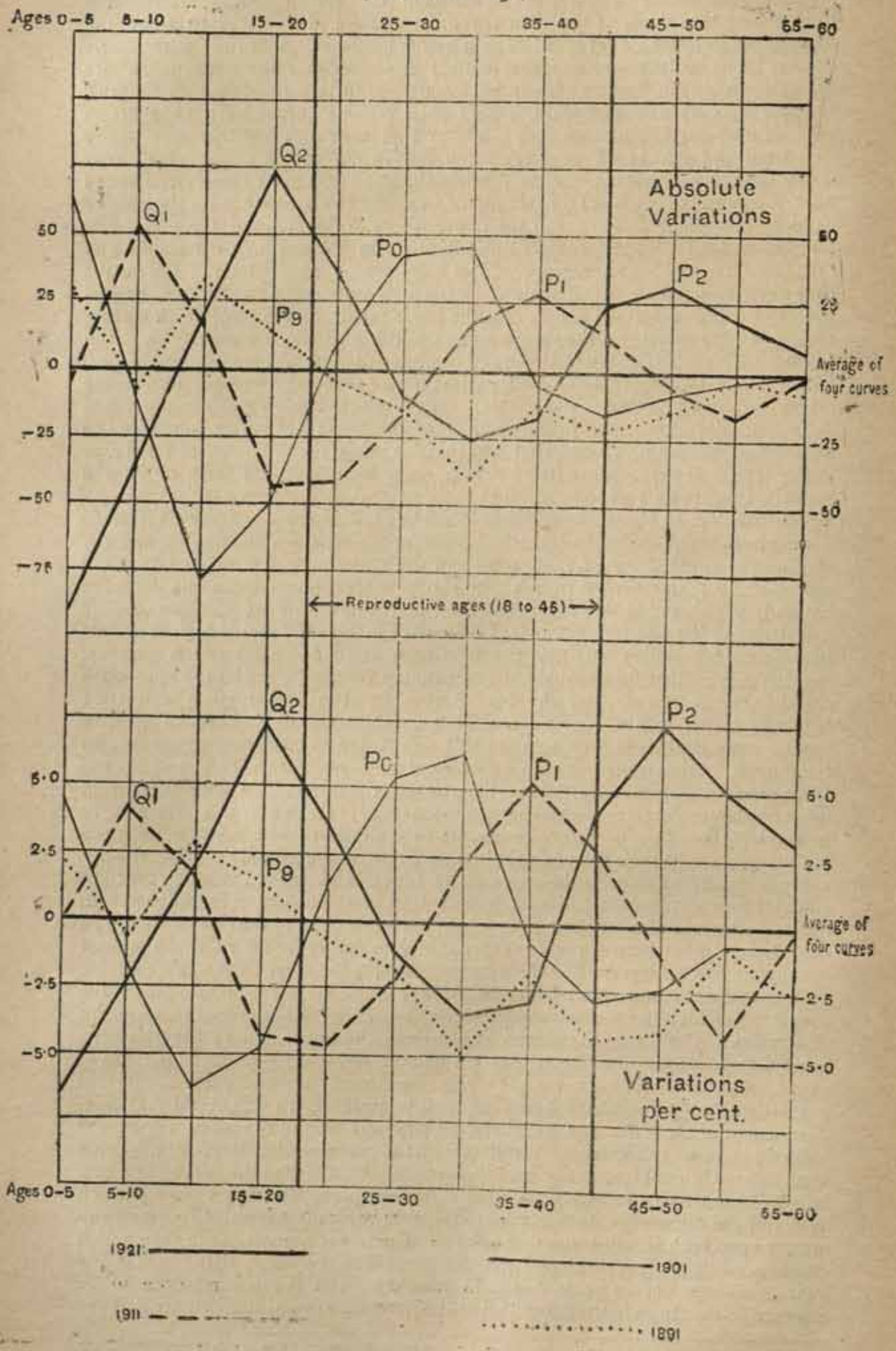
Take the upper figure which shows absolute variations, and let the four points marked P_6, P_0, P_1, P_2, on the four curves for 1891, 1901, 1911 and 1921 respectively be located. (The mnemonic association of suffixes of P with census years is obvious.) These are to be regarded as corresponding points on the curves, as they represent the survivors at successive censuses of one and the same generation of females. Travelling backwards or forwards along them from these points the mutual resemblances of the four curves are to be noted. Each curve is precisely that of the preceding census after the population of every age has grown ten years older, suffering its natural loss by death in the meantime; in fact each curve is formed by moving the curve of the previous census ten years to the right and at the same time contracting each ordinate at every moment in accordance with the specific mortality at the age to which it corresponds at that moment. The complete picture with a curve for every intercensal year would show the gradual development of each curve into the next. Take now the lower figure which shows, instead of the absolute variations in Subsidiary Table III for each age-group, the proportions which those variations bear to the mean value at the four censuses for that group. This shows the same characters as the upper figure; but whereas a given difference from the mean, say 50, has the same value in the upper curves at all ages†, the lower curves modify its value at each successive age roughly in proportion to the number of births required to produce 50 people of that age. Each curve of the lower figure is therefore precisely that of the preceding census moved ten years to the right; it differs from the corresponding curve of the upper family in making automatically an approximate allowance for the average natural loss by death between any ages which are compared for any census. Each family of the curves has its own uses; and it is generally advisable to trace any matter upon both families simultaneously. The upper curves show the actual numbers involved everywhere and give the better view of the age-distribution in any year; the lower curves guide better in measuring the relative influence to be assigned to variations in that distribution at different stages of life. If areas above

* The figures have been drawn in one colour for cheapness in printing; the reader is recommended to over-draw those of 1901 and 1911 in distinctive colours, using the same of course for each year in both figures.

† Strictly this word should be age-group, and similarly all through the discussion, but it is less clumsy to use *age* and no harm is done.

AGE-DISTRIBUTION OF BUDDHIST FEMALES SINCE 1891.

(*See Article* 89.)



the average-line are reckoned as positive and those below it negative, the total area of each curve in the upper family would be zero if it were completed in the direction of high ages; this completion could therefore be added approximately if desired, but the more important effect of this area-theorem is that any deformation at one point of a curve which causes a change of area involves a compensatory deformation elsewhere, which in the upper family must give an equal but opposite changes of area. For either family we are able to imagine the curves of all the inter-censal years through which each curve develops into the next, and so to see the varying cohorts of births of successive years appearing as correspondingly varying cohorts at corresponding successive ages at any later time. In particular we are able to see for any year the number (relative to the average of the four census years) of women in the reproductive ages of 18 to 45 which are marked in the figure by the two heavy verticals, and thus to perceive variations in the reproductive power of the population, and even to estimate very roughly the measure of those variations.

With the aid of the two families of curves the variations in the composition of the population traced from Subsidiary Table III can be traced out again with greater precision in defining the age-groups; I do not propose however to do that completely, but only to draw attention to points of particular interest with regard to the rate of variation of the population. The extraordinarily high reproductive power of the age-distribution of 1901 is clearly shown in the hump which includes P_0; while the much lower power of that of 1911 is shown by the fact that part of the hump has passed out of the reproductive period altogether, and much of it is in the later years of that period when reproduction has largely diminished. It was directly and solely as a result of the existence of the hump P_0 that in the 1911 census the total numbers were swollen by the large numbers of children of ages 0 to 10 in the hump marked Q_1 which re-appears ten years later in the hump marked Q_2. In exactly the same way the deep trough in the curve of 1911 about ages 20 to 30 was the direct cause of the descent of the curve of 1921 at the ages 0 to 5 to the lowest point reached by any curve in the figure, and in combination with the influenza epidemic is the explanation of the comparatively small increase of population shown by the total census figures of 1911 and 1921. But we have only to move the curve Q_2 P_2 of the lower figure five years to the right to obtain an approximate representation of the age-distribution of Buddhist females in 1926 and to be convinced that there will be a great rise in the birth-rate at that time when the hump Q_2 has moved well into the reproductive period; and by moving five years more we can place approximately Q_3 for the hump of 1931, see that hump entirely within the reproductive period and foresee either the highest birth-rate on record or something near it. It does not follow that the increase of population indicated by the census of 1931 will be very large, because by that date the births will not have had time to accumulate, and corresponding to the hump P_2 which by then will have moved on to be P_3 at about the right-hand edge of the figure) there will be an increase of deaths; but a large increase will be shown in the census of 1941 when as a matter of fact there will actually be a very low birth-rate as a result of the small proportion of children at ages 0 to 10 in 1921. The population of 1931 will be somewhat similar in fact to that of 1901 in the matter of age-distribution and consequent reproductivity.

It seems hardly necessary to enlarge upon the importance of the aspects in which the foregoing study presents the phenomenon of the variation of the population. As the Buddhists still form the great bulk of the population the variations in their numbers are the most important, and practically, in combination with immigration, control the variation of the whole. Screened behind these variations of the age-distribution moreover seems to be some light on the probable outcome of the racial conflict between Burman and Indian in which so many have prophesied the complete

1. Proportion of Buddhist females by age-groups to 1,000 aged 20 to 40.

Age.	1921.	1911.	1901.	1891.	Average of four censuses.
0—20 ...	1,608	1,625	1,537	1,670	1,610
20—40 ...	1,000	1,000	1,000	1,000	1,000
40—60 ...	550	523	496	518	522
60 and over	211	222	219	241	223
Over 40 ...	761	745	715	759	745
Outside 20 to 40	2,369	2,370	2,252	2,429	2,355
All ages ..	3,369	3,370	3,252	3,429	3,355
Variations of the above from the average column.					
0—20 ..	−2	15	−73	+60	..
40—60 ...	+28	+1	−26	−4	...
60 and over	−12	−1	−4	+18	...
Over 40 ...	+16	*Nil*	−30	+14	...
Outside 20 to 40	+14	+15	−3	+74	

suppression of the former. Accordingly even at the risk of tiring the reader I turn to another presentation of the matter, which may perhaps make it clearer in some aspects. Marginal Table 1 is a transformation of a summary form of Subsidiary Table III and shows the distribution in wide age-groups of such numbers of Buddhist females as would include, according to the average age-distribution of each census, 1,000 of the reproductive age-group 20 to 40. Thus it shows roughly for each census year the proportions of non-reproductive to reproductive females.* If we imagine the Buddhist females at ages 20 to 40 collectively producing every year a number of children which bears a fixed ratio to their own number, the birth-rate calculated as a ratio of births to the whole population will clearly vary inversely as the numbers shown in the table for women of all ages, that is will be proportional to the numbers shown in Marginal Table 2, which have all been multiplied by such a common factor as will make the average figure 50. The relative magnitudes of the actual birth-rates will however differ from these. Taking 1901 and 1911 as examples, the curves show the hump P_0 round about age-group 25 to 30 while hump P_1 is at about age-group 35 to 40; the difference of the figures in Marginal Table 2 must accordingly be magnified in proportion to the higher reproductivity in age-group 25—30 than in age-group 35—40. Let us now examine Marginal Table 1 for the end of life. In 1891 there was a large proportion at ages over 60 in which the specific death-rates are naturally high; there was also a large proportion at ages 0 to 20, but on reference to the curves we find that was chiefly in the ages 10 to 15 where the normal death-rate is very low and secondarily in the initial ages 0 to 5 where it is high. From 40 to 60 the proportion was a little below the average so that the tendency for death-rates to increase with age must have operated negatively here. Returning to the curves, the high proportion in ages 10 to 15 in 1891 also implies the appearance after a time of a large increase in the birth-rate as the result of a large proportional increase in the early and most fertile reproductive ages; the comparatively low numbers at ages 5 to 20 in 1901, and the initial steep descent of the 1901 curve to pass through the average at age-group 5—10, show both that although this increase of the birth-rate was already beginning to take place in 1891, the average birth-rate was not reached until about 1894, and that the rate of increase was very high. This conclusion as to the dates is fortified by the comparatively small number of young children in 1921 and the high proportions then still in the age-groups 15 to 25 but barely reaching 30; thus showing that large additions to the population were being made about 1896 to 1906

2. Reciprocals of numbers for "all ages" in Marginal Table 1 multiplied by a common factor.

Census ...	1921	1911	1901	1891	Average
Reciprocal. ...	50·77	50·76	52·63	49·90	50·00

Studying each census as above, and particularly remembering that our curves measure only variations from average rates of births and deaths which (subject to these variations) are always going on, we can arrive at the following conclusions relating to Buddhists:

(i) In 1891 the gross birth-rate was low but rapidly increasing. The gross death-rate was probably not very different from the average.†

(ii) In 1901 the gross birth-rate was very high and the gross death-rate low; if infantile ages were excluded from the calculation the death-rate for all other ages must have been very low indeed.

(iii) In 1911 the gross birth-rate was low; the gross death-rate was also low as the infant population was not very large and the proportion of the population above 40 or about 60 was rather below the average.

(iv) In 1921 the gross birth-rate was very low; although, as will be seen presently it had probably begun to rise, it was probably still not far from its nadir. The contribution to the death-rate by ages 40 to 60 was above the average but the much larger contribution at ages over 60 was below the average, so that, with a small infant population also, the gross death-rate was rather below the average.

* The reproductive period has to be taken here as 20 to 40 because of the particular age-groups by which the statistics are tabulated, but suitable allowance can be made if it is desired to assume different limits for this period.

† The effects of temporary epidemics are overlooked, partly because they rarely spread over the whole province, but chiefly because such epidemics as the influenza of 1918-19 are rare, and as a rule the effect of an epidemic on the province as a whole is trifling in comparison with the large numbers involved in the ordinary course of births and deaths.

The foregoing conclusions relate principally to instantaneous views of the population; but the available information goes further now than those. We can also see dimly the development of the population all through the intercensal periods. For brevity I make use forthwith of the virtual rates of increase of Buddhists in the comparable area which were obtained in Chapter I, and prefix also the rate calculated for 1891 to 1901 in Article 36. The last relates to only about six-sevenths of the comparable area and excludes the Shan States; but there is nothing better available for that decade, and it is certain that the correct rate for the whole comparable area for that decade could not differ from it by more than about two units. The following conclusions relating to Buddhists can thus be added to the foregoing:

B. Rates of increase of Buddhists in the Comparable Area (Per Cent).	
1891—1901 ...	17·2
1901—1911 ...	12·6
1911—1921 ...	10·5

(v) In the period 1891 to 1901 the greater part of the increase of 17·2 per cent took place in the latter half of the decade, when the high birth-rate and the low death-rate necessarily associated with the age-distribution of 1901 had both come into effect, and thus began probably about 1896. At about that time also the death-rate apart from epidemics was abnormally low.

(vi) In the early part of the decade 1901 to 1911 these conditions of a rapid increase of population were still continuing; but towards the end the death-rate had risen and the birth-rate had fallen, thus diminishing the rate of increase at both ends. The increase of 12·6 per cent revealed by the census was due to the high rate of increase in the earlier part of the decade. It is probable that the birth-rate reached its zenith about 1904, because ages 5—10 included so large a number in 1911, but the death-rate though not high was then higher than it had been in the past, so that the net rate of increase had probably passed its maximum already. Actually in 1911 there was about an average death-rate; but the birth-rate was falling, and, more than that, was certain to go down very low indeed. The rate of increase in 1911 was less than the 12·6 per cent per decade which the decade showed on an average.

(vii) In the decade 1911 to 1921 the decline in the birth-rate has continued. There has been also a fall in the *normal* death-rate (*i.e.*, apart from influenza), but this has been insufficient to allow the former rate of increase of population to continue. At the beginning of the decade the rate of increase was something less than 12·6 per cent per decade. If the influenza had not come the average increase would have been about 10·5 per cent; so the decline in the virtual rate of increase has been definite but not large, and the actual rate in 1921 was possibly only about 9 per cent. Influenza does not seem to have had very much net effect upon the age-distribution (See Article 117 of Chapter VII) and the position of the curve P_2 Q_2 is probably not very different from what it would have been without the influenza. If we particularly remember now that the point plotted on the curve at each ordinate represents the number in a five-yearly age-group, and have regard to the marriages of the large numbers born in 1896 and the succeeding years who are represented in the hump Q_2, we shall conclude that the birth-rate had just passed its nadir in 1921 and was then on the increase, although this is naturally not shown at the left-hand extremity of the curve of 1921.

90. Supplement to the discussion of the Age-distribution of Buddhist Females.—Support for the conclusions of the preceding article ought of course to be sought and found in the birth and death statistics; but to be really useful these ought to afford specific birth-rates for the several age-groups. Unfortunately we are so far from having specific birth-rates for Buddhists available that we have not even gross birth-rates. The rates given in the reports of the Public Health Department relate to the whole population and not to Buddhists alone. As however in the registration-area Buddhists form seven-eighths of the population it might be supposed that any considerable variations in their birth-rate would affect the rate of all classes together. But even for all classes we have not even correct gross birth-rates. The published birth-rates of the Public Health

Department have naturally a tendency to increase throughout each intercensal period, because their calculation assumes that the total population is stationary at its number of the previous census, while the actual birth-producing population is generally increasing.* Subsidiary Table VII of this chapter gives birth-rates calculated from the reported births and on the assumption of a uniform rate of increase of the population during the decade 1911-21 †. If the rates for the decade 1901-11 are similarly corrected the average for the decade approximates to 16·4 for males and 15·1 for females as against 16·5 and 15·6 for 1911-21. But as each of these omits about one-third or more of the total births this approximate equality proves nothing. Rather one is tempted to say that, as a slight improvement in registration is believed to have been effected, the equality is not inconsistent with the theory of a diminished general birth-rate but rather demands that that should be assumed. Actually, even if the statistics of births were correct, the general birth-rate obtained by comparing births with the total population might change without any change of specific birth-rates or remain steady whilst the wildest changes of the specific birth-rates were going on. Rapid increase of population at one epoch followed by a period of slower increase leads fifty years later to a population in which old people predominate; and if conditions have been uniform during that interval there will be a low birth-rate and a high death-rate. After a few more years the excess numbers of the old and no longer reproductive part of the population are removed, and consequently the general birth-rate rises. If at the same time a rapid spread of the practice of birth-prevention diminishes the specific birth-rates of the reproductive ages the net result might be an unchanged general birth-rate. The general birth-rate in fact, even if accurately known, is of about as much use for practical purposes as a good many other published averages, and it affords no evidence against the indications of the age-distribution.

Similarly it is impossible to trace in the death-statistics the variations deduced from the age-records. Allowance has first to be made for temporary variations in those statistics due to temporary outbreaks of disease; these may be large but they are only secondary oscillations about the path of slower and steadier primary variation which the age-distribution indicates. For instance the high death-rate indicated by a large senile population may appear as an increase of deaths in a season of economic difficulty or trying weather; but these are only the occasions seized, and if one were not available another would be taken. Sharp changes in the death-rate are to be assigned to disease; and the primary oscillations decreed by the age-distribution cannot easily be detected, because far back the death-rates were even more unreliable than now, while in more recent years the improvement of the record has accompanied the relative fall in the number of events to be recorded. Yet in the long run these primary variations are the more powerful because they take effect steadily over long periods while the sharp changes of epidemics last a short time and are followed by a reaction. Subsidiary Table X of this chapter is of interest on this point; the much-feared epidemic diseases are there shown to have quite a minor influence in determining the general death-rate; such effects as those of the influenza of 1918-19 are extraordinarily rare, and even the 250,000 deaths due to that in about one year were only one-half the number which probably take place in any ordinary year. Omitting the influenza-years 1918 and 1919 the reported death-rates for males and females in the last decade averaged about 25·6 and 23·9 per thousand; in 1901-10 they averaged 25·6 and 22·7.

In view of the joint failure of the birth and death statistics noted in Chapter I, their further failure to indicate the variations of the true values of the birth and death-rates is a matter for no surprise and is certainly not a denial of those variations. Except for the secondary variations of the death-rate in epidemics all their variations are more properly ascribed to accidents of the recording system than to genuine variations. Even if the recorded rates agreed with the deductions drawn from the censuses it would be inadvisable to claim them as support for those deductions.

Another objection is found in Subsidiary Table VIB at the end of this chapter, which shows the ratios of the number of children under 10 to the numbers (i) of

* This is true although the proportion of the birth-producing population to the total population may be either increasing or decreasing.

† Subsidiary Table VII appears to be slightly erroneous in this because it does not allow for a set-back of population by the influenza epidemic of 1918-19 and therefore still reads a small decimal too high in the years just before that. But if the main thesis of this chapter is accepted the population was increasing more rapidly at the beginning than towards the end of the decade; thus two corrections of the figures are required, but both are small and they are of opposite sign, so that the calculated figures are approximately correct.

persons aged 15-40 and (ii) of married women of those ages, and in Marginal Table 4 which gives a comparative statement of the same ratios for the preceding censuses. The diminution of both ratios in 1921 suggests a decline in fecundity; but actually these ratios are misleading although they have so frequently been regarded as conclusive arguments. They afford a good instance of the danger attending the use of averages unless very complete precautions are taken. Here the difficulty arises because the number of children 0 to 10 is not really comparable with the number of married women aged 15 to 40 at the same moment, but with the numbers of potential mothers throughout the preceding decade; these numbers can only be studied by using much smaller age-groups. The development of the ratio can most easily be understood with the aid of the curves of the preceding article. In the years just after 1901 there was a large class of reproductive women at their most fertile stage, represented by the passage of P_0 through the intercensal curves of those years, so that a large number of children had been born who were still under 10 at the census of 1911; in 1911 to 1921 there was a deficit of women of those ages which led to the production of a small number of children, for which the proportional increase of young married women from about 1917 onwards had not at the census of 1921 had time to compensate. The decline of the ratio is thus no indication of any decline of fertility; it is merely another aspect of the changing age-distribution of potential mothers. As measures of fertility all the columns which show this ratio in any of the subsidiary tables are meaningless; they have been put in only because they are prescribed by the Government of India. The best that can be said for them is that they force enquiry into figures which contradict them; but this is poor compensation for the complacent acceptance of erroneous views or explanations which they can equally induce. And in any case the objection they offer to the conclusions drawn in the preceding article has been met.

4. Ratio of Buddhist children under 10 to other classes aged 15 to 40.

Compared with	1921.	1911.	1901.
(i) All Buddhists aged 15 to 40 ...	·63	·70	·74
(ii) Married Buddhist females aged 15 to 40 ...	2·04	2·14	2·07

An objection may also be brought against the adoption of the arbitrary average of four censuses as the zero-line of the curves. But it was first shown that the phenomena could be traced without the use of the curves. Moreover, any reasonable standard distribution can differ only a little from the average actually used, which depends on censuses of such varying distributions. If such a standard distribution were drawn as an additional curve in the upper figure, it would show much smaller oscillations than the curves of the separate censuses; and if then the whole figure were deformed to make the new curve come to be a straight line, the present curves would become the curves drawn on the basis of the standard distribution and would still preserve the same general characters and relations as now. It would be quite impossible for instance for crests and troughs in a curve to change places. Further, the argument has only been directed to showing the origin of variations in the rates of increase in successive decades, not to measuring absolute rates. The self-consistency of the diagrams themselves affords the best justification of the zero-line used; the conditions of human reproduction and death are such that true records must produce curves of this kind, and it is unreasonable to suppose that under the complex conditions affecting them the true curves could be seriously deformed by using an erroneous base-line and then so restored by the errors of the records as to have anything like the proper relative forms and positions. The curves themselves, it is true, suggest that the cycle after which an approximation to the age-distribution of a particular year recurs is about 30 years, and thus suggest taking the average of the last three censuses as the zero-line. Curves drawn for the upper figure on this basis differ very little from those drawn on the four-census basis except in age-group 25—30 where they all come four-fifths of an inch lower and in age-group 30—35 where they all come two-fifths of an inch lower. If the reader modifies the printed curves accordingly for these two age-groups he will obtain curves which for such a discussion as that of this chapter represent well enough the curves drawn for the three-census basis; but the relationship of each curve to its successor is now not so well shown. In the lack of the proper basis, which is the age-distribution that would be stable with the prevailing specific birth and death-rates, the greater self-consistency obtained justifies the

use of a four-census instead of a three-census basis because, as already mentioned, the conditions are such that curves of this kind must appear; the special feature of the curves for Buddhists is not the existence but the amplitude of their waves.

In interpreting the curves it has been assumed that the fertility-rate of the married women at each several age has not greatly changed. It is certain that any great change in this would be learned from other sources, and in fact there is no evidence of such a change; small changes do not invalidate the argument.

Other objections may be raised on the ground that the whole discussion is more or less in opposition to Sundbärg's theory of age-distribution and mortality. One part of that theory was that generally one-half of the population is between ages 15 and 50, so that variations in the distribution occur in the other age-groups.

5. Age-distribution of 1,000 of both sexes.

Ages.	1921.	1911.	1901.
0-15 ...	373	397	372
15—50 ...	499	485	500
50 and over	128	125	128

Marginal Table 5 shows that at the last three censuses age-group 15 to 50 has included about one-half the population; there was a variation of 3 per cent of the half in 1911, but that perhaps is not to be considered large. The discussion in this chapter of the effect of variation of the age-distributio turns however not upon the constancy or inconstancy of this large age-group but upon variations within it. Another part of Sundbärg's theory was that the mortality-rates for ages below 15 and above 50 are nearly equal, so that if the proportion in age-group 15 to 50 is constant, variations in the age-constitution cannot affect the gross death-rate. The deductions drawn above include assertions of changes of the death-rate and assign part of the variation in the rate of growth of the population to them. Sundbärg is a Swedish statistician of high repute; but his observations related to European populations, not to Burmese, Shans, Karens and other races living in Burma, and have not necessarily any weight in opposition to conclusions drawn from records of the actual population considered. Moreover, factors for the correction of crude death-rates to allow for variations of age-constitution are a commonplace now of health officers in all advanced countries; and variations in the age-distribution between ages 15 and 50 seem likely to make Sundbárg's two propositions incompatible.

91. Age-distribution of Burmese Buddhists.—In Marginal Statement 6 is shown the age-distribution in 1921 of 10,000 Burmese Buddhists of each sex in five-yearly age-groups as deduced from the unsmoothed figures of Subsidiary Table I of this chapter; and with those figures are shown for comparison the age-distributions of each sex of all Buddhists. The figures of Subsidiary Table I showing ages "As recorded" are used rather than any smoothed figures, because they give a fairer comparison with the unsmoothed figures for Buddhists taken from Subsidiary Table III. The differences of the figures for Burmese and for all Buddhists in some age-groups look considerable in this form; but if the series are plotted out in curves it is found that the differences are comparatively small.* This is of course exactly what one would expect from a consideration of the fact that 7·8 millions or seven-tenths of the whole 11·2 millions of Buddhists are Burmese in the narrowest sense, while of the remaining 3·4 millions one-fourth, consist of the Tavoyan, Arakanese, Yanbye, Chaungtha, Danu and Intha races which are closely related to the Burmese both in descent and in their present-day life and culture. The curve for the Burmese males lies slightly higher than that for all Buddhist males from ages 7 to 25 and lower from 25 to 55, after which they are in approximate agreement. The curve for Burmese females is above that for all Buddhist females from ages 7 to 20 and then lower up to age 37 after which they are practically the same. The widest difference is for

6. Distribution of 10,000 Burmese Buddhists compared with that for all Buddhists, 1921.

Age.	Males.		Females.	
	All.	Burmese.	All.	Burmese.
0— 5 ...	1,265	1,275	1,286	1,292
5—10 ...	1,271	1,247	1,260	1,219
10—15 ...	1,223	1,264	1,146	1,200
15—20 ...	1,002	1,016	1,082	1,151
20—25 ...	862	898	941	955
25—30 ...	777	785	801	771
30—35 ...	722	696	687	678
35—40 ...	600	578	539	565
40—45 ...	571	553	558	524
45—50 ...	446	447	406	404
50—55 ...	410	379	418	413
55—60 ...	252	247	251	249
60—65 ...	274	269	264	231
65—70 ...	133	137	126	125
70 and over	192	209	235	223

* The curves are not reproduced here.

females at ages 8 or 9 to 15 where Burmese are more numerous proportionally than other Buddhists. The data available are not sufficient to weigh the question thoroughly, but it seems probable that, taking the next decade as a whole, the rate of increase of the Burmese will differ very slightly from that of all Buddhists.

92. Age-distribution of Indians.—Strictly the age-distribution of Indians is not known. For the census of 1921 Imperial Table XIV gives the age-distribution for the most numerous races; but not for all. For earlier censuses there are not even these figures available. The best figures available for a comparison of successive censuses seem to be the total of those in Imperial Table VIIA for Hindus, Mahomedans, Sikhs, Aryas, Brahmos, Jains and Parsis. Indian Christians cannot be included because no separate statistics for them are available, but the proportions of the whole in the several age-groups will not be seriously affected by this. More important is the fact that the figures for Zerbadis and Arakan-Mahomedans cannot be deducted, as they are not available for 1911 and 1901. For females then the age-distribution has been as shown in Marginal Table 7 below. The phenomena behind this table are however more complex than in the case of the corresponding table for Buddhists, on account of the effect of immigration and emigration. This effect cannot be eliminated. Even if the figures available for 1921, either for those born in Burma or for those born elsewhere, were prepared, they would not be of use, because persons born out of Burma have children born in Burma, and there is consequently little relationship between the proportions for different age-groups. As we thus have no means of allowing for migration we can neither trace cohorts of children becoming parents and furnishing new cohorts of children, nor make useful comparisons with the corresponding tables for Buddhists. Some conclusions however can still be drawn.

The proportion shown at ages 15 to 20 is low, perhaps because of the effect of immigration, and perhaps because of the tendency for Indian females of this period to state higher ages. To the degree in which the latter explanation holds it is more correct to regard reported age 20 as the beginning of the reproductive period than reported age 15. Moreover the changes at the three censuses in the proportion of the age-group 15 to 20, only part of which can be regarded as reproductive, were smaller than those in the other age-groups between 15 and 40. Consequently the larger proportion in 1911 of women in each five-yearly age-group from 20 to 40 than in either 1901 or 1921 indicates that there must have been round about 1911 a particularly high rate of increase of Indians in Burma apart from immigration. The proportion of children however is not high for 1911, and particularly the proportions for age-groups 5-10 and 10-15 are small for that year but large for 1921; the natural increase of Indians in Burma was therefore at a maximum somewhat later than 1911. In 1921 the rate of natural increase was much smaller than in 1911 on account of the proportional deficiency of women of reproductive ages, and as this was chiefly in the age-group 20 to 25 while age-group 15 to 20 was also small, the rate of increase will continue to be small until near 1931 when the present excess in age-group 10 to 15 will have some effect to increase it. These variations must be less than would result from similar variations in the age-distribution of Buddhists, because the immigrant females must be largely in the reproductive age-groups. But it is shown in Chapter XI Article 166 that in the whole province, which is the area to which the age-distribution of Marginal Table 7 relates, the immigrant Indian females are only four-sevenths as numerous as the indigenous; so that the influence of these on the variation in question is less than might be expected. Another difficulty is the

7. Approximate age-distribution of 10,000 Indian females.

Age.		1921.	1911.	1901.	Average for Buddhists, 1921-1901.
0— 5	...	1,588	1,614	1,624	1,377
5—10	...	1,522	1,427	1,424	1,392
10—15	...	1,038	957	1,017	1,122
15—20	...	955	959	965	1,008
20—25	...	1,039	1,123	1,076	906
25—30	...	1,002	1,041	1,001	809
30—35	...	815	859	859	711
35—40	...	483	491	466	555
0—20	...	5,103	4,957	5,030	4,799
20—40	...	3,359	3,514	3,405	2,981
40 and over	...	1,538	1,529	1,565	2,220

confusion of the figures by the inclusion of Zerbadis and Arakan-Mahomedans, and by the additions to these races and even to Indian races, not only by simple immigration but also by women who contract mixed marriages changing their race. It is not worth trying further to unravel the tangle. Enough has been done to see that the largest source of the increase of Indian females, namely the natural increase by the excess of births over deaths, had particularly large power a little after 1911 when the Buddhists of the province had a low and declining rate of increase; but that now, just at the time that the Buddhist rate of increase is about to grow larger that for Indians is likely to be small. Thus unless the rate of immigration of Indian females increases very largely, the disproportion between the rate of growth of the number of the Buddhist females of the province and of the Indian females may be expected to be largely diminished during the next decade. Whether it will continue to be small or increase again as the Buddhist rate of increase again diminishes is too distant a matter for present discussion; the data are altogether insufficient. Possibly more information could be obtained from separate compilations similar to Marginal Table 7 for the *near* and *distant* districts as in Articles 165 to 167 of Chapter XI; limitations of space, time and the budget have forbidden such work for this report.

If a reference is now made back to Article 80 of Chapter IV in which the variations of the relative numbers of Buddhists and of Hindus and Mahomedans were considered, the validity of the conclusions at the end of that article which were based upon Subsidiary Table V of Chapter IV will be clearer.

93. Age-distribution and Growth of the Total Population.—A discussion of the rate of increase of the total population would be conducted better, if suitable statistics were available, by considering various classes of the population separately than by dealing with all in one block; but it is worth giving a short space also to a discussion on these lines. Subsidiary Table II of this chapter gives at its head the proportionate age-distribution of the whole population. The figures are affected by immigration which increases the numbers at some ages more than at others. As in the case of Indians this effect cannot be elimated from the figures; but, as both the emigrant and the immigrant females are so few in comparison with the total female population of the province, this effect is not so important for a study of the *changes* of the age-distribution from time to time as in a study of the Indians alone or in a study of the age-distribution at one particular time, but can be largely ignored. For males also immigration probably has a negligible effect upon the *variations* of the age-distribution of the whole population. But in any case the age-distribution of females is the more important with reference to the growth of population, and accordingly there is a double advantage in basing our study upon it rather than upon that of the males. The age-distribution of females in the total population is shown in Marginal Table 8, in which the columns for 1921, 1911 and 1901 are taken from Subsidiary Table II while the column for 1891 is taken from the corresponding table in the census report of 1911. The table has the same character with only slight modifications as Subsidiary Table III which was discussed in Article 89 above. Similar conclusions may therefore be deduced from it. The rate of increase of the population in the decade 1901 to 1911 was less than that of the decade 1891 to 1901 because the age-distribution towards 1911 became less favourable to the high reproduction and low death-rate which prevailed about 1896 to 1901. In the early years of the decade 1911 to 1921 the age-distribution continued to be unfavourable to reproduction until the persons born about 1896 to 1901 became of an age to marry, and consequently the average rate for the decade was low. The present female population is distinctly stronger in the most fertile reproductive ages than

8. Age-distribution of 10,000 females of the total population at four censuses.

Age-group.	1921	1911	1901	1891
0— 5 ...	1,298	1,380	1,446	1,417
5—10 ...	1,273	1,341	1,282	1,293
10—15 ...	1,132	1,126	1,042	1,148
15—20 ...	1,071	967	961	1,022
20—25 ...	948	884	929	910
25—30 ...	819	810	857	806
30—35 ...	710	737	706	684
35—40 ...	538	578	547	539
40—45 ...	561	557	523	514
45—50 ...	393	365	361	358
50—55 ...	413	384	393	393
55—60 ...	239	231	230	232
60 and over	605	640	657	684

in 1891, and conclusions as to the probable future increase of the population may be drawn accordingly.

94. **Future Birth- and Death-rates and Variations of Population.**—Having now disposed of arguments directed against the interpretation of the curves for the age-distribution of Buddhist females and examined the age-distributions of the principal part of the non Buddhist population and of the whole, we can add to the conclusions drawn in Article 89 other conclusions with reference to the birth-rates, death-rates and increase of the population in the future. Clearly, just as the curve of 1921 is generated by a constant slight deformation of the curve of 1911 accompanied by a continuous shifting to the right proportional to the lapse of time since 1911, so the curves of 1922, 1923 . . . . will be the curve of 1921 moved 1, 2 . . . . years to the right and slightly deformed. The low trough in the section corresponding to ages 18 to 45 will thus move steadily to the right and admit more and more of the wavecrest Q_3 to the reproductive period. Thus in the decade of 1921-31 the birth-rate will have begun low but on the upward trend, and it will continue to increase rapidly until about the end of the decade. It will probably pass through the average value about 1926. During 1921 the death-rate was diminished by the small number of infants and of persons over 60 exposed to mortality; but this diminution will speedily be removed and by about 1926 the ratio of infant deaths to the whole population (if not prevented by special action) will become normal, while the excess of people now at ages 50 to 55 will be increasing the death-rate at great ages. Towards 1931 the birth-rate will be very high indeed, its zenith coming possibly about 1931, after which there will be a very rapid decline to correspond to the steep slope of the 1921 curve down to the left from Q_3. The high death-rate of aged people will be added to the infantile death-rate to moderate the net effect of the increasing births upon the total of the population; then the birth-rate will fall while the death-rate is still high; in about 1941 there will again be a very low birth-rate (corresponding to age-group 0-5 on the curve of 1921) and an average death-rate (corresponding to the combination of the low point of age-group 30 to 35 and the high point of age-group 40 to 45 on the curve of 1921).

Without any data as to the true birth and death-rates in the past it is not possible to make any close forecast of the numbers of persons who will be involved in these variations of the birth and death-rates. Moreover, four is an entirely inadequate number of censuses on which to found impregnable numerical conclusions of this kind, even if the age-records were almost perfect, the first of the four censuses as widely extended and as reliable as the others, and the figures of the fourth census not affected by the influenza epidemic. On the other hand, the variations of the rate of increase which result from the variation of the age-distribution are only oscillations about the steady rate of increase always tending to occur, and errors in estimating them are proportionately smaller when they are added to that steady rate. Thus it may fairly be expected that without any special changes in the conditions (*e.g.*, a large reduction in infant mortality or change in immigration conditions or general postponement of marriage) and without any very great epidemics, a population of 15 millions will be reached before the next census, and that that census will show an increase of about two millions, or, say 15 per cent. There will however be no more occasion then for confidence and jubilation than there was in 1921 for doubt and despondency; the decennial rate of increase in 1931 as in 1901, 1911 and 1921 will be a mere accident of the date of the census. Essentially all these rates will be different manifestations of one and the same true rate of increase. In 1941 the population will probably be round about 17 millions, showing an increase of something like 11 or 12 per cent in the decade 1931-41, but there will again be no more reason for head-shaking over the small increase of 1931-41 than there is over that of 1911-21. These forecasts assume of course that the essential conditions affecting births and deaths in the province remain the same as now; they do not allow for unusual epidemics, or for wars or other unusual disturbances. The numbers are given moreover only as rough indications of the magnitude of the variations in the decennial rates of increase. About the occurrence of the variations there is no room for reasonable doubt. Those who desire an increase in the birth-rate should not be too jubilant over a reported increase until they have ascertained that it is larger than the changing age-distribution alone demands; similarly those who discover a rising death-rate should not despair until they have measured its origins. Special efforts are now being made to improve the records of vital statistics. If the normal specific birth-rates for women of every age and the normal specific death-

rates for both sexes at all ages can be discovered it will be possible to postulate a standard population which would have a stable age-constitution under the existing conditions of public health; the effect of the specific birth and death-rates observed at any time could be calculated for such a population and would be an intelligible measure of their magnitudes, though it would not give complete information about them. Even a comparatively rough approximation to such a standard age-distribution would give fairly reliable results; but the mere gross birth- and death-rates will mean very little. There is no validity in the suggested standard annual birth-rate for Buddhists of 52 per 1,000 or in the standard death rate of 40; both these quantities are relative to the age-distribution at the time and could only be stated in such terms with reference to an hypothetical standard population of stable age-distribution; the only true normals are specific rates for every age or for a standard stable age-distribution. For the natural rate of increase there is a sense in which a normal rate can be predicated and roughly calculated; that is the sense of the rate of increase in a complete period of the age-curve. If this is taken as 30 years, which is approximately but not absolutely correct, the increase from 1891 to 1921 would show this rate if it were known. Unfortunately the disturbance by influenza affects the 1921 figures; but if the virtual increase for the decade 1911-21 which was calculated in Marginal Table 10 of Chapter I is adopted the virtual population of the comparable area in 1921 may be taken as 11,421 thousands. For comparison with 1891 we must either exclude the parts of the comparable area omitted at that census or estimate a population of the comparable area in 1891. Adopting the latter plan we must calculate the population which when increased by 17·2 per cent (the observed rate of increase in the greater part of the area) will equal the observed population of 1901; we thus obtain 7,835 thousands as the population in 1901 of the comparable area. This gives a little over 45 per cent in 30 years as the rate of increase. For shorter periods we can only say that a regular annual increase of one and a quarter per cent or a regular decennial increase of thirteen and one-third per cent would give about the same total increase of Buddhists in each generation as the varying rate of increase actually in force. But it must not be supposed that these rates would give the actual population at any intermediate year.

The effect of the influenza epidemic of 1918-19 upon future rates of increase of the population cannot be detemined precisely. An attempt at a rough approximation to its effect upon the age-distribution is made in Article 117 of Chapter VII and indicates that the effect has been a tendency to increase the proportion of females at ages 5 to 15 at the time of the epidemic at the expense of those at ages 0 to 5. This tendency has been stronger than the figures given would imply, because, as is expressly stated in the article referred to, those make no allowance for the marked lack of births in 1918. Absolutely of course the epidemic means a loss of population now and of reproduction in the future. But, measuring by rates of increase, the effect is thus to hasten somewhat the growth of population in the immediate future by giving, with very small changes of the death-rate, a somewhat higher rate of births from about 1921 to 1931 and a somewhat lower rate from 1931 to 1941 than would have occurred without this change of age-distribution.

95. Economic, Social and Political Aspects of the Age-distribution.—The curves drawn for Buddhist females must clearly be close approximations to those which would be obtained for males or for the whole population. They presage therefore the rapid growth in the immediate future of a demand for the economic support of large numbers of young people entering adult life. Failure to meet this demand means general social disorganisation. It was essentially the same demand which led to the wide extension of cultivation in the delta and other parts of Lower Burma in the decade of 1891 to 1901.

The curves also show that the present population, which is experiencing the introduction of responsible government, consists of a large contingent at ages over 40 and of a contingent under 25 which though not yet large is about to grow very large. The country is apparently entering an era in which it will be in a very literal sense Young Burma. Like most conquerors Young Burma will finally triumph only by losing its identity; the passage of time which will bring so many into active adult life by 1926 will shortly after be converting the vanguard into Middle-aged Burma. But in the meantime there is a regrettable deficiency of persons of medium ages to mediate between the naturally different views of the large contingents of young and old; and later on there will be a serious

deficiency of young persons to modify the growing conservatism of the present youths, which will be at least equally regrettable. The latter deficiency could have been avoided by the prevention on a large scale of infantile mortality in the last ten years; but the opportunity has now passed.

96. The Origin of the Waves of Population.—The four curves of age-distribution drawn for the four censuses are of course one and the same curve moving steadily to the right, suffering continual slight deformations from the accidents of economic and sanitary conditions but always tending to revert to its original form, subject however in the upper figures (but not in the lower) to a continual damping of the waves by death which eventually brings the curve down to the zero-line at the extreme limit of old age. As the curve moves the initial part is constantly growing as a reproduction of the portion which is thirty years further on. An alternative conception continues the waves backwards behind age 0 to represent the potential fertility of the existing youthful population, this continuation constantly entering the living section as the curve moves on to the right. The interval between two crests is approximately thirty years, and this may be regarded as being the duration of a generation. The origin of the waves is not shown in the figures. Unfortunately the age-distribution of 1881 and earlier years is not known for Upper Burma. The age-distribution of Lower Burma at the first census of 1872 cannot be compared with that of 1881 because of differences in the age-periods by which it was tabulated; the distribution for Lower Burma in 1881 agrees with the distribution for all Burma in 1901, but there is difficulty in comparing it with 1891 because of the defects of the record of that year to which reference has already been made in Article 89 and about which little can be known. It appears probable however that the waves existed in the age-distributions before the annexation of Upper Burma in 1886 and cannot be ascribed to the disturbed condition of Burma in the years just before and after that. They possibly go back to the wars of a century before.

97. Mean Age.—Amongst the numerous superstitions attached to averages those concerning the mean age of the population are of interest, because the changes of this quantity might possible be thought to controvert some of the views set out above with regard to the age-distribution. The mean ages at the last four censuses are given in the margin. Those for 1891 and 1901 differ a little from those given in previous census reports because in calculating the latter it was assumed that all over 60 were in the age-group 60 to 65. For 1911 Mr. Webb used a tabulation showing ages up to 70 and regarded all over 70 as being in the group of 70 to 75. The mean age so calculated is sufficiently exact for all purposes, as ages of more than 75 in Burma are always doubtful and the few persons really over that age would not alter the mean age appreciably; and all the mean ages shown in the margin have now been recalculated on that basis and the assumption that the proportionate distribution in 1891 and 1901 of ages over 60 was the average of those of 1911 and 1921.

Census.	Mean Ages.			
	Total Population.		Buddhists.	
	Males.	Females.	Males.	Females.
1921	25·70	25·14	25·37	25·31
1911	25·32	24·98	25·02	25·11
1901	25·28	25·06	24·97	25·10
1891	25·00	24·91	24·75	24·98

In each of the four years the mean age has been about 25 for either sex. For the total population the mean age of males is raised by immigration of an excess of adult males without a corresponding excess of male children, so no conclusions can be drawn from its excess above that for females. For Buddhists the conclusion drawn by Mr. Webb in 1911 that the mean age for females is higher than that for males is contradicted by the 1921 figures; possibly this is a result of the different selective action of influenza. This was much more fatal proportionally amongst female infants of age 0 to 5 than amongst males of that age*; but with their small ages this excess of female deaths would have comparatively little more effect upon the mean. The proportional increase of male deaths was the greater at ages 5 to 10, but that of females was the greater at ages 10 to 40 and over 60; the greater increase of mortality at these higher ages would depress the mean age more. Of the variations of the mean age it can only be said that the figures show it as

* The statements of the comparative mortality from influenza in this context are based upon the Public Health Reports of 1918 and 1919.

steadily increasing for both sexes; but as no conclusions can be drawn from that, there is not much use in saying it except to give a warning against supposing it means anything definite. A high birth-rate and a high death-rate at low ages undoubtedly explain the defect of the mean age in Burma below that in European countries, where it is generally about 40. The mere fact that the mean age has varied so little while the changes of the age-constitution of the population examined earlier in this chapter have been going on is alone sufficient to show of how little use the calculation of the mean age is; and to Mr. Morgan Webb's remark in the Burma Census Report of 1911, that "no general conclusion can be deduced merely from a rise in the mean age without an examination of many accompanying circumstances," I desire to add that unless the other arguments in favour of a conclusion prove it without reference to the mean age, the latter is of no interest in the matter. Whatever can be done with a mean age can be done much better with a statement of the age-distribution, and a great deal more besides.

98. **Longevity.**—The discussion in this chapter of the variation of the age-distribution makes it clear that one cannot conclude from an increase or decrease in the proportion of persons over some determined age, such as 60 or 70, that there has been an increase or decrease of longevity.* An increase in this proportion may only represent a crest at ages 20 to 30 in the age-curve of 60 or 70 years before; the larger proportion of the whole population surviving to high ages may be merely a large cohort of babies reaching the end of life. There is also the difficulty of exaggeration of age by old people. The only reliable indicator of a change of longevity appears to be that derivable from a table of specific death-rates for all ages.

99. **Death-rates.**—An important indication of the age-curves relates to the death-rates at specific ages which are shown in Statement IV of every annual report on the Public Health Administration. The death-rates shown in that statement for a few years and averages for the decade are shown in Subsidiary Table IX of this chapter. Influenza has introduced a special difficulty into any study of the figures for this decade, and the years 1918 and 1919 were included in the table on that account. But even in a normal decade without influenza, and even if all deaths were not only reported but were included in the compilation for Public Health Statement IV, the specific death-rates shown in the table would be worthless. In calculating them the deaths of each age-group in each year are compared with the number of persons in that age-group at the last census. It has recently been proposed that an allowance should be made in the intercensal years for the growth of the population, but that has not yet been done. Even however if the total population remained constant the present method of calculation would be wrong. Subsidiary Table II of this chapter shows that, of average samples of 10,000 females, age-group 15—20 included 967 in 1911 and 1,071 in 1921; the death-rates of 1911 and 1921 calculated for this age-group would thus need to be divided by numbers proportionate to 967 and 1,071 to furnish comparable death-rates for the two years. The allowance for the growth of the total population has still to be made. For the particular years of 1911 and 1921 the combination of these two factors amounts to an increase of the calculated death-rate for this age-group in 1921 by roughly 20 per cent; of course the calculation for 1921 would actually be based upon the census for 1921, but the calculation for 1920 would have approximately this error. Thus 13·20 shown for age-group 15 to 20 in 1920 in Subsidiary Table IX should be reduced to about 11·0 for comparison with the corresponding record of 1911. For age-group 35—40 on the other hand the two corrections would oppose each other and be not very different in magnitude, so that the rate calculated for 1920 with the basis of the 1911 census makes an approximately correct allowance for the intercensal increase of population. For every age-group the net effect is different; and it is clear that there is no use in allowing merely for the intercensal increases in the total population. Moreover even this cannot be calculated direct from the decennial rate, because it has its ups and downs which result from the varying age distribution. But until the records of births and deaths are so improved that practically every one is tabulated in the district returns nothing of real value can be done to improve the calculation; meanwhile the entries in Subsidiary Table IX must be regarded as absolutely worthless even for comparisons amongst themselves.

* This error was made at page 31 of the Volume I of the Burma volumes of the Imperial Gazetteer of India (Provincial Series).

SUBSIDIARY TABLE I.—*Age-distribution of a sample of* 100,000 *Burmese Buddhists of each Sex.*—(1) *As recorded,* (2) *Smoothed.*

Age.	As Recorded.		Final Smoothing.		Age.	As Recorded		Final Smoothing.	
	Males.	Females.	Males.	Females.		Males.	Females.	Males.	Females.
1	2	3	4	5	1	2	3	4	5
0	2,476	2,670	2,617	2,663	50	1,813	2,038	783	779
1	2,340	2,408	2,607	2,613	51	408	453	744	750
2	2,544	2,622	2,596	2,582	52	633	590	706	722
3	2,847	2,752	2,584	2,561	53	548	590	672	693
4	2,544	2,568	2,571	2,543	54	384	403	642	661
5	2,639	2,544	2,556	2,525	55	877	992	616	629
6	2,726	2,673	2,539	2,507	56	551	478	591	595
7	2,443	2,407	2,521	2,490	57	408	373	566	558
8	2,596	2,741	2,499	2,473	58	354	417	541	521
9	2,063	1,822	2,475	2,456	59	276	229	517	488
10	3 300	3,073	2,448	2,438	60	1,478	1,344	493	459
11	1,944	1,857	2,417	2,419	61	253	191	468	432
12	2,743	2,523	2 383	2,398	62	406	292	442	407
13	2,535	2,348	2,344	2,377	63	317	279	416	384
14	2,117	2,106	2 300	2,355	64	238	204	391	361
15	2,445	2,638	2,250	2,330	65	608	621	365	338
16	2,157	2,287	2,196	2,298	66	224	160	340	316
17	1,919	2,205	2,137	2,255	67	265	245	313	294
18	2,085	2,549	2,077	2,204	68	153	124	287	272
19	1,550	1,832	2,016	2,144	69	119	105	262	252
20	3,171	3,374	1,957	2,075	70	688	881	238	233
21	1,384	1,369	1,900	2,006	71	113	77	215	215
22	1 600	1 771	1,843	1,935	72	152	141	193	198
23	1,595	1,614	1,789	1,867	73	109	108	172	181
24	1,324	1,420	1,740	1,799	74	78	72	151	164
25	2,864	2,734	1,689	1,731	75	305	258	132	147
26	1,326	1,370	1,643	1,663	76	84	73	115	130
27	1,518	1,320	1,597	1,596	77	71	52	99	114
28	1,111	1,286	1,551	1,529	78	68	63	85	98
29	1,028	1 000	1,504	1,466	79	35	26	73	84
30	3,063	2,964	1,458	1,411	80	174	205	63	72
31	849	883	1,414	1,361	81	26	17	54	62
32	1,190	1,187	1,372	1,316	82	32	30	47	54
33	1,092	959	1,331	1,278	83	30	9	42	46
34	765	790	1,292	1,245	84	17	7	38	38
35	2,298	1,965	1,256	1,213	85	27	31	34	31
36	939	871	1,222	1,183	86	11	9	31	24
37	946	904	1,190	1,153	87	9	9	28	17
38	694	1,222	1,159	1,125	88	13	5	25	13
39	607	683	1,130	1,097	89	9	3	23	10
40	2,463	2,269	1,102	1,070	90	130	41	21	9
41	649	595	1,077	1,043	91	2	2	19	8
42	939	979	1,050	1,016	92	4	3	17	7
43	803	753	1,023	988	93	1	..	15	6
44	675	653	993	960	94	1	...	12	5
45	1 652	1,623	960	932					
46	904	669	928	902					
47	771	628	897	871					
48	661	626	861	840	95 and over	4	13	19	13
49	484	498	823	809					

SUBSIDIARY TABLE II.—*Age-distribution of* 10,000 *of each sex in each natural division.*

Natural Division.	Age-group.	1921.		1911.		1901.	
		Males.	Females.	Males.	Females.	Males.	Females.
Province ...	0–5 ...	1,194	1,298	1,272	1,380	1,350	1,446
	0–1 ...	234	256	218	241	228	252
	1–2 ...	210	228	217	236	248	266
	2–3 ...	232	256	266	289	293	315
	3–4 ...	270	289	302	323	309	326
	4–5 ...	248	269	269	291	272	287
	5–10 ...	1,205	1,273	1,276	1,341	1,232	1,282
	10–15 ...	1,152	1,132	1,163	1,126	1,088	1,042
	15–20 ...	977	1,071	893	967	874	961
	20–40 ...	3,228	3,015	3,240	3,000	3,322	3,099
	20–25 ...	910	948	857	884	888	929
	25–30 ...	866	819	860	810	909	857
	30–35 ...	813	710	846	737	877	766
	35–40 ...	639	538	677	578	648	547
	40–60 ...	1,682	1,696	1,586	1,537	1,575	1,513
	40–45 ...	603	561	594	557	567	523
	45–50 ...	435	393	399	365	396	361
	50–55 ...	410	413	370	384	381	393
	55–60 ...	234	239	223	231	231	236
	60 and over ...	562	605	570	640	559	657
	60–65 ...	262	259	263	272		
	65–70 ...	122	119	124	122		
	70 and over	178	227	183	246		
Burman ...	0–5 ...	1,195	1,305	1,272	1,386	1,354	1,461
	5–10 ...	1,197	1,274	1,257	1,340	1,230	1,286
	10–15 ...	1,163	1,152	1,174	1,145	1,114	1,075
	15–20 ...	978	1,073	898	972	880	975
	20–40 ...	3,239	2,999	3,278	3,002	3,328	3,065
	40–60 ...	1,666	1,604	1,561	1,525	1,547	1,495
	60 and over ...	501	593	560	630	541	643
Delta ...	0–5 ...	1,154	1,351	1,200	1,426	1,290	1,522
	5–10 ...	1,147	1,312	1,199	1,382	1,188	1,355
	10–15 ...	1,141	1,180	1,167	1,191	1,118	1,146
	15–20 ...	963	1,094	911	1,018	914	1,041
	20–40 ...	3,459	3,102	3,548	3,123	3,582	3,143
	40–60 ...	1,630	1,508	1,478	1,387	1,443	1,314
	60 and over ...	506	453	497	473	465	479
Coast ...	0–5 ...	1,256	1,388	1,266	1,416	1,262	1,443
	5–10 ...	1,310	1,426	1,270	1,407	1,271	1,384
	10–15 ...	1,182	1,171	1,148	1,132	1,151	1,168
	15–20 ...	959	1,048	902	996	932	1,049
	20–40 ...	3,195	2,974	3 353	3,065	3,374	3,033
	40–60 ...	1,562	1,466	1,566	1,465	1,531	1,434
	60 and over ...	536	527	495	519	479	489
Centre ...	0–5 ...	1,234	1,241	1,362	1,341	1,473	1,416
	5–10 ...	1,219	1,191	1,336	1,290	1,283	1,204
	10–15 ...	1,197	1,126	1,213	1,113	1,120	1,060
	15–20 ...	1,008	1,065	888	926	840	899
	20–40 ...	2,974	2 892	2 910	2,851	2,979	2,983
	40–60 ...	1,741	1,732	1 618	1,657	1 639	1,655
	60 and over ...	647	753	673	822	666	843
North ...	0–5 ...	1,111	1,232	1,241	1,377	1,287	1,377
	5–10 ...	1,156	1,226	1,167	1,258	1,095	1,258
	10–15 ...	1,078	1,099	1,039	1,084	937	1,084
	15–20 ...	954	1,036	853	925	858	925
	20–40 ...	3,359	3,089	3,437	3,110	3,592	3,110
	40–60 ...	1,850	1,699	1,802	1 665	1 786	1 665
	60 and over ...	492	609	461	581	445	581
Chin ...	0–5 ...	1,268	1,293	1,436	1,504	1,243	1,296
	5–10 ...	1,383	1,340	1,340	1,28	1,225	1,266
	10–15 ...	1 146	1,024	1,049	94	1,116	1,046
	15–20 ...	961	977	897	938	798	749
	20–40 ...	3,121	3,362	3,235	3,376	2,834	2,826
	40–60 ...	1,629	1,562	1,585	1,491	2,065	2,014
	60 and over ...	492	442	458	469	719	803
Salween ...	0–5 ...	1,374	1,418	1,487	1,593	1,523	1,667
	5–10 ...	1,311	1,250	1,342	1,338	1,188	1,192
	10–15 ...	1,069	981	958	915	894	825
	15–20 ...	840	997	749	917	740	668
	20–40 ...	3,284	3,380	3,471	3,668	3,651	3,651
	40–60 ...	1,708	1,564	1,634	1,265	1,624	1,324
	60 and over ...	414	410	359	304	380	373
Shan ...	0–5 ...	1,160	1,233	1,254	1,314	1,319	1,334
	5–10 ...	1,240	1,260	1,412	1,348	1,259	1,249
	10–15 ...	1,066	992	1,091	1,004	876	782
	15–20 ...	983	1,073	861	926	790	866
	20–40 ...	3,143	3,073	2,937	3,057	3,304	3,385
	40–60 ...	1,814	1,636	1,780	1,614	1,757	1,614
	60 and over ...	594	733	665	737	704	770

SUBSIDIARY TABLE III. *Proportional distribution by age-periods of* 10,000 *Buddhists of each sex.*

(Based on statistics for the whole Buddhist population of the province.)

Age.	Males.				Females.			
	1921.	1911.	1901.	1891.	1921.	1911.	1901.	1891.
1	2	3	4	5	6	7	8	9
0–1 ...	255	234	245	298	259	243	255	312
1–2 ...	224	233	265	221	227	235	265	224
2–3 ...	243	280	310	282	251	284	313	283
3–4 ...	283	321	325	327	284	320	323	324
4–5	260	286	288	265	265	290	285	264
0–5 ...	1,265	1,354	1,433	1,393	1,286	1,372	1,442	1,407
5–10 ...	1,271	1,355	1,301	1,309	1,260	1,344	1,277	1,286
10–15 ...	1,223	1,236	1,143	1,255	1,146	1,140	1,046	1,155
15–20 ...	1,002	899	877	923	1,082	1,066	961	1,023
20–25 ...	862	775	828	838	941	864	917	901
25–30 ...	777	760	828	791	801	792	850	795
30–35 ...	722	767	799	728	687	727	756	676
35–40 ...	600	656	626	622	539	584	552	544
40–45 ...	571	566	539	537	558	552	521	514
45–50 ...	446	409	407	400	406	374	369	363
50–55 ...	410	373	383	370	418	384	395	396
55–60 ...	252	241	244	234	251	242	241	237
60–65 ...	274	278	592	603	264	278	673	703
65–70 ...	133	133			128	128		
70 and over	192	198			235	253		
Mean Age	25·37	25·02	24·97	24·75	25·31	25·11	25·10	24·98

SUBSIDIARY TABLE IV.—*Age-distribution for selected races.*

NOTE.—Each line of entries gives proportions for 10,000 of each sex. For Burmese the basis is Subsidiary Table I of this Chapter; for All Buddhists it is Imperial Table VIIA; for all others it is the corresponding sample tabulated in Imperial Table XIV. *Arakanese, etc.*, means Arakanese Yanbye and Chaungtha. *Shan A* means the sample in the latter table of Shans in Bhamo, etc., while *Shan B* means Shans in the Shan States other than Khun. All Yünnanese are excluded from *Chinese*.

Race.	Males.					Females.				
	0–5	5–12	12–15	15–40	40 and over.	0–5	5–12	12–15	15–40	40 and over.
1	2	3	4	5	6	7	8	9	10	11
Burmese ...	1,275	1,771	740	3,973	2,241	1,292	1,712	707	4,120	2,169
Arakanese, etc.	1,190	1,864	681	3,960	2,305	1,185	1,762	619	4,065	2,369
Talaing ...	1,553	2,011	717	3,791	1,928	1,564	1,937	721	4,002	1,776
Shan A ...	1,246	1,790	637	3,985	2,342	1,328	1,810	635	3,950	2,277
Shan B ...	1,160	1,674	605	3,999	2,562	1,118	1,680	520	4,102	2,500
Khun ...	1,080	1,517	742	4,142	2,519	1,103	1,513	498	4,394	2,492
Sgaw ...	1,394	1,867	662	4,011	2,066	1,424	1,817	592	4,261	1,906
Pwo ...	1,360	1,914	679	4,076	1,971	1,391	1,745	653	4,271	1,940
Chinese ...	690	961	388	5,197	2,764	1,504	1,568	714	4,188	1,826
Arakan-Mahomedan.	1,278	1,963	743	4,061	1,955	1,625	2,362	726	3,878	1,409
Zerbadi ...	1,603	2,099	811	3,880	1,607	1,466	1,880	781	4,152	1,721
All Buddhists	1,265	2,494		3,963	2,278	1,286	2,406		4,050	2,258

SUBSIDIARY TABLE V.A.—*Proportion of children under* 10 *and of persons over* 60 *to those aged* 15—40; *also of married females aged* 15—40 *to all females.*

District and Natural Division.	Proportion of children under 10 (both sexes) per 100.						Proportion of persons over 60 per 100 aged 15–40.						Proportion of married females aged 15–40 per 100 females of all ages.		
	Persons aged 15–40.			Married Females aged 15–40.			1921.		1911.		1901.				
	1921.	1911.	1901.	1921.	1911.	1901.	Male.	Female.	Male.	Female.	Male.	Female.	1921.	1911.	1901.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Province ..	60	66	64	201	211	207	13	15	14	16	13	16	25	26	26
Burman ..	60	64	65	203	212	210	13	15	13	11	13	16	25	25	26
Delta ..	*57*	*60*	*61*	*206*	*209*	*210*	*11*	*11*	*11*	*11*	*10*	*11*	*26*	*27*	*27*
Rangoon ...	23	21	21	133	135	136	4	9	4	9	4	11	33	33	32
Insein ...	59	57	57	217	211	209	13	11	11	11	9	11	25	26	27
Hanthawaddy ..	58			219			13	11					25		
Tharrawaddy ...	64	68	65	200	205	202	12	11	13	12	13	12	26	27	28
Pegu ...	60	61	62	206	208	212	12	10	11	10	10	11	26	27	28
Bassein ...	58	63	67	198	207	220	11	10	12	11	11	12	26	26	27
Henzada ...	62	66	69	213	213	220	13	11	14	13	14	14	24	25	26
Myaungmya ...	60	65	66	205	209	214	11	10	12	11	11	11	26	28	27
Ma-ubin ..	64	66	62	229	220	209	15	12	14	13	10	12	23	25	
Pyapôn ...	60	61		205	212		12	11	11	11			27	27	28
Toungoo ...	59	66	66	192	200	197	14	12	13	12	12	11	26	28	29
Thatôn ...	67	73	74	239	244	246	14	10	13	11	11	10	24	25	26
Coast ..	*66*	*64*	*64*	*210*	*208*	*207*	*13*	*13*	*12*	*13*	*11*	*12*	*27*	*28*	*28*
Akyab ...	65	60	60	199	183	195	12	13	10	12	9	11	29	31	30
Kyaukpyu ...	65	62	60	176	168	164	16	18	14	17	14	15	28	29	29
Sandoway ...	67	68	67	188	190	197	14	13	13	13	12	12	28	29	28
Amherst ...	68	68	66	243	241	244	13	11	12	11	11	11	25	26	25
Tavoy ...	66	71	73	285	258	250	15	14	15	17	16	15	23	22	22
Mergui ...	61	65	71	220	223	227	11	11	12	11	12	11	26	26	27
Centre ..	*62*	*70*	*70*	*201*	*218*	*214*	*16*	*19*	*18*	*22*	*17*	*22*	*24*	*24*	*24*
Prome ...	56	63	67	188	198	207	12	11	15	15	16	17	25	26	26
Thayetmyo ..	62	68	65	195	198	199	14	14	17	17	16	17	25	27	27
Pakôkku ...	70	74	74	216	223	220	16	20	17	23	18	24	24	24	24
Minbu ...	58	70	67	185	210	203	15	18	18	22	18	24	25	25	24
Magwe ...	61	72	73	211	245	244	15	18	16	21	16	19	23	31	22
Mandalay ...	46	56	56	167	188	186	12	17	14	21	14	22	25	25	25
Shwebo ...	64	75	69	201	218	191	20	22	20	24	18	21	23	23	25
Sagaing ..	68	73	77	226	244	236	19	21	21	26	21	25	22	21	22
Lower Chindwin	69	78	78	209	236	227	22	26	25	31	24	30	22	21	21
Kyauksè ...	55	64	60	167	186	163	18	19	18	23	16	21	26	25	29
Meiktila ...	60	73	75	205	244	244	19	22	18	22	19	22	22	21	22
Yamèthin ...	63	71	71	197	208	215	16	18	16	19	15	18	25	26	26
Myingyan ...	63	76	75	215	240	245	18	20	19	22	20	23	22	22	21
North ...	*66*	*60*	*68*	*188*	*190*	*176*	*11*	*15*	*11*	*14*	*10*	*16*	*26*	*27*	*29*
Bhamo ...	50	53	49	169	178	163	11	17	10	15	10	17	26	27	29
Myitkyina ...	45	45	42	159	172	159	9	12	7	12	5	12	28	28	31
Katha ..	62	67	63	188	196	182	13	15	12	15	11	15	27	27	29
Putao ...	40	...	..	131	...	...	7	17	...	...	...	...	32	...	...
Upper Chindwin	60	65	63	202	196	180	11	14	12	14	10	14	25	27	29
Chin ..	63	66	72	192	197	222	12	0	11	11	20	22	27	28	23
H. Dt. of Arakan	52	51	55	126	133	140	14	12	15	13	16	14	36	35	35
Chin Hills ...	63	69	74	208	212	255	12	10	10	10	21	25	25	27	20
Pakôkku Hill Tts.	73	...	...	194	...	...	10	8	..	..	...	..	31	...	...
Salween ..	68	..	..	207	..	..	10	9	.	..	..	..	26	..	..
Salween ...	62	65	62	228	210	206	9	8	8	7	9	8	25	29	28
Karenni ...	64	...	...	192	...	...	11	11	...	...	...	..	27	...	...
Shan ..	59	68	62	188	213	93	14	18	18	19	17	18	26	25	28
N. Shan States ..	60	68	62	194	215	180	14	20	16	21	17	21	26	26	28
S. Shan States ..	58	69	62	184	212	t	15	16	18	17	17	17	26	25	28

SUBSIDIARY TABLE V B.—*Proportions in* 1921 *of children under* 10 *and persons over* 60 *to those aged* 15 *to* 40 *and of married females aged* 15 *to* 40 *to all females compared for Buddhists and the total population.*

Natural Division.	Proportion of Buddhists per 100 total population	Proportion of children under 10 to 100 of the description below.				Proportion of persons over 60 per 100 aged 15 to 40.				Proportion of married females aged 15 to 40 per 100 females of all ages.	
		Persons aged 15–40.		Married females aged 15–40.		Males.		Females.			
		All.	Buddhists.	All.	Buddhists.	All.	Buddhists.	All.	Buddhists.	All.	Buddhists.
1	2	3	4	5	6	7	8	9	10	11	12
Province ..	85	60	63	201	204	13	15	15	15	25	25
Burman	87	60	64	203	205	13	15	15	15	25	24
Delta	84	57	64	206	210	11	14	11	11	26	25
Coast	75	66	67	210	208	13	15	13	14	27	26
Centre	96	62	63	201	201	16	17	19	19	24	23
North	76	58	62	183	193	11	13	15	15	26	26
Chin	2	63	55	192	191	12	8	10	13	27	30
Salween	40	63	58	207	182	10	13	9	11	26	30
Shan	83	59	61	188	193	14	16	18	18	26	25

SUBSIDIARY TABLE VI.—*Percentage increase in population of certain age-periods.*

Natural Division.	Period.	Increase per cent in population (– for decrease).					
		All ages.	0–10	10–15	15–40	40–60	60 and over.
1	2	3	4	5	6	7	8
Province ..	1911-1921	9·2	8·0	9·1	11·6	15·2	5·6
	1901-1911	16·2	15·3	24·7	14·2	17·4	15·5
Burman ...	1911-1921	9·6	3·6	9·4	11·5	16·1	6·3
	1901-1911	14·9	13·3	21·8	13·5	16·6	15·6
Delta ...	*1911-1921*	*11·3*	*6·2*	*9·4*	*11·4*	*22·0*	*10·3*
	1901-1911	*15·8*	*12·6*	*20·7*	*14·7*	*20·2*	*19·3*
Coast ..	*1911-1921*	*11·6*	*12·1*	*15·2*	*9·7*	*11·5*	*17·1*
	1901-1911	*15·5*	*15·5*	*13·6*	*14·4*	*18·0*	*21·0*
Centre ...	*1911-1921*	*7·1*	*– 1·8*	*7·0*	*12·2*	*12·8*	*0·1*
	1901-1911	*12·8*	*11·9*	*23·9*	*10·9*	*12·2*	*11·6*
North ...	*1911-1921*	*9·7*	*2·8*	*12·6*	*11·3*	*12·3*	*16·1*
	1901-1911	*22·9*	*23·7*	*39·1*	*18·8*	*23·3*	*21·5*
Chin * ...	1911-1921	– 7·6	– 14·5	2·5	– 8·0	– 1·6	– 4·2
	1901-1911	31·4	45·3	21·1	54·1	– 0·9	– 20·0
Salween † ...	1911-1921	3·6	0·9	7·3	3·6	5·1	7·4
	1901-1911	Data not available		...	...	...	...
Shan ...	1911-1921	8·6	0·4	6·6	15·8	10·5	0·7
	1901-1911	24·7	28·9	57·5	16·2	25·6	18·6

* Pakôkku Hill Tracts.

† For Karenni the figures of 1911 are not available but they have been estimated on the basis of the 1921 figures.

SUBSIDIARY TABLE VII.—*Reported annual birth-rate in the registration area by sex and natural division* 1911 *to* 1920.

Year.	Number of births per 1,000 of total population.							
	Registration area (see foot-note).		Delta.		Coast.		Centre.	
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
1	2	3	4	5	6	7	8	9
Average for the decade.	16·5	15·6	15·4	14·4	16·3	15·2	17·5	16·8
1911	16·8	15·9	15·7	14·9	16·1	15·1	17·9	17·1
1912 ...	16·4	15·4	15·3	14·2	17·1	15·8	17·2	16·3
1913 ...	16·5	15·5	15·6	14·6	16·3	14·9	17·3	16·4
1914 ...	17·7	16·7	16·9	15·8	17·1	15·9	18·5	17·6
1915 ..	17·4	16·5	15·9	14·8	17·7	16·6	18·6	18·0
1916 ...	16·6	15·6	15·6	14·4	16·9	15·8	17·2	16·5
1917 ...	17·6	16·6	16·6	15·4	18·1	16·8	18·1	17·5
1918 ...	15·8	15·0	14·8	13·7	15·4	14·3	16·9	16·4
1919 ...	14·2	13·5	13·0	12·6	13·7	12·5	15·4	14·9
1920 ...	15·9	15·1	14·2	13·4	15·1	14·2	17·8	17·1

NOTE.—See the note below the next table which applies also to this.

SUBSIDIARY TABLE VIII.—*Reported annual death-rate in the registration area by sex and natural division, 1911 to 1920.*

Year.	Number of deaths of each sex per 1,000 of total population of the same sex.							
	Registration area (see footnote).		Delta.		Coast.		Centre.	
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
1	2	3	4	5	6	7	8	9
Average for the decade.	27·1	25·6	25·2	24·6	23·6	22·0	29·8	27·7
1911 ...	26·2	24·0	25·2	23·5	21·6	19·2	28·3	25·9
1912 ...	27·9	25·6	26·4	24·6	22·3	20·2	30·8	28·3
1913 ...	25·4	23·6	23·9	21·4	23·2	21·1	28·5	26·5
1914 ...	24·2	22·7	22·1	21·0	22·6	20·4	26·5	25·0
1915 ...	27·6	26·3	23·8	23·2	23·1	21·6	33·0	30·7
1916 ...	23·6	23·1	21·9	21·1	19·9	18·5	26·3	24·3
1917 ...	24·6	23·1	23·6	23·0	21·7	20·5	26·1	24·1
1918 ...	36·6	37·4	34·7	38·5	31·8	31·0	39·7	38·3
1919 ...	29·8	27·7	27·4	26·3	28·9	27·3	32·1	29·3
1920 ...	24·9	23·5	24·3	23·5	20·8	20·0	26·6	24·8

NOTE.—The registration of births and deaths is in force only in the Delta, Coast and Centre subdivisions of the Burman natural division. Within those subdivisions it is in force in the whole or nearly the whole of every district. In calculating the birth and death rates for this and the preceding table the population of the area under registration has been calculated for 1911 and 1921 from the census records, and for intermediate years on the assumption that the rate of change in the interval from 1911 to 1921 has been constant for the whole province and for the whole of each subdivision.

SUBSIDIARY TABLE IX.—*Ratio of deaths per annum in each age-group per* 1,000 *living of that age-group in* 1911 *for the whole decade* 1911 *to* 1920 *and for selected years thereof.*

Age.	Average 1911–1920.		1913.		1916.		1918.		1919.		1920.	
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
1	2	3	4	5	6	7	8	9	10	11	12	13
All ages ...	28·34	26·74	25·93	24·01	24·76	23·14	39·25	39·94	32·22	29·90	27·22	25·62
0–5 ...	87·66	73 47	85 68	70·14	79·15	66·16	110·90	97·46	81·97	70·82	75·20	64·38
5–10 ...	12·56	11·84	11·43	10·32	9 74	9·05	18·61	19·36	15·03	14·41	13·19	11·89
10–15 ...	8·86	8 61	7·98	7·15	7·26	6·64	13·17	15·39	10·76	10·86	8·95	9·06
15–20 ...	13·52	12·52	11·13	10·07	11·11	9·71	21·96	24·70	17·52	15·94	14·30	13 20
20–40 ...	16·08	16·81	13·21	13·62	13·17	13·17	26·75	30·68	22·19	21·48	16 83	17·21
40–60 ...	26·42	22 63	22·85	19·23	22·82	19·63	37·80	35·22	34·09	28·03	27·92	23·56
60 and over	70·36	67·67	66·72	64·74	66·45	65·01	82·13	79·81	79·68	73 59	69.61	63 80

SUBSIDIARY TABLE X.—*Average annual number of reported deaths from certain diseases in the decade* 1911 *to* 1920.

Cause of death.	Average numbers of deaths.			Average rates per mille.			
	Total.	Males.	Females.	Persons	Males.	Females.	Smoothed average for persons.
1	2	3	4	5	6	7	8
All causes ...	271,315	142,736	128,579	27·53	28·34	26·74	27·05
Cholera	5,999	3,547	2,442	·61	·70	·51	·70
Dysentry and Diarrhœa	10,333	6,050	4,284	1·04	1·20	·89	1·09
Fever	97,452	52,179	45,273	9·90	10·36	9·42	9·03
Plague	5 896	3 362	2,484	·59	·67	·52	·67
Small-pox ...	2,604	1 530	1,073	·27	·30	·22	·27
Respiratory Diseases	96,304	5,409	3,895	·96	1·07	·81	·85

NOTE.—The total numbers refer only to the area of registration of deaths (see Article 31). The rate per mille has been calculated according to the population in 1911. The smoothed average for persons was obtained by tabulating the average of each year and the four preceding years and averaging those results for the decade.

CHAPTER VI.

Sex.

100. Enumeration.—The only instruction given in connection with the record of sex was that eunuchs and hermaphrodites should be entered in the schedules as males.

101. Statistics.—The distinction of sex is so important that it is made in practically every one of the census tables; and accordingly no special tables with regard to sex are given in the Tables Volume of this report. But six subsidiary tables have been appended to the present chapter to illustrate special aspects of sex-distribution, as follows:—

I. Ratio of females to 1,000 males in 1901, 1911 and 1921 for districts and natural divisions.

II. Ratio of females to 1,000 males in separate age-groups and by religion at four censuses.

III. Ratio of females to 1,000 males in separate age-groups by natural divisions.
(A) for all religions; (B) for Buddhists only.

IV. Ratio of females to 1,000 males amongst selected races.

V. Registered births and deaths of each sex from 1901 to 1920.

VI. Registered deaths of each sex in age-groups for decade 1911-20 and selected years thereof.

In addition Subsidiary Tables VII to X inclusive of Chapter V, which are printed on the pages immediately preceding this, show the information of Subsidiary Tables V and VI of this chapter in terms of birth-rates and death-rates instead of absolute numbers of births and deaths.

102. Accuracy of the Statistics.—It may be presumed that in a small number of cases the sex was wrongly recorded in the enumeration schedules; there must always be some cases amongst thirteen million records in which the enumerator intending to record one sex unconsciously records the other, or gets into some confusion about the absent children of a household who are being described to him. But it may safely be assumed that such errors caused by entries of the wrong sex will be negligibly few and also will occur in both directions. Errors in this record will arise not by mistaken entries but by entire omissions of persons from the schedule. So long as whole households are omitted no great harm is done because the main interest lies in the ratio of the nearly equal numbers of the two sexes; but the history of Indian censuses includes much discussion of the possibility of females being omitted from the records in larger numbers than males, so that an apparent defect of females is produced. This question does not seem to arise in Burma where females are shown below to be generally in excess except in the cases of the Indian, Chinese, European and other immigrants who are known without the statistics to be chiefly males. Moreover, it was shown in 1911 that the areas in which an excess of males could not be explained by the immigration of an excess of males were areas for which only estimated figures were available. But estimated population figures are at best multiples of numbers actually counted in some very limited sample area; the excess of males in such a case represents therefore only an excess of males in a few villages and is no basis for any argument. Occasionally the people of the most backward tribes, through sheer timidity, might try to avoid the enumerator who in such cases is usually a clerk from the administrative headquarters; but as the enumeration in such cases is under the immediate supervision of a political officer very small errors would arise in this way, and it is shown later in this chapter that a sex ratio as high as 1,020 is found for the animists of indigenous races who include these most backward tribes. There is no other known reason why any of the indigenous races of Burma should make any attempt to conceal females so as to exclude them from the census. For the Burmese race in particular there is nothing to be said of the same nature as the reports of the neglect of female children which come from India; and of all the forces which in India conspire to raise the rate of female mortality only two apply in Burma, namely, frequent child-bearing and unskilled midwifery. It may be accepted that the enumeration-record was generally accurate and that omissions or double

countings of males or of females were few and generally in proportion to the total numbers of the two sexes, so that the ratio of these numbers is given correctly so long as the comparison includes persons of all ages. The accuracy of the ratio in separate age-groups is a different matter which is discussed later in the chapter. A possible error in the tabulation of Karens is mentioned in the article on *Sex-proportions by Race* below.

103. Proportions of the Sexes—Sex-ratio.—For convenience the term sex-ratio will be used in this chapter to mean the proportion of females to 1,000 males in the class to which it relates. Subsidiary Table I at the end of the chapter shows the sex-ratios in both the actual and the natural populations for the whole province and for each natural division or district at each of the last three censuses. But the values given for natural populations of districts are of doubtful accuracy. The errors in the records of birth-places have already been noted in Chapter III, and it is probable that the records for men and women are unequally affected by these, because men have wider intercourse with their fellows than women, and, if they have not migrated far, are more likely to be aware of changes in district boundaries affecting their birth-places. The actual record is made by the census enumerator in accordance with the statements of the particular member of the household whom he happens to meet; but the women's own opinions would still determine as a rule the district assigned for their birth-place. Amongst Indians born in Burma a larger number of males than of females was enumerated in practically every district; but the proportion which these bear to the total population of any district outside Rangoon seems to be too small to affect the sex-ratio for the natural population of any whole district. Most of the districts which show a sex-ratio of less than 1,000 for their natural population form a continuous string which can be traced on any of the maps on page 2 of this report or on the map which forms the frontispiece; beginning at the south they are Pyapôn, Hanthawaddy, Rangoon, Pegu, Thatôn and then one branch to Amherst, Tavoy, Mergui and another to Salween and the Southern Shan States. The other districts are Akyab and the Hill District of Arakan. For Akyab, Amherst, Tavoy, Mergui and the Southern Shan States the race constitution of the population is probably an important factor; but really the figures for the sex-ratio of the natural population are too uncertain to afford any basis for real study. The sex-ratio for the actual population of each district may be accepted as correct for the *de facto* population on the night of the census; and, as it is very unlikely that the inclusion of the adventitious population will have seriously affected the ratio for populations of any whole districts, the calculated ratios may be regarded as approximating very closely to their true values. But as these values are the result of modification by emigration and immigration of the value for the natural population, the difficulties which prevent useful discussion of the latter prevent also discussion of the origin of the variations for the actual populations by districts.

A discussion of sex-ratios for natural divisions is not affected by inaccurate returns of birth-place in the same way as that for districts, because although so many persons are sure to have returned the wrong district-names for their birth-places, few will have given a district in a different natural division. Even if there were no other reason the mere fact that such mistakes could only happen for the districts along division-boundaries would diminish them absolutely, while the relative effect of the mistakes is further diminished by the increase in size of the total population for which the sex-ratio is calculated. Moreover, as already noted when discussing birth-places in Chapter III, there have been comparatively few changes in the district boundaries which now form boundaries of natural divisions, so that there is even a further tendency to diminish the errors in the sex-ratios for natural divisions, and these may accordingly be accepted as fairly correct. They have accordingly been extracted from Subsidiary Table I and re-arranged in Marginal Table 1. In the actual population of the large Burman and Shan divisions, which together make up over

1. Proportion of Females per 1,000 males.

Area.	Actual Population.			Natural Population.		
	1921	1911	1901	1921	1911	1901
Province ...	955	959	964	1,026	1,028	1,027
Burman ...	952	953	957	1,029	1,031	1,029
Delta ...	877	874	865	1,008	1,010	993
Coast ...	906	892	880	990	976	983
Centre ...	1,059	1,072	1,093	1,064	1,077	1,070
North ...	957	936	949	1,024	1,012	1,037
Shan ...	974	998	1,018	1,002	1,014	1,011

nine-tenths of all the population of the province, the sex-ratio was less than 1,000 in 1911 and has continued to decrease in approximately the same degree as in the previous decade. For both Chin and Salween the figures of 1901 are somewhat doubtful because they depend so much upon estimates of population; but, as these two divisions in any case only have one-tenth of the whole population and are on the outside edges of the province, it is not advisable to spend much time upon their study. The sex-ratios in the subdivisions of Burman division vary from 877 to 1,059, but this range has grown narrower at each census; as in 1911 it extended from 874 to 1,072, and in 1901 from 865 to 1,093, it has contracted at both ends. The effect of migration from one subdivision to another can be approximately eliminated if the figures for natural population are used. For these Marginal Table 1 shows for the sex-ratio of the whole province a slight rise from 1,027 in 1901 to 1,028 in 1911 followed by a fall to 1,026 in 1921. There is probably a slight difference in the way these figures have been calculated; those for 1911 and 1901 are quoted from the census report of 1911 and seem to have been calculated by ignoring emigrants to places out of Burma, and if the ratio for 1921 were calculated in the same way it would be only a small fraction below 1,027. For Burman the 1921 proportion is the same as that of 1901 and two below that of 1911; Shan, which both in 1901 and in 1911 had a sex-ratio of 1014, has fallen in 1921 to the approximate equality of 1,002. Chin and Salween gave results three and two points above the average for the whole province, although Salween might have been expected to follow Shan. Coast is the only subdivision now showing a defect of females; there a fall from 983 to 976 in 1901-11 has been followed by a rise to 990 in 1921. Centre shows a marked decrease from 1,077 to 1,064, but still shows much the highest ratio.

104. Comparison of Burma with Other Countries.—These figures should be compared with those of other countries. India naturally claims first attention; and, as it has been shown in the census reports for all India that while the sex-proportions of separate provinces and states are greatly disturbed by migration, the sex-ratio for India as a whole is only very slightly affected, it will be quite proper to compare with the sex-ratio shown by the actual population of all India the ratio for the natural as well as the actual population of Burma. This is done in Marginal Table 2. For India as a whole the ratio has diminished at each census since 1901 by twice as much as for the actual population of Burma. At the census of 1891 the ratio for all India was 940 while that of the actual population of Burma was 962; but the figures of 1891 in Burma were too much affected by omissions of parts of the province and the less precise character of census that was then possible for the comparison to be carried back so far usefully. If the sex-ratio for the natural population of Burma is compared with that for India the figures are seen to be of an entirely different nature; Burma shows an excess of females while India shows a defect. Numerically Burma shows roughly 37, while India shows 34 females to 36 males. The comparison in Marginal Table 3 for the censuses of 1911 and 1901 shows Madras and also Bihar and Orissa with an excess of females in the natural population; for all other large provinces the males were in excess. If a comparison is made with countries outside India it is found that (using pre-war figures) in all Europe except Luxemburg, Bosnia, Bulgaria, Servia and Greece, females were in excess, while in the United States, Argentina, Brazil, Canada, Cuba they were in defect. For all Europe except Turkey there was before the war an excess of seven and three-quarter millions of females in a population of 450 millions or about 1,034 females to 1,000 males. Much of this discrepancy in the numbers of the sexes was due to emigration, and it is largely the other side of the same story which

2. Females per 1,000 males in India and Burma.

Census.	India including Burma (Actual and Natural).	Burma	
		Actual Population.	Natural Population.
1921	945	955	1,026
1911	953	959	1,028
1901	963	964	1,027

3. Females per 1,000 males in Natural Population.

Province.	Proportion.	
	1911.	1901.
Burma	1,028	1,027
Assam	963	966
Bengal	970	982
Bihar and Orissa	1,014	1,027
Madras	1,032	1,029
Punjab	811	846
United Provinces	903	923

accounts for the excess of males in the new countries of America which have been mentioned above, although the ratio of 1,041 females to 1,000 males found in the United States for the white population born of parents native to the country shows that this is not entirely the case. In Mexico, Chile, Costa Rica, Guatemala and the Danish possessions there was in 1911 an excess of 170,000 females. Taking together these and the other countries already mentioned, which are all for which statistics are available, there is in America an excess of nearly four and a quarter millions of males of white races in a population of about 150 millions. Reckoning in also the populations of Oceania and South Africa there was before the war an excess amongst the white races of about 3·5 to 4 millions of females in a total population of over 600 millions, indicating a sex-ratio of about 1,013.* In South Africa too the sex-ratio for all the native African population was 1,175 and in the United States of America that for negroes was 1,012. It appears therefore that generally there is a tendency for females to be in excess, although in India the natural populations of all provinces except two show an excess of males. Thus although the excess of females in the natural population of Burma is a matter of some remark in a survey of the population of the Indian Empire, it is in accordance with the usual run of things; the peculiarity about it is rather the magnitude of the excess in the particular race of the Burmese, for which the ratio is 1,046.

105. Sex-ratios for Races.—The numbers of persons of each sex of various races in Burma are tabulated in Imperial Table XIII, and the sex-ratios are given in Marginal Table 4 hereby for the indigenous race-groups, the last column showing the relative weight which each race has in determining the ratio for the province. The most important entry is that for the Burma group which shows the high ratio of 1,043, the same as it showed in 1911. Chiefly this is due to the high ratio of its most important member, the Burmese race, which is 1,046. The exact ratio for the Burmese race in 1911 cannot be calculated for comparison because Tavoyans were then tabulated as Burmese; but they are so closely allied to the Burmese, and their numbers are so small in comparison, that it is permissible to compare instead the ratios obtained for Burmese and Tavoyans together; in 1921 this ratio was 1,046 as for the Burmese alone and in 1911 it was nearly 1,049. Group I (*i.e.* letter I), called the Tai group, represents the Shans and has an equality of the sexes which was effective in bringing the sex-ratio for the whole population of Shan division to 1,002. After the Burma group the Karens are the most important; the recorded figures for them show a sex-ratio of 994, but there is reason to suspect that a number of Pwo-Karen females in Ma-ubin District have been wrongly tabulated as Burmese, and although proof of this has not been obtained this particular ratio must remain doubtful. If equality of the sexes were established for Pwo-Karens in Ma-ubin District by making an addition of about 4,000 females approximate equality of the numbers of the two sexes would be established for Pwo-Karens and for all Karens of the whole province; it is indeed principally this fact which throws doubt upon the Ma-ubin Pwo-Karen figures. Of the other races with an excess of males the Lolo-Mūs'o have small numbers and are chiefly located in Yünnan, so that their sex-ratio in Burma may be accidental; the Palaung-Wa group also includes many immigrants; the Mon group, consisting of the Talaing race and numbering 324 thousands, claims notice. There is no reason for suspecting the Talaing figures; probably they have been modified in some complex manner by the tendency for Talaings to be absorbed in the Burmese race, and do not therefore represent a true ethnic character. The sex-ratio for other races also may have been modified by race-absorption. Race in the census tables is not entirely a biological matter; it is rather a matter of culture, in determining which descent is generally the most powerful but is not the sole

4. Females to 1,000 males for Race-Groups.

	Race-Group.	Proportion.	Total number of females (whole thousands).
A	Burma ...	1,043	4,139
B	Lolo-Mus'o	990	36
C	Kuki-Chin	1,002	145
E	Kachin ...	1,080	77
F	Lui ...	1,030	25
I	Tai ...	1,000	509
K	Mon ...	975	160
L	Palaung-Wa	992	78
N	Karen ...	994?	668
X	Indians ...	358	233

* Since the War the excess of females is estimated at 11 millions, giving a sex-ratio of about 1037.

factor. Consequently amongst races of small numbers the sex-ratio is the resultant of many forces. It has already been noted that for the Lolo-Mus'o and the Palaung-Wa race-groups the ratio may have been modified by the fact that the figures relate to only a fragment of the group and are affected by migrations to and from places beyond the census area. If to this effect we now add the effect of absorption of or by other races, it is clear that the sex-ratio in some races may be changed considerably from what it would be if those races were isolated from all others. Particularly is this the case for races which have only very small numbers, and for any one of these nothing can be said of its sex-ratio without a close specific study of the particular race. If, however, we broaden the basis of the sex-ratio by calculating it for the most numerous races or for larger groups, these effects are minimised. For instance, the Burmese race numbers nearly eight millions and is practically unaffected by immigration or emigration. The number of Burmese of either sex, who are absorbed in other races, is very small and can be neglected absolutely in comparison with that total; so too can any effect of the probable absorption by the Burmese race of more women than men of other races. The ratio of 1,046 for the Burmese race is probably therefore a correct measure of the character of sex-ratio for this race; and it is this ratio which raises the ratio for both the actual and the natural populations of the whole Burma group and for the whole province. For the total of all the indigenous races the ratio is 1029; but if the Burmese race is excluded the ratio for all other indigenous races (numbering over four millions) is approximate equality; and as this ratio can only be affected in quite small degree by migration or race-absorption, the high sex-ratio seems to be a special quality of the Burmese in particular.

For the animists of indigenous races the sex-ratio is shown by Imperial Table VIB to be 1020; but this is probably affected by the women adopting Buddhism more slowly than the men.

For all Buddhists the sex-ratio is affected slightly, as is shown in Marginal Table 5, by the presence of some Buddhists of non-indigenous races of whom in fact three-quarters of the males and six-sevenths of the females are Chinese. For Burmese Buddhists the sex-ratio is 1,045 as compared with 1,046 for all Burmese, the difference being due to an excess of females among Mahomedan and Christian Burmese. If these two ratios differed considerably it would be more correct to take the latter figure as the ratio for the Burmese race, but as they are so nearly equal it does not matter which is adopted. The doubt about the accuracy of the Pwo-Karen Buddhist figures is to be noted; the number involved is too small to affect the figures for all Buddhists of indigenous races and its effect upon the figures for Burmese is negligible; but it restricts statements about the sex-ratio of other indigenous races to a recognition of approximate equality of the sexes.

5. Sex-Ratios amongst Buddhists.

Race.	Males.	Females.	Sex-Ratio.
Burmese ...	3,821,833	3,999,953	1,045
Other indigenous races	1,677,906	1,672,571	990 (?)
Total indigenous races	5,499,739	5,665,524	1,030
Other races ...	25,420	11,260	443
Grand Total ...	5,525,159	5,676,784	1,027

It is interesting to note from the figures shown in the margin how close the sex-ratio for Buddhists has been to the sex-ratio for the natural population of the province at each census. It is known that the Buddhists make up the greater part of that population, but one would hardly expect the ratios to be as close as they are.

Census.	Natural Population.	Buddhists.
1921	1,026	1,027
1911	1,028	1,031
1901	1,027	1,027

The non-Mahomedan Arakanese show a sex-ratio of only 989, the difference of which from the Burmese ratio is most probably the correlative of the striking defect of males amongst the Yanbye who show a ratio of 1,096 in a total number of 168,000. The Yanbyes have been migrating from their home in Ramree Island of Kyaukpyu District to the Akyab District in such numbers that it is reported that their economic pressure has been felt by the less diligent Arakanese cultivators; it must be supposed, therefore, that the small number of 1,970 Yanbye males reported in Akyab District is due to recording them as Arakanese either because they described themselves as such or because some enumerators used the term Arakanese (as it was used at the Census of 1911 and is commonly used every day) to include all the races of the Burma group who have their home in

Arakan. The fairer procedure therefore is to take the Arakanese and Yanbye and Chaungtha together. For these the sex-ratio is 1,021, the defect of this below the Burmese ratio of 1,046 being due probably to the Indian strain in the Arakanese race.

The mixed races of Arakan-Mahomedans and Zerbadis have sex-ratios of 866 and 1,066 respectively. The excess of the Zerbadi ratio above that of the Burmese is probably due chiefly to changes of race by Zerbadi boys following their father's race more than the girls have followed their mother's. For Arakan-Mahomedans the explanation lies probably in the influence of Indian descent and customs. It has already been suggested that the defect of the Arakanese ratio below the Burmese is due to this influence; in such a case the ratio for Arakan-Mahomedans would be expected to be lower still. This does not however explain a fall to so low a figure as 866 when the ratio for Indian Mahomedans born in Burma is 961; it is possible that Arakan-Mahomedan women who marry Indian Mahomedans describe themselves as of the same race as their husbands.

Amongst Chinese, Indians, Europeans and other foreign races the ratio is a mere accident depending chiefly upon the excess of male immigrants. For Indians who are Hindus or Mahomedans separate statistics are available for those born in the province and are given in Marginal Table 6. It cannot be supposed that the sex-ratio for these classes is much disturbed by emigration to India or elsewhere, and certainly cannot be supposed that the females emigrate in larger numbers than the males. Marginal Table 6 implies therefore that Indian Hindus and Mahomedans retain in Burma their Indian character in respect of their sex-ratio. Even for Mahomedans born in Burma the ratio is lower than for any indigenous race-group except the Lolo-Mus'o which is affected by immigration, and for Hindus born in the province the ratio is low beyond comparison with that of any indigenous race-group. For Hindus and Mahomedans born out of the province the sex-ratio has the extremely low values of 189 and 121 respectively, and consequently for all Hindus and all Mahomedans the ratios fall to 281 and 592.

6. Females per 1,000 males amongst Indians born in Burma.

Class.	Males.	Females.	Ratio.
Hindus ...	51,328	42,397	826
Mahomedans	103,461	99,129	961

106. The Sex-ratio at Birth and its Variations with Age.—The ratio between the numbers of children of each sex born in any year is not maintained by those children throughout their lives, but is changed from year to year by differences in the mortality rates of the two sexes. These rates change continuously for each sex as age advances and are generally different and changing differently for the two sexes in every year of age. Diseases to which both sexes are subject affect them in different and differently varying degrees at each period of life; *e.g.*, influenza and plague seem to attack women more than men, and malaria is thought to do the same. Childbirth is a danger to women which reduces their numbers at the reproductive ages, while the mortality of males is increased by more adventurous or more irregular lives. Marginal Table 7 shows the number of females at birth is less than the number of males in several important countries. Other countries for which accurate returns are available—for instance, Spain, Portugal, Norway, Sweden, Holland, Denmark, Switzerland—also show similar excesses of males. In fact the usual course of the matter in countries which have reliable vital statistics is known to be that more males than females are born; but the reduction of the males by death in each successive year is so much greater than that of females that the excess of males diminishes, until, at an age which varies from one country to another, the females become more numerous than the males. Having once gained this advantage the females generally retain it to the end and have longer lives than the males. The relative reduction of the males begins immediately at birth; in England the ratio of male to female deaths in the first year of life is nearly double what it is for all ages; and

7. Ratio of Females to 1,000 males.

Country.	At Birth.	Total Population.
England and Wales	963	1,068
Scotland ...	960	1,062
Italy ...	951	1,037
Austria ...	946	1,036
France ...	957	1,035
Germany ...	947	1,026
Hungary ...	943	1,019
Belgium ...	945	1,017
Ireland ...	945	1,003
Burma		
(1) Total population	?	955
(2) Buddhists	?	1,037

this immense send-off in the race plays a great part in the success of the females in catching up the numbers of the males. In 1911 (if allowance is made for emigration) the males became less than the females in England and Wales or in Austria and Hungary at about age 15, in Scotland a little after 21, in Holland in the thirties, in Germany, Sweden and Switzerland in the forties.

In all the European countries shown in Marginal Table 7 the sex-ratio for the total population exceeds 1000 largely because of the emigration of a greater number of males than of females; but it was shown in Article 104 of this chapter that all the European races collectively have more females than males, and it is safe therefore to say that at any rate most of the countries shown have an excess of females in their natural populations in spite of the excess of males at birth. The emigration from those countries makes it difficult to discover the actual sex-ratio at successive ages of their natural populations. In Burma the same difficulty would arise through immigration if the study were directed to the whole population; but a study of Buddhists alone, while dealing with the greater part of the population, evades this difficulty and also evades in part the objection that the whole population is not one population but several, which penetrate each other territorially and intermarry to some extent but are practically independent for such questions as the present. But whether we have regard to the whole population or to Buddhists, the study, as the remainder of this acticle will show, is difficult, because both the ratio of the sexes at birth and the specific death-rates at successive ages for the two sexes are unknown, while the census figures for age are not sufficiently reliable for this purpose because they have not similar errors at similar ages for the two sexes.

For all Buddhists the sex-ratio in successive five-yearly age-groups is shown in Marginal Table 9 later in this article; it varies between its two almost extreme values of 963 and 1110 in the adjacent age-groups 10 to 15 and 15 to 20, while again at 30 it drops from 1059 to 954 and then passing through 973 in age-group 40 to 50 reaches 1037 again at age 50. Some variations must occur as a result of differences in the specific mortalities at successive ages of the two sexes, but there could hardly be such violent changes and reversals as these. Moreover if these changes were real they ought to have been shown in the census of 1911 at ages ten years lower than in 1921. There would of course be some modifications of the changes during the decade, particularly as the relative effects of influenza on the two sexes were at different ages; but in fact the ratios for the several age-groups in 1921 resemble rather those of the same age-groups in 1911 than those of ages ten years less. The same is true for a comparison of 1911 with 1901 although the resemblance is not so close. This seems to confirm the view that the recorded variations from age to age are more the result of mis-statement of ages than of real variations in the facts. In comparison with males there seems to have been specially large over-statement of age for females of 10 to 15 which has taken many into the next age-group of 15 to 20, where further overstatement has raised the proportion of females in the next group, 20 to 25. This cannot go on for ever; and in age-groups 30 to 40 there is probably greater understatement of age by females than by males, which has diminished the sex-ratio in this age-group and increased that of group 25 to 30. The latter group possibly received little addition from overstatements in group 20 to 25, which thus received additions at one end without losing at the other, and so shows the highest ratio of all age-groups. Marginal Table 8 shows first the ratio for all above the ages of 5, 10, 15, etc., in succession, thus eliminating differences of infant mortality; and then again shows the ratio for all below the ages of 5, 10, 15, etc., thus showing figures which at low ages are free from the effect of childbearing upon the mortality of females and at higher ages are free from the comparatively unimportant differences of power to linger on at great ages. The variations naturally are damped in those series, and a consideration of them with the observations of the earlier part of this paragraph seems to show that the ratios given for all above or all below ages 40, 45 or 50, and for all below 50

8. Sex-ratio for Buddhists.

Age.	All above the stated age.	All below the stated age.
0 ...	1,017	
5 ...	1,025	1,045
10 ...	1,026	1,032
15 ...	1,039	1,009
20 ...	1,025	1,030
25 ...	1,006	1,044
30 ...	994	1,046
35 ...	998	1,039
40 ...	1,018	1,030
45 ...	1,023	1,028
50 ...	1,054	1,024
55 ...	1,057	1,025
60 ...	1,070	1,025

or 60 are probably fairly correct, the errors in such groups being reduced by the large numbers involved and by opposite tendencies in the smaller groups they contain. For all ages below 20 the rate is probably too low, while for ages 20 to 40 it is consequently too high. The ratios for these wider age-groups are given in the next article.

The variations of the sex-ratio for all Buddhists are of course influenced very largely by those of the ratio for the Burmese who form so large a proportion of the Buddhists. But still it might be hoped that the generally superior intelligence and greater development of the Burmese than of most other Buddhists would cause the figures for them to give more consistent results if the modifications due to other races were removed; moreover, the greater homogeneity of the class studied would alone be expected to yield such an improvement. The ratios for Burmese Buddhists have been calculated from the actually recorded figures of Subsidiary Table I of Chapter V after multiplying the numbers of females in successive five-yearly age-groups by 1044·7 to correspond to the ratio of females to males in all age-gronps together. Marginal Table 9 shows the ratios so obtained for Burmese Buddhists in comparison with those for all Buddhists. The inconsistencies of the former are perhaps not quite so bad as those of the latter, but it seems clearly hopeless to make any real use of such figures.

9. Sex-ratios of Burmese Buddhists and all Buddhists compared.

Age.	Burmese Buddhists.	All Buddhists.
0—5	1,059	1,045
5—10	1,021	1,018
10—15	992	963
15—20	1 184	1,110
20—25	1,111	1,122
25—30	1,026	1,050
30—35	1,017	978
35—40	1,021	984
40—45	990	1,003
45—50	944	934
50—55	1,139	1,047
55—60	1,053	1,023
60 and over	1,110	1,072

Nothing better is to be got from the records of births and deaths. Not only are the specific mortality rates for various ages in the two sexes unknown, but even the sex-ratio at birth is uncertain. It is not safe to suppose that the omissions affect the returns of births in the two sexes by equal amounts or by equal proportions. For the whole population in the area of registration the ratios of reported female births to 1,000 reported male births in the three decades since 1891 have been 931, 938, and 945, respectively; this repeated increase may represent a change in the facts or a change in the quality of the records. In the latter case one cannot foresee any more than in the former whether the increase is likely to continue, and cannot therefore say what the true sex-ratio at birth may be; it may possibly exceed 1,000, although the statistics of other countries shown earlier in this article make that seem unlikely. The probability is rather that Burma has the same sort of experience as those other countries, and has a sex-ratio at birth of about 950. If the errors in the available vital statistics are at all closely similar for the two sexes and for births and deaths, the difference of rates of infant mortality (calculated as the ratio to births in one year of deaths under one year of age in the same period) would change a sex-ratio of 950 to one of 987 in one year; while in the first five years of age, when the reported death-rates are 87·66 for males and 73·47 for females, 1,000 males would be reduced to 562 and 950 females to 601, giving a sex-ratio of not less than 1,069. Indeed with such a discrepancy in the death-rates at ages 0 to 5 it would require a thousand males to be born for every 888 females to prevent the females exceeding the males before age 5. Such a low sex-ratio at birth as 888 is not reported from any country for which reliable figures are available, and probably never occurs. The probability is that in Burma the number of females becomes equal to the number of males in the second or possibly the third year of life.

10. Reported Infantile Mortality in Burma.

Year.	Males.	Females.
1911	·246	·204
1912	·246	·209
1913	·238	·203
1914	·230	·202
1915	·236	·202
1906	·219	·193
1907	·280	·200
1908	·283	·259
1909	·228	·205
1910	·198	·175
Average	·235	·205

107. Sex-ratios in Wide Age-groups.—The sex-ratios for the age-groups for which the discussion of the preceding article made them seem likely to be fairly correct for Buddhists are given in Marginal Table 11, both for Buddhists and for the total population. Immigrants below 20 include chiefly small children accompanying their mothers in approximately equal numbers for the two sexes;

these are few compared with the population to which they are added in Burma. Most of the others below 20 are approaching that age. Amongst them males are probably not very numerous; while Indian females of ages 15 to 20 would probably tend more to overstate their ages and place them above 20 than is usual amongst the women of Burma, that being a marked feature of Indian age-records. In ages above 20 the effect of immigration on the sex-ratio is considerable, because the male immigrants so greatly outnumber the female. Apart from the effect of the numbers of the immigrants themselves there is also an effect on the sex-ratio of the children corresponding to the change in the average racial character of the population which produces and rears them; but of immigration as such the effect seems likely to be small at ages below 20. The ratio for age-period 20 to 40 is important because this is the reproductive period and also the chief productive period from the economic standpoint.

11. Sex-ratios in certain wide age-groups.

Age-groups.	Total Population.	All Buddhists.	Remarks on accuracy.
All ages ..	955	1,027	Probably fairly accurate.
Under 40 ..	959	1,030	
Over 40 ..	941	1,018	
Under 20 ...	1,007	1,030	Low
20 to 40 ...	892	1,030	High
40 to 60 ...	912	999	Low
Over 20 ..	912	1,025	High
20 to 60 ..	899	1,019	Low

108. Sex-ratio for Infantile Mortality.—In Article 106 above were mentioned the ages at which in various countries the excess of males at birth is transformed by differential mortality rates into an excess of females. Amongst the countries in which this transformation is far postponed are Holland and Sweden in which it takes place above ages 30 and 40 respectively. As both of these countries have an even lower death-rate than England, this cannot be attributed to a failure to preserve female lives; it is due to success in preserving male lives. With a Burmese sex-ratio of 1,046 there is obviously need to follow this example and to devote special care to the saving of male lives. The reported rates of infantile mortality in Burma were shown in Article 106 to be 235 per thousand births for males and 205 for females. These rates are possibly quite wrong owing to the errors in the numbers both of deaths and of births from which they are calculated. But, whatever the true values may be, there is no doubt that a reduction can be effected; and as the infantile mortality is the most potent factor in destroying the initial male excess, the saving of male babies in particular is clearly the proper direction in which this special care should first be applied.

109. Sex-ratios in Rangoon.—In Article 53 of Chapter II it has been shown that the natural population of Rangoon in 1921 was approximately 75,059 males and 73,235 females; for these the sex-ratio is 976. If only persons enumerated in Burma are considered the values of the ratio for the last four censuses have been 985, 963, 982, 939; it is probable that if persons enumerated in India had been included in the calculations the variations from census to census would not have been very different, but the precise figures are not available. The contrast of the value for 1921 with the sex-ratio of 1,026 for the natural population of all-Burma is striking. There is more resemblance to that of India, which is shown in Marginal Table 2 of this chapter to have moved from 963 in 1901 to 945 in 1921; but there is the difference that while the ratio for India seems to decrease steadily that for Rangoon oscillates. The numbers of Buddhists or of persons of indigenous races in the natural population of Rangoon are not shown in any of the census tables; but a separate compilation has been made for the Buddhists born in Rangoon who were enumerated in Burma, and these, as Buddhists rarely emigrate, must be approximately the Buddhist natural population of Rangoon. The ratio for this class, of which about nine-tenths are Burmese, is 1,026.

The sex-ratio for the actual population in Rangoon depends rather upon migration than upon the natural population. Its values at four censuses are given in Subsidiary Table IV A. of Chapter II for the whole town and for the municipality.

For the normal civil population the ratios shown in Marginal Table 12 can all be obtained from Subsidiary Table IVB of Chapter II. For Buddhists of the normal civil population the ratio is 985. Marginal Table 12 shows of course that the low sex-ratio of the town is due to its Indian immigrants. With such a large Indian population it is highly improbable that any figures obtained for the sex-ratios of age-groups would be worth writing down; the errors in stating ages would be so serious. All records of previous censuses relate only to the total population of Rangoon and are therefore disturbed by the figures of the adventitious population; no comparison between them or with the figures above is justifiable.

12. Sex-ratios in the Normal Civil Population of Rangoon (1921).

Class of Population.	Total Number.	Sex-Ratio.
Total Normal Civil Population	317,687	477
Classification by Birthplace		
In the town of Rangoon ..	108,273	1,076
Elsewhere in Burma ...	38,598	871
India (outside Burma) ...	153,167	186
Elsewhere ...	17,649	351
Classification by Race.		
Indigenous races ...	99,234	1,039
Chinese	22,183	510
Zerbadis	8,691	1,027
Indians	173,718	244
Europeans	3,172	369
Anglo-Indians	8,088	1,032
Others	1,601	910

110. Sex-ratios in Mandalay City.—The numbers of the natural population of Mandalay City are not known even approximately. For the total population the ratios are given in Marginal Table 13, both for the whole city and for the municipality. The striking feature of the table is the rapid decline of the ratio since the first census in 1891, which has been due not to changes in the cantonment but to changes in the municipality. Some light is thrown on this by Marginal Table 14 in which the sex-ratios in various age-groups are shown for four censuses in Mandalay City and also for Divisional Burma and for the remainder of Mandalay District in 1921, the columns for the last two being added as standards of comparison. The values are of course rough approximations, and the inclusion all through of the adventitious population must not be forgotten. Males always largely exceed females amongst adults of adventitious populations; so the values for the normal civil population have been greater than those tabulated for all ages above 15 or 20. It seems clear that in 1891 there was a peculiar excess of females at ages over 40 which grew greater at the higher ages until at ages over 50 there were seven and at ages over 60 eight females to five males. No difference of errors in stating ages for the two sexes could account for this. Moreover, the excess still persists and is not due to migration to or from other parts of Mandalay District, because the ratio for that is also high. It seems impossible too that males over 40 should emigrate either to other parts of the same district or elsewhere, or that females over 40 should immigrate to the city in such disproportionate numbers. The construction of the railway and Government buildings about 1891 caused a disturbance of the population of the city; but this seems insufficient to explain an excess of females. A detailed investigation into the history of Mandalay City to discover all the relevant circumstances would be necessary to obtain an explanation. For Buddhists alone of the total population the sex-ratio of the last four censuses has been as in the margin.

13. Sex-ratios of Mandalay City (Total population).

Census.	Whole City.	Municipality only.
1921 ...	915	951
1911 ...	984	1,021
1901 ...	964	1,005
1891 ...	1,019	1,085

14. Sex-ratios by age in Mandalay City compared with two standards.

Age.	1921.	1911.	1901.	1891.	Divisional Burma (1921).	Mandalay District without the city (1921).
0—10	1,139	1,042	1,040	1,074	1,033	1,042
10—15	1,096	1,075	931	981	968	999
15—20	901			1,086	900	1,118
20—30	890	1,042	971	1,003	1,093	1,021
30—40	945			1,066	1,042	995
40—50	1,046	1,199	1,238	1,184	982	1,010
50—60	1,123			1,385	1,061	1,091
60 and over	1,427	1,565	1,669	1,624	1,058	1,233

1921 ...	1,087
1911 ...	1,114
1901 ...	1,052
1891 ...	1,123

For the normal civil population the sex-ratios are 969 for the total and 1,058 for the Buddhists, the difference being due to the discrepancy between the

numbers for the sexes amongst the Indians and Chinese, most of whom are immigrants. The ratio for Buddhists is higher than for the total of the normal civil population of all census towns (1,051), and is particularly striking in view of the large number of Buddhist monasteries in the city, which one would have expected to cause rather an excess of males.* By ages the ratios are as shown in Marginal Table 15 in which once again the extraordinary high ratio for ages over 40 is exhibited. This high ratio is confined to the Buddhist religion, the adherents of which in Mandalay City are almost exclusively Burmese by race. The peculiar drop in the value at ages 20 to 40 is also due to the drop for Buddhists, and the latter is difficult to explain unless the Buddhist monks are chiefly of that age-group; but I do not know if this is the case. A similar drop, though not so great, is shown in the next article for all census towns with a population exceeding 10,000; at least part of the drop must therefore be due to causes which are not peculiar to Mandalay. The numbers of the normal civil population at earlier censuses are not available for comparison with and check of the figures of 1921.

15. Sex-ratios in the Normal Civil Population of Mandalay City 1921.

Age.	All religions.	Buddhists.
All ages	969	1,058
0—20	1,045	1,062
20—40	836	964
40—60	992	1,112
60 and over	1,330	1,437
0—40	938	1,015
40 and over	1,067	1,189
20—60	925	1,055

III. The Sex-ratio in the Towns.—No attention will be paid here to the sex-ratio for the total enumerated populations of towns; only the normal civil populations will be considered. The sex-ratio for the whole normal civil population and for the Buddhists included in it are shown for the eight largest towns and for some classes of towns in marginal Table 16. Tavoy stands out peculiar in having an excess of females in the total population; this is due largely to an excess of females amongst the Mahomedan population which goes to prevent the excess of males in other religions from neutralising the excess of Buddhist females which is usual in the towns as well as in the province in general. Indeed it is rather a striking fact that in most census towns the sex-ratio for Buddhists is even higher than in the province as a whole. Only Rangoon and Bassein show an excess of Buddhist males in the normal civil population; all the census towns together, including these two, have a ratio of 1,051 as compared with 1,027 for the whole province and 1,046 for the Burmese race to which the great majority of the Buddhists in towns belong. If the ratio is calculated for the normal civil population of urban areas instead of census towns it is found to be 814 for all religions together and 1,056 for Buddhists alone. It appears that either Buddhist women flock to the towns more than Buddhist men or they thrive better or suffer less in comparison with males in the large towns than elsewhere. For the towns with a population exceeding 10,000 the variation of the sex-ratio with age is shown in Marginal Table 17 where it appears that the ratio for Buddhists falls after age 10 up to something approaching 40 and then grows with age. The phenomenon is similar to that already noted for Mandalay City though the variation in ages 20 to 40 is smaller, and I am unable to give the explanation. But there is here a suggestion that the high sex-ratio of the towns is due to a befect of males at the higher ages, and that at these ages the death-rate for males in towns exceeds that for females by more than it does in rural areas.

16. Sex-ratios in the Normal Civil Populations of Census Towns and Urban Areas (1921).

Town.	Total Population.	Buddhists.
All census towns ...	725	1,051
Rangoon ...	477	985
Mandalay ...	969	1,058
Moulmein ...	697	1,052
Bassein ...	585	986
Akyab ...	602	1,063
Tavoy ...	1,021	1,147
Prome ...	893	1,103
Henzada ...	892	1,065
All towns of 10,000 to 20,000.	826	1,078
All towns over 10,000	684	1,051
All towns under 10,000	847	1,051
All Burma (Urban and rural).	955	1,027
Urban Areas ...	814	1,056

17. Sex-ratios by age in the Normal Civil Population of census towns of over 10,000 persons.

Age.	All religions.	Buddhists.
All ages	684	1,051
0—10	1,009	1,049
10—20	820	1,011
20—40	520	1,011
40—60	846	1,105
60 and over	1,008	1,308

* Imperial Table XVII, Part III, shows in groups 165 and 166 (*pongyis*, priests, inmates of monasteries, etc.), 6,356 males and 129 females besides the *koyin* or boys and young men; nearly all of these were Buddhists.

SUBSIDIARY TABLE 1.—*Ratio of females to* 1,000 *males in* 1901, 1911 *and* 1921 *for districts and natural divisions.*

NOTE.—In each year the ratios given for each district are for the district as it was constituted in that year. In calculating for North and Shan divisions estimates have been made for the natural populations of Mong Mit and Karenni in 1901 and 1911; but Karenni forms too large a proportion of Salween division for such an estimate to be used for that.

Districts and Natural Divisions.	1921.		1911.		1901.	
	Actual population.	Natural population.	Actual population.	Natural population.	Actual population.	Natural population.
1	2	3	4	5	6	7
PROVINCE ...	955	1,026	959	1,028	964	1,027
Burman ..	952	1,028	953	1,031	957	1,029
Delta ..	*877*	*1,008*	*874*	*1,010*	*886*	*998*
Rangoon ...	445	976	409	963	418	982
Insein ...	869	1,003	877	1,005	874	985
Hanthawaddy ...	814	985	794		823	
Tharrawaddy ...	1,000	1,051	1,001	1,035	967	1,010
Pegu ...	894	998	865	1,009	848	982
Bassein ...	935	1,016	944	1,003	919	993
Henzada ...	1,015	1,034	1,014	1,032	1,005	1,016
Myaungmya ..	883	1,010	897	1,002	907	988
Ma-ubin ...	959	1,008	952	1,030	853	993
Pyapôn ...	844	997	834	1,027		
Toungoo ...	934	1,004	934	986	943	979
Thatôn ...	916	975	915	989	906	978
Coast ..	*906*	*990*	*892*	*976*	*880*	*988*
Akyab ...	802	973	810	944	797	950
Kyaukpyu ...	1,070	1,055	1,064	1,070	1,082	1,062
Sandoway ...	1,026	1,045	997	1,009	955	994
Amherst ...	871	964	854	963	831	908
Tavoy ...	936	995	970	984	1,015	1,008
Mergui ...	859	988	871	954	917	984
Centre ..	*1,069*	*1,084*	*1,072*	*1,077*	*1,093*	*1,070*
Prome ...	1,033	1,046	1,034	1,046	1,049	1,043
Thayetmyo ..	1,039	1,032	1,031	1,029	1,015	1,023
Pakôkku ...	1,080	1,059	1,090	1,061	1,124	1,092
Minbu ...	1,039	1,039	1,048	1,052	1,088	1,045
Magwe ...	999	1,034	1,037	1,047	1,076	1,042
Mandalay ...	949	1,033	990	1,028	998	1,023
Shwebo ...	1,118	1,103	1,130	1,096	1,140	1,086
Sagaing ...	1,108	1,090	1,111	1,086	1,138	1,104
Lower Chindwin ...	1,188	1,147	1,238	1,204	1,266	1,108
Kyaukse ...	1,025	1,044	1,054	1,054	1,037	1,049
Meiktila ...	1,107	1,091	1,082	1,080	1,116	1,087
Yamèthin ...	1,008	1,046	1,009	1,035	1,023	1,041
Myingyan ...	1,072	1,056	1,091	1,070	1,145	1,080
North ..	*967*	*1,024*	*936*	*1,012*	*949*	*1,037*
Bhamo ...	986	1,059	941	1,050	914	1,036
Myitkyina ...	867	1,026	787	979	854	980
Katha ...	975	1,017	959	1,035	991	1,055
Putao ...	852	1,011	..	..	...	...
Upper Chindwin...	979	1,014	987	984	1,003	1,034
Chin ...	1,024	1,080	1,026	1,045	1,007	1,034
Hill Dist. of Arakan	938	965	949	987	959	999
Chin Hills ...	1,034	1,036	1,041	1,057	1,002	1,043
Pakôkku Hill Tracts.	1,050	1,051	1,024	1,032	1,019	...
Salween ...	972	1,028	961	..	968	..
Salween ...	879	951	883	915	943	998
Karenni ...	1,051	1,089	1,022	..	1,020	...
Shan ...	974	1,002	998	1,014	1,018	1,014
N. Shan States ...	958	1,014	987	1,016	981	1,013
S. Shan States ...	985	994	1,005	1,011	1,023	...

SUBSIDIARY TABLE II.—*Ratio of females to* 1,000 *males in separate age-groups and by religion at four censuses.*

AGE.	All religions.				Buddhists.				1921 Hindus.	
	1921.	1911.	1901.	1891.	1921.	1911.	1901.	1891.	Born in Burma.	Born outside Burma.
1	2	3	4	5	6	7	8	9	10	11
0—1	1,042	1,059	1,065	1,063	1,047	1,067	1,067	1,068	1,046	928
1—2	1,036	1,041	1,053	1,034	1,040	1,051	1,054	1,038	1,000	907
2—3	1,055	1,041	1,036	1,033	1,064	1,045	1,038	1,035	1,040	940
3—4	1,033	1,026	1,033	1,037	1,039	1,027	1,018	1,040	997	898
4—5	1,037	1,041	1,014	1,016	1,045	1,040	1,018	1,018	956	771
Total 0—5	1,038	1,040	1,050	1,038	1,045	1,054	1,034	1,031	1,007	860
5—10	1,009	1,007	1,001	997	1,018	1,021	1,008	1,002	972	869
10—15	938	928	921	926	963	950	939	929	792	668
15—20	1,047	1,037	1,038	1,077	1,110	1,108	1,130	1,130	815	706
20—25	990	988	1,006	982	1,132	1,149	1,143	1,097	830	776
25—30	995	992	997	880	1,059	1,073	1,054	1,035	732	667
Total 0—30	991	987	988	980	1,046	1,046	1,041	1,029	905	814
30—40	831	833	828	819	934	932	1,115	934	575	553
40—50	876	880	883	869	973	981	956	965	583	555
50—60	968	993	958	1,034	1,057	1,051	1,041	1,068	638	820
60 and over	1,035	1,076	1,831	1,161	1,078	1,116	1,107	1,194	674	881
Total 20 and over	894	915	916	917	994	1,003	1,003	987	593	686
Total all ages, Actual population.	955	959	962	962	1,027	1,031	1,027	1,020	812	789
Total all ages, Natural population.	1,026	1,028	1,027	1,018	...	...	...	...	...	...

AGE.	Animists.				Christians.				1921 Mahomedans.	
	1921.	1911.	1901.	1891.	1921.	1911.	1901.	1891.	Born in Burma.	Born outside Burma.
0—1	104	976	1,059	975	1,007	1,056	1,057	1,009	966	712
1—2	1,032	1,052	1,009	1,025	1,041	1,044	1,076	1,061	985	869
2—3	1,038	1,030	1,030	1,000	1,025	1,040	1,036	978	942	648
3—4	97	1,043	988	918	1,022	1,017	991	1,013	1,016	745
4—5	1,008	1,050	1,017	908	1,011	1,001	1,041	1,015	1,012	708
Total 0—5	1,013	1,031	1,014	971	1,021	1,030	1,032	1,012	985	741
5—10	929	848	951	945	1,017	931	985	941	909	698
10—15	877	863	882	848	936	907	896	864	850	222
15—20	958	990	941	1,009	1,004	1,014	1,021	1,058	1,172	115
20—25	981	1,002	959	1,013	957	866	888	750	1,352	91
25—30	915	869	899	875	958	890	772	674	1,019	85
Total 0—30	948	933	942	941	1,001	945	934	878	1,032	128
30—40	788	803	778	663	878	831	774	645	865	90
40—50	810	776	774	718	821	794	746	740	954	109
50—60	837	922	872	781	885	877	870	828	1,088	165
60 and over	1,002	967	1,027	830	835	923	870	867	934	201
Total 20 and over	813	837	809	853	832	792	878	830	931	134
Total all ages, Actual population.	903	894	879	858	940	892	898	849	1,005	121

SUBSIDIARY TABLE III.—*Number of females per* 1,000 *males in different age-groups by natural divisions.*

A.—For all religions. B.—For Buddhists only.

Natural Division.	Detailed age-groups.							Larger age-groups.			All ages.	
	0—5.	5—10.	10—15.	15—20.	20—40.	40—60.	60 and over.	0—20.	20—40.	40 and over.	Actual population.	Natural population.
1	2	3	4	5	6	7	8	9	10	11	12	13
A.—All Religions.												
Province	1,038	1,009	938	1,047	892	922	1,078	1,007	892	941	955	1,026
Burman	1,038	1,013	943	1,044	882	916	1,007	1,008	881	939	958	1,029
Delta	1,047	1,003	907	997	787	812	756	987	787	805	877	1,008
Coast	1,001	985	898	991	843	850	802	969	843	861	906	990
Centre	1,065	1,034	996	1,119	1,030	1,066	1,232	1,051	1,030	1,111	1,093	1,064
North	1,060	1,024	975	1,039	882	877	1,168	1,041	882	941	956	1,024
Chin	1,041	939	812	1,837	1,009	979	916	994	1,009	904	1,020	1,038
Salween	1,003	926	891	1,153	1,000	889	963	983	1,000	904	972	1,028
Shan	1,035	990	907	1,063	952	878	1,202	998	952	958	974	1,001
B.—Buddhists only.												
Province	1,045	1,018	963	1,210	1,030	999	1,072	1,030	1,030	1,018	1,027	...
Burman	1,046	1,020	965	1,211	1,034	1,011	1,069	1,033	1,034	1,020	1,033	...
Delta	1,055	1,024	941	1,206	990	951	871	1,030	990	983	994	...
Coast	1,015	986	930	1,055	1,011	997	981	995	1,011	971	995	...
Centre	1,067	1,037	1,008	1,337	1,062	1,101	1,244	1,057	1,062	1,142	1,083	...
North	1,050	1,024	995	1,283	945	997	1,178	1,039	945	966	992	...
Salween	979	932	817	1,022	845	885	760	930	845	793	848	...
Shan	1,037	1,010	919	1,103	1,004	894	1,180	1,015	1,004	968	1,000	...

SUBSIDIARY TABLE IV.—*Ratio of females to* 1,000 *males amongst selected races.*

NOTE.—Each entry shows the proportion of females in each age-group to 1,000 males of the same age-group. For each race the basis of the table is the sample tabulated in Imperial Table XIV. *Arakanese, etc.*, means Arakanese, Yanbye and Chaungtha. *Shan A* means the sample in the latter table of Shans in Ilhamo, etc., while *Shan B* means Shans in the Shan States other than Khun. All Yunnanese are excluded from *Chinese*.

Race.	All ages.	0—5	5—12	12—15	15—40	40 and over.
1	2	3	4	5	6	7
Arakanese, etc. ...	1,032	1,028	975	937	1,059	1,060
Talaing ...	973	980	938	977	1,027	897
Shan A. ...	1,023	1,090	1,034	1,021	1,014	994
Shan B. ...	1,007	1,041	1,011	865	1,033	983
Khun	1,042	1,065	1,040	699	1,105	1,031
Sgaw	996	1,017	963	890	1,058	919
Pwo	975	997	889	938	1,028	960
Chinese ...	358	782	734	659	289	211
Arakan-Mahomedan	866	1,101	1,042	847	827	624
Zerbadi(Mahomedans)	1,071	980	960	1,032	1,147	1,147

SUBSIDIARY TABLE V.—*Registered births and deaths of each sex from* 1901 *to* 1920.

NOTE.—The registration area consists of the Delta Coast and Centre natural subdivisions diminished by the exclusion of a few small remote areas.

Year.	Number of Births.		Number of Deaths.		Excess of male over female births.	Excess of male over female deaths.	Number of female births per 1,000 male births.	Number of female deaths per 1,000 male deaths.
	Males.	Females.	Males.	Females.				
1	2	3	4	5	6	7	8	9
Total 1901-1910	1,209,091	1,133,566	1,118,064	949,705	75,525	168,359	938	849
1901 ...	97,909	91,290	73,156	57,419	6,619	15,737	932	785
1902 ...	96,369	90,195	90,603	76,702	6,174	13,901	936	847
1903 ...	101,273	94,335	105,541	90,167	6,938	15,374	931	984
1904 ...	98,580	91,841	96,456	82,276	6,739	14,180	932	853
1905 ...	105,644	97,933	110,768	93,623	5,711	17,145	945	845
1906 ...	98,377	92,003	122,832	104,854	6,374	17,978	935	853
1907 ...	143,644	134,889	122,961	102,731	8,755	20,230	939	835
1908 ...	152,472	143,155	129,082	110,317	9,317	18,765	939	855
1909 ...	158,017	148,790	137,769	120,093	9,227	17,676	942	872
1910 ...	158,806	149,133	128,896	111,463	9,671	17,433	939	865
Total 1911-1920	1,693,643	1,600,171	1,427,363	1,285,791	93,472	141,572	945	901
1911 ...	165,508	156,948	132,286	115,396	8,560	16,890	948	872
1912 ...	163,516	153,138	141,975	124,614	10,378	17,461	937	877
1913 ...	165,625	155,770	130,731	115,597	9,856	15,134	940	884
1914 ...	179,837	169,046	125,655	112,173	10,791	13,482	940	893
1915 ...	177,575	168,675	144,674	131,175	8,900	13,499	950	907
1916 ...	171,133	161,094	124,853	111,381	10,039	13,472	941	892
1917 ...	183,217	172,919	131,117	117,484	10,298	13,633	944	896
1918 ...	166,426	157,882	107,273	101,633	8,544	5,640	949	971
1919 ...	150,618	143,054	161,957	143,494	7,564	18,473	950	886
1920 ...	170,187	161,645	136,832	122,944	8,542	13,888	950	899

SUBSIDIARY TABLE VI.—*Registered deaths of each sex in age-groups for the decade* 1911-20 *and selected years thereof.*

NOTE.—The registration area is as noted above the preceding table.

AGE.	1918.		1916.		1918.		1919.		1920.		1911-20. Total Deaths.		Average number of female deaths per 1,000 male deaths.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	1911-21.	1901-10.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Under 1 ...	39,491	31,066	37,416	31,106	47,084	40,582	31,614	29,884	33,674	28,361	326,916	287,584	895	772
1— 5 ...	15,537	15,165	17,380	13,970	23,028	23,038	18,083	17,648	14,472	14,589	165,485	162,510	972	923
5—10 ...	7,282	6,684	6,301	5,881	11,823	12,293	9,544	9,396	7,738	7,871	79,913	76,544	958	895
10—15 ...	4,755	3,951	4,387	3,699	7,824	8,478	6,334	5,982	5,230	4,991	54,782	47,510	901	831
15—20 ...	5,052	4,722	5,042	4,557	9,938	11,548	7,332	7,453	6,472	6,171	61,319	58,648	956	859
20—30 ...	10,305	10,119	10,523	9,856	23,193	24,446	15,151	16,817	13,813	13,135	130,177	127,625	980	869
30—40 ...	11,490	9,530	11,175	9,127	21,755	19,312	18,301	14,151	12,843	11,594	134,513	114,330	850	796
40—50 ...	9,619	7,297	9,695	7,395	17,024	14,857	14,911	10,833	11,070	9,003	113,007	87,373	768	731
50—60 ...	8,182	6,745	8,995	6,831	12,376	11,383	11,180	9,303	9,715	8,148	93,052	77,773	845	811
60 and over	19,038	18,724	18,963	19,808	23,362	24,156	21,670	22,383	19,807	19,390	200,568	206,003	1,027	1,055
All Ages ...	130,731	115,507	134,855	111,581	197,873	191,833	181,167	163,481	156,831	122,944	1,427,363	1,285,791	901	849

CHAPTER VII.

Civil Condition.

112. Enumeration.—The term civil condition is used for the conditions with respect to marriage, namely, unmarried, married, widowed or divorced. Enumerators were directed to enter as married all who were customarily recognised as married. The term unmarried is restricted to those never yet married, and divorced persons who have not re-married are tabulated as widowed.

113. Statistics.—The Imperial Tables VIIA, VIIB and XIV, described in the second paragraph of Chapter V, give statistics of civil condition for each age-group tabulated. In addition the undermentioned Subsidiary Tables have been prepared and added to this chapter to exhibit certain salient points of those tables.

IA.—Distribution by civil condition of 1,000 of each sex and main age-group for certain religions at each of the last four censuses.

IB.—Distribution by civil condition of 1,000 of each sex amongst Hindus and Mahomedans: (1) born in Burma; (2) born outside Burma.

IC.—Ratio of females per 1,000 males in each civil condition and in certain age-groups: (1) for certain religious classes in the whole province; (2) for Buddhists in each natural division.

II.—Distribution by civil condition of 1,000 of each sex in certain age-groups for each natural division: (1) for the whole population; (2) for Buddhists only.

III.—Distribution by age and civil condition of 10,000 of each sex of certain religions.

IV.—Marriage amongst selected races.

In addition Subsidiary Tables VA and VB of Chapter V show for every district and natural division the proportion of all females who are included in the class of married females of ages 15 to 40, and also the ratio of the number of children under 10 years of age to the number of females of that class.

114. Accuracy of the Statistics.—Here and there a few mistaken entries as to civil condition must have been made inadvertently in the schedules, but it may be assumed that the numbers involved in these were small enough in comparison with the whole to be neglected. Allowance must also be made as in all other cases for a small amount of error in tabulation. But of course no conclusions should be based upon small numbers or differences which may be due to small errors of either of those kinds or to errors in the age-record. An example of small numbers which may possibly be due to errors will be found in the first sentence of Article 117 below dealing with child-marriage.

115. Polygamy and Polyandry.—As no enquiry regarding polygamy was made in the enumeration-schedule no statistics of it are available. The amount of it is very small, too small to affect the ordinary statistics. There is a strong prejudice against it amongst all Buddhists who do not practise it, and sometimes, one is told, an even stronger prejudice amongst those who do. In the Burma Census Report of 1911 Mr. Morgan Webb put the matter well in saying that amongst Buddhists it is restricted to those who are above or beneath public opinion; certainly in any ordinary village public opinion regards the taking of a second wife as not quite the right thing for an ordinary person to do. Polyandry is not known to be practised by indigenous races anywnere in the province, whether in the census area or beyond. It is quite common for groups of fifteen or twenty Indian labourers of some races to live together and to include one woman in the company; but she is not plurally married to the men, and the suggestion of promiscuity which has sometimes been made has been denied by others who declare that her rôle is limited to that of a house-keeping drudge.

116. Proportion of Population Married.—Subsidiary Tables IA, IB, II, III, and IV show in various aspects and for various classes the proportion of

unmarried, married and widowed in separate age-groups as well as for all ages combined. Marginal Table 1 of this paragraph shows also the proportion in each civil condition at ages of 15 or over in England and in India and amongst Buddhists in Burma. The proportion of married for Buddhists in Burma is round about half-way between the proportions for England and for India. The reason for the lower proportions of married in Burma than in India is that amongst the Buddhists of Burma neither custom nor religion demand marriage either for males or for females, or for bachelors, spinsters or widows. When they are disposed to marry they do so; the wind bloweth where it listeth. The chief reason for the still lower proportions in England is probably economic.

1. Average Proportion of Unmarried, Married and Widowed in 1,000 of each sex over age 15 in England, Burma and India.

	England and Wales, 1911.	Buddhists in Burma, 1911.	India, 1911.	Buddhists in Burma, 1921.
Males—				
Unmarried	403	299	203	307
Married	545	631	710	608
Widowed	52	70	87	85
Females—				
Unmarried	390	221	40	227
Married	506	607	684	591
Widowed	104	171	276	182

Marginal Table 1 shows figures for Burma in both 1911 and 1921, but it would be rash to suppose at once that these figures indicate a decreasing tendency to marry; allowance must first be made for the changes in the age-distribution. The age-distributions also affect of course the figures given for England and India; but not so much as to affect the conclusion of the preceding paragraph. The relation of marriage to age in Burma is discussed in the next article.

117. Marriage and Age.—Imperial Table VIIA shows five Buddhist males and ten Buddhist females under age 10 as married; it is more probable that these records are due to erroneous age-records or errors in noting *married* than that these fifteen persons should be married. Even if some of them are indeed married, and have had their ages properly recorded, there is nothing of significance in such small numbers. Apart from the Indians there is no question of child-marriage in Burma. In India in 1911 it was found that 7·4 per cent of the Hindu females and 3·5 per cent of Mahomedan females below age 10 were married; Subsidiary Tables IA and IB of this chapter show that even for those religions the proportion in Burma is much smaller, amounting to only a small decimal per cent. The same tables show that the proportion of married persons is still small up to age 15 even for Indians. The number of persons between 10 and 15 shown in Subsidiary Table IA of this chapter as married amounts only to 1 per thousand at those ages for males and 4 per thousand for females. The higher figures recorded in 1901 in this connection seem to be the result of some erroneous compilation for Buddhists, as no similar results were obtained for them either in 1891 or in 1911 or in 1921, and it is well-known that amongst them marriage before age 15 is very uncommon even for females. Boys simply do not think of marriage at that age; neither do their parents think about it for them. It would perhaps be rash to say that girls do not think at 15 of possibilities of marriage later on; but at any rate they generally wait a little longer before changing inclination to action. It may be said in fact that amongst the indigenous races, except possibly in backward hill-tracts, 17 or 18 is about the earliest age at which females marry in considerable numbers; when these ages are reached however, the desire to marry is strong enough to cause the proportion of all the females between ages 15 and 20 who are married to be about one-quarter (Subsidiary Table IA). A small proportion of males marry at 17 or 18 too, but generally males wait till two or three years later.

Whether there has been during the last decade an increase or decrease in the tendency amongst Buddhists to marry, it is difficult to determine. The age-distribution which was discussed in Chapter V has an obvious effect upon the proportion of married in the total population. For this the upper of the two sets of curves of Article 89 of that chapter should be consulted, with the recollection that it relates to females. The middle section, showing the reproductive ages of 18 to 45, is the particular section for married people; above 45 the proportion of widowed increases rapidly; the population below 18 is chiefly unmarried, and although there are unmarried in the other age-groups these low ages include about four-fifths of the whole of this class. The variation from the average of the proportion of persons in any age-group is measured by the nett area between the curve and the average-line in the section corresponding to

that age-group, areas above the average-line being taken as positive and areas below it as negative. Examination of the curves of 1911 and 1921 then shows that, unless some impossibly violent change in the proportions and death-rates of married took place, 1921 would show a fall in the proportion of married and a rise in the proportion of widowed merely as a result of the changing age-distribution. For unmarried the curves give even clearer evidence, because, whereas above age 18 all three classes of unmarried, married and widowed are found at every age, below that age practically the whole Buddhist population is unmarried. It is evident that the curves of both 1921 and 1911 show a very small nett area for ages 0 to 18, and that the censuses of both those years should therefore show something approximating to the average proportion of unmarried, and that the difference between them, whichever way it might lie, should be small. Similarly if we imagine the curve of 1911 pushed seven years to the right in the diagram so as to become approximately the curve of the beginning of 1918 (before disturbance of the curve by influenza), these conclusions would still hold save that we should expect the proportion of unmarried to be a little higher in 1918 than in 1911. If the proportions of unmarried, married and widowed in a representative thousand of population had been calculated early in 1918, we should therefore have expected figures differing from the corresponding figures of 1911 in accordance with a small rise in unmarried, a fall in married and a rise in widowed. The actual figures resulting from these effects would be the result of a sort of see-saw in three dimensions, because a rise (or fall) in the proportion of one class involves a fall (or rise) in the proportion of the other classes. We have now to impress upon the proportions of the beginning of 1918 the effect of influenza. The excess death-rates for females as indicated by the vital statistics are shown in Marginal Table 2. It will be noticed that the proportional effect of the influenza was more serious at ages 10 to 40 than at other ages. A calculation of the effect of this upon the actual age-distribution of 1918 would require first a calculation of the age-distribution of 1918 before the epidemic, which would be complicated and only possible on lines of rough approximation. If however, we assume that during the epidemic the error in the death-reports was about the same in proportion to the whole number of deaths as at normal times, the kind of effect can be seen pretty well by supposing also that the 1921 distribution shown in Subsidiary Table III of Chapter V was that of the end of 1918 and calculating the distribution which by suffering the mortality shown in Marginal Table 2 would come to be that distribution. This has been done in Marginal Table 3, (*a*) on the two assumptions that apart from the influenza the age-distribution would have remained constant, and that the proportional error in the death statistics remained the same during the epidemic as in normal times, and (*b*) without making any allowance for the diminution of births resulting from deaths of potentially or actually pregnant mothers, premature confinements and miscarriages. As the change which is to be calculated took place within a few months the first assumption is clearly justified. The effect of the second assumption is probably to make the number shown for ages 0 to 5 in the column for "Before" a little too low because deaths of young children would be more likely to be left unreported in unusually large numbers than deaths of older people; and the effect of the qualification (*b*) is similar. Thus the number shown for ages 0 to 5 "Before" in Marginal Table 3 ought strictly to be increased a little and the numbers for other ages diminished accordingly. Subject to this qualification the changes in the proportional distribution are surprisingly small at ages above 15 and also for ages 0 to 15 collectively taken as one age-group, for which the figures would change only from 3,694 to 3,692. For ages 0 to 20 altogether there is no change shown at all. If we allow for the defect of the figures for age-group 0 to 5 in the "Before" column we may say that for ages 0 to 15 or 0 to 20 the proportion was slightly reduced, for 15 or 20 to 40 hardly

2. Excess of female mortality from influenza in 1918.

Age.	Mean mortality 1913–1917.	Excess in 1918.	Proportion of excess to mean.
0— 5	65·0	32·4	·49
5—10	10·9	8·4	·77
10—15	7·2	8·2	1·14
15—20	10·4	14·3	1·37
20—40	43·3	16·6	1·16
40—60	91·0	14·2	6·8
60 and over	63·0	16·8	·27

3. Rough representation of effect of influenza upon age-distribution of 10,000 Buddhist females.

Age.	Before.	After.
0— 5	1,308	1,286
5—10	1,219	1,260
10—15	1,137	1,146
15—20	1,080	1,082
20—40	2,970	2,968
40—60	1,620	1,633
60 and over	626	625

if at all changed and for ages 40 and over somewhat raised. Now the relative experience of the married, unmarried and widowed under these conditions is to be considered. Deaths below 15 affect only the unmarried population; those from 15 to 40 affected married more than unmarried because influenza was so fatal to women during pregnancy and child-birth. Moreover many deaths of males reduced the proportion of married women and increased that of widowed; hence the proportion of married women in all ages, not only in the reproductive period, received a double diminution through deaths of married males as well as deaths of married females, and the proportion of widowed was raised by this more than it was diminished by deaths of its own class. If the same proportion of deaths had taken place in all three civil conditions the distribution figures for married, unmarried and widowed would not have changed; but as the married figures were diminished more than the unmarried and widowed, the net result was an increase of both the unmarried and the widowed *proportions* of the population, and it is not difficult to see how the widowed might come to have the greater increase.

Similar arguments would apply to the male figures with the difference that the special mortality of married women at ages 20 to 40 would lead to a rather greater proportional increase of widowers than the deaths of married men caused for widows. For widows there would often be the countervailing effect of greater economic weakness leading to greater mortality than for widowers through less satisfactory nutrition, clothing and shelter; but this effect is less in Burma than in most places because women take such an active part in the life and especially the petty trade of the province, and have accordingly a stronger economic position than elsewhere. The net result is shown in Subsidiary Table IA, where the proportion of Buddhist widowers has increased more at all ages than the proportion of Buddhist widows.

The use of the wide age-groups 20 to 40 and 40 to 60 cripples seriously the foregoing discussion; but a detailed examination by separate ages or by five-yearly age-groups would be even more laborious and complex, and not worth undertaking with the defective death-statistics available. Enough has been done to show that the rise or fall of the tendency to marry cannot be gauged by merely reading the figures of Subsidiary Table IA. Even apart from the effect of influenza there might be various changes veiled by the consolidation of ages 20 to 40 into one single age-group—in fact almost any change likely to take place would be a rise in the average age of marriage and this would necessarily be completely hidden. The effect of influenza has been such that it would not have been worth while expanding the table to show all age-groups (but the materials are in Imperial Table VIIA of the four censuses). The fall in the proportion of unmarried at ages of 40 and over may be due to the effect of influenza in increasing the proportionate number of widows, or it may be due to an increasing marriage-rate at lower ages leaving fewer to be shown as unmarried in these groups. Similar uncertainty attends most of the features of the table.

A record of marriages is made only for the Christians, Parsis and other small classes for whom there are special Marriage Acts in force. These however are negligible in number when compared with the Buddhists for whom no record of marriages is made at all, while there is certainly no record made by Government of the marriages of Hindus and Mahomedans, and I believe no record at all for the former. No appeal can be made therefore to any direct marriage statistics. A formula has however been devised by Professor Westergaard of Copenhagen for deducing the marriage-rates from such a tabulation as Imperial Table VIIA, taking account automatically of changes in the age-distribution. A short account of the formula is given in a note at the end of this article to enable readers who so desire to see how far the disturbing conditions of the decade are allowed for. The numerical calculations are not shown, as they are much more laborious than the short concise formula might suggest. The results of applying the formula for Buddhists are shown in Marginal Table 4 in which the figures are the average rate of marriage per annum during each decade for 1,000 unmarried persons of each age-group shown. All marriages are assumed in the calculation to be first marriages; as remarriages

4. Marriage Rates for Buddhists.

Sex.	Decade.	Age 15—19.	Age 20—29.	Age 30—39.	Age 40—49.	Age 50—59.
Males	1901—11	84·4	101	92·0	57·9	42·7
	1911—21	81·6	98·8	95·6	67·0	46·7
Females	1901—11	120	97·1	70·1	44·8	19·0
	1911—21	118	100	71·9	49·1	25·5

of widowers and widows form a small proportion of the whole in the ages tabulated, the error arising from this is not large, especially as such persons would have a higher average age than other couples and a consequently higher death-rate. I give the table for what it may eventually prove to be worth; its value can be better assessed when more statistics are available. The indication of the table is a tendency to postpone marriage in both sexes. The highest marriage-rate is in age-group 23 to 27 for males and in age-group 18 to 22 for females in both decades; statistically it is possible that if rates for separate years could be tabulated the years of highest rates would come outside these groups, but our general knowledge of the matter as well as the steep descent of the calculated rates as age increases makes this seem improbable.

Professor Westergaard's Formula.—The formula was constructed in a paper *On the Study of Displacements within a population* in the Quarterly Publication of the American Statistical Society, December 1920, and is stated as follows:—If at an epoch t the ratio of bachelors (or spinsters) of age x to the total population of the same sex and age is denoted by f, and if i is the nett emigration rate (*i.e.* the excess of emigration over immigration) and m the mortality rate for the whole population at that age, while i' and m' are the corresponding rates for the bachelors (or spinsters) and M is the marriage-rate; then $\frac{df}{dx}+\frac{df}{dt} = -(i'-i+m'-m+M)f$.

For Buddhists in the whole of Burma the nett emigration rates for either the whole or for bachelors and the difference between them are negligible; while, as the mortality-rate at the ages at which most marriages take place is much smaller than the marriage-rate, the difference between the values of this rate for married and unmarried, namely $m'-m$ is also clearly negligible at those ages compared with M. For a first approximation therefore, all the small-letter terms on the righthand side of the formula can be neglected, and the formula becomes $M = -D \log f$ where D denotes the operator $\left(\frac{d}{dx}+\frac{d}{dt}\right)$.

118. Marriage and Race.—Imperial Table XIV gives statistics of civil condition for repesentative samples of various races, and in Subsidiary Table V those figures are reduced to proportions in a population of 10,000. In the census report of 1911 Mr. Webb noted that the proportions of married varied comparatively little in the various races; and he gave the table reproduced hereby as Marginal Table 5 in support of this. But Article 117 has shown that this depended upon the particular age distribution at the time, and upon the course of the death-rate for some years before in the age-groups occupied by married people. The figures corresponding to Mr. Webb's table are given for certain races in Subsidiary Table IV of this chapter, but I am not prepared to draw many conclusions from them without such a detailed study of the age-distribution of each race as would greatly transcend the limits of this report; I content myself with the reminder that few arguments about the figures are valid which do not take account of the results of such a study. Take even the narrow age-group 15 to 20 as an example. It might be thought that this group would be fairly free from disturbance by varying death-rates because at these ages people are generally so healthy, and that the proportions of unmarried would be an inverse measure of the tendency to marry. But at one epoch (or for one race) the weight of numbers in that group might be near age 15 and at another epoch (or for another race) the weight might be at the other end; the proportion of unmarried women would clearly be very different in the two cases although the customs of the people with regard to the age of marriage were identical at the two epochs (or for the two races). In this particular age-group a special difficulty arises for women from the fact that the lowest ordinary age at marriage falls about the middle of the group; for men the figures show of course what is perfectly well known without them, namely that few marry before age 20. In higher age-groups there is for each sex the difficulty of the varying rates of transfer from married to widowed through the varying death-rates of the other sex. The most satisfactory figures for comparison would therefore be the proportions still unmarried in the narrowest possible age-groups, namely definite single ages such as 20, 25, 30; but then the inaccuracy of the age-records would assume a prominent place. There are however a few differences in the figures tabulated in Marginal Table 6 which are probably or certainly too large to be due entirely to variations of age-distribution. The most striking are the figures for

5. Married persons per 1,000 of each sex (Census of 1911.)

Race or religion.	Males.	Females.
Buddhists	382	373
Animists	390	383
Kachins	389	373
Karens	368	362
Talaings	360	362
Chins	395	404

Arakan-Mahomedans and for the closely connected Arakanese, Yanbye and Chaungtha races of which the Buddhists are collected together in one set of entries in Imperial Table XIV. Many more of these marry before reaching 20 than is usual amongst the other Buddhist races; but while this could be accounted for by a comparatively small reduction of the age at marriage, the low figure for unmarried between 20 and 40 implies more universal marriage in Arakan both amongst Buddhists and amongst Mahomedans than in the rest of Burma. In this respect as in many others the conditions of Arakan correspond to its geographical position betwen India and Burma. In age-group 20 to 40 the Karens, both Sgaws and Pwos are distinguished by a large proportion of unmarried in both sexes. The figures for these races in Subsidiary Table IV relate only to Buddhists, so there is no question of the effect of Christianity or of special contact with American, French, Italian or English civilisation; I am unable to offer an explanation. Chinese males show a large proportion of unmarried at ages 20 to 40, which is peculiarly striking because of the importance attached to universal marriage by Chinese philosophers. The large number of male immigrants is of course part of the explanation, because all are not susceptible to the smiles of the Burmese women and there are not enough Chinese women for them all; but the large number of unmarried Chinese women is then a puzzle of which the solution may be a preference of Chinamen for the genuine article born in China, and a readiness to postpone marriage till an expedition to China can be made for the quest. Zerbadis also show a large proportion of unmarried between ages 20 and 40 for both sexes. There is a tendency for Indian Mahomedan men to spurn marriage with a Zerbadi woman, and Buddhists rarely marry them, while Zerbadi men have not the same objection either to Indian Mahomedan or to Burmese wives; this might explain the large proportion of unmarried females, but it does not help with the similar large proportion of males, and the concentration of the Zerbadis in the towns may have a more powerful influence. Both for Zerbadis and for the Buddhist Sgaws and Pwos already discussed more light would probably be obtained with detailed knowledge of the age-distribution. If the age-curve were sloping steeply down from left to right in the range of ages 20 to 30 a large part of the figures would be explained.

6. Proportion unmarried amongst females of ages 15 to 20 and 20 to 40.

	15—20.	20—40.
Buddhists ...	7,480	1,091
Chinese ..	7,807	1,648
Zerbadi ...	6,782	1,706
Arakanese, etc.	5,586	717
Arakan-Mahomedans.	2,369	432

There seems to be no relation between the tendency to marry and the proportion of literate.

Nothing has been said of marriage amongst Indian races in Burma. For these Imperial Table VIIA shows forthwith that whether we regard Hindu or Mahomedan women, and whether we regard those born in Burma or immigrants from elsewhere an unmarried woman over 30 is a rarity, and there are few over 25. Amongst men of these religions born in Burma the numbers of unmarried over these ages are nearly as small; but amongst immigrants a considerable proportion are not married. Probably this is because, unless a man is married before he comes to Burma, the relative scarcity of females of his own kind in Burma will make it difficult for him to marry without returning to India, even if he was not already betrothed to a woman of his own village before he came to Burma.

119. Widows and Widowers.—There is no custom anywhere amongst the indigenous races forbidding the re-marriage of widows. Indeed amongst the animist Chins and Kachins a widow is compulsorily married to her husband's younger brother. The only restriction upon the re-marriage of widows in fact is the competition of the maids. While many men no doubt are of Dr. Johnson's opinion about marrying a maid rather than a widow, some, like him, do not insist in this matter upon practice conforming to precept. But still a marked difference has been shown in the numbers of widowers and of widows at every census. Some of the widows are of course unmarried mothers; but on the other

7. Widows and widowers per 1,000 of the same sex and age-group.

Census.	Burma.		All-India.	
	Males.	Females.	Males.	Females.
	All ages.			
1921	52	114	...	...
1911	48	105	54	180
1901	42	109	48	176
1891	48	116	49	187
	Ages over 60.			
1921	293	661	...	...
1911	255	630	302	830
1901	265	635	292	825
1891	280	560	285	849

hand widows are often at an economic disadvantage as compared with widowers and would be expected to have a lower survival-rate. Marginal Table 7, shows the great disparity in this respect between the sexes. Considerably less than one-third of the males over 60 are widowed, but nearly two-thirds of the females For all ages together also the widows are about twice as numerous proportionally to the whole of their sex as the widowers. It is possible that widowers for various reasons have a higher death-rate than widows, and that the lower proportion of them is partly due to this. But it is fairly certain that the difference is chiefly due to the excess of females over males; the excess women cannot be accommodated with unmarried men, and the maids have a pull over their widowed sisters so that men marry a second time more often than women. The increase of all the figures in the table from 1911 to 1921 is probably chiefly due to the influenza epidemic of 1918, which would necessarily cause such an increase.

Comparison with the figures for India, which are also given in Marginal Table 7, shows that for both sexes the proportion of widowed in Burma is less than in India, whether all ages or only ages over 60 are examined; and the same is true of every age-group. For Mahomedans alone in all-India the figures closely resemble the Burma figures, in some cases exceeding and in others not reaching them. The difference is therefore due presumably to Hindu marriage-customs. Comparison with England is interesting and can be made with the figures in Marginal Table 8, in which pre-war figures for England are given. For males over 65 the proportions are very similar in England and Burma, allowing for the effect of influenza in the latter; but for females the Burma figures are distinctly the higher. The difference is probably more a complex effect of differences of mortality rates of husbands and wives in the two countries than of differences of custom as to re-marriage.

8. Widows and widowers per 1,000 of the same sex and age-group in Burma and England.

	Burma.		England and Wales, 1911.
	1921.	1911.	
Males.			
Age 15 or over	85	70	52
Age 65 or over	351	316	349
Females.			
Age 15 or over	189	171	104
Age 65 or over	683	675	566

120. Marriage Statistics and the Growth of Population.—If an attempt is made to study the relation between the marriage-statistics and the rate of growth of the population the difficulties of the age-distribution and influenza still confront us. For instance, the figures cited in Marginal Table 9 hereby from Subsidiary Table VA of Chapter V, which seem at firstsight to give the information required, are found to be subject to these influences. The percentage of all females who are married females between 15 and 40 depends not only upon the marriage-rate, but also upon the death-rates for both husbands and wives and the low proportion of females who are in that age-group. The proportion of children under 10 to married females is a number subject to complex influences. The conversion of married women to widows through deaths of husbands by influenza, and the high mortality of married women between 20 and 40 from the same cause, would be expected to raise it; but on the other hand the unusually high mortality of infants, not only directly from influenza but also from lack of care when the mother had died of influenza, would be expected to lower it. Marginal Table 10 has been prepared for Buddhists alone so as to avoid difficulties arising from immigration, and shows variations very similar to those shown by Marginal Table 9 for the total population. The proportion of all Buddhist females who were married females between ages 15 and 40 diminished in 1911 and has

9. Extracts from Subsidiary Table VA of Chapter V.

	1921.	1911.	1901.
Proportion of children under 10 to 100 married females aged 15 to 40	201	211	207
Percentage of all females who were married females between ages 15 and 40 ...	25	26	26

10. Percentages of all Buddhist females who were married females in certain age-groups.

Age.	1921.	1911.	1901.
15—20	2·5	2·4	2·4
20—25	6·0	5·7	6·1
25—30	6·2	6·3	6·7
30—35	5·5	6·0	6·1
35—40	4·5	4·7	4·5
15—40	24·7	25·1	25·8
Proportion of children under 10 to 100 married females aged 15 to 40 ...	204	214	208

diminished again in 1921; while the proportion of children to 100 married females was three higher for Buddhists than for the whole population in 1921 and 1911 and one higher in 901. But the fall in 1921 in the proportion of females who are married females between 15 and 40 arises in age-groups above age 25 and corresponds precisely to the trough for those ages in the age-curves of 1921 in Chapter V, while in the same way the excess proportion of 1921 arises in the age-groups corresponding to the crest P_o of the curves of that year; it is evident then that variations of this proportion are principally a re-statement of the variations of the age-distribution by which they are governed.

Marginal Table 11 exhibits the proportional distribution amongst five-yearly groups of 1,000 married females between 15 and 40 at each census; that is, it shows 1,000 times the ratio of the figures represented in each column of Marginal Table 10 to the total of the column. Comparing 1921 with 1911 the weight of numbers has been transferred from age-groups 30 to 40 to age-groups 15 to 25, that is from women with recently completed families to those who having been married less than ten years have not yet as many children under 10 as they will have later on; naturally the average proportion of children to all the married women of 15 to 40 is less in 1921 than in 1911. Something of the same effect is seen in comparing 1901 with 1911; but in 1901 the weight is about five years later than in 1921, and so the proportion of children was not so low but was intermediate between the proportions for 1911 and 1921. Some other aspects of this matter have already been considered in Article 90 of Chapter V, and it is evident that the fall in the average proportion of children to married women of reproductive ages at the census of 1921 is a direct result of the variation of the age-distribution. It offers no suggestion whatsoever of a decline of fecundity or of an increase of mortality.

11. Age-distribution of 1,000 married Buddhist females between 15 and 40.

Age.	1921.	1911.	1901.
15—20	102	96	94
20—25	243	226	237
25—30	252	251	260
30—35	225	219	237
35—40	177	188	172
15—40	1,000	1,000	1,000

SUBSIDIARY TABLE IA.—*Distribution by Civil Condition of 1,000 of each sex and main age-group for certain religions at each of the last four Censuses.*

Religion, Sex, Age.	Unmarried.				Married.				Widowed.			
	1921.	1911.	1901.	1891.	1921.	1911.	1901.	1891.	1921.	1911.	1901.	1891.
1	2	3	4	5	6	7	8	9	10	11	12	13
All Religions												
Males	552	559	565	555	389	389	391	394	59	52	44	51
0—5	1,000	1,000	1,000	1,000	...	...	...	...	...	...	...	...
5—10	1,000	1,000	1,000	1,000	...	...	...	...	...	...	...	...
10—15	999	999	998	999	1	1	2	1	...	...	...	...
15—20	977	980	977	977	20	18	23	23	4	3	3	5
20—40	303	318	318	308	651	665	676	686	47	37	36	46
40—60	72	80	88	92	809	817	814	843	179	94	98	105
60 and over	63	80	83	81	645	650	652	670	292	255	265	250
Females	509	519	510	508	377	376	381	378	114	105	109	116
0—5	1,000	1,000	1,000	1,000	...	...	...	...	...	...	...	...
5—10	1,000	1,000	1,000	1,000	...	...	...	...	...	...	...	...
10—15	996	993	987	995	4	7	13	5	...	...	...	...
15—20	733	736	730	734	246	259	265	246	20	15	15	19
20—40	165	180	160	150	750	761	764	780	85	59	76	68
40—60	52	70	68	56	601	605	653	686	287	265	279	279
60 and over	52	91	83	48	397	389	388	502	661	620	628	560
Buddhist												
Males	560	575	571	568	379	381	386	383	53	43	43	49
0—5	1,000	1,000	1,000	1,000	...	...	...	...	...	...	...	...
5—10	1,000	1,000	1,000	1,000	...	...	...	...	...	...	...	...
10—15	1,000	1,000	999	1,000	...	...	4	...	...	...	...	...
15—20	936	937	931	940	60	59	66	55	4	3	3	5
20—40	281	269	277	253	669	692	686	696	49	39	37	49
40—60	64	73	70	48	815	827	825	863	121	95	98	85
60 and over	63	87	81	41	840	853	850	873	297	260	269	251
Females	512	511	511	507	373	373	379	376	115	106	110	117
0—5	1,000	1,000	1,000	1,000	...	...	...	...	...	...	...	...
5—10	1,000	1,000	1,000	1,000	...	...	...	...	...	...	...	...
10—15	998	995	990	998	2	5	10	4	...	...	...	...
15—20	748	739	734	744	233	248	254	234	19	13	15	22
20—40	160	161	161	132	745	761	762	777	86	78	77	91
40—60	52	71	63	55	699	670	656	669	282	259	275	276
60 and over	53	93	84	57	490	401	279	301	657	616	637	662
Total Hindus												
Males	453	483	475	504	498	481	487	471	49	36	38	35
0—5	1,000	999	1,000	1,000	...	1	...	...	...	...	...	...
5—10	997	998	994	1,000	1	2	6	...	...	...	...	...
10—15	986	993	942	977	14	50	58	23	...	1	2	3
15—20	806	892	813	880	188	494	182	102	6	4	6	8
20—40	382	424	423	350	581	549	540	525	37	27	28	25
40—60	174	233	234	210	797	694	675	803	113	83	98	87
60 and over	136	220	208	84	690	555	545	687	257	224	235	159
Females	435	396	398	384	494	525	506	530	81	79	96	101
0—5	1,000	999	1,000	1,000	...	1	...	...	...	...	...	...
5—10	996	983	998	999	3	17	2	1	1	...	...	...
10—15	954	948	954	976	44	151	142	62	2	1	5	2
15—20	315	272	325	310	665	718	653	653	20	13	21	28
20—40	66	75	84	61	829	836	843	869	51	49	63	67
40—60	42	68	72	50	651	607	583	622	307	325	345	358
60 and over	44	81	70	54	318	260	231	252	641	640	690	724
Total Mahomedans												
Males	513	525	513	476	427	434	445	467	44	28	41	37
0—5	1,000	1,000	1,000	1,000	...	...	...	...	...	...	...	...
5—10	1,000	999	999	1,000	...	1	1	...	...	...	...	...
10—15	995	994	979	995	5	6	20	4	...	...	1	1
15—20	891	858	851	873	104	138	142	118	5	4	7	7
20—40	335	346	344	309	621	618	638	649	43	36	43	38
40—60	91	175	138	46	890	773	773	861	103	92	99	93
60 and over	84	108	115	26	700	682	682	750	256	210	223	244
Females	511	512	514	480	368	376	388	397	90	92	98	114
0—5	1,000	1,000	1,000	1,000	...	...	...	...	...	...	...	...
5—10	1,000	999	999	1,000	...	1	1	...	...	...	...	...
10—15	962	971	911	950	37	90	85	48	1	...	4	2
15—20	419	413	413	390	553	570	587	578	20	17	31	38
20—40	88	105	103	69	823	817	811	833	89	78	84	94
40—60	38	62	72	34	614	610	570	598	350	328	358	378
60 and over	53	60	87	34	318	335	323	309	749	706	690	707

SUBSIDIARY TABLE IB.—*Distribution by Civil Condition of* 1,000 *of each age-group of each sex amongst Hindus and Mahomedans* (1) *born in Burma or* (2) *born outside Burma.*

Age-period.	Hindus.						Mahomedans.					
	Born in Burma.			Born elsewhere.			Born in Burma.			Born elsewhere.		
	Unmarried.	Married.	Widowed.	Unmarried.	Married.	Widowed.	Unmarried.	Married.	Widowed.	Unmarried.	Married.	Widowed.
1	2	3	4	5	6	7	8	9	10	11	12	13
Males ...	798	177	25	397	550	53	646	318	36	395	552	53
0—5 ...	1,000	...	...	998	2	...	1,000	...	...	999	1	...
5—10 ...	999	1	...	998	2	...	1,000	...	...	1,000	...	...
10—15 ...	994	6	...	980	20	...	998	2	...	984	16	...
15—20 ...	852	144	4	797	196	7	909	86	5	870	125	5
20—40 ...	452	501	47	377	586	37	237	710	53	383	578	39
40—60 ...	191	651	158	171	721	108	45	841	114	121	784	95
60 and over ...	153	539	308	137	610	253	39	718	243	88	683	229
Females ...	728	230	42	204	686	110	541	365	94	230	619	151
0—5 ...	1,000	...	...	1,000	...	...	1,000	...	...	1,000	...	...
5—10 ...	999	1	...	989	1	10	1,000	...	...	998	2	...
10—15 ...	976	23	1	910	84	6	965	34	1	897	100	3
15—20 ...	437	539	24	217	766	17	431	540	29	273	704	23
20—40 ...	104	812	84	56	896	48	93	813	94	58	882	60
40—60 ...	51	575	374	41	664	295	40	607	353	22	645	333
60 and over ...	72	268	660	39	324	637	37	211	752	21	247	732

SUBSIDIARY TABLE IC.—*Ratio of Females per* 1,000 *males in each Civil Condition and in certain age-groups*: (1) *For certain religious classes in the whole province.* (2) *For Buddhists in each natural division.*

Religion and area.	All ages.			15—20			20—40			40 and over.		
	Unmarried.	Married.	Widowed.	Unmarried.	Married.	Widowed.	Unmarried.	Married.	Widowed.	Unmarried.	Married.	Widowed.
1	2	3	4	5	6	7	8	9	10	11	12	13
	(1) FOR THE PROVINCE.											
All Religions ...	871	924	2,094	828	3,784	5,006	488	1,027	1,613	694	685	2,263
Buddhists ...	927	1,011	2,230	887	4,289	5,803	618	1,146	1,819	837	743	2,351
Total Hindus ..	264	279	462	116	1,046	919	33	291	322	52	169	588
Hindus born in Burma.	778	1,112	1,411	418	3,049	5,353	161	1,135	1,260	185	498	1,429
Hindus born outside Burma.	97	235	389	53	763	473	24	249	211	45	154	523
Total Mahomedans	572	539	1,334	324	3,667	3,795	107	543	841	205	320	1,662
Mahomedans born in Burma.	841	1,156	2,615	556	7,390	6,420	412	1,209	1,885	892	622	3,010
Mahomedans born outside Burma	70	135	342	36	643	523	13	136	138	26	99	512
	(2) FOR BUDDHISTS.											
Province ...	927	1,011	2,230	887	4,289	5,803	618	1,146	1,819	837	743	2,351
Burman ...	936	1,012	2,266	899	4,102	5,737	646	1,135	1,926	856	760	2,355
Delta ...	914	1,000	1,882	905	4,725	5,323	610	1,135	1,727	746	723	1,909
Coast ...	882	1,009	2,026	780	4,912	7,095	516	1,133	1,551	646	722	2,205
Centre ...	981	1,028	2,739	935	3,484	5,474	758	1,139	2,400	1,024	805	2,819
North ...	892	975	2,128	844	4,267	5,366	449	1,212	1,494	617	708	2,361
Chin ...	691	806	1,430	500	11,750	3,500	119	873	625	200	541	2,022
Salween ..	714	892	1,058	632	7,463	5,708	232	1,233	750	228	546	1,190
Shan ...	854	1,005	2,099	793	6,095	6,056	432	1,246	1,434	659	640	2,396

SUBSIDIARY TABLE II.—*Distribution by civil condition of* 1,000 *of each sex in certain age-groups for each natural division* (1) *for the whole population,* (2) *for Buddhists only.*

Natural Division.	All ages.			10—15.			15—20.			20—40.			40—60.			60 and over.		
	Unmarried.	Married.	Widowed.	Unmarried.	Married.	Widowed.	Unmarried.	Married.	Widowed.	Unmarried.	Married.	Widowed, &c.	Unmarried.	Married.	Widowed.	Unmarried.	Married.	Widowed.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
MALES OF THE WHOLE POPULATION.																		
Province ...	559	389	52	999	1	...	928	69	4	308	653	47	73	809	119	63	645	292
Burman ...	560	390	50	999	1	...	927	70	3	301	656	43	76	808	115	67	642	291
Delta ...	568	384	47	999	1	...	934	63	3	334	628	39	92	790	118	71	637	291
Coast ...	556	390	54	999	1	...	923	72	6	257	681	61	52	825	123	45	680	275
Centre ...	555	395	50	999	1	...	921	76	3	269	690	41	69	821	109	73	633	294
North ...	546	401	53	999	1	...	925	72	4	325	627	48	64	819	116	50	652	299
Chin ...	574	385	41	999	1	...	937	54	9	311	643	46	40	869	90	22	782	195
Salween ...	571	349	80	997	3	...	938	54	9	322	598	88	57	744	200	50	570	380
Shan ...	546	386	68	1,000	...	...	930	63	7	308	634	77	47	813	140	87	660	303
FEMALES OF THE WHOLE POPULATION.																		
Province ...	520	377	104	996	4	...	733	248	19	205	750	85	52	662	287	52	297	652
Burman ...	515	376	109	996	4	...	741	242	17	169	750	81	54	686	279	55	297	648
Delta ...	535	374	91	996	3	...	765	224	13	182	749	69	59	678	263	55	321	624
Coast ...	503	385	112	986	13	1	633	352	35	113	787	100	49	678	273	34	291	675
Centre ...	503	372	125	999	1	...	756	229	15	178	734	88	61	654	285	61	291	648
North ...	484	392	125	992	8	...	722	262	16	149	766	85	33	662	306	48	256	716
Chin ...	514	380	106	998	2	...	747	243	10	186	742	72	63	603	334	76	277	647
Salween ...	502	350	148	996	4	...	708	260	32	172	701	128	47	503	450	50	108	788
Shan ...	468	386	146	995	5	...	673	300	27	133	757	110	30	643	329	32	226	743
BUDDHIST MALES.																		
Province ...	568	379	53	1,000	...	...	936	60	4	282	669	49	64	815	120	63	640	297
Burman ...	570	380	50	1,000	...	...	935	61	3	277	678	44	67	817	117	66	639	295
Delta ...	585	366	48	1,000	...	...	948	50	3	305	654	41	74	804	122	64	638	298
Coast ...	567	377	57	1,000	...	...	937	58	5	243	690	67	46	825	128	46	669	285
Centre ...	557	393	50	999	1	...	923	73	3	258	702	40	66	826	108	73	633	294
North ...	546	400	54	1,000	...	...	931	65	4	281	668	51	58	827	115	53	632	315
Chin ...	534	405	63	1,000	...	...	959	37	14	310	612	78	34	841	124	74	685	241
Salween ...	541	347	113	993	8	...	940	49	11	322	543	134	64	694	242	49	582	369
Shan ...	553	378	72	1,000	...	...	942	51	8	318	600	84	48	808	145	30	652	318
BUDDHIST FEMALES.																		
Province ...	532	373	135	997	2	...	748	233	19	169	745	86	52	668	280	33	289	678
Burman ...	527	373	111	998	2	...	737	250	13	173	744	82	55	670	275	56	300	644
Delta ...	539	369	92	998	2	...	775	212	13	186	743	70	59	680	261	54	322	624
Coast ...	502	382	115	994	6	1	693	271	35	124	774	102	39	686	275	35	302	663
Centre ...	503	371	126	999	1	...	760	225	15	179	732	89	61	655	285	62	291	647
North ...	491	393	116	992	8	...	726	255	19	134	786	80	31	696	273	58	243	705
Chin ...	471	414	114	1,000	...	...	868	116	16	80	869	51	11	700	289	...	188	812
Salween ...	457	402	141	998	2	...	821	158	21	84	782	134	18	608	374	24	220	756
Shan ...	472	377	151	996	4	...	677	281	42	136	744	120	30	627	334	24	220	746

SUBSIDIARY TABLE III.—*Distribution by age and civil condition of* 10,000 *of each sex of certain religions.*

Religion and Age.	Males.			Females.		
	Unmarried	Married.	Widowed.	Unmarried	Married.	Widowed.
1	2	3	4	5	6	7
All Religions (All ages) ...	5,589	3,892	519	5,096	3,767	1,137
0—10	2,399	...	...	2,570	..	...
10—15	1,151	1	...	1,127	5	...
15—20	906	67	4	785	265	20
20—40	975	2,101	152	499	2,261	256
40 and over	158	1,723	363	115	1,236	861
Buddhist (All ages) ..	5,677	3,794	529	5,119	3,733	1,148
0—10	2,537	...	...	2,547	..	...
10—15	1,222	...	..	1,143	3	...
15—20	938	60	4	809	252	21
20—40	834	1,961	145	502	2,210	256
40 and over	146	1,753	380	118	1,268	871
Total Hindus (All ages) ...	4,529	4,977	494	4,254	4,935	811
0—10	872	1	...	2,868	2	3
10—15	485	7	...	806	37	2
15—20 ...	621	145	5	256	540	16
20—40	2,201	3,352	215	259	3,468	216
40 and over	350	1,472	274	65	888	574
Hindus born in Burma (All ages)	7,985	1,764	251	7,282	2,301	417
0—10	4,631	1	...	5,378	4	...
10—15	1,418	8	...	1,304	31	1
15—20	703	129	3	374	461	20
20—40	1,032	1,144	106	195	1,523	157
40 and over	141	482	142	31	282	239
Hindus born outside Burma (All ages).	3,971	5,495	534	2,040	6,859	1,101
0—10	264	...	...	1,033	1	6
10—15	334	7	...	442	41	3
15—20	598	147	5	169	597	13
20—40	2,391	3,709	233	305	4,889	960
40 and over	384	1,632	296	91	1,331	819
Total Mahomedans (All ages) ...	5,287	4,272	441	5,111	3,895	994
0—10	1,972	...	...	3,251	...	..
10—15	903	4	...	1,105	43	2
15—20	794	93	5	435	573	30
20—40	1,457	2,703	189	264	2,482	269
40 and over	161	1,473	247	56	797	693
Mahomedans born in Burma (All ages).	6,463	3,176	361	5,407	3,654	939
0—10	3,524	...	...	3,467	...	...
10—15	1,406	3	...	1,164	41	1
15—20	826	78	5	457	572	31
20—40	645	1,926	143	264	2,317	268
40 and over	62	1,169	213	55	724	639
Mahomedans born outside Burma (All ages).	3,945	5,523	532	2,305	6,186	1,509
0—10	203	...	...	1,205	2	...
10—15	329	5	...	551	61	2
15—20	758	109	4	226	582	19
20—40	2,382	3,589	242	263	4,047	277
40 and over	273	1,820	286	60	1,494	1,211

SUBSIDIARY TABLE IV.—*Marriage amongst selected races.*

NOTE.—For each sex of each race the table shows for each age-group three numbers which indicate the proportion in each civil condition of 10,000 of that age-group. For all Buddhists the basis is Imperial Table VIIA; for each other race it is the sample of that race in Imperial Table XIV. *Arakanese, etc.*, means Arakanese, Yanbye and Chaungtha. *Shan A* means the sample in the Imperial Table XIV of Shans in Bhamo, Myitkyina, Katha and the Upper Chindwin districts; while *Shan B* means Shans in the Shan States other than Khun. All Yunnanese are excluded from *Chinese*.

Race.	Sex.	All ages.			15—20.			20—40.			40 and over.		
		Unmarried.	Married.	Widowed.	Unmarried.	Married.	Widowed.	Unmarried.	Married	Widowed.	Unmarried.	Married.	Widowed.
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Arakanese, etc.	M	5,160	4,111	729	9,151	764	95	1,526	7,463	1,011	299	7,882	1,819
	F	4,385	4,025	1,590	5,586	3,754	660	717	7,801	1,482	181	5,299	4,520
Talaing ...	M	6,159	3,403	438	9,619	360	21	2,770	6,809	421	575	7,765	1,660
	F	5,663	3,615	722	8,168	1,704	128	1,574	7,771	655	323	6,746	2,931
Shan A ...	M	5,499	3,983	518	9,233	724	43	2,783	6,691	526	495	7,996	1,509
	F	4,947	3,927	1,126	7,258	2,569	173	1,161	8,060	779	346	5,781	3,873
Shan B ...	M	5,387	3,828	785	9,356	549	95	3,091	5,928	981	402	7,730	1,868
	F	4,481	3,875	1,644	6,256	3,213	531	1,160	7,552	1,288	240	4,970	4,790
Khun ...	M	5,162	4,163	675	9,491	468	41	2,666	6,532	802	406	7,960	1,634
	F	4,296	4,203	1,501	7,601	2,184	215	884	7,987	1,129	231	5,334	4,435
Sgaw ...	M	6,181	3,325	494	9,706	286	8	3,897	5,701	402	629	7,575	1,796
	F	5,594	3,517	889	8,297	1,650	53	2,393	6,966	641	550	5,885	3,565
Pwo ...	M	6,079	3,470	451	9,464	520	16	3,304	6,308	388	662	7,654	1,684
	F	5,161	3,743	796	8,379	1,555	66	2,048	7,366	586	458	6,429	3,113
Chinese ...	M	5,249	4,264	487	9,486	505	9	4,544	5,124	332	1,845	6,937	1,218
	F	5,529	3,726	745	7,807	2,113	80	1,648	7,805	547	693	5,875	3,432
Arakan Mahomedan	M	5,683	3,562	755	9,133	816	51	2,521	6,543	936	337	7,326	2,337
	F	5,062	3,867	1,071	2,369	7,124	507	432	8,511	1,057	328	4,637	5,035
Zerbadi ...	M	6,449	3,148	403	9,321	641	38	3,148	6,392	460	622	7,720	1,658
	F	5,487	3,495	1,018	6,682	3,159	159	1,706	7,430	864	634	5,085	4,281
All Buddhists	M	5,676	3,795	529	9,361	602	37	2,819	6,692	489	639	7,691	1,670
	F	5,120	3,732	1,148	7,180	2,325	195	1,691	7,445	864	525	5,618	3,857

CHAPTER VIII.

Literacy.

121. Enumeration.—The instructions to enumerators with regard to the record of literacy in columns 14 and 15 of the schedule were equivalent to those of the previous census and were as follows :

Column 14 (*Literate or Illiterate*).—Enter the word "literate" against all persons, who can both read and write in any language a letter to or from a friend. In the case of persons who cannot both read and write such a letter in any language put a small cross in this column.

Column 15 (*Literate in English*).—Enter the word "English" against all persons who can both read and write a letter to or from a friend in English. Put a small cross in this column for those who cannot do both.

It should be noted in any comparison which is made with the statistics of earlier censuses that this standard for literacy was adopted only in 1911 ; previous to that any person who could both read and write was recorded as literate, and probably many were so recorded whose accomplishment was limited to reading in a very inefficient manner and to writing their own names, while some probably would have failed to write even so much.

122. Statistics.—The records have been tabulated by age-groups for the total of each religion in Imperial Table VIIIA, a separate set of figures being given also for all the numerically important religions for Divisional Burma and for the Eastern States. In Imperial Table VIIIB statistics are given by age-groups for each district separately for each religion of any numerical importance in it. Imperial Table IX gives statistics by age-groups again for several races in the respective areas in which they are strongly represented ; and also, without classification by age, the provincial totals for every race-group among indigenous races and some classes of foreign races. Provincial Table VI supplements Imperial Table VIIIB by giving statistics by age-groups for Buddhists in nearly every township. Provincial Table VII supplements Imperial Table IX by giving statistics for the selected races of that table in particular districts, while Provincial Table VIII gives statistics of literacy for the numerically considerable religious classes in the normal civil population of towns in which the total population exceeded 10,000. In addition the undermentioned Subsidiary Tables have been prepared and appended to this chapter :—

I.—Proportion for each religion and sex per 1,000 of all ages and per 1,000 of certain age-groups who are literate (*a*) in any language, (*b*) in English.

II.—Literacy in each district and natural division by age and sex.

III.—Literacy of Buddhists in each district and natural division by age and sex.

IV.—Average proportion literate in English in 10,000 of each sex and age-group in 1921, excluding European and allied races, Armenians and Anglo-Indians throughout.

VA.—Progress of literacy since 1891 shown by the average proportion of literate in each 1,000 of certain age-classes of each sex.

VB.—Literacy in corresponding age-groups at the censuses of 1921 and 1911 measured by the average proportion of literate in each 1,000 of each sex.

VC.—Progress of literacy in English since 1891 shown by the average proportion of literate in English in each 1,000 of certain age-classes of each sex.

VD.—Literacy in English in corresponding age-groups at the censuses of 1921 and 1911 measured by the average proportion of literate in English in each 10,000 population of each sex.

VI.—Literacy in selected Races.

VIIA.—Proportion per 1,000 aged 5 or more, who are literate in Indian cities.

VIIB.—Proportion per 1,000 aged 5 or more, who are literate in other provinces.

VIII.—Number of schools and pupils according to the returns of the Education and Survey Departments.
IX.—Statistics of the main University Examinations.
X.—Number and circulation of newspapers, etc.
XI.—Number of books published in each language.

123. Additional Age-group.—In all tabulations of literacy by age in the present census the age-groups adopted have been 0-10, 10-15, 15-20, 20-30, 30 and over, a subdivision having been made of the last age-group (20 and over) used in all other provinces of India at the present census and at previous censuses in Burma.

124. Standard of Literacy.—The standard of accomplishment entitling one to be recorded as literate, which was noted at the beginning of this chapter, is still vague and it is difficult to see how it could be made definite. No doubt in some parts of the province a standard was accepted which was insufficient in other parts. An ordinary English father, replying to the census enumerator, would require his child to attain a considerably higher standard before describing it as literate than would most Burmese or Indian fathers; and there are doubtlessly variations everywhere accompanying variations of race and economic condition.

One cause of variation lies in the question whether in the definition of literacy "writing a letter" involves its composition, or whether writing from dictation is sufficient. Formerly such a question would not arise; but now the mechanical art of writing is often acquired before the courage to put a thought, and still more a consecutive series of thoughts, into writing. Every Census Superintendent knows the weariness that comes from composition even when many subjects are pressing for consideration; and most people can remember that as a child writing a letter the same weariness generally came as soon as the date had been entered in the heading, and that it was accentuated by an utter lack of matter to write. The capacity to compose a letter implies greater development than merely writing it, and the selection between these two standards must often have considerable influence in determining the number of literates recorded.

Not only is there variation from class to class at one census, but there is the same tendency to variation in the records of successive censuses. Illiterate parents are easily convinced that their child is literate when he has inscribed a very few words; but the same child grown up literate will judge his children by a higher standard. Amongst the blind, moreover, the one-eyed man is king; and in an illiterate community any one who can make the slightest claim to literacy is regarded as an expert. But the next generation is likely to be more critical, although it is nominally applying the same standard of being "able to read and write a letter to or from a friend."

A difference in the record for *Literate in English* may also have arisen from the fact that the heading of column 15 in 1911 was "Knows or does not know English." The instructions for filling the column were practically the same as in 1921, but the heading was likely to mislead enumerators into recording in the affirmative for persons who could only talk or understand English without being able to read or write it.

125. Accuracy of the Statistics.—When there are variations in the standard of literacy, there is some difficulty in defining what is meant by an accurate record of literate persons. But it is safe to say that there will have been no deliberate mispresentation, and that generally the enumeration-record represented the honest opinion of the head of each household whether each member should be considered literate or not. The tabulation work is probably accurate, as it is so simple to classify according to such simple entries as *Yes* and *No*, and the age-classification is that used in Imperial Table VII and tested in Chapter V.

126. Age-distribution and Measures of Literacy.—Subsidiary Table I of this chapter shows the proportions of literate persons in each of certain age-groups. As would naturally be expected the proportions of literate at ages 5 to 10 are small, and there is a large increase in the next age-group, 10 to 15 followed by a further increase of 50 per cent at ages 15 to 20. Even for ages 15 to 20 however the proportion is kept down by the low proportion at the earlier ages of the group, and for males there is a further increase in age-group 20 to 30, amounting in the case of Buddhist males to 12 per cent and raising the proportion of literate for

this age-group to 706. In the next age-group, 30 and over, there is still some increase in the proportion of literate. It is clear therefore that for precision literacy must be measured by specific literacy rates in successive age-groups in the same way as specific birth and death rates are used; and only very marked changes in the proportions of literate from one census to another in any wide age-group which includes ages below about 25 have any significance without a close analysis of the influence of changes in the age-distribution in that group. A particular case of the need for this caution is seen in the figures (in column 7 of Subsidiary Table I) for literate of all ages over 5 amongst male Hindus and Mahomedans born outside Burma which are higher than the corresponding figures for indigenous Hindus and Mahomedans. Amongst Mahomedans the superiority is shown in every age-group; but amongst Hindus the separate age-groups actually show the superiority is on the other side in every age-group except that of ages 5 to 10. The proportion of literate for all Hindus over 5 years of age born outside Burma is higher than for those born in Burma because it is not diminished by such a large proportion of illiterate children of 5 to 10; there is of course a similar effect amongst the Mahomedans, but as it only enhances a superiority which appears in each age-group it is not shown so clearly.

127. Cautions for comparisons of statistics of literacy.—It is convenient to recapitulate here the considerations adduced in the foregoing paragraphs which demand caution in comparing statistics of literacy at different times and places. It will then be understood that attention has been paid to these in the various comparisons which are made in the later articles of this chapter, and much repetition will thereby be saved. The considerations are:—

(1) the effects of differences of age-distribution at different times or in different places or among different classes;

(2) the change in 1911 from the criterion of literacy used in 1901 and earlier censuses to the criterion used in the censuses of 1911 and 1921;

(3) the possible variations in the application of either criterion at different places, or among different classes or at different times, and the probability that it is applied more stringently at times and places at which literacy is higher.

To the last consideration may be added another not previously mentioned, namely, that the criterion is likely to be applied more stringently in a non-synchronous census among primitive races than in the synchronous census of ordinary districts, because the paid enumerators would be disposed to think little of the small attainments of the hill-folk and the latter would be shy of claiming literacy in the presence of a writer so skilled as the enumerator seems to be.

128. Proportions of Literate.—Subsidiary Table VIIB shows the proportion of literate in Burma, if literacy in any language whatsoever is reckoned, is more than three times as large as in any other province of India. Baroda State has had for thirty years free and compulsory primary education, but its proportion is less than half that of Burma. Cochin and Travancore States alone exceed half the proportion of Burma. Such differences cannot be due entirely to differences of age-distribution or standard of enumeration, as the differences between 43, 45 and 42 per 1,000 for the Central Provinces, Punjab and United Provinces may be; they are a certain indication of all-round greater literacy. For literacy in English Burma also holds its own amongst the provinces as far as females are concerned, and this in spite of the proportion of its population whose mother-tongue is English being smaller than that in most other provinces; but for males literate in English Bengal shows double the proportion of Burma. This is however no compensation in the other provinces for their defect below Burma in general literacy. Marginal Table 1 compares literacy in Burma with that in India at the last three censuses. The differences again are altogether too large to be due in any considerable degree to differences of age-distribution, and it is noticeable that amongst females in Burma literacy is three-quarters as common as amongst males in India and appears to be growing more rapidly. Incidentally the table shows a slight set-back amongst males in Burma in 1911 as compared with 1901; this was the net result of a real

1. Average proportion of literate aged 10 or more

Census.	Males		Females	
	Burma.	India.	Burma.	India.
1921	576	161	123	23
1911	495	140	79	13
1901	498	129	57	9

increase of literacy and the raising of the standard of literacy in 1911. India did not show the same set-back, and the probability is that Burma had and has still a larger proportion than India of people who reach the standard of literacy used in 1901 but just fail to attain the standard of the census of 1921. This is one aspect of the fact that the wide extension of literacy in Burma is due to the high proportion of literate amongst Buddhists which is a result of the system of monastic schools.

The statistics of literacy by natural divisions, which are given in Subsidiary Table II, have been copied into Marginal Table 2 hereby. They show Delta subdivision leading easily for females while Centre has the advantage for males. Coast is distinctly the most backward part of Burman for males, but surpasses Centre for females. The proportions for the total male population are less in Delta than for Buddhists alone because of the large proportion of illiterate immigrants there; female Indian immigrants being so much fewer have little effect on the proportion for females which is increased in the total population by the high figures for Christian females due to the educational activity of the Christian missions. In the other divisions the difference between the figures for the total population and for the Buddhists is the result generally of the inclusion of areas inhabited by primitive animist races; in Chin division the total number of Buddhists is under 2,500 and these are in no way representative of the general population. The statistics for Buddhists are considered in a later article.

2. Literacy by Natural Divisions.
(Proportion of literate per 1,000 of ages over 5.)

Division.	Males.		Females.	
	All	Buddhists.	All	Buddhists.
Province ...	510	568	112	113
Burman ..	563	617	127	126
Delta ...	573	634	200	196
Coast ...	395	484	79	87
Centre ...	630	641	83	79
North .	489	611	52	62
Chin ...	35	588	3	109
Salween ...	114	195	23	36
Shan ..	153	171	9	8

A comparison of the figures for 1911 and 1921 in Subsidiary Tables I and VI shows in practically every religion or race an increase of literacy which cannot possibly be accounted for by changes of age-distribution alone. Marginal Table 3 shows the variation from 1911 to 1921 for all ages over 20. In practically every case the increase is too great to be ascribed to age-distribution and it seems clear that Burma need have no fear of being caught up by India for some time yet. The Mahomedan females are peculiar in showing a smaller proportion in 1921 than in 1911. For ages 10-15 they show a rise from 84 to 89 and for ages 15-20 a fall from 119 to 112. Without further information about immigration it does not seem possible to understand this.

3. Proportion of literate in 1,000 of ages over 20.

Religion.	Males.		Females.	
	1921	1911	1921	1911
All ...	620	544	118	75
Buddhists ...	708	619	120	74
Animists .	103	92	5	4
Hindus ...	304	251	85	60
Mahomedans ...	357	299	100	112

129. Literacy of Buddhists.—The proportions of literate among Buddhists were set out in Marginal Table 2 of the preceding article and are given with details by age-groups and districts in Subsidiary Table III. Centre rather surpasses Delta for literate males, but chiefly because the latter includes Thatôn District which is the most backward in literacy of all the ordinarily circumstanced districts of the province. The inclusion of Rangoon gives Delta no great advantage in the comparison, as Centre gets nearly as much advantage from including Mandalay. If the districts of Rangoon and Mandalay are excluded, Hanthawaddy and Pyapôn lead the way in literacy of males, and this is not entirely a result of proximity to Rangoon because Tharrawaddy and Henzada are not far behind; it is rather a matter of more ample local funds available for the assistance of education. The proportions in Coast are low all round. Kyaukpyu has often been described as a backward district, but Amherst surprises by coming considerably below it in literacy of male Buddhists. The adjacent districts of Amherst and Thatôn in fact constitute the dark spot in the literacy map of the ordinary parts of Burma, coming even lower than Kyaukpyu, Bhamo and Putao (counting Buddhists alone). Provincial Tables VI and VII show that in Thatôn district these low figures are due chiefly to the Sgaw and Pwo and Taungthu Karens of the remote Hlaingbwè and Pa-an townships, where the people, although they are

Buddhists, have not much more facilities for education than animists in some other districts; in fact these areas are akin to the adjacent Salween Division, where both in Salween District and in Karenni the literate proportion for Buddhists is small. In the other townships too along the western side of the Thatôn district the Karens are backward and reduce the average. But if the figures for Karens and Talaings are excluded the remainder of the Buddhists of Bilin township are almost entirely Burmese of whom only 537 per 1,000 males of all ages are literate as compared with 587 for Burmese (including a few Christians and Animists as well as Buddhists) in the whole province; some part of the defect is thus apparently due to the Burmese themselves, but the age-distribution should be examined before a final decision on this is given. For female Buddhists the proportions in Delta are certainly increased by the high literacy in Rangoon; but, after discounting this, Delta is still twice as literate as any other division, and the chief reason again is probably the amount of public funds available for education. Thatôn is again the most backward district of Delta. Coast surpasses Centre, but it is noticeable that Centre has an advantage at ages below 15 which suggests that it is making up leeway. It is also noticeable that Amherst, compared with the rest of its own division and with the districts of Centre, shows in female literacy nothing like the same relative backwardness as in male literacy, although it falls behind Thatôn. In Centre the Prome District shows its participation in Lower Burma conditions by a high proportion of literate females, while Shwebo surprises by its very low figures, and Magwe, Meiktila and Lower Chindwin are not much better. Kyaukpyu is the most backward of all districts in female education except Upper Chindwin and Putao; but all these have excuses which cannot be offered for the four bad districts of Centre. In North the females of Bhamo, Myitkyina and Katha are distinctly more literate than one would expect.

The increase of literacy amongst Buddhists in the decade 1911-21 is shown by Marginal Table 3 at the end of the preceding article. The difference in age-distribution cannot make much difference to the proportion of literate in all ages over 20 and certainly cannot make a difference as large as is shown here for the improvement from 1911 to 1921, and it is impossible too that changes in the standard of literacy could account for much of this. The increase of nearly 60 per cent for females is very large. The obvious reason is the passing away by death of the older less literate generations, and their replacement by more literate successors at every year of age. Marginal Table 3 shows that in 1911 for all ages over 20 the literacy of females in the total population was shown as higher than that for Buddhist females alone, and the same is shown in Subsidiary Table I for all ages over 5; but the difference between 75 and 74 or between 70 and 69 per 1,000 is of course altogether too small for any notice to be taken of it in so wide an age-group and with the possibility of different applications of the criterion of literacy for different religions. For 1921 the figures for Buddhist females in Subsidiary Table I are still nearly the same as those for all females and tending to be higher; nothing can be said about this until the difference becomes more marked. The high figures for females of the total population as compared with those of Buddhist females are due largely to the high figures among the Christians.

130. Literacy by Religion and Race.—Statistics of the proportions of literate by religion and by race are afforded by Subsidiary Tables I and VI. The latter has been prepared to show proportions for all ages because otherwise no comparison with the figures of 1911 could be made; this unfortunately prevents comparison of its figures with those of Subsidiary Table I, as the latter, in order to escape in part the difficulties caused by differences of age-distribution in the various classes, has disregarded children under 5. In nearly every case the figures for separate races in Subsidiary Table VI are lower than those given at its foot for all Buddhists, making it clear that the high Buddhist literacy is essentially due to still higher proportions among the Burmese Buddhists which must be practically the same as those given for Buddhist, Animist and Christian Burmese together in the first line of the table. The Karen Buddhists are very backward; and their figures are not perceptibly improved if only the twelve districts for which special statistics by age are given for them in Imperial Table IX are considered. Even Karen Christians fall below the average for all Buddhists in general literacy, although they take such a high place for literacy in English. The difference between Zerbadis and Arakan-Mahomedans in Subsidiary Table VI is very marked; the latter are not much more literate than the Chins.

Subsidiary Table I shows that amongst male Hindus born in Burma the proportion of literate is higher in all age-groups except age-groups 5—10 than amongst immigrant Hindus, but amongst male Mahomedans the immigrants show the higher proportion in every age-group. Indigenous Mahomedan males in fact are rather backward; they surpass immigrant Hindus, but indigenous Hindus surpass them at all ages under 30 and must consequently surpass them soon at ages over 30. Neither for Hindus nor for Mahomedans do the proportions of literate in any age-group of males approach those for Buddhists; but for both the proportions are several times those of their co-religionists in India, not only in the total of all ages—for which the figures are raised by the lack of young children—but in the separate age-groups. This high degree of literacy amongst the Hindus and Mahomedans of Burma is particularly marked for the females, and especially amongst those born outside Burma; in neither religion are the proportions among the Buddhists reached (except at age 5 to 10) although the comparison is largely one of urban and rural populations, but the proportions of literate in each age-group are very high in comparison with those of India. The high degree of literacy amongst Zerbadi Mahomedan females which is shown in Subsidiary Table VI is however the principal cause of the high figures for indigenous Mahomedan females in Subsidiary Table I; for Indian Mahomedans Subsidiary Table VI shows only 36 per 1,000, which is still high compared with the corresponding figures for India but is low in Burma. Indian Christians show the same proportion of literate amongst males as do Buddhists, and for females a rate three times as high; this superiority of the females is due to mission schools, and is still more marked when literacy in English is considered. The Chinese figures are doubtlessly reduced by the inclusion of Yünnanese, and it would have been better if separate entries for *Yünnanese* and *Other Chinese* had been given in the tables.

For some of the religions the figures shown in Subsidiary Table I have no particular meaning because such small numbers of peoples are represented, and their age-distribution is artificial on account of migration. In questions relating to those classes the figures must be weighed accordingly; they merit no further consideration here.

Part II of Imperial Table IX gives statistics of literacy for some indigenous races which are not mentioned in Subsidiary Table VI, and Part III gives separate statistics for some Indian races.

131. Literacy in Rangoon and Mandalay.—Subsidiary Table VIIA compares the proportion of literate in Rangoon and Mandalay with that in some Indian cities. Rangoon with its large immigrant Indian population is surpassed by several Indian cities in male literacy; it easily holds its own for literacy among females, but this is due very much to the artificial age-distribution which obtains for some races. Mandalay with a population chiefly Burmese is only approached by Madras, and for females is much superior even to that city although its age-distribution indicates the excessively high proportion of old women which was noted in Chapter II and would be expected to reduce the average proportion of literate females considerably. As in the comparison of whole provinces there is less English literacy amongst males in either Rangoon or Mandalay than in some Indian cities. Only Calcutta can approach Rangoon for English literacy among females, although Mandalay in this respect takes a low place; but the complex effects of the varying proportions of European population in different cities and of the Indian immigrant population in Rangoon demand particularly laborious study and detailed statistics before any reliable conclusions can be deduced from the relations of these proportions. Subsidiary Table II gives statistics of literacy in Rangoon and Mandalay by age-groups; the statistics for Rangoon are given as those of Rangoon District which is the same thing for this purpose, while those for Mandalay are given immediately below those for Mandalay District. Separate statistics for the normal civil populations of these cities are given in Provincial Table VIII.

132. Literacy in English.—Subsidiary Tables VIIA and VIIB compare the Burma figures for literacy in English with those of other parts of India, and show that while not taking a low place in this matter Burma has not the same distinction as for literacy in general. Subsidiary Table I shows that little of the credit for this is due to the Buddhists, who in every age-group are much below

the average for literacy in English. The classes which contribute most to the proportion of literate in English are the Christians, Hindus and immigrant Mahomedans. Some other classes are even more literate than these, but their total numbers are small. Indigenous Mahomedans are a little below the average for the province although much above the Buddhists.

The contribution by the Christians is the most important, and of course is due largely to the nearly universal English literacy of Europeans and Anglo-Indians, who with Armenians are tabulated as "Europeans, etc.," in Marginal Table 4. That table shows that more than half the males and nearly two-thirds of the females literate in English are contributed by this small class. If these were excluded the proportions of literate in English for 1,000 Christians of all ages over 5 would be reduced from 193 to 98 for males and from 121 to 48 for females. In spite of these large reductions the Christians would still remain easily the most literate in English of all the religions with considerable numbers, owing this of course to the educational activity of the Christian missions. If in the same way the proportion of literate in English in the total population of age 5 or more except the Europeans, Anglo-Indians and Armenians is calculated, the result gives the change from the figures of Subsidiary Table VIIB which is shown in Marginal Table 5. No records are available now for comparison of the new figures with similarly corrected figures in other provinces; they will no doubt be available in the census reports of those provinces. In Subsidiary Table IV the proportions of literate in English are calculated throughout on this corrected basis which excludes Europeans, Anglo-Indians and Armenians. In preparing that table, as statistics for some of the age-groups used were not available for the total number of Europeans, estimated divisions of the statistics given in Imperial Table XVI for larger age-groups had to be made; but the errors so introduced are quite negligible, as the numbers of literate were tabulated and free from estimates.

4. Christians literate in English.

Race.	Males.	Females.
Home races * ...	6,114	3,608
Indians	3,705	1,022
Europeans, etc. ...	12,482	8,449
Others ...	246	87
Total of all races ...	22,547	13,159
Total without Europeans, etc.	10,065	4,717

5. Proportion per 1,000 aged 5 or more who are literate in English.

	Males.	Females.
Total population ...	16	4
Excluding Europeans ...	14	2

High proportions of literate in English are found in both sexes of Hindus; amongst males the indigenous Hindus show higher proportions in each age-group than the immigrants, but amongst females the immigrants show the higher proportions in age-groups 10 to 15 and 15 to 20. Amongst Mahomedans indigenous males are much above the immigrants in all age-groups except 5 to 10 and 10 to 15, but immigrant females surpass the indigenous in every age-group without exception.

Subsidiary Table VI shows specially high proportions (relatively to other races in Burma) for literacy in English amongst Zerbadis, Karen Christians, Chinese, Indian Buddhists and Indian Christians; the last stand much higher than any other class, but they have only small numbers altogether. The high figures for Zerbadis, like those for all Indians, are the result of generally living in towns; those for the Karen Christians are of course due to the activity of the missionaries among them. The proportions shown in Subsidiary Table VI for Burmese have been calculated from Imperial Table IX and cover all Burmese except Mahomedans, but are approximately the same as for Burmese Buddhists; they are not so high as the proportions of literate in English amongst Hindus and Mahomedans, but if a selection of the Burmese were made to contain the same proportion of town dwellers and of adults as the Indians they would show a distinctly higher proportion of literate in English, though probably it would still not be as high as that for the Indians.

For any comparison of the figures of 1921 for literate in English with the corresponding figures of previous censuses, the defect of the heading of the

* The term *Home Races* is defined in Imperial Table XXII and in Article 149. It means indigenous races *plus* Indo-Burman races. It is not used in Part IV of Imperial Table VIIIA, although it means the races included under *AOS* in that table, because that table was printed off before the need for such a term was met in the preparation of the tables of industries.

column in the enumeration-schedule, which was noted at the end of Article 124, should be borne in mind.

133. Books and Newspapers.—Subsidiary Tables X and XI show the numbers of books and newspapers and the circulation of the latter in the last four decades. There is a curiously large number of Burmese books for 1881-90 which I cannot explain. In every other way the figures show continuous and rapid increases by decades, but there was a great decline in the number of books published in 1915-19, presumably on account of conditions arising out of the war. As a rule however a very small number of copies of each book are printed, and the statistics are not a measure of the literacy of the people. A recent development is the output of novels, modelled on the cinema play and the modern English novel, and deriving their psychology from the same sources. They generally use language very near to colloquial Burmese instead of the old-fashioned literary language; and eventually they may possibly establish a new and less cumbrous standard literary language accordingly.

134. Loss of Literacy.—It has been said by some that many of the boys and girls in Burma who learn to read and write forget the art as they grow older. This is applied chiefly to the Buddhists who acquire the art in Buddhist monasteries. A certain number of children find a difficulty in learning to read and write, or at least in learning in the way arranged for them; or they have a keener interest in something else, or they have to be called away to help their parents so much that they do not learn properly. Having learned incompletely they might be expected to forget easily. Subsidiary Table VB was originally prepared in the hope that it would show whether literacy is commonly lost as age advances, but it fails. It compares the proportion of literate amongst persons aged 10 to 20 in 1911 with the proportion amongst the survivors of the same group, now aged 20 to 30, in 1921; but the comparison fails because so many acquire literacy in ages 10 to 20. Its comparison for ages of 20 and over in 1911 with ages of 30 and over in 1921 fails because there is a selective death-rate of the oldest people of the cohort, and these include more than the average share of illiterate. An attempt was made to compile statistics in selected areas for age-groups 30 to 40 and 40 to 50; but this was given up on account of the expense and delay already incurred in other parts of the work and because it seemed likely that the difficulties of Subsidiary Table VB would apply again. Thus it is not possible to produce from the tables statistics to show whether literacy is lost by adults in any considerable numbers. Subsidiary Table III however shows in almost every line that each age-group has a higher proportion of literate than the preceding. The increase from age-group 5 to 10 to age-group 10 to 15 is obviously due chiefly to children learning. In every age-group except the highest there is possibly a selective death-rate in favour of the literate; but this is not quite certain, because although the illiterate include no doubt those whose economic circumstances are least favourable, the literate include a large proportion living apparently less healthy lives in towns or large villages and spending less time in physical movement and exercise in the open air. In any case, while the literate also include so much of the rural population, this selective action if it exists can have very small effect either way. Consequently the further increases of the proportion of literate males from age-group 10-15 to the group 15-20, and again to groups 20-30 and *30 and over* seem also to represent accessions to the ranks of the literate. The suggestion of further additions after age 30 seems strange; but it is difficult to see how the ratio of literate males in age-group *30 and over* can be maintained as high as that in age-group 20 to 30, when it is diluted in its higher ages with the illiterate remainders of earlier generations, otherwise than by the acquisition by some of literacy after 30. Some few do this perhaps through entering monasteries; but probably most of the increase is due to slow improvement by some who learned imperfectly as children. Some perhaps is due to a loss of the shyness of imperfect skill which would affect men less as they grew older.

For females the proportions in age-group 20-30 are in most parts less than in age-group 15-20 and considerably less still in age-group *30 and over*; but this seems more probably due to these older generations having passed their childhood when less effort was made to give literacy to females. The women unlike the men do not acquire or develop literacy in the adult period; they are more concerned in acquiring and developing babies.

135. **Education.**—It will perhaps have been observed that throughout this chapter and the imperial tables to which it relates the term *literacy* has been used instead of the term *education* used in the census of 1911. The census of course has no means of measuring education in the broad sense, and it even makes no attempt to measure any other side of education in the narrow sense of "instructedness" than is represented by the definition of literacy. There is for instance the important omission of any record of arithmetical skill. In Burma this is nearly as widespread as literacy. Cultivators often surprise a settlement officer, if the latter gives thought to the matter, by their skill in arithmetic. They add up their accounts quite well; even women who report themselves illiterate can often do this, and can say how much they ought to get for a given number of baskets of paddy at a stated rate per 100. Women of Prome District form bands of transplanters which work for all the holdings in the neighbourhood in turn, and settle up accounts at the end of the season by crediting each household with the work of its women and debiting it with the amount of work done for it. Not every villager can calculate in these ways; but nearly every Burmese village includes some who can. All this is of course quite elementary, and a much less favourable account has to be given of the attempts to develop a higher capacity in the schools. Amongst the clerks who were employed in the census office, practically all of whom were Burmese, very few could do long division by a divisor of more than two digits with any hope of accuracy, while almost literally without exception the method of long division was used to divide by a single digit. Youths who had passed the Anglo-vernacular seventh standard could only add a column of numbers by making an addition sum of the first two numbers, copying the third number below their total and adding it, and so on with each member of the column in turn, never adding more than two numbers at once and consuming an enormous amount of time and of stationery and of the available supply of my own patience and generally getting the total wrong into the bargain. And these were the selection after the really incapable had been weeded out by the Deputy Superintendent, who was himself an officer of the Education Department. Without the experience I could never have believed it. The only course was to select the most promising material and teach it arithmetic; some at the end were adepts.

Subsidiary Table VIII of this chapter shows large increases in the numbers of pupils of both sexes in schools and particularly the increase in various technical schools. As only a quite small proportion of the schools belong to the Shan States, Karenni, or the Chin natural division about 25,000 of the schools shown in Subsidiary Table VIII are distributed in about 15,000 village-tracts of Burman division—an average of five schools to three village tracts. Subsidiary Table IX gives a statement of passes in the main University Examinations; statistics for females can only be given there for 1920-21, but the numbers of females in the earlier years tabulated were very small indeed. The first university of the province was inaugurated as the University of Rangoon on the 1st December 1920. Previously Burma had fallen within the sphere of Calcutta university, and for the first three years special carry-over arrangements had to be made with respect to examinations. But the University of Rangoon was independent as a teaching body from 1920 and has already taken steps to supply the special needs of the province; and from 1923 onwards university education in Burma will be entirely divorced from Calcutta.

SUBSIDIARY TABLE I.—*Proportion for each religion and sex per* 1,000 *of all ages and per* 1,000 *of certain age-groups who are literate* (a) *in any language* (b) *in English.*

Religion.	Literate in any language.							Literate in English.						
	1921.						1911.	1921.						1911.
	Age 5-10	Age 10-15	Age 15-20	Age 20-30	Age 30 and over	All ages over 5	All ages over 5	Age 5-10	Age 10-15	Age 15-20	Age 20-30	Age 30 and over	All ages over 5	All ages over 5
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
						MALES.								
All religions ...	96	373	569	608	625	510	431	4	11	20	25	15	16	10
Buddhists ...	101	402	629	706	710	568	477	2	8	14	16	8	9	5
Animists ...	8	29	52	96	106	77	67	...	1	2	3	2	2	2
Total Hindus ...	102	226	270	312	299	288	239	14	45	41	40	33	36	30
Hindus born in Burma	*91*	*244*	*357*	*406*	*385*	*275*	?	*12*	*59*	*94*	*95*	*54*	*55*	?
Hindus born outside Burma.	*127*	*214*	*254*	*305*	*295*	*290*	?	*17*	*36*	*31*	*36*	*32*	*33*	?
Total Mahomedans ...	63	189	300	349	362	302	257	5	24	41	39	36	33	21
Mahomedans born in Burma.	*58*	*168*	*282*	*317*	*323*	*235*	?	*5*	*23*	*53*	*59*	*42*	*35*	?
Mahomedans born outside Burma.	*147*	*292*	*323*	*364*	*385*	*366*	?	*9*	*31*	*27*	*30*	*32*	*31*	?
Christians ...	199	435	577	636	588	524	480	73	131	197	266	215	193	213
Aryas ...	125	375	600	649	580	574	?	195	125	333	298	284	278	?
Brahmos ...	571	714	857	879	723	787	?	143	429	179	121	153	149	?
Confucians ...	172	471	539	577	631	562	632	5	72	83	52	32	42	53
Jains ...	286	405	553	617	535	538	458	18	119	197	206	99	137	118
Jews ...	472	846	869	853	934	822	809	382	738	787	676	725	667	592
Shintoists ...	1,000	...	750	929	1,000	935	?	...	...	...	214	91	129	?
Sikhs ...	201	470	548	628	636	598	527	48	134	155	100	69	85	33
Zoroastrians ...	750	1,000	1,000	805	924	893	813	625	1,000	1,000	634	824	790	681
						FEMALES.								
All religions ...	45	115	156	147	103	113	70	2	5	6	5	3	4	2
Buddhists ...	45	115	158	151	105	113	69	1	2	3	1	1	1	...
Animists ...	3	8	7	7	5	5	3	...	..	...	...	...	...	...
Total Hindus ...	52	102	134	107	69	86	62	6	18	18	11	4	9	6
Hindus born in Burma	*43*	*93*	*116*	*113*	*83*	*80*	?	*5*	*17*	*15*	*13*	*5*	*10*	?
Hindus born outside Burma.	*79*	*120*	*149*	*105*	*66*	*89*	?	*8*	*19*	*20*	*11*	*4*	*9*	?
Total Mahomedans ...	31	89	113	109	93	87	93	1	3	5	3	2	3	6
Mahomedans born in Burma.	*30*	*88*	*113*	*109*	*96*	*86*	?	*1*	*3*	*5*	*2*	*2*	*2*	?
Mahomedans born outside Burma.	*55*	*99*	*115*	*108*	*76*	*88*	?	*5*	*8*	*7*	*8*	*4*	*6*	?
Christians ...	198	398	492	451	360	378	395	73	123	145	144	119	121	110
Aryas ...	125	429	250	500	200	292	?	...	143	...	56	...	31	?
Brahmos ...	455	563	500	409	480	476	?	91	438	125	91	200	195	?
Confucians ...	185	185	237	178	100	145	?	9	16	43	25	3	14	?
Jains ...	214	450	484	373	216	325	294	36	...	32	53	...	26	44
Jews ...	507	763	850	750	595	677	613	406	724	783	630	443	569	487
Shintoists ...	...	...	1,000	143	600	429	?	...	...	500	...	400	214	?
Sikhs ...	181	462	430	270	229	274	253	18	55	13	12	11	17	37
Zoroastrians ...	1,000	909	1,000	800	938	932	811	545	786	833	550	734	689	633

SUBSIDIARY TABLE II.—*Literacy in each district and natural division by age and sex.*

District and Natural Division.	Number per mille who are literate.												
	All ages over 5			5—10		10—15		15—20		20—30		30 and over	
	Total.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Province	317	510	112	96	45	373	115	569	156	608	147	625	103
Burman	352	563	127	109	51	410	129	628	177	668	168	692	118
Delta ..	*400*	*573*	*200*	*143*	*78*	*460*	*191*	*640*	*273*	*656*	*259*	*681*	*194*
Rangoon	473	498	414	293	216	565	434	568	522	490	457	503	408
Insein	401	577	193	128	63	445	187	653	260	671	273	690	182
Hanthawaddy ...	461	609	274	199	83	512	260	657	378	670	351	715	284
Tharrawaddy ...	424	683	104	150	66	556	177	780	239	822	225	821	141
Pegu	417	597	212	151	80	489	201	682	289	699	277	704	209
Bassein	389	572	190	101	61	409	181	623	258	684	256	712	185
Henzada	437	670	200	179	99	529	188	750	268	813	230	821	205
Myaungmya ...	397	561	207	124	78	411	188	588	280	640	274	706	205
Ma-ubin	417	634	189	138	69	502	171	730	324	778	268	761	155
Pyapôn	485	659	273	168	121	554	257	731	358	722	359	792	268
Toungoo	317	495	125	111	54	370	127	536	165	594	169	609	119
Thatôn	229	344	101	64	34	250	95	387	140	434	134	424	99
Coast ...	*246*	*395*	*79*	*49*	*23*	*244*	*78*	*428*	*113*	*479*	*100*	*522*	*62*
Akyab	215	352	53	41	13	221	45	386	69	418	59	463	67
Kyaukpyu ...	226	424	41	32	9	239	37	463	55	551	50	508	46
Sandoway ...	284	497	77	63	27	343	91	563	128	636	94	644	68
Amherst ...	245	367	103	60	34	243	102	382	143	455	130	473	106
Tavoy ...	316	495	123	67	39	297	145	538	197	557	167	686	104
Mergui ...	294	436	125	40	26	224	100	463	174	535	174	589	137
Centre ...	*349*	*630*	*83*	*106*	*39*	*427*	*93*	*703*	*114*	*773*	*109*	*786*	*78*
Prome	388	643	140	135	69	481	165	730	198	771	181	784	115
Thayetmyo ...	351	624	89	99	41	430	87	695	115	777	114	777	85
Pakôkku ...	308	579	58	74	25	362	72	637	90	740	71	758	49
Minbu	359	652	78	96	29	453	95	732	106	799	98	793	69
Magwe	362	671	52	92	22	395	54	803	72	830	70	850	47
Mandalay ...	458	703	197	181	97	500	198	746	248	791	247	806	186
Mandalay City ...	*538*	*749*	*305*	*230*	*139*	*659*	*295*	*793*	*387*	*808*	*373*	*821*	*294*
Shwebo	335	656	49	112	21	442	57	717	69	816	68	821	41
Sagaing	336	614	80	103	35	465	107	721	134	750	118	765	69
Lower Chindwin ...	310	618	54	96	29	463	74	70	76	759	82	789	39
Kyauksè	338	585	98	109	60	384	122	593	131	721	124	698	80
Meiktila	320	614	54	81	25	385	56	663	72	775	78	789	46
Yamèthin ...	351	622	81	120	49	384	87	706	110	768	101	781	74
Myingyan ...	318	587	68	105	34	374	73	630	87	718	80	753	67
North ...	*277*	*489*	*52*	*58*	*17*	*334*	*52*	*530*	*75*	*590*	*72*	*602*	*46*
Bhamo	167	286	44	40	17	190	57	329	69	333	64	343	33
Myitkyina ...	158	268	29	42	15	168	28	256	33	318	34	325	39
Katha	336	590	73	83	21	455	74	664	112	721	102	714	67
Putao	258	449	31	36	7	310	8	469	11	492	54	546	36
Upper Chindwin ...	344	636	40	43	11	354	35	673	55	799	62	817	38
Chin	18	35	3	4	2	22	4	35	4	73	4	32	2
Hill District of Arakan	48	83	10	9	7	39	15	95	12	147	17	84	6
Chin Hills ...	13	26	1	4	2	18	3	25	2	59	1	22	1
Pakôkku Hill Tracts	15	29	1	1	...	28	3	30	4	63	1	22	1
Salween	69	114	23	13	9	86	35	125	34	146	29	140	19
Salween	63	100	20	15	7	83	32	105	28	133	25	119	14
Karenni	74	125	26	11	11	88	37	147	39	160	38	157	21
Shan	82	153	9	9	3	106	8	172	12	186	1	192	8
Northern Shan States	84	154	10	12	4	107	10	164	14	195	13	191	9
Southern Shan States	81	152	8	8	2	106	7	176	12	179	10	194	8

SUBSIDIARY TABLE III.—*Literacy of Buddhists in each district and natural division by age and sex.*

District and Natural Division.	Number per mille who are literate.													
	All ages over 5.			5—10		10—15		15—20		20—30		30 and over		
	Total.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	
Province	338	568	113	101	45	402	115	630	158	766	151	710	165	
Burman	368	617	126	112	49	433	126	682	175	768	168	775	117	
Delta ...	417	634	196	143	74	479	184	699	267	781	259	781	192	
Rangoon	677	829	510	355	229	757	480	895	589	903	611	893	513	
Insein	419	644	186	123	55	462	178	710	250	795	268	805	175	
Hanthawaddy ...	513	722	297	220	90	562	277	778	401	874	388	875	308	
Tharrawaddy ...	428	705	161	150	64	563	170	80.	234	868	221	861	140	
Pegu	451	673	223	169	84	525	206	752	295	826	295	817	221	
Bassein	398	604	173	98	55	412	162	646	235	760	237	774	168	
Henzada	438	691	195	178	91	533	187	763	261	847	224	848	201	
Myaungmya ...	401	595	197	120	72	421	173	627	269	747	265	762	195	
Maubin	474	665	285	136	67	513	163	756	319	851	265	812	151	
Pyapôn	510	785	278	174	122	584	259	806	361	853	373	881	272	
Toungoo	354	579	125	122	50	414	123	627	163	718	169	719	130	
Thatôn	230	354	101	63	34	253	95	397	139	458	134	447	99	
Coast ...	287	484	87	56	25	296	85	520	126	616	113	648	89	
Akyab	330	570	83	70	21	378	68	638	110	711	94	732	96	
Kyaukpyu ...	243	465	43	34	10	259	39	501	57	618	52	627	47	
Sandoway ...	390	517	74	62	25	330	84	582	119	689	93	679	66	
Amherst	246	388	96	55	29	214	91	394	135	503	124	526	99	
Tavoy	313	506	118	65	37	299	144	553	194	590	162	736	98	
Mergui	313	511	127	43	28	255	102	551	178	668	179	715	138	
Centre ...	348	641	79	103	37	429	89	714	116	800	105	806	70	
Prome	390	660	138	123	68	486	164	742	196	808	180	815	114	
Thayetmyo ...	364	651	87	109	41	445	88	725	117	816	115	817	87	
Pakôkku	309	583	57	74	25	364	72	640	90	746	71	766	49	
Minbu ...	364	668	78	97	28	461	95	746	107	826	99	816	70	
Magwe	358	681	50	90	21	395	53	819	76	870	67	871	45	
Mandalay ...	466	751	182	171	81	573	179	788	230	889	231	873	174	
Mandalay City	564	830	303	232	127	711	285	860	386	937	374	912	295	
Shwebo	334	661	46	110	20	442	54	723	66	829	65	831	39	
Sagaing ...	335	617	84	103	34	466	104	725	136	757	114	771	67	
Lower Chindwin ...	309	620	53	95	28	463	73	703	75	765	80	793	38	
Kyaukse	341	595	97	109	58	386	120	601	128	739	121	711	80	
Meiktila	318	620	51	79	24	386	54	668	70	792	74	801	44	
Yamêthin ...	356	644	79	120	48	388	84	728	107	812	98	820	73	
Myingyan ...	317	588	67	104	34	373	72	632	86	723	79	757	66	
North ...	339	611	62	67	18	408	59	673	89	761	88	765	57	
Bhamo	282	484	74	53	22	309	75	539	109	608	113	608	63	
Myitkyina ...	360	606	70	88	33	389	57	667	77	681	83	730	79	
Katha	345	616	74	86	21	471	74	652	113	765	103	754	67	
Putao	264	410	93	16	...	297	3	546	...	491	36	491	33	
Upper Chindwin ...	350	657	41	43	11	364	34	698	56	837	63	852	38	
Chin	381	588	169	90	75	361	163	615	136	765	181	682	60	
Hill District of Arakan	345	546	94	56	62	330	141	569	106	715	174	655	51	
Chin Hills ...	698	889	294	...	...	...	...	...	...	...	...	...	...	
Pakôkku Hill Tracts	..	..	...	..		...	...	...	...	...	...	...	...	
Salween	123	195	36	20	11	149	49	213	49	232	44	238	32	
Salween	93	145	30	24	9	132	48	167	39	186	38	166	23	
Karenni	161	269	43	12	14	174	50	288	63	302	53	318	41	
Shan	90	171	8	8	2	119	8	196	12	206	11	217	8	
Northern Shan States	97	183	10	14	4	131	11	203	15	216	14	228	10	
Southern Shan States	86	164	7	5	1	113	6	193	10	194	9	210	8	

SUBSIDIARY TABLE IV.—*Average proportion literate in English in* 10,000 *of each sex and age-group in* 1921, *excluding Europeans and allied races, Armenians and Anglo-Indians throughout.*

District and Natural Division.	All ages over 5.		5—10		10—15		15—20		20—30		30 and over.	
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
1	2	3	4	5	6	7	8	9	10	11	12	13
Province ...	135	23	26	10	102	32	182	42	218	29	128	15
Burman ...	151	26	29	11	115	35	205	48	241	33	143	17
Delta ...	225	47	53	17	186	61	308	85	341	58	210	36
Rangoon	1,212	450	507	253	1,594	730	1,771	808	1,302	515	1,062	282
Insein ..	109	38	33	18	201	54	250	47	205	54	191	29
Hanthawaddy	82	10	11	5	55	8	116	16	138	15	74	9
Tharrawaddy	108	14	19	6	111	27	181	30	176	18	85	5
Pegu ...	104	16	20	5	78	20	143	22	165	24	100	13
Bassein ...	128	32	19	10	88	35	188	55	211	41	119	27
Henzada ...	298	66	167	6	302	71	315	167	223	45	169	66
Myaungmya ...	89	25	14	10	75	41	120	31	136	31	85	18
Ma-ubin ...	87	17	11	4	68	16	140	41	149	18	77	14
Pyapôn ...	95	48	13	12	99	76	134	79	136	53	88	39
Toungoo ...	124	21	19	12	90	28	173	31	193	30	124	14
Thatôn ...	67	11	6	4	31	10	91	19	123	14	69	10
Coast ...	126	20	11	9	77	30	188	39	187	27	139	10
Akyab ...	90	11	9	4	50	23	126	22	135	13	101	6
Kyaukpyu ..	52	3	77	1	46	5	85	8	70	4	57	2
Sandoway ...	105	16	17	...	65	35	213	30	163	18	99	10
Amherst ...	210	44	21	26	149	58	317	87	314	62	218	21
Tavoy ...	151	20	23	4	83	28	204	42	181	35	201	10
Mergui ...	111	10	2	...	19	9	140	14	179	14	137	10
Centre ..	85	10	14	6	60	15	113	18	153	14	78	5
Prome ...	101	12	14	7	76	20	158	29	163	15	91	5
Thayetmyo ...	64	7	10	4	61	14	90	21	99	5	59	1
Pakôkku ...	45	2	16	...	23	2	58	3	71	4	47	1
Minbu ...	53	3	4	...	50	8	86	9	93	2	41	2
Magwe ..	81	6	4	7	25	3	87	9	162	6	84	6
Mandalay ..	300	53	86	33	272	76	373	94	450	68	259	33
Shwebo ...	51	7	5	1	33	10	65	12	90	17	50	2
Sagaing ..	57	8	9	7	50	17	91	13	87	12	55	3
Lower Chindwin	34	4	4	14	28	4	52	4	63	5	30	1
Kyauksè ...	58	6	13	3	69	7	73	13	107	6	41	4
Meiktila ...	78	5	12	3	46	9	80	5	170	10	68	3
Yamèthin ...	102	12	16	6	89	22	138	24	185	12	88	7
Myingyan ...	51	5	7	2	21	7	76	8	103	7	46	4
North ...	61	6	5	6	25	6	77	7	107	8	62	4
Bhamo ...	63	5	3	2	33	10	99	7	103	7	60	2
Myitkyina ...	77	4	11	...	31	7	87	3	135	6	71	4
Katha ...	54	6	5	3	19	4	61	7	95	9	61	5
Putao ...	162	6	...	...	24	...	77	...	318	31	145	...
Upper Chindwin	54	7	2	16	26	7	77	11	90	7	56	2
Chin ...	21	1	..	.	1	...	10	1	57	2	21	...
H. D. of Arakan	44	...	...	..	...	...	10	...	135	...	37	...
Chin Hills ...	17	1	..	..	2	...	11	2	44	2	19	1
Pakôkku H. T.	12	1	...	...	...	...	...	...	30	5	16	...
Salween ...	47	5	9	1	26	7	41	11	88	8	50	3
Salween ...	74	10	17	...	50	17	52	23	127	12	82	7
Karenni ..	24	2	2	2	6	...	30	...	50	5	25	1
Shan ..	23	2	1	1	7	2	21	4	46	4	24	2
N. Shan States	36	3	1	1	8	...	27	4	76	6	38	3
S. Shan States	14	2	1	1	6	3	18	5	25	3	15	1

SUBSIDIARY TABLE VA.—*Progress of literacy since* 1891 *shown by the average proportion of literate in each* 1,000 *of certain age-classes of each sex.*

Natural Division.	All ages 5 and over.				15—20.			20 and over.		
	1921	1911	1901	1891	1921	1911	1901	1921	1911	1901
1	2	3	4	5	6	7	8	9	10	11
MALES.										
Province	510	431	437	518	569	479	485	640	544	537
Burman ...	563	477	483	522	628	526	527	684	602	598
Delta ...	*573*	*516*	*492*	*500*	*640*	*582*	*544*	*673*	*628*	*593*
Coast	*395*	*321*	*338*	*357*	*428*	*319*	*350*	*508*	*422*	*425*
Centre	*630*	*501*	*535*	*559*	*703*	*547*	*587*	*782*	*656*	*681*
North	*489*	*415*	*355*	*454*	*530*	*464*	*475*	*598*	*509*	*529*
Chin	35	23	33	54	35	15	25	45	32	46
Salween * ...	114	121	97	168	125	154	135	142	151	110
Shan *	150				169			187		
	153				172			100		
FEMALES.										
Province	112	70	52	34	156	109	77	118	75	53
Burman	127	80	59	34	177	123	85	135	85	60
Delta	*200*	*130*	*94*	*56*	*273*	*196*	*138*	*217*	*141*	*95*
Coast	*79*	*47*	*48*	*28*	*113*	*64*	*57*	*88*	*53*	*53*
Centre	*83*	*51*	*35*	*21*	*114*	*77*	*47*	*84*	*51*	*37*
North	*52*	*29*	*24*	*14*	*75*	*46*	*32*	*55*	*29*	*26*
Chin	3	1	2	...	4	1	3	2	1	1
Salween * ...	23	8	4	8	34	12	6	22	9	5
Shan *	10				14			10		
	9				12			9		

* As separate figures are available for the Salween and Shan divisions only for 1921, figures for these two divisions taken together are given throughout and distinguished by *italics*.

SUBSIDIARY TABLE VB.—*Literacy in corresponding age-groups at the censuses of* 1921 *and* 1911, *measured by the average proportion of literate in each* 1,000 *of each sex.*

Natural Division.	Males.				Females.			
	Age 10—20, 1911	Age 20—30, 1921	Age 20 and over, 1911	Age 30 and over, 1921	Age 10—20, 1911	Age 20—30, 1921	Age 20 and over, 1911	Age 30 and over, 1921
1	2	3	4	5	6	7	8	9
Province	370	668	544	625	90	147	75	103
Burman	405	668	602	692	101	168	85	118
Delta	*467*	*656*	*628*	*681*	*161*	*259*	*141*	*194*
Coast	*235*	*479*	*422*	*522*	*55*	*100*	*53*	*82*
Centre	*403*	*773*	*656*	*786*	*63*	*109*	*54*	*73*
North	*357*	*590*	*509*	*602*	*39*	*72*	*29*	*46*
Chin	11	73	32	32	1	4	1	2
Salween * ...	120	116	151	140	10	20	9	19
Shan *		183		188		13		9
		186		192		11		8

* As separate figures are available for the Shan and Salween divisions only for 1921, figures for these two divisions taken together are given throughout and distinguished by *italics*.

SUBSIDIARY TABLE VC.—*Progress of literacy in English since* 1891 *shown by the average proportion of literate in English in each* 1,000 *of certain age-classes of each sex.*

Natural Division.	All ages 5 and over.				Age 15—20.			Age 20 and over.		
	1921	1911	1901	1891	1921	1911	1901	1921	1911	1901
1	2	3	4	5	6	7	8	9	10	11
					MALES.					
Province ...	155	104	70	46	198	144	89	183	126	83
Burman ...	174	117	79	46	223	163	99	203	142	93
Delta ...	257	181	120	65	333	259	162	293	213	137
Coast ...	141	85	70	27	200	139	96	175	97	74
Centre ...	102	65	41	35	127	77	34	122	83	56
North ...	71	51	31	79	78	25	16	90	72	42
Chin	24	9	17	9	11	3	7	38	13	25
Salween	51	13	8	89	41	7	4	68	18	11
Shan	28				23			39		
					FEMALES.					
Province	38	24	15	11	57	34	21	36	24	14
Burman	43	27	17	11	64	39	24	41	27	17
Delta	75	49	31	22	111	68	41	75	52	32
Coast	32	22	19	11	54	34	24	27	19	17
Centre	20	11	6	3	27	14	8	18	10	6
North	10	6	4	4	12	6	3	10	8	5
Chin	3	1	1	3	3	7	...	3	1	1
Salween	6	2	1	6	11	1	1	6	2	1
Shan	6				6			7		

SUBSIDIARY TABLE VD.—*Literacy in English in corresponding age-groups at the censuses of* 1921 *and* 1911 *measured by the average proportion of literate in English in each* 10,000 *of each sex.*

Natural Division.	Males.				Females.			
	Age 10—20, 1911.	Age 20—30, 1921.	Age 20 and over, 1911.	Age 30 and over, 1921.	Age 10—20, 1911.	Age 20—30, 1921.	Age 20 and over, 1911.	Age 30 and over, 1921.
1	2	3	4	5	6	7	8	9
Province	99	247	126	152	31	47	24	31
Burman	112	274	142	169	35	53	27	35
Delta	182	385	213	247	59	91	52	66
Coast	93	204	97	158	36	37	19	22
Centre	51	180	83	95	14	24	10	15
North	19	119	72	76	4	14	8	8
Chin	3	60	13	28	4	4	1	3
Salween *	5	92	28	57	1	10	2	4
Shan *		55		35		8		6
		52		33		8		6

* As separate figures are available for the Salween and Shan divisions only for 1921, figures for these two divisions taken together are given throughout and distinguished by *italics*.

SUBSIDIARY TABLE VI.—*Literacy in Selected Races.*

Race.	Literate in any language per thousand population.				Literate in English per *ten* thousand population.			
	Males.		Females.		Males		Females.	
	1921.	1911.	1921.	1911.	1921.	1911.	1921.	1911.
1	2	3	4	5	6	7	8	9
Burmese	587	?	122	?	105	?	16	?
Arakanese, Yanbye and Chaungtha.	479	309	60	19	74	61	9	5
Danu	316	230	20	36	3	...	1	...
Intha	493	?	23	?	5	?	7	?
Chin Group	102	54	8	4	9	3	4	1
Kachin Group	21	12	3	6	5	2	...	...
Tai Group (Shans) ..	226	181	18	22	8	3	2	1
Talaing	402	366	101	78	30	21	7	18
Palaung-Wa Group ...	87	43	1	14	3	...	...	..
Karen Group	222	191	78	62	86	68	41	27
Karen Buddhists ...	211	?	49	?	17	?	5	?
Karen Christians ...	393	?	277	?	497	?	247	?
Chinese	365	321	105	111	319	230	80	29
Mahomedan Zerbadis ..	401	?	163	?	672	?	33	?
Arakan Mahomedans ...	90	?	12	?	37	?	2	?
Mahomedans other than Zerbadis, Arakan Mahomedans and Panthays.								
(i) Born in Burma ..	118	?	36	?	154	?	14	?
(ii) Born outside Burma	359	?	83	?	305	?	55	?
Hindus								
(i) Born in Burma ...	206	?	57	?	416	?	71	?
(ii) Born outside Burma	287	?	85	?	329	?	82	?
Indian Buddhists ...	421	?	162	?	988	?	300	?
Indian Christians ...	496	?	296	?	2,670	?	1,164	?
All Buddhists ...	496	412	99	60	82	39	11	2

SUBSIDIARY TABLE VIIA.—*Proportion per* 1,000 *aged* 5 *or more in Indian cities who are literate.*

Town or City.	Literate in any language.			Literate in English.		
	Persons.	Males.	Females.	Persons.	Males.	Females.
1	2	3	4	5	6	7
Rangoon	473	498	414	127	144	86
Mandalay	538	749	305	39	57	18
Calcutta	451	530	271	206	262	80
Dacca	353	484	178	141	220	34
Madras	507	737	250	151	236	56
Madura	365	620	102	72	127	16
Trichinopoly	351	548	149	106	186	25
Bombay	241	290	142	94	118	49
Surat	324	469	161	53	93	11
Agra	148	...	..	57	...	...
Lahore	206	...	..	94	...	...
Hyderabad	190	295	77	55	90	17
Mysore	334	489	162	103	180	18

SUBSIDIARY TABLE VIIB.—*Proportion per 1,000 aged 5 or more in other provinces who are literate.*

Province or State.	Literate in any language.			Literate in English.		
	Persons.	Males.	Females.	Persons.	Males.	Females.
1	2	3	4	5	6	7
Burma ...	317	510	112	10	16	4
Burma, excluding the Shan States and Karenni.	346	555	125	11	17	4
The Shan States and Karenni ...	82	132	9	2	3	1
Bengal	104	188	21	19	34	2
Madras	98	173	24	11	19	2
Assam	63	...	...	...	...	...
Bihar and Orissa	51	...		4	..	...
Bombay ...	83	138	23	12	23	4
Central Provinces ...	43	...		5	..	..
Punjab	45	...	...	7		...
United Provinces	42	...	...	4	...	...
Baroda	147	210	40	8	...	..
Hyderabad ..	33	57	8	3	5	1
Cochin	185	...	..	18		..
Travancore	242	..	...	13	...	...
Mysore	84	143	22	12	20	3

SUBSIDIARY TABLE VIII.—*Number of schools and pupils according to the returns of the Education and Survey Departments.*

Class of Schools.	1920-21.			1910-11.			1900-01.	
	Schools.	Males.	Females.	Schools.	Males.	Females.	Schools.	Pupils.
1	2	3	4	5	6	7	8	9
Grand Total ...	25,806	437,112	120,467	23,080	355,543	74,770	17,620	307,614
Public Institutions ..	7,824	240,049	116,329	6,581	188,450	71,032	4,502	159,932
Arts Colleges ...	2	283	48	2	261	17	2	140
Secondary*								
(i) English ...	187	22,978	7,876	134	21,679	4,309	349	30,000
(ii) Vernacular ...	1,253	66,725	32,430	748	39,324	14,971		
Primary ..	5,754	130,760	75,461	5,448	124,377	53,291	4,091	127,638
Training	13	243	149	12	236	139	...	..
Pali	580	9,114	386	217	2,909	120	80	2,154
Reformatory	1	112	...	1	105			
Others	30	818	179	25	459	115	...	..
Law	1	100	...	1	12	.	...	...
Medical	1	155	7	..	..	...	...	...
Forest	1	68	...	...	...	...	...	...
Veterinary ..	2	47	...	..	...	.	...	...
Engineering and Surveying.	20	396	...	21	402	..	21	538
Technical and Industrial	5	52	172	3	45	185	...	...
Private Institutions ...	17,982	197,063	4,138	16,499	167,093	3,738	13,118	147,682
Advanced	75	1,547	...	...	...	...		...
Elementary .	17,715	185,361	2,151	16,479	166,299	3,649	..	..
Not conforming to departmental standards.	192	10,155	1,684	20	794	89	...	...

* There is a slight doubt about the classification as English or vernacular and as male or female for a few persons in 1910-11; but the numbers involved are not significant.

SUBSIDIARY TABLE IX.—*Statistics of the main University Examinations.*

Examination.	1920-1.				1910-1.		1900-1.	
	Candidates.		Passed.		Candidates.	Passed.	Candidates.	Passed.
	Males.	Females.	Males.	Females.				
1	2	3	4	5	6	7	8	9
B.A.	53	4	39	4	23	13	19	6
B.Sc.	14	1	8	1	...	...	...	...
B.L.	12	...	8	...	...	...	...	...
I.A.	65	18	41	15	112	56	57	23
I.Sc.	43	11	33	7				
I.L.	12	..	8	...				
High School (Anglo-Vernacular and English) Matriculation.	481	114	312	96	182	126	204	107

SUBSIDIARY TABLE X.—*Number and Circulation of Newspapers, etc.*

Language.	Class of Newspapers (Daily, Weekly, etc.)	1921.		1911.		1901.		1891.	
		No.	Circulation.	No.	Circulation.	No.	Circulation.	No.	Circulation.
1	2	3	4	5	6	7	8	9	10
	Grand Total ..	103	145,920	44	28,413	26	12,580	15	5,300
English ...	Total ...	36	44,267	19	11,598	15	7,950	10	3,720
	Daily ..	9	14,978	3	3,450	6	4,900	3	2,500
	Bi-weekly ...	5	5,750	2	400	2	1,150	2	250
	Tri-weekly ..	1	200	2	320	3	550	2	370
	Weekly ...	6	8,680	7	4,113	4	1,350	3	600
	Fortnightly ...	1	500	...	...	...	...	...	...
	Monthly ...	9	3,871	4	1,815	...	...	...	...
	Quarterly ...	3	1,182	1	1,500	...	...	..	...
	Annual ...	2	10,000	...	...	...	...	...	...
Burmese ...	Total ..	47	70,773	12	9,015	6	2,380	2	480
	Daily ...	7	16,150	2	2,000	2	1,200	...	...
	Bi-weekly ...	4	3,250	3	1,957	3	460	1	180
	Tri-weekly ...	6	8,000	2	2,136	...	...	...	...
	Weekly ...	10	15,340	3	1,822	1	720	1	300
	Fortnightly ...	2	930	...	...	...	...	...	...
	Monthly ...	16	26,108	2	1,100	...	...	...	...
	Quarterly ...	2	469	...	...	...	...	...	...
Burmese and English.	Total ...	1	300	5	1,350	...	...	...	...
	Daily ...	...		1	450	...	...	...	...
	Bi-weekly ...	...	...	2	550	...	...	...	...
	Weekly ...	1	300	2	350	...	...	...	
Kachin ...	Monthly ...	1	450	..	..	...	...	...	..
Chin ...	Monthly ...	1	300	...	...	...	...	..	...
Karen ..	Total ..	10	25,280	5	4,900	3	1,500	3	1,200
	Sgaw ...	8	22,830	...	..	...	..	..	
	Pwo ...	2	2,450	..	...	...		...	...
	Weekly ...	1	700	2	2,500	1	500	1	500
	Sgaw ...	1	700	..	...	..	...	..	
	Fortnightly ...	1	600	1	500	1	600	1	200
	Sgaw ...	1	600	...	..	...	..	...	...
	Monthly ...	8	23,980	2	1,900	1	400	1	400
	Sgaw ...	6	21,530	...	...	..	..	...	...
	Pwo ...	2	2,450	...	..	...	...	...	...
Karen and English	Bi-weekly ...	1	1,200	...	...	...	...		...
Urdu ...	Weekly ...	...	...	1	800	..	...	..	...
Urdu and English	Weekly ..	1	500	...	...	...	..	...	..
Gujerati ...	Bi-weekly ...	1	500	1	250	1	500	...	...
Tamil ...	Total ...	2	1,100	1	500	1	250	...	...
	Daily ...	1	800	...	..	...	...	..	...
	Weekly ...	...		1	500	1	250	..	...
	Monthly ...	1	300	...	...	...	...	...	...
Chinese ...	Daily ...	1	750	..	...	...	...	...	...
English and various languages.	Quarterly ...	1	500	...	...	...	...	...	...

SUBSIDIARY TABLE XI.—*Number of Books published in each language.*

Language.	Books published in the year.										Total books published in the decade.			
	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1911–20	1901–10	1891–00	1881–90
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
TOTAL ...	362	338	362	302	275	255	216	167	188	327	2,792	1,963	847	1,481
English ...	33	22	35	37	31	21	16	8	5	18	226	79	86	132
Burmese ...	186	187	186	163	147	177	100	90	103	194	1,533	872	348	1,019
Burmese and English	11	14	14	18	12	14	6	10	5	8	112	62	50	88
Burmese and Pâli	54	41	75	42	45	23	37	19	37	60	433	689	280	69
Burmese and Arabic ...	...	...	...	...	...	...	...	...	...	...	...	...	2	..
Burmese and Latin ...	...	...	...	...	...	..	...	...	...	1	1	...	...	...
Pâli	46	58	35	19	24	9	35	10	2	...	232	169	10	13
Pâli and English ...	2	2	...	...	2	...	...	1	...	1	8	4	1	12
Maru	...	..	..	...	...	...	...	...	...	...	...	.	...	...
Maru and English ...	1	...	...	...	...	...	...	...	...	...	1	..	..	...
Lisu	...	..	...	...	...	...	...	..	...	1	1	..	...	...
Lahu	...	...	..	...	...	..	1	...	...	..	1	1	...	...
Chin (Chin, Lai, Kaman and Siyin) ...	3	1	...	2	3	...	2	1	2	2	14	4	1	...
Chin and English ...	...	...	...	...	..	...	...		...		...	1	...	...
Kachin ...	...	2	1	3	3	...	3	6	9	6	33	7	7	2
Kachin and English ...	...	...	..	...	...	...	1	...	...	...	1	1	3	6
Karen :—														
Taungthu ...	1	...	1	...	...	...	...	...	...	..	2	...	...	...
Sgaw Karen ...	6	2	1	4	4	5	6	5	11	6	50	24	26	53
Sgaw Karen and English.	...	...	...	...	...	...	...	...	...	...	...	...	2	...
Pwo Karen ...	...	...	2	...	...	...	1	1	1	1	6	2	6	34
Pwo Karen and English.	...	...	1	...	...	...	...	...	...	1	2	...	...	...
Karen (unspecified) ...	...	...	...	2	..	..	1	...	...	...	3	...	...	...
Karen (unspecified) and English.	...	...	...	2	...	...	...	...	...	...	2	...	...	...
Karen (unspecified) and Burmese.	...	...	...	...	...	..	...	...	...	1	1	...	...	...
Shan ...	2	...	...		..	1	1	...	...	..	4	8	8	12
Shan and English ...	1	...	...	...	...	...	1	..	...	...	2	2	...	6
Talaing ...	...	...	...	3	1	1	2	2	3	2	14	4	2	2
Talaing and English ...	...	...	..	...	...	...	..	...	...	...	...	2	3	6
Talaing and Burmese.	...	...	...	...	...	...	...	...	...	...	...	...	1	...
Arabic ...	3	...	...	...	...	...	...	...	...	...	3	3	...	...
Arabic and Urdu ...	1	...	...	...	...	...	...	...	...	...	1	...	...	...
Bengali ...	...	...	3	1	...	.	...	...	...	...	4	1	3	4
Gujarati ...	...	...	...	...	2	1	...	...		1	4	...	...	...
Gujarati and English	...	...	...	1	...	1	...	...	...	..	2	...	...	...
Hindi and English ...	...	...	..	...	...	...	...	...	...	..	...	1	...	...
Mogi	...	...	..	1	...	...	...	...	1	...	2	...	...	...
Parsi	...	...	...	...	...	...	...	...	...	..	...	1	...	...
Persian ...	1	...	...	...	..	.	...	...	...	...	1	...	..	...
Tamil ...	8	12	7	4	1	...	3	13	5	21	74	13	4	10
Tamil and English	1	...	1	...	...	...	...	...	3	3	8	3	2	10
Telugu ...	...	...	...	...	...	...	...	1	1	..	2	...	1	1
Urdu	3	3	..	...	...	2	...	...	...	...	8	9	1	2
Latin	1	...	...	...	.	...	...	...	..	...	1	...	...	...
English and various languages.	...	...	...	...		...	...	...	...	...	...	1	...	...

CHAPTER IX.

Language.

136. **Enumeration.**—The record of language was made in column 13 of the enumeration schedule under an instruction to enter "the language which each person ordinarily uses in his own home." A supplementary instruction issued to supervisors for communication to enumerators and for guidance in checking their work ran as follows: "If a person speaks two languages record the one generally used at home. For young children or for dumb persons record the language talked at home by the other members of the family; in case of doubt in such cases record the language of the person's mother." A list of Indian languages likely to be mentioned was issued to all supervisors to assist them in identifying the names of such languages.

In looking forward to a record of the indigenous languages of the province the principal difficulty seemed to be the probability that a large number of entries would be names of dialects, which would be far too numerous to tabulate and moreover would differ from the standard form of some language so little that separate figures for them would be of no interest. In some places each separate village would give its own name as the name of its language, and it would be impossible to identify then all the names reported. There was also the difficulty that so little was known about many of the languages in Burma, which had been excluded from the Linguistic Survey of India; whereas in other provinces that survey furnished guidance to the census, in Burma the census was expected to take the first step in advance from the rough list of languages, with estimates of the numbers of their speakers, which had been prepared as the "Preliminary Stage of the Linguistic Survey" in 1915-17, and together with some gramophone records made in 1918 and a manuscript collection of outline grammars of 40 languages constituted the whole linguistic survey of Burma up to that date. Deputy Commissioners were circularised on the subject, and a certain number of them (as many as could be reached without so disorganising my tours that I might eventually have to leave too many districts altogether unvisited), were consulted personally; in particular the Superintendents of the Shan States called their Assistant Superintendents to a conference to discuss this as well as other census matters. In October 1920 Census Circular No. 12 was issued to give a list of what were to be regarded as distinct languages and to show a number of other language-names which were either alternative names of one of those languages or were really names of dialects of one of those. The idea was that each Deputy Commissioner should abbreviate the list by cutting out all names which would not be met in his district; the list would then be quite short for nearly every district, and in the exceptional cases could be made short by preparing a separate list for each township or even for smaller census units. The abbreviated lists were to be issued to the enumerators and other census officers concerned, and to furnish them with guidance in recording any language shown in them. Special instructions were given by each Deputy Commissioner with his list that if any language not shown in the list was returned, it was to be recorded and a report made to him; so that if the language was shown in my list he could issue orders as to the correct language-name to record and if it was not shown in my list he could make enquiries to discover whether it was a language hitherto uncatalogued or only a new name for a language already in the list.

No attempt was made to record second languages of bilingual people. In the form of the enumeration-schedule prescribed under the Census Act the heading of the column was "Language ordinarily used" and in the instructions it was explained that the ordinary language of the home was desired. I pointed out to the Census Commissioner that where a language A is invading a tribe of another language B, A will generally be spoken first by men while B remains the language of the women and consequently of the home. After a time A is used more and more by men and eventually creeps into the home. But if in the earlier stage the language ordinarily used in the home is recorded all trace of the linguistic invasion is lost in the record. If the language principally used were recorded, the

language of the home being recorded in cases of doubt, the number of males speaking the original tribal language B could be calculated as bearing the same ratio to female speakers as males to females of that race ; while the actual record would show the progress of the linguistic invasion. The Census Commissioner ruled that the original intention must be adhered to, and consequently the words "in the home" were added to "Language ordinarily used" in the schedules. But in some homes of mixed marriages this must have placed some in difficulty. In cases in which both the languages of husband and wife are used indifferently in the home each partner probably returned his mother-tongue ; and the same was probably done in those cases in which, although the language of only one partner was used in the home, the other partner commonly used his mother-tongue more in the whole of his speech.

137. Statistics.—The statistics finally obtained have been tabulated as Imperial Table X. Their limitations must be recognised. One of these is brought out particularly clearly if any comparison is made with the figures of the census of 1911. For instance in 1921 a little over 5,000 speakers of Burmese are shown in the Akyab district as compared with over 93,000 in 1911, clearly on account of making no distinction between Yanbye and Burmese in 1911 ; in Tavoy about 7,500 speakers of Burmese in 1921 are to be compared with nearly 122,000 in 1911, the difference being due to the more complete record of Tavoyan in 1921 as a separate language. The lists of recognised languages described in the preceding paragragh should have helped to make the procedure in all such cases uniform in 1921, but it can hardly be expected that complete uniformity was attained ; *e.g.* the same variety of Burmese was probably called Arakanese in one place and Burmese in another. Accordingly it must be recognised that for languages which are closely related there may be many transfers of persons from one to the other in the figures ; this error is eliminated by using the totals for sets of such languages instead of the separate figures of each. A case of simple error in tabulation is probably shown by the figures for the Pwo-Karens of Ma-ubin district for whom the number of female speakers is tabulated as 20,946 in comparison with 24,933 male speakers ; as noted in Article 105 of Chapter VI there is a suspicion that approximately 4,000 Pwo-Karen females have been wrongly tabulated as Burmese, and I suspect in the same way that they have been recorded as speakers of the Burmese language. In the totals for the province this error is of no consequence for Burmese, but it must not be overlooked for Pwo-Karens. Further there is the probability that some bilingual people have been returned as speakers of the language most frequently used instead of speakers of the language used in their homes. In some cases too persons of mixed races probably returned the pure race of one of their parents and the corresponding language even when they habitually used a different language ; but it is unlikely that any significant numbers are involved in this error.

The discrepancy between the numbers of male and female speakers of some languages tabulated in Imperial Table X cannot fail to be noticed. A defect of males for languages of few speakers is possibly due to the wrong language being entered for bilingual males or to emigration of males to China or other places beyond the frontier, while a defect of females may be due to the immigration of males—it is of course the common case that males exceed females amongst either emigrants or immigrants. In other cases there are complex effects of racial absorption. It is not possible to discover the reason for a discrepancy between the numbers for the two sexes for every small language. If we take Atsi (Group A, No. 13) as an example the figures noted in the Marginal Table 1, are discovered in the tables. The discrepancy of the sexes appears also in the figures for the Atsi race. Comparing with 1911 the Atsi race (then called Tsi)

1. Comparison of some languages and races in 1921 and 1911.

	1921.		1911.	
	Males.	Females.	Males.	Females.
Speakers of Atsi ...	3,734	2,629	182	85
Atsi race ...	2,677	2,180	1,378	1,685
Speakers of Akha or Ako.	18,365	15,951	17,075	16,641
Akha and Ako races.			20,563	16,737
Speakers of Maingtha	276	73	270	37
Maingtha race ...	490	111	362	39

is found to have had an excess of females but much smaller numbers altogether, while only a very few were returned as speakers of the language. There are some peculiarities in the figures on account of the fact that Atsis are shared by Burma and China and move from one to the other country. But the explanation apparently is absorption by the Kachins, and perhaps a mistaken record for many in 1911 of the Kachin instead of the Atsi language; the defect of Atsi females probably is one of the contributors to the large excess of Kachin females. Taking again the Akha and Ako races (Group B, Nos. 4 and 7) the excess of male speakers was much smaller in 1911, but there was an even greater excess of males in the figures for the races. The Ako are said to be a mixture of Akha and Chinese; only 51 were recorded in 1921 as compared with over 4,000 by race and rather below 800 by language in 1911. Both races also are largely transfrontier races of whom only a portion are enumerated in Burma; this together with Chinese absorption or mixture explains the uncertain way in which the relative numbers of the sexes as well as the total numbers of Ako have varied. The Maingtha (Group A) No. 16, are a mixed race readily mixing still further with Chinese, and located outside Burma; those enumerated in Burma are a few visitors whose stay is more or less temporary. The relation of the numbers of male and female speakers of the Maingtha language is thus a mere accident. Similarly for other languages the relative numbers of male and female speakers may depend on many conditions, amongst which however migration and race-absorption are the most important.

In all cases the effect of differences of practice in deciding what should be regarded as a dialect and what as a language should be borne in mind in using the figures of Imperial Table X; apparent increases or decreases for one language may be due to the treatment of some other language at one census as a separate language and at another census as a dialect of the language under consideration. An example of this has already been given in the cases of the speakers of Arakanese, Tavoyan and Atsi. Some cases of languages which appear from the comparative figures of 1911 and 1921 to be dying out may also have an explanation of this kind, as the opposite case of Chaungtha will show. Chaungtha is a purely indigenous language unaffected by migration to or from beyond Burma or by any circumstances beyond Burma; it had 2,515 speakers recorded in 1911 and 9,052 in 1921. Obviously there has been a change in nomenclature in some places, and a similar change taking place more widely might account for another language or dialect appearing to die out.

In some places insufficient care was taken by enumerators to record the names of language in sufficient detail. Instead of recording the name of the particular language of the Karen group such as Sgaw or Pwo, they recorded only *Karen*. The generic names recorded in this way were Chin, Naga, Yang, Shan and Karen. Accordingly in Imperial Table X in the Chin, Naga, Shan and Karen groups will be found against such entries as *Chin* (*unspecified kind*) numbers which indicate possible additions to the numbers tabulated for specific languages of the same group. Similarly with *Yang unspecified* the numbers for which belong to the different Yang languages of the Palaung-Wa group. Tabulation by districts is given for all these insufficiently described languages, so that it is possible in any district to measure the maximum possible divergence on this account of the tabulated from the correct numbers. In some districts local knowledge would allow a fair approximation to a correct distribution amongst separate languages. It is to be regretted that the census officers of Toungoo district were particularly bad offenders in this matter by recording only *Karen* or *Shan* in so many cases. The Pakôkku Hill Tracts also offended by not recording the different kinds of Chins, although as practically the whole population is Chin, the distinctions must be as well-known as in the neighbouring Chin Hills for which no *Chin unspecified* has had to be shown. The Superintendent of the Pakôkku Hill Tracts has furnished the marginal figures to classify the population by both race and language. The figures include 8,756 persons in the unadministered territory who were omitted from the census.† M'gan and Yopa are names which do not appear in the census tables and probably furnish

9. Classification of Chin unspecified in the Pakôkku Hill Tracts.

Race or Language.	Persons.
Chinbok ..	19,337
Yindu ..	4,551
Chinbon ...	1,077
M'gan ...	650
Matu }	2,853
Yopa }	
Non-Chins	331
Total ..	28,799

† Figures are given separately for this area in Marginal Table 7 of Appendix B.

an example of the difficulty mentioned earlier in the chapter that place names tend to be recorded instead of language or race-names; the people of the M'gan area are described as of the M'gan race without recognising that they are only a number of some other race happening to live in M'gan. There is often however some degree of justification for this, because a custom of marrying within a restricted area must tend to give rise to local varieties, and possibly many of the widely distinguished races were no more differentiated at a period which according to the standards of anthropology must be regarded as comparatively recent.

It should be mentioned that the method of making the enumeration may have affected the record of languages. Most of the languages for which small numbers are recorded are spoken only in areas in which the census was non-synchronous and made by paid enumerators, who did not as a rule belong to the locality and were accordingly more likely to make some kinds of mistakes than local men, who although of less education would be more familiar with the names of the languages of which they had to make a record. One would for instance expect to find a somewhat excessive differentiation of dialects in some cases and a neglect of differences in others. The records of the Palaung and Pale languages were found to have been confused by enumerators so that it was not safe to give separate figures for these in the table; they have had to be combined in one entry.

138. Comparison of Statistics for 1911 and 1921.—Article 153 of Chapter XI which relates to comparisons of statistics of races in the two censuses of 1911 and 1921 applies also throughout to comparisons of the statistics of languages.

139. General Notes.—The two most outstanding linguistic features in Burma are the number of languages spoken and the wide extension and uniformity of the Burmese language. No less than 128* indigenous languages are catalogued in Imperial Table X besides the Chinese (which were only differentiated as *Yünnanese* and *Other Chinese*) and 25 Indian and 13 European and 7 other languages. Of the 128 non-Chinese indigenous languages some are possibly groups of languages of which further study will demand the differentiation while some are possibly dialects of others which further study will show are not really sufficiently distinct to be regarded as separate languages; but these latter cases are probably few. Many of the languages tabulated have few speakers; only those of the Burma, Shan, Mon and Karen groups have very large numbers of speakers, and practically all speakers of the other languages are confined to a border of the province beginning with the Pakôkku Hill Tracts and the Chin Hills and stretching round the northern end and down the eastern side to Karenni. In the greater part of the province, apart from the foreigners speaking Chinese, Indian and European languages and the speakers of Talaing and of Karen and Shan languages in certain parts, the only languages used are Burmese and such special local varieties of Burmese as Arakanese, Yanbye, Chaungtha, Tavoyan and Merguese. Even these latter are confined to very narrow limbs of the province in Arakan and Tenasserim and are not met in its main body; and moreover Tavoyan and Merguese at least are so close to standard Burmese that many would rather regard them as Burmese than as separate languages. Up and down the main body of the province the language is Burmese and so uniform that, in spite of differences of style and quality of articulation, anybody who knows the Burmese of one locality will be perfectly at home with the language of another and commonly will find not the slightest detail in it peculiar. There are of course local words to describe local conditions

B. Languages in 1921 and 1911.

Languages.	Absolute numbers of speakers.		Per 1000 of total population.	
	1921.	1911.	1921.	1911.
Burmese (and varieties).	9,111,705	8,228,516	692	679
Other indigenous languages (including Chinese).	3,151,543	3,117,097	239	258
Indian languages	880,406	743,288	67	61
English ..	24,085	24,355	2	2
Other languages	1,360	1,961	...	..
Total ...	13,169,099	12,115,217	1,000	1,000

* Not counting "Chin unspecified" and similar entries.

or articles and practices confined to certain localities; for instance, some parts of the vocabulary of people on the sea-coast or in the delta are strange to those living in the dry belt or in the foothills of Upper Burma. But this does not constitute a difference of dialect. Marginal Table 3 shows in comparison with the speakers of other languages the number of speakers of Burmese or one of its closely related varieties shown in the Marginal Table 4 below. Over two-thirds and nearly seven-tenths of the whole population speak Burmese or one of these closely related varieties; nearly one-fourth speak other indigenous languages and one fifteenth speak Indian languages, while only a mere trifle are speakers of any other languages. The number of speakers of Burmese and its close varieties has increased since 1911 by over 883,000 or nearly 11 per cent., while the speakers of other indigenous languages have increased by 34,000 or rather over 1 per cent; the dominance of Burmese is likely therefore to become still more accentuated.* The details recorded in Imperial Table X for the separate languages included in Marginal Table 3 as close varieties of Burmese are shown in Marginal Table 4 for both 1921 and 1911 together with the numbers of the races of the same names. It has already been stated (Article 137) that the numbers for the separate languages shown in this table have been affected by enumerators entering Burmese or Arakanese or Yanbye instead of the distinctive names, so that only the totals for all the languages in the table can be compared as was done above, and not the figures for separate languages. The numbers for races are similarly affected; and, as it is probable that the substitutions of race-names are not always parallel to those of language-names, it is not permissible to compare the numbers for separate races in the table with those of the corre sponding separate languages. Moreover part of the difference between the totals for the races and languages is due to the use of Burmese by Zerbadis and some Indians and of Arakanese by Arakan-Kamans.

4. Race and language closely related to Burmese.

Language or Race.	Speakers of the language.		Persons of the race to which the language belongs.	
	1921	1911	1921	1911
Burmese ...	8,400,094	7,883,299	7,837,985	7,479,433
Arakanese	247,691	323,662	300,700	344,193
Yanbye	250,018	...	168,185	...
Chaungtha	9,052	9,515	46,153	9,506
Tavoyan ...	131,746	46	129,287	523
Merguese	177	...	178	...
Danu ...	72,925	18,694	74,643	70,947
Yabein ...	...	...	1,774	1,549
Yaw ..	2	...	89	96
Total ...	9,111,705	8,228,516	8,558,993	7,899,177

Of the *Other Indigenous Languages* of Marginal Table 3 the principal groups are shown in Marginal Table 5. It must be remembered that some of the excess of column 4 over column 2 may not be speakers of Burmese but of some one of the languages in the table; but in most cases if a non-racial language is used it is Burmese. The change in the number of speakers of Danu since 1911 has already been noted. Speakers of Kachin languages have diminished to be roughly equal to the number of the Kachin races. Speakers of languages of the Kuki-Chin, Shan and Karen groups were less in 1911 than persons of the races of those groups; and the difference is increased in 1921, so that it seems that Burmese is being adopted by these races. The Talaing language on the other hand, instead of beginning to die out as many confidently expected, has added nearly ten thousand to the number of its speakers although the Talaing race shows an increase of only three thousand. It does appear to be

5. Principal indigenous languages other than Burmese and its varieties, and the corresponding races. (Nearest whole thousands.)

Language-Group.	Speakers.		Persons of the race to which the language belongs.	
	1921	1911	1921	1911
(1)	(2)	(3)	(4)	(5)
Intha ...	55	56	56	53
C Kuki-Chin ...	268	285†	289	299†
E Kachin ...	146	169	147	162
I Tai (Shan) ...	922	968	1,018	996
K Mon (Talaing)	189	179	324	321
L Palaung-Wa	148	165	157	172
N Karen ...	1,114	1,067	1,220	1,103
R Chinese ..	122	109	149	193
Total ...	2,964	3,000	3,359	3,289

* Strictly such a statement cannot generally be made without a consideration of the age-distributions; but the difference between 1 and 11 per cent is too large to be due entirely to difference of those distributions, and moreover it has already been shown in Chapter V that the age-distributions for Burmese and for all Buddhists are not very dissimilar, while the Buddhists include most of the indigenous races.

† Compare Article 153 of Chapter XI.

going out of use however except in the Thatôn and Amherst districts where the Talaings are particularly localised; outside those districts there are few speakers of Talaing and their numbers show a steady diminution.

Mr. Taylor has been asked to give information regarding the adoption by some indigenous races of the language of another race in the appendix to this report which is mentioned in the next article.

140. **Appointment of Mr. Taylor.**—On account of the special desire of Government to obtain an improved linguistic and ethnological record Mr. L. F. Taylor, B.A., I.E.S., who had collated the reports received in the Preliminary Stage of the Linguistic Survey and prepared the grammars and gramophone records mentioned in Article 136 above, was appointed Deputy Superintendent of Census Operations to assist me. Mr. Taylor did not go on tour in this connection, but when the tabulation of the records of languages and races was undertaken he made that his special province. I devised and am responsible for the instructions and arrangements for enumeration and tabulation and for the form into which Imperial Table X has been cast; but the classification of languages into groups, branches, sub-families as well as the compilation of all the figures shown in the table was done entirely by Mr. Taylor with the aid of the section of the staff allotted to him. Mr. Taylor will provide an appendix to this report to deal with the indigenous languages and races of the province; reference should be made to that for an explanation of the classes and the system of classification and for further discussion of the statistics.

An advance copy of Imperial Table X was sent to Sir George Grierson, formerly Superintendent of the Linguistic Survey of India and now the great authority on all Indian languages; his reply was as follows:—

"You ask me to let you know how far I agree with Mr. Taylor's classification. I can safely say that, so far as my knowledge of the language of Burma extends, I entirely agree with it; but I must explain that the list of names includes several languages of which I know nothing. Of some, even the names are new to me. But in such cases I at once bow to Mr. Taylor's superior knowledge, and accept his classification together with the reservations which he makes in his introductory remarks. No doubt several forms of speech which he here shows as languages, will, when the Linguistic Survey of Burma is completed, be found to be really dialectic forms of other more important languages, but this is inevitable in the present state of our knowledge."

CHAPTER X.

Infirmities.

141. Enumeration.—In accordance with previous practice in all censuses of India cognisance was taken only of the four infirmities of insanity, deaf-mutism, blindness and leprosy. One change was made in the instructions for the enumeration, namely, that a record of *deaf-mute* was required for every person who was both deaf and dumb, whereas in all previous censuses this description was supposed to be recorded only for those who had been deaf and dumb *from birth*; but it is fairly safe to presume that this change was only a change of the instruction, because it is so extremely unlikely that in former censuses any particular care was taken to exclude any who had become deaf and dumb since birth, that for all practical purposes it may be assumed that the definition of a deaf-mute has always been the same as at the census of 1921. The instructions given below indicate the meanings assigned to blindness and leprosy at every census. As at all previous censuses no definition of insanity was attempted. The majority of the enumerators get their instructions in Burmese in which the word *ayu* covers both the lunatic and the imbecile; and there is no doubt that all understood *insane* to cover imbeciles as well as all whose minds were seriously deranged, and probably some regarded as insane persons who would more generally be described only as feeble-minded. On the other hand, some probably recorded as deaf-mutes persons who lacked the faculty of speech and possibly also that of hearing not by defects of the organs of speech and hearing but by such mental defects that they ought rather to have been recorded as insane.

The instruction issued to all enumerators in 1921 for filling the column of the schedule which related to infirmities was as follows:—

Column 16 (*Infirmities*).—If any person be blind of both eyes, or insane, or suffering from corrosive leprosy, or deaf and dumb, enter the name of the infirmity in this column.

Do not enter those who are blind of one eye only, or who are suffering only from white leprosy or other diseases which are not truly corrosive leprosy—but corrosive leprosy must be recorded if the disease is of this kind even if the disease is just beginning and no part of the body has yet been destroyed.

If no entry is required in this column put a small cross.

In addition the following supplementary instructions were issued to supervisors to guide them in instructing enumerators and checking their work and removing their difficulties:—

(i) Do not write *blind* for a person who can see anything at all, even if he only sees badly.

(ii) If a person is dumb make a noise to find out if he is deaf too.* Only write deaf-mute if he is both deaf and dumb. If he is not deaf enquire whether he is insane (or mentally deficient); and if he is, write insane. If he is only dumb and neither deaf nor insane you should make no entry in column 16.

(iv) Do not write about any infirmities besides those mentioned in the heading of the column. If a person has two of these write both.

The supplementary instructions for recording occupation also referred to column 16 by warning supervisors to see that *insane* or *leper* or other infirmity must be recorded in that column even if the occupation-columns have already shown a person as an inmate of a lunatic or leper asylum or as a beggar.

142. Statistics.—The resultant statistics are given in Imperial Table XII of which Part I gives the distribution of infirmities by age, Part II by districts and Part III by race. In addition the following Subsidiary Tables have been appended to this chapter:—

I.—Number afflicted per 100,000 of each sex in each district and natural division at each of the last four censuses.

*It is true that one who appears to hear absolutely nothing is probably shamming deafness; but it was not necessary to complicate the instruction to enumerators on this account.

II.—Average distribution by age-groups at the last four censuses of 10,000 afflicted persons of each sex for each infirmity.

III.—Comparison for each infirmity of the figures for 1921 and 1911 showing (*a*) the average proportion of afflicted in 100,000 population of each sex and age-group ; and (*b*) the proportion of afflicted females to 1,000 afflicted males in each age-group.

IV.—Average proportion afflicted in 100,000 of each sex of certain races and race-groups.

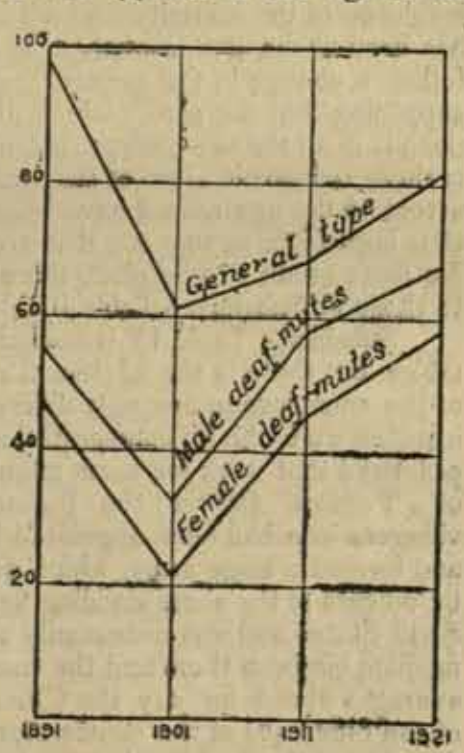
It should be noted that the figures of Subsidiary Table I which relate to the censuses of 1911 and earlier years differ from those of the corresponding table in the census report of 1911, because on this occasion the proportions have been calculated for each sex in accordance with the total population of that sex.

143. Accuracy of the Statistics.—The record of infirmities is made in column 16, which is the last column of the enumeration-schedule. The columns 14 and 15 immediately preceding it are those which show respectively literacy and literacy in English, and in an ordinary block of Burmese population the enumerator naturally finds himself recording either literate or illiterate and then *not literate in English* and *no infirmity* almost mechanically. The standard instruction of the Government of India, which required both columns 15 and 16 to be left blank when there was not an entry of literacy or of an infirmity to be made in them, was changed in Burma to the instruction, as shown above for column 16, to write a cross ; this in some measure serves to prevent the enumerator simply overlooking column 16 as he is very likely to do after he has enumerated a number of people, at the end of the record for every one of whom he has simply left both this and the preceding column blank. Further, in the Burma census report of 1901, it was stated that there was a possibility of the tabulated figures for infirmities falling short of the numbers of infirm persons recorded in the enumeration-schedules on account of the liability for such rare entries to be overlooked when the slips which represent the separate persons of the population in the tabulation were being prepared in the census office. In 1911 this danger was met by omitting the infirmity records when preparing the ordinary slips and making a separate examination of the enumeration-schedules for such records ; and the same procedure was followed in 1921. There was thus a special safeguard in the census of 1921 against both the omission of the enumerator to make a record of an infirmity and the omission of a recorded infirmity from the tables. There was a further protection against omissions in preparing slips for infirmities in the preparation of a special register or invoice of all such slips as well as a record of the enumeration-books examined. I found on examining the records received from the districts that in many cases persons for whom infirmity slips had been prepared had been omitted when preparing ordinary slips, and this was of course then put right ; but in every case discovered the emphasis had been put upon the infirmity-slip, and it is extremely unlikely that there were any cases of the opposite error in which the infirmity record of the enumeration-schedule had been lost in the slip-copying. The figures of Imperial Table XII and those for the year 1921 in the subsidiary tables of this chapter may thus be taken as representing accurately the records in the enumeration-schedules.

But the records for infirmities have been especially liable to error at every census. There are first the difficulties of defining the infirmities so as to distinguish for instance between insanity and different degrees of feeble-mindedness, between total blindness of both eyes and what may be called economic total blindness, that is such failure of sight as forbids ordinary means of earning a livelihood. There is the reluctance of the head of each household to admit that he or any of his household suffer from any defect to the extent mentioned by the enumerator. There is the tendency of the enumerator to regard this enquiry as superfluous and accordingly to neglect it in spite of the precaution described in the preceding paragraph. The possible total effect of all these influences is best realized by considering the views of census authorities in more advanced countries. The English Census Commissioners of 1881 stated in their report their "decided opinion that statements made by persons as to the deficiencies, mental or bodily, of their children or other relatives, are not worth the cost and labour of collection or tabulation" ; and subsequent English census reports have repeated and endorsed this opinion. In both the English census reports of 1901 and 1911 it was considered that the records lacked so much of that degree of accuracy which is essential for statistical purposes that comment upon them had to be "confined

within narrow limits." The Royal Commission on the Care and Control of the Feebleminded declared: "The census is not an agency suitable for the ascertainment and classification of facts the nature of which in very many instances can only be learned by the personal observation of men and women whose judgment has been trained and well practised in a special branch of medical work." This Commission also showed that the number of mentally defectives had been much understated in the English census of 1901. In other countries much the same impression prevails as to the unsatisfactory nature of the infirmity enquiry. In the United States of America the results at the census of 1890 were so unsatisfactory that at the census of 1900 the whole enquiry as to infirmities was omitted; in the next census the enquiries were reintroduced, but they were confined to blindness and deaf-mutism, and were made only with a view to a technical enquiry by experts into the degree, cause, duration, etc., following the discovery by the general census of the names and addresses of the infirm. Under these conditions it is obvious that reliance cannot be placed upon the record of infirmities in Burma until that record has been shown to be worthy of credit; the burden of proof is not, as with other parts of the census record, upon the critic, but upon the census; and the capacity of the census to discharge that burden must be examined.

Subsidiary Table I of this Chapter shows considerable variation from district to district in the proportion of sufferers from each infirmity recorded in the census of 1921, and also the variations from census to census in each district and natural division. There is a distinct tendency for a district which shows a high ratio of incidence for one infirmity to show a high ratio for another. Henzada for instance shows a high ratio for all four infirmities; Toungoo and Pakôkku for all except leprosy; Tavoy for insanity and blindness; Myingyan for blindness and leprosy. And although the same districts showed similarly high ratios in some cases at the previous census it is impossible to say that these high ratios represent high incidence; they may or they may not represent better enumeration. More convincing is the fact that very different figures are shown in many cases by very similar districts, similar in physical conditions and in the racial composition of the population and in occupations and economic conditions generally. Caution must be used in studying these proportions because of the effect of the age-distribution of the population which will be discussed in the next paragraph; but the age-distribution in any one year has not varied from district to district sufficiently to account for these variations in that same year. Comparing one census with another it is remarkable how nearly the same the course of the variation of the proportion afflicted has been for each sex and for every normal district and for each infirmity. This variation is well typified in the figures for Burman natural division. There is a steep fall from 1891 to 1901 followed by a rise to 1911 and a further rise to 1921. The proportions for deaf-mutes differ a little from those for other infirmities because they reached in 1911 the same height as in 1891 and are now higher still, while those for other infirmities, though following a similar tendency, have not yet reached again the same height as in 1891. In the margin curves have been drawn to show the variation at successive censuses in Subsidiary Table I for male and female deaf-mutes in Burman division, and also a curve marked as the general type because, although this curve was actually drawn for insane males, the corresponding curves for insane females and for blind or leprous males or females are of the same general form although moved higher or lower in the figure. With similar movements up and down all the three curves shown will play the same parts almost without exception for each of the Delta Coast and Centre subdivisions and every district contained in them. It cannot be supposed that each of the infirmities has developed everywhere in exactly the same way; this uniformity of variation must be in the



making of the record, not in the phenomenon recorded. For districts of the North subdivision and of the Chin Salween and Shan divisions the parallel generally fails; but this is due to new areas being taken into the census on each occasion and to the admitted roughness of the enumeration of infirmities in some outlying parts in 1891 and 1901 when the difficulties of making a record were even greater than now. For these reas there is generally in fact no question of comparison with the present census at all. The figures for Burman division are not much affected by the abnormalities of those for the North subdivision because this has been only a small part of the whole; but the figures for the Province at the several censuses have been considerably affected by those of Chin Salween and Shan divisions and accordingly are not really comparable.

Subsidiary Tables II and III both deal with age-distribution. The former shows the relative numbers at different ages at any one census; the latter shows for the whole province the proportions of infirm in certain age-groups. It would obviously be extremely difficult to prove the reliability of Subsidiary Table III when Subsidiary Table I which shows the figures for the sum of all age-groups has been impugned. Moreover, the question of the accuracy of age-statements must be raised again. The numbers of the whole population in five-yearly age-groups have been shown in Chapter V to be accurate to a degree which allows considerable use to be made of them; but the total numbers recorded for each sex and infirmity and shown in Marginal Table I are not large enough to justify the assumption that errors in the age-record for them have averaged out in anything like the same way. Even in large masses of the population it was held in Chapter VI that the residual errors were such that the sex-ratios in small age-groups were unreliable; much more unreliable are the sex-ratios for infirm persons amongst whom there are certainly different errors in the records for males and females. Thus none of the figures of Subsidiary Table III are of any value. Subsidiary Table II is more complex as its figures, though calculated directly from Part I of Imperial Table XII, are really the product of the figures of Subsidiary Table III of this Chapter and those for *All Religions* in Subsidiary Table I of Chapter V after the latter have been expanded to show five-yearly age-groups. It is at once obvious that Subsidiary Table II is a complex affair which must be interpreted with great caution. The increase of the proportion of any age-group in the total population may be the sole explanation of an increase in the true figure which represents the proportion of that age-group amongst the infirm; and if the real incidence of the infirmity—which is its specific incidence at each separate age—has been unchanged, a change in the true figures of Subsidiary Table II must follow a change in the general age-distribution. There is also no reason for supposing that the errors which affect Subsidiary Table I are distributed proportionally in all the age-groups; indeed that is most probably not the case. Neither is there reason, in view of the small basis of the figures, for supposing that the errors of the age-record have been nearly the same at successive censuses; it is thus impossible to suppose that even the variation shown in the table is correct. No more credit can be given therefore to the figures of Subsidiary Table II than to those of Subsidiary Table III.

I. Total numbers for each infirmity.

Infirmity.	Males.	Females.
Insane ..	6,285	6,288
Deaf-mute ...	6,147	5,430
Blind ...	11,325	13,198
Leper ..	6,589	3,176

Subsidiary Table IV is obviously subject to the same errors as the other tables, but there is the additional consideration of the possible difference of quality of the enumeration amongst different races in different localities. The Shans for instance were chiefly enumerated non-synchronously by trained enumerators who practised that work for some months and worked in small numbers under the eye of a Political Officer; the Burmese were chiefly enumerated by their fellow-villagers who had been appointed block-enumerators in the synchronous census and formed a large army, which could only be comparatively loosely supervised by officers of the same standing and intelligence as the Political Officers of the Shan States and was necessarily guided chiefly by less educated officers intermediate between them and the enumerators. It is also very risky to compare the averages shown for, say, the Chins with those for the Shans or Kachins because of the difference of the enumerators who had to be employed and differences in the duration of the work and the consequent amount of practice of enumerators, as well as the difference of the subjects being enumerated and the innumerable differences of the minimum degree of each infirmity which would be held to merit

record. Here we return again to Subsidiary Table I which of course depends upon the sum of the various sets of figures collected under these varying conditions.

Summarising the foregoing, it appears that the records of infirmities by age-groups are not worthy of any credit. Some of the records by races may be correct; but we cannot tell which are correct, and neither comparison of the records for different races nor comparison of those for the same race at different censuses is justifiable. The figures of Subsidiary Table I for censuses prior to 1921 cannot be compared with those of census of 1921. These last may or may not be correct. I have no knowledge of any error in tabulation, and, as stated above, I believe there is no such error of significant size; but there is no reason for supposing the enumeration-record was anything like correct. The census of 1931, if infirmities are again recorded, may furnish some evidence; but at present there is nothing in support of the 1921 figures and against them there are the two improbabilities that the variations from district to district shown in them are correct, and that the variations in the quality of the enumeration have come to an end. Further discussion of the figures is therefore not worth undertaking; and it is at present doubtful if it is worth while including the infirmity enquiry in the census. The record of 1931 may possibly however support that of 1921, and in any case the infirmity column in the enumeration-schedule has this use—that it prevents any other column from coming last and suffering consequent neglect.

144. **Conclusion.**—The true method of an infirmity survey is that adumbrated by the census bureau of the United States, in which an *ad hoc* enquiry is made by experts specially qualified to deal with the particular subject and recording more detailed particulars than could be obtained in a census. The Director of Public Health in March 1921 proposed to follow a plan of this kind and applied to the Local Government for the issue of an order for the compulsory registration of all lepers recorded as such in the census, so that the circumstances of all might be enquired into and those who were suffering from a dangerously infective form of the disease persuaded to apply for admission to an asylum. I had to point out that this was not permissible because the census enumeration is made with a promise that nothing recorded about any person will be disclosed without the previous sanction of the Governor-General in Council or the Local Government; and that although this promise would technically remain unbroken, the use of the record of leprosy in the way proposed would be regarded by the public as a breach of faith and so would tend to prevent the collection in future of accurate statistics of any kind whatsoever in which persons are required to answer questions about themselves. There is another record available however in the office of each Deputy Commissioner in the form of Register E in which the recorded number of cases of each infirmity is shown for each *census circle*, which is an area including on an average about 400 houses; these records can be compared with the corresponding record of the total population of each circle in Register A (also in the Deputy Commissioner's office) and the proportional incidence in all parts of any district can thus be determined. But until the value of the recorded figures is established it is a mere waste of time to attempt such correlations as those of blindness with aridity or of leprosy with humidity or the many other matters which await investigation in this connection. With each Register E are also sewn up statements showing the distribution by age and by race respectively of sufferers in the district from each infirmity.

SUBSIDIARY TABLE I.—*Number afflicted per* 100,000 *of each sex*

NOTE 1.—The ratio in each case has been calculated from the number of infirm and the total population only correspond roughly to the districts named in the table as constituted in 1921. None of

NOTE 2.—Those inmates of each asylum or special school for the infirm who were born outside the district

District or Natural Division.	Insane.								Deaf-Mute.			
	Male.				Female.				Male.			
	1921	1911	1901	1891	1921	1911	1901	1891	1921	1911	1901	1891
1	2	3	4	5	6	7	8	9	10	11	12	13
Province ...	93	85	61	98	84	74	45	83	96	77	33	55
Burman ...	81	68	61	98	69	54	44	83	68	58	32	55
Delta ...	70	61	56	81	48	37	28	43	43	38	22	41
Rangoon ...	41	220	227	205	84	115	97	50	15	20	14	15
Insein ...	40				22				20			
Hanthawaddy ...	46	39	36	57	40	34	22	29	44	45	19	39
Tharrawaddy ...	52	34	48	99	42	32	23	55	32	34	18	58
Pegu ...	36	44	20	64	37	34	13	30	31	27	19	36
Bassein ...	39	41	38	64	31	28	18	37	32	24	24	42
Henzada ...	67	53	64	76	53	34	35	54	66	47	32	38
Myaungmya ...	44	37	43		34	20	19		36	26	27	
Ma-ubin ...	63	53	55	47	61	47	22	38	63	44	22	39
Pyapôn ...	31	32			27	21			34	48		
Toungoo ...	72	58	38	81	68	48	26	53	92	62	28	56
Thatôn ...	46	54	16	...	48	37	12	...	41	46	14	...
Coast ...	88	71	43	84	79	58	45	67	63	52	20	41
Akyab ...	102	78	50	95	109	67	34	83	77	45	28	57
Kyaukpyu ...	93	105	67	101	68	61	36	69	60	56	21	26
Sandoway ...	108	74	57	185	65	55	33	79	76	66	22	51
Amherst ...	58	47	32	57	43	42	15	38	46	45	13	26
Tavoy ...	106	77	24	75	91	75	25	39	36	80	7	45
Mergui ...	71	55	32	82	86	39	16	74	80	56	17	44
Centre ...	75	66	70	120	68	56	61	117	65	52	40	72
Prome ...	58	80	63	102	40	40	37	63	50	41	21	94
Thayetmyo ...	74	83	65	88	42	45	56	63	18	55	14	20
Pakôkku ...	110	70	102	129	108	67	94	120	152	95	94	110
Minbu ...	87	130	92	153	96	67	79	186	80	58	57	90
Magwe ...	40	46	84	130	41	37	82	141	48	53	61	76
Mandalay ...	66	69	52	126	65	71	43	107	49	30	19	70
Shwebo ...	71	47	57	115	60	63	46	134	63	57	40	77
Sagaing ...	66	77	84	197	80	78	78	141	63	52	33	69
Lower Chindwin ...	70	67	63	184	71	58	50	142	49	59	45	97
Kyauksè ...	89	84	75	193	90	90	44	106	67	44	25	56
Meiktila ...	51	48	39	123	53	51	45	103	46	34	22	64
Yamèthin ...	53	40	53	101	52	46	53	95	56	52	28	53
Myingyan ...	57	34	81	102	46	37	74	118	67	39	54	84
North ...	173	125	73	95	182	141	85	110	295	249	80	88
Bhamo ...	301	70	44	63	294	111	43	83	666	457	145	46
Myitkyina ...	229	165	45		251	154	82	...	487	485	30	...
Katha ...	63	83	54	64	57	89	48	69	72	67	43	69
Putao ...	241	...	...	...	170	...	...	...	72	...	...	...
Upper Chindwin ...	206	200	125	152	214	203	158	165	252	248	115	139
Chin ...	483	...	...	...	603	...	...	...	762	...	...	...
Hill District of Arakan	167	114	246	355	247	148	148	114	37	35	47	26
Chin Hills	623	1,211	364	...	767	1,213	336	...	865	456	90	85
Pakôkku Hill Tracts	61	...	...	...	59	...	...	...	996	...	...	...
Salween ...	112	...	...	...	98	...	...	...	188	...	...	...
Salween	71	57	10	54	98	64	11	107	48	61	21	85
Karenni ...	148	...	...	...	98	...	...	...	308	...	...	...
Shan ...	156	123	34	26	148	124	35	86	245	199	38	35
Northern Shan States	146	174	49	...	143	164	54	...	333	355	80	...
Southern Shan States	162	95	27	...	152	104	27	...	186	116	19	...

in each district and natural division at each of the last four Censuses.

of the same sex as recorded at the same census. Consequently where district boundaries have changed the ratios the ratios shown can have been largely affected by this lack of precise constancy of the districts. of that institution have been excluded in calculating the figures in this table for that district.

Deaf-Mute,												Blind,												Leper,							
Female,				Male,				Female,				Male,				Female,				Male,				Female,							
1921	1911	1901	1891	1921	1911	1901	1891	1921	1911	1901	1891	1921	1911	1901	1891	1921	1911	1901	1891	1921	1911	1901	1891	1921	1911	1901	1891				
14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33												
84	65	92	47	168	131	105	172	205	150	117	229	98	79	56	117	49	37	25	52												
58	45	21	47	164	119	106	173	200	135	121	230	95	77	59	117	46	35	26	51												
35	27	18	34	98	69	57	92	97	67	55	99	88	76	57	118	32	29	19	37												
24	21	14	16	49	38	35	31	92	49	62	41	31	57	53	40	31	16	29	31												
19	38	11	30	67	72	77	78	78	66	67	85	68	91	64	129	22	39	21	35												
34				97				108				96				41															
26	22	12	46	119	78	62	118	142	89	79	154	99	46	43	102	35	22	11	28												
26	16	8	30	101	87	50	101	94	64	49	84	75	99	43	153	28	36	16	38												
30	20	9	23	53	43	27	64	46	42	21	62	93	72	62	129	31	30	20	38												
51	31	17	49	129	86	81	122	113	73	69	110	118	101	81	189	32	32	19	40												
30	14	14		73	46	53		71	48	54		95	86	94		35	28	31													
46	30	17	35	139	77	59	81	106	61	69	87	158	119	65	146	50	46	19	55												
42	36			92	67			89	80			93	64			26	33														
55	37	15	36	190	111	78	130	162	114	70	133	67	33	31	79	29	15	7	36												
29	26	9	..	64	64	30	...	51	40	7	..	53	48	18	...	13	11	10	...												
47	35	22	26	72	52	32	58	69	64	55	99	37	27	14	35	32	28	19	37												
53	32	14	38	69	42	28	57	60	35	20	52	21	15	10	28	19	15	8	23												
45	34	11	37	57	57	42	45	59	51	32	41	9	27	17	44	10	10	11	18												
60	51	9	31	103	54	33	64	106	33	16	60	13	12	11	15	5	2	3	5												
34	31	12	15	54	53	24	55	53	31	18	34	39	50	24	37	17	11	6	12												
33	41	13	17	95	79	48	77	99	68	32	95	19	29	9	26	17	14	36	8												
69	35	7	23	109	52	37	80	81	58	21	74	22	17	9	70	10	17	2	23												
52	38	28	61	965	189	186	291	330	218	207	381	134	98	81	154	71	46	37	73												
38	31	17	52	121	109	119	221	136	108	93	192	45	69	77	91	21	27	22	24												
12	33	11	34	175	143	99	116	163	140	133	184	68	95	48	101	32	30	28	30												
111	77	56	84	334	101	273	339	460	203	318	417	96	48	67	122	55	38	38	60												
67	51	35	68	277	181	187	320	362	223	217	428	107	140	105	167	85	58	54	78												
36	36	49	46	183	117	210	250	234	172	245	334	119	78	100	160	53	39	53	69												
38	28	16	65	269	140	206	332	307	234	185	418	153	153	91	201	108	91	41	120												
47	37	17	66	302	108	165	326	387	206	156	430	100	67	47	121	46	34	26	59												
45	37	23	63	350	232	211	405	405	330	211	524	286	193	104	240	169	110	53	111												
47	41	23	85	403	316	246	486	470	357	285	602	160	144	93	227	92	59	36	98												
69	20	31	51	355	359	209	271	364	342	186	287	92	125	49	124	19	36	28	52												
51	31	20	65	206	159	102	258	264	183	149	107	98	75	46	143	61	34	28	81												
44	27	22	39	226	160	125	228	274	182	151	260	71	56	39	91	41	23	20	35												
53	24	41	66	284	138	244	330	344	151	303	434	188	81	151	203	88	30	54	107												
283	244	53	90	247	209	137	227	310	234	159	336	65	69	42	68	43	43	26	44												
699	492	102	71	204	149	71	228	250	157	83	146	19	47	7	40	23	25	5	33												
455	461	61	...	177	146	72	...	233	172	148	...	44	31	4	...	15	38	10	..												
61	72	26	66	156	214	157	169	281	213	169	309	83	91	47	59	40	57	28	39												
28	...	...	...	97	..	...	...	455	...	..	...	24	...	..	...	28	...	...	...												
237	243	65	125	317	295	164	280	431	340	182	289	85	73	66	100	63	39	38	56												
846	...	...	..	144	...	...	...	122	...	...	...	320	...	...	..	122	...	...	...												
59	37	69	11	860	158	426	850	385	118	326	242	538	263	388	316	257	129	227	343												
731	349	39	54	139	99	44	...	77	103	36	...	305	275	27	...	118	111	23	...												
598	...	...	...	401	..	...	..	108	...	...	...	163	...	...	...	10	...	...	...												
146	..	...	..	152	...	...	...	222	...	..	...	79	...	...	...	30	...	...	...												
47	37	5	54	56	64	10	36	72	41	27	74	34	28	15	36	4	9	...	40												
217	...	...	...	235	...	...		330	...	...	...	119	...	...	...	49		...	...												
234	192	24	43	210	232	101	61	255	274	91	236	102	75	22	44	68	50	12	43												
334	354	55	...	214	393	188	...	254	378	167	..	43	60	30	...	28	41	22	...												
169	108	11	...	208	183	64	..	250	221	53	...	142	83	18	..	98	54	9	...												

SUBSIDIARY TABLE II.—*Average distribution by age-groups of* 10,000 *afflicted persons of each sex for each infirmity.*

Age.	Insane.								Deaf-Mute.							
	Males.				Females.				Males.				Females.			
	1921.	1911.	1901.	1891.	1921.	1911.	1901.	1891.	1921.	1911.	1901.	1891.	1921.	1911.	1901.	1891.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
0— 5 ...	102	125	115	63	113	167	130	84	299	368	341	312	260	384	351	354
5—10 ...	353	322	274	198	401	383	377	224	1,046	1,082	854	1,005	983	960	854	952
10—15 ...	479	617	557	567	581	605	637	479	1,182	1,429	1,294	1,335	1,219	1,328	1,376	1,074
15—20 ..	773	1,019	938	914	838	894	949	806	1,120	1,182	1,375	1,088	1,262	1,528	1,088	878
20—25 ..	1,079	1,278	1,300	1,181	1,004	1,153	1,027	997	1,314	1,414	1,161	1,167	1,343	1,718	971	1,066
25—30 ...	1,074	1,153	1,175	1,170	930	981	923	920	924	632	733	753	924	804	710	718
30—35 ..	1,373	1,285	1,272	1,299	1,197	1,165	1,118	1,098	1,106	949	918	795	1,065	905	863	912
35—40 ...	1,042	1,023	1,004	1,009	807	796	867	913	582	465	560	848	495	488	495	741
40—45 ...	1,146	1,067	994	1,083	1,214	963	966	1,065	734	563	607	461	703	490	773	644
45—50 ...	692	575	601	585	768	679	624	719	333	241	428	423	329	324	423	439
50—55 ..	710	563	611	653	785	676	888	923	420	283	526	428	424	300	531	479
55—60 ...	382	274	346	390	401	449	381	418	171	190	208	233	186	219	414	376
60 and over	795	699	813	888	991	1,089	1,213	1,354	771	602	965	1,172	816	522	1,151	1,369

Age.	Blind.								Lepers.							
	Males.				Females.				Males.				Females.			
	1921.	1911.	1901.	1891.	1921.	1911.	1901.	1891.	1921.	1911.	1901.	1891.	1921.	1911.	1901.	1891.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
0— 5 ...	147	162	249	269	110	148	173	133	29	23	112	33	50	55	184	52
5—10 ..	296	367	395	362	189	245	211	180	105	95	61	77	113	159	120	98
10—15 ...	386	459	472	479	445	341	250	256	335	328	314	372	466	464	448	385
15—20 ...	483	550	459	439	302	375	485	285	701	704	714	722	919	874	872	942
20—25 ..	464	616	589	425	355	511	422	290	1,088	938	1,058	938	1,171	1,125	1,128	1,182
25—30 ...	535	521	474	389	381	443	375	293	1,191	1,179	1,245	1,101	1,187	1,066	960	1,078
30—35 ...	575	634	580	513	437	540	476	396	1,457	1,458	1,449	1,348	1,228	1,229	1,200	1,229
35—40 ..	530	586	594	519	394	474	446	359	1,231	1,305	1,153	1,340	882	870	1,080	937
40—45 ..	731	733	665	620	658	636	599	540	1,213	1,140	1,099	1,279	1,064	911	888	1,119
45—50 ..	736	698	640	627	609	576	511	453	797	839	711	830	730	724	608	625
50—55 ..	919	822	864	783	1,042	766	810	824	801	764	809	781	746	824	880	791
55—60 ...	679	697	651	665	777	861	677	757	361	393	429	423	447	502	448	458
60 and over	3,519	3,155	3,368	3,910	4,501	4,146	4,785	5,234	691	836	816	856	995	1,107	1,184	1,112

SUBSIDIARY TABLE III.—*Comparison for each infirmity of the figures showing for* 1921 *and* 1911 :—

(a) *Average proportion of afflicted in* 100,000 *population of each sex and age-group.*

(b) *Proportion of afflicted females to* 1,000 *afflicted males in each age-group.*

AGE.	Insane.						Deaf-Mutes.					
	Proportion afflicted per 100,000 population.				Number of females afflicted per 1,000 males.		Proportion afflicted per 100,000 population.				Number of females afflicted per 1,000 males.	
	Male.		Female.				Male.		Female.			
	1921.	1911.	1921.	1911.	1921.	1911.	1921.	1911.	1921.	1911.	1921.	1911.
1	2	3	4	5	6	7	8	9	10	11	12	13
All ages	93	85	84	74	841	836	96	77	84	65	849	810
0— 5 ...	8	8	7	9	938	1,123	84	93	17	18	731	845
5—10 ...	27	21	26	21	955	904	83	65	65	47	792	719
10—15 ...	39	45	42	40	1,030	820	98	95	91	77	860	753
15—20 ...	74	97	64	69	912	732	110	128	90	103	949	836
20—25 ...	111	127	87	97	783	754	138	125	121	123	861	1,001
25—30 ...	116	114	100	90	705	711	103	83	95	65	842	698
30—35 ...	138	130	139	110	733	762	120	86	127	70	811	773
35—40 ...	132	128	123	102	652	631	87	53	78	55	747	850
40—45 ...	117	153	178	125	893	754	114	73	100	57	809	797
45—50 ...	148	123	160	118	933	987	73	47	69	38	803	1,088
50—55 ...	101	130	185	139	930	1015	98	59	86	51	849	858
55—60 ...	151	104	138	144	883	1,371	70	60	63	62	918	933
60 and over ...	132	104	135	120	1,018	1,301	131	81	114	53	891	702

AGE.	Blind.						Lepers.					
	Proportion afflicted per 100,000 population.				Number of females afflicted per 1,000 males.		Proportion afflicted per 100,000 population.				Number of females afflicted per 1,000 males.	
	Male.		Female.				Male.		Female.			
	1921.	1911.	1921.	1911.	1921.	1911.	1921.	1911.	1921.	1911.	1921.	1911.
1	2	3	4	5	6	7	8	9	10	11	12	13
All ages	168	131	205	150	1,165	1,100	58	79	49	37	458	454
0— 5 ...	31	17	17	18	573	1,000	2	1	2	1	842	1,091
5—10 ...	41	38	30	27	743	733	9	6	4	4	533	781
10—15 ...	56	52	44	43	741	770	38	23	20	15	670	642
15—20 ...	83	81	58	58	728	750	70	62	42	36	632	863
20—25 ...	86	94	77	87	898	911	117	86	81	47	519	544
25—30 ...	104	79	95	78	830	893	138	108	72	49	480	410
30—35 ...	119	98	108	102	886	93	171	136	85	65	406	382
35—40 ...	130	114	150	123	867	880	188	152	91	58	348	302
40—45 ...	204	103	341	172	1,050	954	197	151	94	61	486	362
45—50 ...	265	230	518	238	964	908	220	166	92	74	442	392
50—55 ...	377	301	817	300	1,381	1,094	191	162	89	80	449	491
55—60 ...	480	410	866	562	1,335	1,359	151	130	92	86	597	684
60 and over ...	1,053	737	1,527	909	1,491	1,438	120	118	81	84	695	800

SUBSIDIARY TABLE IV.—*Average proportion afflicted in* 100,000 *of each sex of certain races and race-groups.*

Race-group or Race.	Insane.		Deaf-Mute.		Blind.		Leper.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
1	2	3	4	5	6	7	8	9
Provincial Total	93	84	96	84	168	205	58	49
A.—Burma group * ...	83	86	95	81	200	229	110	81
I.—Burmese ...	76	88	89	226	209	241	118	84
B.—Lois Mus'a group ...	88	85	134	138	94	104	5	6
C.—Kuki-Chin group ...	301	329	458	393	139	138	192	83
E.—Kachin group ...	458	400	1,184	1,064	206	254	38	18
F.—Sak (Lui) group ...	42	78	114	88	257	254	106	78
H.—Mro	279	60	93	80	171	83	353	89
I.—Tai group (Shans) ...	149	133	101	170	265	317	137	87
J.—Malay group ...	64	148	150	114	94	114	64	—
K.—Talaing ...	38	30	88	85	54	87	42	14
L.—Palaung-Wa group ...	141	117	250	276	187	149	20	14
N.—Karen group ...	82	80		63	58	84	82	35
R.—Chinese group ...	126	85	180	238	68	104	33	8
S?.—Zerbadi * ...	74	70	50	38	90	78	195	48
X.—Indian races ...	41	48	87	50	39	54	24	13

* Arakan Mahomedans have been included with Arakanese in this table.

CHAPTER XI.

Race and Caste.

145. The Appointment of Mr. Taylor.—As already mentioned in Article 140 of Chapter IX Mr. L. F. Taylor, B.A., I.E.S., was appointed as Deputy Superintendent of Census Operations to assist me particularly with the work for languages and races, and made the tabulations of these matters his special province. I devised and am responsible for the instructions and arrangements for enumeration and for the form into which all the tables relating to races have been cast, and for the system of classification by peoples; but the classification of the indigenous races into groups and the compilation of all the figures in Imperial Table XIII was done entirely by Mr. Taylor with the aid of the section of the staff allotted to him. Mr. Taylor has also promised to write an appendix to this report dealing with indigenous races from an ethnological point of view; and this chapter will be abbreviated accordingly.

146. Enumeration.—The record of race was made in column 8 of the schedule under an instruction to "Record the *race* to which each person belongs, *e.g.* Burmese, Karen, Shan, Gurkha, Rajput, Pathan, Moghul, Zerbadi, Panthay, Scotch, etc." Two warnings were added against writing *Kala* for the race of Indians, and against entering again the religious description already shown in column 4, *e.g.* Hindu, Musalman. This instruction involved a departure from the practice of previous censuses and from the standard instruction of the present census of India by rejecting all record of caste; some notes on this point will be found later in this chapter (Article 163). For the record of indigenous races supplementary instructions were issued in conjunction with and similar to those relating to languages which are described in Article 136 of Chapter IX. Other supplementary instructions given to all supervisors to enable them to guide enumerators and correct their records were as follows:

British.—If anyone says his race is British ask whether he is English, Irish, Scotch, Welsh or Anglo-Indian; do not write *British*.

European.—If anyone says he is European ask him what kind of European, whether Anglo-Indian or French or Italian, etc. Do not write *European*.

Some persons whose father and mother belonged to different races have been brought up to belong to their father's race, following the religion and customs of that race and wearing its dress; others have been brought up to belong to their mother's race. Except in the special cases mentioned below the record for the race of such persons should be in accordance with the way they have been brought up. For small children ask the parents how they will be brought up.

A person who is partly of European and partly of Burmese or Indian descent is called an *Anglo-Indian*.

If the father is a Mahomedan of any race and the mother Burmese the sons and daughters are called Zerbadis or Burma Moslems. As it would cause confusion if two names were used you should always write *Zerbadi*.

Some persons who are partly of Hindu and partly of Burmese descent call themselves *Kalè*, some *Burmese*, and some take the same race as their father. Enter for such the race stated by the person or his (or her) parents; if they are in doubt record the race of the father or of the mother according to the customs in which the person is brought up.

Some persons who are partly of Chinese and partly of Burmese descent call themselves Chinese, some Burmese, while some say they belong to the *Baba* race. Enter for such the race stated by the person or his (or her) parents; if they are in doubt record Burmese or Chinese according to the customs in which the person is brought up.

Some notes on the records of Kalè are given later in this chapter (Article 161). No entries of *Baba* were found.

147. Definitions.—The term *Race* is used in current literature in various ways. For the purposes of the census however the question of its meaning is narrowed down to a consideration of the extent to which tribal or local subdivisions of groups of kindred people are to be separately tabulated; and throughout this report and the census tables *Race* must be regarded as the generic name of the classes tabulated in Imperial Table XIII or XVI which are not further subdivided there on racial grounds. Further knowledge about some of the indigenous races may show that they are too little differentiated from others

to justify separate tabulation; some of the races tabulated may similarly have to be divided into two or more distinct races when more is known about them.

148. Race-Groups and Indigenous Races.—Races which are associated particularly closely with Burma, even if a greater part of their people live elsewhere, have been regarded as *Indigenous Races*, and have been classified in fifteen *Race-groups* which correspond to the fifteen groups of languages; the classification in fact is chiefly linguistic though intended as a tentative ethnological classification. The groups are distinguished by the same symbolic letters A to O and the same names as the corresponding linguistic groups. The non-indigenous races have not been classified ethnologically, but only collected into the five convenient groups of *European, etc.*, *Chinese*, *Indo-Burman*, *Indian*, and *Others*, the definition of these names except the first being given by the list of races tabulated under them in Part I of Imperial Table XIII. The term *European, etc.*, is used to include all the European and allied races tabulated in Imperial Table XVI and also Armenians and Anglo-Indians, the last-named, in accordance with the practice of the census in India, including all who are of mixed European and Asiatic descent. Some asked for the use of such terms as Scoto-Burman; but it was not possible to admit the enhancement of the difficulties of the census which would have been caused by this. Similarly amongst the Chinese only two races were admitted in the tabulation, namely, the *Yünnanese* and *Other Chinese*.

149. Home Races.—In Imperial Tables XXIIA and XXIIB which deal with the Special Industrial Census of Industrial Establishments, the term *Home Races* is used to include the Indo-Burman as well as the indigenous races. It is not perhaps a very happy term; but the term *Burma Races* seemed likely to be confused with the *Burma Group* of indigenous races; and no other suitable term offered itself at the time.

150. Peoples.—Chiefly for the purpose of the tabulation for occupations the population has been classified into thirteen *Peoples* on a basis which is chiefly racial but also takes account of religion and in some cases of birthplace. The classes included in each people are shown in Note 9 on the last page of Imperial Table XIII, and in Parts IV and V of that table a short name is given for each people which approximately describes it but generally must not be taken as the precise description of it. The appendices of Imperial Table XX give some further information of the races included in each people.

151. Statistics.—Imperial Table XIII is the table specifically devoted to statistics of race, but supplementary tabulations are given in Imperial Tables XVI and XX as well as in the subsidiary tables appended to this chapter. Imperial Table VIB is also a table of races, giving a classification by race of persons of each religion. Statistics of certain races by townships in certain districts are given incidentally in Provincial Table IV.

The classification of the whole population by separate races is given in Part I of Imperial Table XIII in which the indigenous races are arranged in the ethnological groups, and other races in the five artificial groups mentioned in the Article 148 above; the European and allied races are represented by a single total, the details for separate races being given in Imperial Table XVI. Part II of Imperial Table XIII gives the distribution of all race-groups by districts and also shows the population of each district classified by race-groups. Part III gives the distribution of some races by districts. Subsidiary Table I at the end of this chapter summarises Imperial Table XIII to show the distribution of some important groups of races amongst the natural divisions as well as the racial composition of the population of each of those divisions.

Part IV of Imperial Table XIII classifies the whole population of each district by peoples; one of the advantages of this system of classification is that the racial constitution of the whole population of each district can thus be seen at one opening of the tables. Part V of Imperial Table XIII exhibits the relation between a classification of the population by peoples and by religion. Imperial Table XX gives in the entries for *Total Supported by All Occupations* the distribution of each people by natural divisions and a classification of the population of each natural division by peoples. The appendices to Imperial Table XX give numerical statements of the relationships of races, indigenous races, home races

and peoples. Subsidiary Table II of this chapter shows the proportionate distribution of the peoples by natural divisions and the proportionate distribution of the population of each natural division by peoples.

NOTE.—The classification by race of the population of the Somra tract which is shown in the margin has been furnished by the Deputy Commissioner of the Upper Chindwin District; it was obtained by an estimate based upon the numbers of houses in the various villages. A classification for the estimated area of the Pakôkku Hill Tracts has also been given in Appendix B of this report. Imperial Table XIII however excludes both these estimated areas as well as the estimated area in East Manglûn for which no statistics by race are available.

Races of the Somra Tract.

Race.	Males.	Females.
Kuki-Chin ...	2360	2510
Tangkhul Naga	1130	1165
Parara ...	199	212
Larara ...	30	30
Total ...	3719	3917

152. Accuracy of the Statistics.—All the limitations and other considerations described in Article 137 of Chapter IX for Imperial Table X apply also to Parts I, II and III of Imperial Table XIII. In particular they have the limitation that persons of mixed races sometimes choose to describe themselves as of some other races. But the effect of this is not as serious as might at first be supposed. As already pointed out in Article 105 of Chapter VI, race in the census tables is not a purely biological matter; it is rather a matter of culture, in determining which descent is generally the most powerful but is not the sole factor. If people of a mixed race adopt the culture of one of the races which enter into their composition, there is no great error if they are assigned to that race. The Mendelian laws of heredity apply; but their action is obscured by the number of characters concerned, and by the influence of occupation and social status and even locality of residence in the selection of marriage-partners in every successive generation. Thus entries which are biologically correct may not always give census figures which represent most fairly the constitution of the population from a social point of view. In the case of some Anglo-Indian races the credibility of the entry for race was considered with reference to other entries in the enumeration-record for religion, birth-place, occupation and language, and for some persons the record of race was modified as noted in Article 162 below. Amongst other races who are not Christians there are often characteristic religious or social customs which determine a person's occupation and associates and often the street of the town or village in which he lives, so that commonly there is less room for mis-statement than appears at first sight. In spite of the common view that the language-record is less uncertain than that of race, I think there is probably little to choose between them; the few who deliberately mis-state their race probably mis-state their language to agree, and the residual errors from this source are probably not large in either case. The note on the probable error in the tabulation for the Pwo-Karen language which was made in the first paragraph of Article 137 of Chapter IX applies also to the figures for the Pwo-Karen race in Imperial Table XIII.

153. Comparison of Statistics for 1911 and 1921.—All tables of the 1921 census relating to race exclude all the areas in which the census was made only by estimate. In this respect they differ from Imperial Table XIII of 1911 in which estimates of the numbers of each race within the estimated areas of that year were included, and allowance must be made for this as well as for changes in the system of classification if any comparisons of figures for the two censuses are made. The only area for which the population was estimated both in 1911 and in 1921 was the Pakôkku Hill Tracts; for any comparisons involving this a correction must be made either by subtracting 9,123 from the Chins of unspecified race tabulated in 1911 or by adding 8,756 to the corresponding figure of 1921; the former is the better way because the numbers of both years are then the results of actual enumeration. For the other areas in which the population was estimated in 1911 no correction is necessary as they were regularly enumerated in 1921 and are therefore included in the tables of both years. Allowance must however be made for the areas of the Myitkyina and Putao districts which were omitted from the census of 1911 and enumerated in 1921 and are shown in Note 8 on the title-page of Imperial Table II. (The Coco islands should strictly be allowed for too; but can be overlooked as their population was only 46 altogether.). As an example the number of Chins of 1911 will be calculated here as it is required for an explanation of the figures used for Chins in the next article. The number of

Chins tabulated in 1911 was 306,486; but this included 954 Daingnet, 79 Thet and 1,263 Naga who are no longer classified as Chins, as well as 9,123 persons in the estimated area. Subtracting all these 11,419 and adding 3,353 tabulated in 1911 as Manipuri and 527 tabulated as Taman, both of these races being included in the Chin group in 1921, a net result of 298,947 is obtained. The total number of Chins in the whole of the Myitkyina and Putao districts being 68 no allowance need be made for the extensions of the census, and 298,947 may be regarded as the total of Chins in 1911 comparable with the tabulated figures of 1921.

154. The Number of Races.—Omitting from the count the indefinitely described races tabulated as *Chin, Naga, Shan, Yang, or Karen of unspecified kind* the total number of indigenous races tabulated is 128. There are also the Yünnanese and 3 Indo-Burman, 29 European and 40 Indian races making a total of 211 races besides *Other Chinese* and Anglo-Indians and indefinitely described races of all kinds.

155. General Distribution of Races.—The general racial composition of the population of the province and of each natural division and subdivision, and the distributions of the more important races by natural divisions, as shown in Subsidiary Table I of this chapter, have already been considered in Part II of the Introduction to this Report where in particular it was shown that 91 per cent of the total population belongs to indigenous races, 7 per cent to Indian and roughly 1 per cent each to Indo-Burman and Chinese races. The same distributions are shown again in terms of peoples in Subsidiary Table II of this chapter.

Further details of the proportions of the total population which belong to the indigenous race-groups are given in Marginal Table 1. The Burma group thus outnumbers all others. Even if only the races particularly closely allied to the Burmese are considered,—namely the Burmese, the Arakanese, Yanbye and Chaungtha, and the Tavoyans and Merguese—the percentage of the whole population included is 64, while if the Shan States and Karenni are excluded it is 72. The increase in the number of persons of the whole Burma group since 1911 is 8·8 per cent and of the Burmese and closely allied races mentioned just above is 7·8 per cent. The increase of the whole population in the same period has been 8·5 per cent; but it is not permissible to argue therefore that the Burmese and their closest allies are losing ground; such a proposition would require investigation of the age-distributions on something like the lines adopted in Chapter V as well as statistics of the relative losses by influenza. The Karen group has increased by 11 per cent and the Tai (or Shan) group by 2 per cent. The number of Chins has fallen by 10,000 from 299,000* to 289,000; of this about 750 occurred in the Hill District of Arakan, while the Chin Hills showed a decrease of nearly 9,500 which was partly neutralised by an increase of 2,500 in the Pakôkku Hill Tracts. Further enquiry shows that the decrease in the Chin Hills is confined to the Haka subdivision, the other two subdivisions showing small increases. The causes have been influenza, which was very severe in the Chin Hills, and the disturbances connected with the rebellion in Haka Subdivision, and also the migration of about 7,000 to Assam on account of these disturbance and alleged oppression by their tribal chiefs. There have been decreases of the Palaung-Was and the Kachins. For the latter the decrease is 22,000. But the present Northern Shan States includes such a part of the Ruby Mines district of 1911, that a large part of the Kachins recorded there for that district must be transferred and added to the figures of the Northern Shan States for comparison with 1921; then it is found that nearly all the decrease of Kachins has occurred in the Northern Shan States. Probably the reason is a tendency of the Kachins, who are recent immigrants in the Shan States, to move on into China. Part of the difference may also be due to errors in the number of Kachins tabulated in 1911 for those parts of the Northern Shan States in which only an estimate of the population was made. Further information on the point will probably be found in Appendix B of this report. Rather unexpectedly the Talaings show a slight increase since 1911; but part of this is

1. Percentage of total population in certain race-groups, 1921.

Race Group.	Per cent.
Burma ...	66
Karen ...	9
Tai (Shan) ...	8
Talaing ...	2·5
Chin ...	2
Palaung-Wa ...	1
Kachin ...	1
Others ...	1
Total ...	91

* This number was explained in Article 153.

probably due to a growing racial consciousness which leads more Talaings to describe themselves as such although they speak Burmese.

The numbers of some indigenous races and race-groups have already been tabulated beside the numbers of speakers of the languages of those races in Article 139, where also some notes on comparisons of such numbers have been made. For a more detailed account of the census of indigenous races Mr. Taylor's appendix should be consulted; the present chapter will deal only with matters which do not fall within the scope of that appendix, and with the non-indigenous races. The treatment given will generally be purely statistical; for descriptions of the customs of the various races reference should be made to the monographs specially written about them. Since the census of 1911 four such monographs noted in the margin have been prepared under Government's auspices; three have been published and that on Karens is in the press and will be published probably in 1923. Other monographs have been projected for the Intha, Taungyo, Taungtha, Lisaw, Lashi, Maru, Chin, Palaung, Wa and Salon races and groups. The Journal of the Burma Research Society, published quarterly in Rangoon, has also articles on some races and their languages. Amongst other books recently issued is the Revd. W. G. White's *The Sea Gypsies of Malaya* (1922) which describes the Salon or Mawken race of the Mergui Archipelago, and in particular describes the taking of the census of the Salons in 1911. The method followed in 1921 was the same, but I am unable to say whether it was done more or less efficiently than in 1911 under Mr. White, whose account in his book of the enumeration of 1911 is depressing. The total numbers enumerated in 1911 and 1921 are shown in the margin hereby. Mr. White states that owing to the bad work of his assistants the error in 1911 was very large; he considers 5,000 is a very conservative estimate for the Salon in 1911 and contests energetically the suggestion that the Salon race is dying out. If, as is probable, Mr. White's report is correct the figures of 1921 are also badly wrong. At next census either the enumeration of the Salon should be made correct or it should be given up entirely, as the use of a sea-going launch makes the work distinctly expensive for so small a class of people.

Race.	Author.	Year of publication
Kachin ...	Revd. O. Hanson	1914
Shan ...	Revd. W. W. Cochrane	1915
Talaing ..	Revd. R. R. Hallidav	1917
Karen ...	Revd. H. I. Marshall	..

2. Salons enumerated.		
Census.	Males.	Females.
1921	939	1,012
1911	1,080	954

156. Chinese Races.—It was noted earlier in this chapter that only two Chinese race-classes were tabulated, namely *Yünnanese* and *Other Chinese*. For the two classes together the totals at four censuses are shown in Marginal Table 3. The increase in the decade 1911-21 has not been so large as in the previous decade, but it has been quite large all the same. Of the increase shown in the census of 1911 about 18,791 was due to the extension of the racial classification to include the areas of Kokang and West Manglün in the Northern Shan States; but as the census of these areas in 1911 was only by estimate and not by enumeration the precise figures are not very certain, while they cannot be checked because it is not known how many Chinese were recorded in Kokang and West Manglün apart from other parts of the Shan States in 1921. Chinese in areas of the estimated census of 1921 are not included in the figures given for that year as no attempt at estimating the racial classification for such areas was made; as the new areas other than those of the estimated census into which the census was extended in 1921 have very few if any Chinese the figures for 1911 and 1921 are fairly comparable.

3. Chinese Race.			
Census.	Persons.	Males.	Females.
1921	149,060	101,877	47,183
1911	122,834	89,345	33,489
1901	62,525	47,210	15,315
1891	41,774	28,480	13,294

In previous censuses no attempt has been made to distinguish non-Mahomedan Yünnanese from other Chinese: no exact statement can be made therefore of the separate increases of these classes. But as the Yünnanese in 1921 are generally in districts in which there are few other Chinese it is possible to make a fairly

reliable estimate of the corresponding figures for 1911 as in Marginal Statement 4 in which the Mahomedan Yünnanese are, described by their common name of Panthay. The figures in the table for Panthays are those given in the appendix to Imperial Table XIII of the census of 1911; it is not known what part of them was due to actual enumeration and what part was an estimate for the Panthays in Kokang and West Manglün; in the census of 1921 very few were recorded in the whole of the Northern Shan States together. The small increase shown in Marginal Table 4 for Other Yünnanese is due largely to a decrease in the Bhamo and Myitkyina districts which is shown by a decrease of 8,600 in the total Chinese there. Part of this decrease is probably due to differences of the method of enumeration. In 1921 the Chinese caravans in the Bhamo district were not enumerated in the non-synchronous areas wherever they were met, but were omitted until just before the date of the synchronous census; then those departing from Bhamo town too late to leave Burma before the census were enumerated before starting, and those arriving within such a time as showed they were already in Burma on census night were similarly enumerated after the census date. In 1911, some caravans were probably counted non-synchronously which had left Burma again before the synchronous census took place; and as it can hardly be expected that the caravans always kept carefully the certificates of enumeration given them when they were enumerated, some were probably counted twice. Even so the change in the relative figures for the sexes in Bhamo district is a mystery.

4. Yünnanese and Other Chinese.

Race.	1921.		1911 (Estimates).	
Panthay	1,076	441	1,427	775
Other Yünnanese	34,676	23,039	32,700	22,500
Other Chinese.	66,125	23,703	56,418	10,214
Total	101,877	47,183	89,345	33,489

5. Chinese in Bhamo District.

Census.	Males.	Females.
1921	1,207	622
1911	3,855	3,458

For Chinese other than Yünnanese the increase shown in Marginal Table 4 is probably a fairly correct estimate. But five points must be noted, namely (1) the readiness with which women of the indigenous races marry with Chinese; (2) the practice of bringing up the sons of such marriages as Chinese although the daughters are brought up as of their mother's race; (3) the tendency of tribes on the north-east frontier to be absorbed into the Chinese race; (4) the heterogeneous racial character of the Chinese even in China where the Chinese race is the product of the absorption by Tartar races of a large variety of peoples who formerly inhabited the various parts of the Empire; (5) the various sources from which Chinese immigrants (other than Yünnanese) have come to Burma, including all the ports of Malaya as well as those of China. The Chinese who come from Malaya are already of mixed races, and the further mingling of these with the indigenous races of Burma has the result that, in the words of the census report of 1911, it is impossible to conceive a more heterogeneous mixture than the Chinese of Burma.

The term *Baba* or *Bawa*, said to be a corruption of a Malay word *Wawa* meaning a person of mixed race, has been used at some times to describe persons partly Chinese and partly of indigenous races of Burma. The corresponding Chinese term is said to be *Ship-yit-tem*. But in fact such people regard themselves either as Chinese or as belonging to the pure race of the mother, and the description was not found for a single person in the enumeration schedules.* Having regard to the heterogeneous composition of the Chinese this practice seems to be more logical than the use of such a term as Baba. I am informed by a Chino-Burman that the word is merely the Hindustani word Baba meaning a child; that in the Straits Settlements it is applied without offence to Chinamen born and brought up there in contradistinction from those brought up in China, and that it is used by Chino-Burmans of Rangoon to describe themselves in speech and writing. But in Mergui the Chinese are said to be jealous of their description, and very particular about their children being called Chinese.

An article in the *Indian Review* of June 1922 claimed to show that there was great danger to the national life of Burma in the Chinese immigration. It pointed out quite truly that in Lower Burma an important village which has not a Chinese grocer supplying its miscellaneous wants is a rare exception. The writer

* See the instruction to enumerators in the second article of this chapter.

wondered whether it was politic to allow the rural trade of Burma to be monopolised by an alien race, and even suggested that in spite of the possible international complications, it would soon be necessary to prohibit Chinese immigration.

6. Persons in Divisional Burma born in China and the Straits Settlements and Malaya.

Census.	Males.	Females.	Increase.	
			Males.	Females.
1891	58,253	16,749	6,456	8,264
1881	51,797	8,485	15,330	3,874
1901	30,467	4,611	...	...

Marginal Table 6 shows the number of persons recorded at the last three censuses as born in China, the Straits Settlements or Malaya. Such persons enumerated in the Shan States and Karenni are omitted from the table because in those places questions of Yünnanese caravans and of miscellaneous non-Chinese races are involved and the whole matter is on a different footing. A few non-Chinese however are included. Figures of the magnitude of those in the Marginal Table 5 and also of those of Marginal Table 3 for *Other Chinese* do not seem to give any ground for the apprehensions mentioned, especially in view of the commonly held opinion that a Chinese admixture improves the indigenous racial stock.

157. Indo-Burman Races.—Numbers are tabulated in Imperial Table XIII for three Indo-Burman races, the Zerbadis, the Arakan-Mahomedans and the Arakan-Kaman, all these being associated as Race-group S for convenience. There is also a fourth recognised Indo-Burman race, namely, the Kalè; but for the reasons given in Article 161 below no figures have been tabulated for these. The next four articles give some short accounts of the four Indo-Burman races in turn.

158. Zerbadis.—The description Zerbadi is applied to the offspring of marriages between Indian Mahomedans and Burmese women. They wear Burmese dress and speak Burmese, but the first generation and often later generations are bilingual, talking the Hindustani of Burma besides. Of recent years exception has been taken to the name by some Zerbadis who desire to have the term *Burma Moslem* used in its place. The difficulty that there are other Moslems or Mahomedans born in Burma of families which are to all intents and purposes settled permanently in Burma is an objection to this description which could be set aside if the term came into general use with a restricted meaning; but for the purposes of the census *Burma Muslem* could not be used as a substitute for *Zerbadi* because it would be impossible to include under it the Buddhists and Christians who are of the same mixed descent as the Mahomedans and also describe themselves as Zerbadis. In this connection it is curious to note that in the tables of the census of 1891 the only Zerbadis shown were Buddhists and were 24 in number. The term Zerbadi was not used at all in the census report of 1881, and it appears in fact from its use in the census reports to have been a newish word about 1891. I have been informed that the term is in common use in the Straits Settlements and is not thought offensive there; whether it travelled from the Straits to Burma or the other way I do not know. The term *Indo-Burman* used in 1881 could not be used now as equivalent to *Zerbadi* as it is required for a group of races of which the Zerbadis are only one. After enquiry of some members of the race it appeared that there was difficulty in finding another suitable and well-understood name, and that many of the race took no objection to the term Zerbadi, which accordingly, as no alternative could be found, is used in this report as the name of the people who have generally been so called in the past. The term *Burma Moslem* is used for the name of People VI which includes only Mahomedan Zerbadis and Arakan-Mahomedans.

Some Zerbadi children adopt their father's race as well as his religion; some follow the mother and become Burmese. Of the 6,000 Mahomedan Burmese females recorded some were of course the wives of Indian Mahomedans; some, like many of the 2,700 Mahomedan Burmese males, were probably really Zerbadis. Besides the Zerbadis proper the term was applied in the census of 1901 to the Myedu race of the north of Shwebo who are descended from Mahomedans of Northern India who came to Burma in the time of King Alaungpaya (1752-1760) to offer their services as soldiers and were given lands in Shwebo and Yamèthin districts; at this census the Myedu have been separately tabulated and included amongst the Indian races, but the comparatively large number of Zerbadis in

Yamèthin district is probably due to the settlement. According to the census report of 1901 descendants of Mahomedans brought by the Burmese as prisoners of war from Arakan and Manipur were also commonly described as Zerbadis. The latter are probably the Kathè Mahomedans who for 1921 have been tabulated under the Meit'ei race of the Chin group and are the subject of a later article of this chapter; it is not known how the former have been returned in the census of 1921 nor how either were tabulated in 1901.

The numbers of Zerbadis tabulated at successive censuses are shown in Marginal Table 7, but these numbers cannot be accepted forthwith. Only the 24 Buddhists were tabulated in 1891 when the term was first used. But there were 10,062 of Indo-Burman mixed races tabulated in 1881, of whom many must have been what would now be regarded as Mahomedan Zerbadis; while over 20,000 Zerbadis were recorded in 1901. It is clear therefore that there must have been some Mahomedan Zerbadis in 1891 tabulated under other descriptions. Possibly the Mahomedan Burmese, nearly 7,000 in number, who were tabulated in the census of that year, were Zerbadis; but there is no certainty even about this, and the total of Zerbadis in 1891 is quite unknown. In 1901 no classification of the Zerbadis by religion was given. In 1911 the Buddhists had greatly increased since 1891, but in 1921 their numbers are much less again (764 persons). It is really impossible to say exactly what were the correct numbers of Zerbadis in any year. It is certain there has been an increase in those numbers; but whether the variation in the tabulated numbers is a fair measure of that is another question. In the census report of 1911 it was remarked that the rapid increase shown by a comparison of the figures for 1901 and 1911 in Marginal Table 7 was significant as indicating the extent to which intermarriage between the Burmese and Musalman races was proceeding. But it is probable that part of the increase of 1911 was due to a growing tendency on the part of Zerbadis to regard themselves as a distinct race. The growth of this racial consciousness has been shown in the formation of a Burma Moslem Society, and in the protest of that society against the election rules under which a Burma Moslem, born in Burma of a father also born in Burma, is regarded as an Indian if his father's father had a domicile in India but outside Burma at the time of his father's birth, and as a Burman if that grandfather was born in Burma. In the census of 1921 the practice of recording race instead of the Mahomedan tribal designations has also helped probably in securing a more complete record of the Zerbadis. It was natural for a Zerbadi to describe himself in earlier censuses as Sheikh, Saiyad, etc., according to the tribe to which his father or earlier progenitor had belonged, because he would regard that as true as well as his Zerbadi description; but he would be more likely to return Zerbadi when the alternative was such a race-name as Bengali or Chulia. Still the remarks on Burmese Mahomedans earlier in this article suggest that the numbers of Zerbadis even for 1921 are not quite complete.

7. Zerbadis as tabulated.

Census.	Religion.	Persons.	Males.	Females.
1921	*Mahomedan* ...	*93,482*	*45,129*	*48,353*
	Other religions ...	*834*	*519*	*315*
	Total ...	94,316	45,648	48,668
1911	*Mahomedan* ...	*56,339*	*26,266*	*30,073*
	Buddhist ...	*3,390*	*1,781*	*1,609*
	Total ...	59,729	28,047	31,682
1901	Total ...	20,423	11,223	9,200
1891	Buddhist ...	24	23	1

159. Arakan-Mahomedans.—The Arakan-Mahomedans are practically confined to the Akyab district and are properly the descendants of Arakanese women who have married Chittagonian Mahomedans. It is said that the descendants of a Chittagonian who has permanently settled in Akyab district always refuse to be called Chittagonians and desire to be called Arakan-Mahomedans; but as permanent settlement seems to imply marriage to an Arakanese woman this is quite in accordance with the description given. Although so closely connected with Chittagonians racially the Arakan-Mahomedans do not associate with them at all; they consequently marry almost solely among themselves and have become recognised locally as a distinct race. The Arakanese Buddhists in Akyab asked the Deputy Commissioner there not to let the Arakan-Mahomedans be included under *Arakanese* in the census. The instruction issued

to enumerators with reference to Arakan-Mahomedans was that this race-name (in Burmese *Yakaing-kala*) should be recorded for those Mahomedans who were domiciled in Burma and had adopted a certain mode of dress which is neither Arakanese nor Indian and who call themselves and are generally called by others *Yakaing-kala*.

The number of Arakan-Mahomedans tabulated in 1921 was nearly 24,000. The numbers tabulated at previous census as Mahomedan Arakanese have been as in Marginal Table 8. Such differences of numbers as are shown here indicate enumeration of the Arakan-Mahomedans at previous censuses under other descriptions; in the census tables of 1901 it is impossible to identify them. Probably they have been entered as Sheikh or possibly under *Other Mahomedan Tribes* in all the three earlier censuses mentioned in the table. The defect of females is possibly due to some women who marry Indian Mahomedans describing themselves as of the same race as their husbands.

8. Tabulated Arakan Mahomedans.

Census.	Persons.	Males.	Females.
1921	23,775	12,740	11,035
1911	4,675	3,558	1,117
1901	...	...	...
1891	466	288	178

160. Arakan-Kamans—The Arakan-Kamans are generally known simply as *Kamans*, but Arakan has been prefixed in this census to prevent confusion of their name with that of the Khaman race of the Mishmi Group which is found in the Putao district and is called the Khaman-Mishmi race for distinction. Previously no separate record of the Arakan-Kamans has been made. They are the descendants of the followers of Shah Shuja, son of Aurungzebe, who fled to Arakan in 1660 A.D. after the failure of his attempt to seize the Moghul throne. After the death of Shah Shuja they were formed into a royal bodyguard of archers, and hence received their name. Their features are Indian, but their language dress and manners are Arakanese. They are still located in the Akyab and Kyaukpyu districts, 4 males in Sandoway being the only ones enumerated outside those districts. Of a total of 1,054 males and 1,126 females, all are Mahomedans except 10 males and 7 females who are Buddhists. The Arakan-Kamans are not included in People VI as Burma Moslems; the Buddhists are in People I with the Burma Group and the Mahomedans in People VII with *Other Mahomedans born in Burma*.

161. Kalè—The Burmese term *Kalè* formerly meant merely Hindu, and this is the meaning given for it in Stevenson's Burmese-English dictionary; probably it meant a Tamil Hindu, but as these were formerly much the most numerous kind of Hindu in Burma there was not enough difficulty to interfere with the ordinary use of the word. *Kalè* is used now to describe a class of persons who are descended from marriages of early Tamil immigrants with Burmese women, and have adopted Buddhism and the Burmese language, and regard themselves as a definite community amongst the Burmese Buddhists and as differing only very little from the main bulk of that class, to whom they often bear a close physical resemblance. In a law-suit relating to an inheritance in a family of this class a few years ago however it was decided that neither Buddhist nor Hindu law applied to them; and there are some religious practices which would probably not be regarded as permissible by most pure Burmese Buddhists. The number of Kalè of this kind is very small; a leading member of the community estimated that there might be 200 in Rangoon and a few more in other parts; he was not prepared to estimate the total number but thought 400 might be near the mark for the total in the whole province including Rangoon. The enumeration schedules were examined for some people in Rangoon known to be Kalè, and it was found they had all been recorded as Burmese Buddhists in accordance with the view they ordinarily take of themselves, and with the instruction to enumerators which is given in the second article of this chapter. On the other hand, it was found in the tabulation-office, that for nearly all the people described in the enumeration record as *Kalè* by race the religion was given as Hinduism and the language as Kalè, Tamil, Chetty or Hindu (*sic*). Most of these are probably pure Tamils and the others the offspring of Hindu fathers and Burmese mothers, who, as they have claimed to be Hindus, must be regarded as belonging to their father's race, which would generally be the Tamil race. Hindu Kalè are therefore the product of an idiosyncrasy of some enumerators who used the term Kalè in its old meaning. The total number of them is small; Insein district for instance

showed 61, but Henzada only 6; and many districts showed none. All Kalè therefore who gave Hinduism as their religion have been tabulated as Tamils and so too for a few described as Animists. Thus the people who returned themselves as Kalè were not Kalè according to the present meaning of that word, while those who were Kalè returned themselves as Burmese Buddhists; consequently no Kalè are shown in Imperial Table XIII.

162. Europeans and Anglo-Indians.—Owing to the mixture of the ideas of nationality and race which it involves, a precise definition of *European* is somewhat difficult to find. For this census the definition is the list of classes tabulated as such in Part I of Imperial Table XVI, including those who are regarded as Americans in the United States as well as those who are counted as natives in the several countries of Europe other than Turkey. Enumerators however were not expected to know what was included in the term *European*; the instructions reproduced in the second article of this chapter show that they were required to record more specific descriptions like English, Scotch, French. The term *Anglo-Indian* also presents difficulties because it is used in different senses even officially. For instance, persons who are Anglo-Indians according to the ordinary usage of the word may have been (at the time of the census) European British subjects for the Criminal Procedure Code, and some are Europeans according to the recently introduced election-rules of Burma; while under these same rules some of pure European descent are Anglo-Indians. For the purposes of the census an Anglo-Indian was defined as a person who is partly of European and partly of Burmese or Indian descent, the term Burmese here being used to include all the indigenous races of Burma.

Fortunately at the time of the census the electoral definitions of European and Anglo-Indian had not yet been promulgated; but there is no doubt that other special definitions such as that of European British Subject which were in force had an influence on the returns and caused some to describe themselves as European who should have been described as Anglo-Indian. It is as much in this way as in any other that the misdescriptions of these two classes of races in all censuses have been so numerous that it has been held that only the combined total of the two could be accepted with any confidence. As on this occasion it was particularly desired to obtain reliable figures for the part played by these races in the economic life of the province, so far as that could be shown by the tables of occupations, the records for them were scrutinised with care, and an exception was made to the otherwise universal rule of the census that the actual enumeration-record should be accepted. Really it was not an exception because even that rule requires that self-contradictory records shall always be modified according to the probabilities of the case. For instance, except in hill stations and a few large towns English children above the age of seven or eight are rare; in Burma English males above age twenty without an occupation and dependent on others are rare; a Presbyterian born in India or Burma and having a lowly paid occupation and declaring himself to be English (not Scotch) is more likely to be an Anglo-Indian; a person described as English but born thirty years ago in such a place as Myaungmya (in which few Europeans live) and showing for occupation "Clerk, teacher, etc.," is more likely to be Anglo-Indian, because the only European mother he could have had in Myaungmya thirty years ago would be the wife of a Deputy Commissioner or similarly placed officer, and the children of such parents would be likely to have a more definite profession than that stated. Sometimes even the record of language offered evidence. Such considerations could determine many cases. There is of course an element of risk sometimes that an exceptional case has been met; but the residual error is certainly reduced if the actual record in all doubtful cases is allowed to stand and if proper precautions are taken about persons enumerated in hill-stations where Europeans settle or go to school. In most districts too the numbers concerned are comparatively small; and although the enumeration-books could not be searched, it was possible to collect the slips by households by examining their serial numbers and by comparing the occupations of workers with those of dependents. It was thus possible to identify the parents of some Anglo-Indians recorded as Europeans. The number of slips in which the entry was modified was after all not very large; no actual account was kept but the numbers may have been about five hundred. It was not possible to recognise cases in which pure Indians had been recorded as Anglo-Indians, but these are probably not numerous in comparison with the whole body of Anglo-Indians; and it can probably be accepted that such Indians are

Anglo-Indians by culture and tend to be absorbed amongst Anglo-Indians, so that the error in any case is not particularly serious.

Similarly slips showing French race with a birthplace outside France were examined for the credibility of the particular combination of records they showed. For slips showing *Portuguese* race the rule followed was that domestic servants and ships' stewards were treated as Goanese while for the remainder the following rules were observed: (i) speakers of English or Burmese were treated as Anglo-Indians; (ii) speakers of Kanarese or Goanese were treated as Goanese; (iii) speakers of Portuguese were treated as Portuguese if born in Portugal or Cape Verde, while those born in Goa or other parts of India were marked for classification as *Goa-Portuguese*, which accordingly appears as a race-name in class Z in Imperial Table XIII.

All these rules were conservatively applied, and it is probable that while some errors still persist, and a few new ones have been introduced, the net result is distinctly more accurate than the uncriticised record. The numbers of Europeans and of Anglo-Indians as shown in Imperial Table XVI are reproduced in Marginal Table 9 with corresponding figures for the census of 1911; the smaller discrepancy between males and females for Anglo-Indians indicates a probability of increased accuracy of the figures, and the same is a fair inference from the closer approximation of the numbers of Europeans to the numbers born in Europe, America, Cape Colony, Australia and New Zealand which are given at the foot of the table. The implication of the figures in the table is that the number of persons tabulated as Europeans born in India has diminished from roughly 1,500 for each sex to about 600 males and 400 females; the discrepancy between 600 and 400 is not excessive because numbers of European males of India migrate temporarily to Burma. The decline in the number of persons born in Europe has already been discussed in Chapter III.

9. Europeans and Anglo-Indians.

Race.	1921.		1911.	
	Males.	Females.	Males.	Females.
European and allied races.	6[illegible]5	2,202	8,904	2,924
Anglo-Indians.	8,458	8,230	6,039	5,067
Persons born in Europe, etc.	5,518	1,795	7,476	1,435

163. **Hindu Castes and Mahomedan Tribes.**—At the census of 1881 in Burma no attempt was made to record Hindu castes or Mahomedan tribes; it was thought impossible to do this with Burmese enumerators. In 1891 a record was attempted, but the superintendent of that census considered the record to be of very doubtful value, and thought such a record should not be made again. In 1901, however, the record was made because it was thought that uniformity with the census in India must be maintained; but the superintendent of that census gave a warning that the figures were quite unreliable.

A record of caste was made again at the census of 1911; and the comment of the superintendent of that census was as follows:—

> "The final results are obtained after two doubtful transliterations of an extremely doubtful set of original statements . . . In considering these figures I can only repeat the warnings of several generations of Census Superintendents in Burma. The ignorance of the fundamental conception of caste is so great, and the possiblities of error in the original statement, in the enumeration-record, and in the processes of transliteration and compilation are so wide that the results are not to be treated as possessing any degree of accuracy."

The records in the censuses for Mahomedan tribes have not received such severe condemnation as those for Hindu castes, but in fact they have been little better. In 1901 over 79 per cent. were tabulated as Sheik, 3 per cent as Saiyad, and 4 per cent as "Tribe not returned," while the remainder were tabulated as Afghan, Egyptian, Malay, Mopla, Turk, etc., some of which descriptions are more national than tribal or racial. In 1911 the only classes tabulated were Sheik, Saiyad, Pathan, Malay, Zerbadi and "Other and unspecified Musulman tribes," 56 per cent going under the first and 24 per cent under the last description, which as a matter of fact, consisted chiefly of persons for whom the description given was only *Musalman*. The superintendent of the census of 1901 did not offer much criticism of his figures, but the superintendent of 1911 thought it was doubtful if much more reliance could be

placed on the figures for the separate Musalman tribes than on those for the separate Hindu castes. The census report of 1921 for Madras also states that Chulias promote themselves in considerable numbers even in Madras to membership of the Sheik and other tribes ; they would naturally do this even more in Burma where there would be so much less check upon them by jealous aquaintances.

Under these conditions it seemed proper in 1921 to avoid spending money on the tabulation of Hindu castes. I accordingly asked permission to omit all records of these matters and to substitute the quasi-national classification which has actually been used in Imperial Table XIII. The Census Commissioner consented on condition that the Local Government agreed, and the Local Government approved the proposal. Accordingly the instructions to enumerators directed them to omit all record of caste ; and lists of the classes of Indians likely to be met were given to all supervisors to enable them to instruct enumerators and check the record.

The classification adopted recognises such distinctions as that between Bengalis, Hindustanis, Oriyas, Tamils and Telugus which are important to Burma but ignores, the subdivision of these by castes, and, still more important, refrains from mingling people of all these kinds under a single caste-name. In India such a classification would possibly be nearly nonsense, at any rate in the eyes of those who attach most value to the caste-system. But the classification is not offered as a model for India ; it is offered only as a tentative effort at something more useful in Burma than an entirely fictitious record of caste. It cannot be hoped that even for Burma the classification is impregnable against attack ; a great deal of investigation had to be done to learn something about the various races, and this was complicated by the difficulty that, while few in Burma really know much about these matters, the Census Superintendents in India were not acquainted with some of the names used in Burma, or found them used in different senses. Some classes are included which seem to be overlapped by other classes, *e.g.*, the Kumauni who are people from the three districts of Almora, Naini Tal and Garhwal in the Kumaun division of the United Provinces ; I have not discovered the relationship of these to the Garhwali who are separately tabulated, but some who know them say they are distinct. Others however suggested that Garhwali and Dogra should both be included under Punjabi. Similarly some have suggested that Komati should be included under Mahratta, and both Kachchhi and Surati under Gujarati ; while others say that all Malabari Mahomedans are Moplas and should be transferred to the corresponding entry. For all these cases Imperial Table XIII gives separate figures which can be combined as appropriate ; this seems better than compounding figures on uncertain information. Similarly some would perhaps contend that the Chittagonians should have been included in Bengalis. But anyone who desires can compound the separate figures given and others may prefer to have them separate ; there is, I believe, sufficient difference to justify the separate tabulation.

Amongst the classes which caused difficulty were the Coringhi Mahomedans. According to the Superintendent of the Madras Census all described as Coringhis should be regarded as Telugus. But some others to whom reference was made were of opinion that there are no Mahomedan Telugus, and that Coringhi Mahomedans were really Nursapuri or Deccani Mahomedans. Unfortunately it was too late then to examine the record of their language ; in Imperial Table XIII therefore the Coringhi Mahomedans have been tabulated as Telugus, but they have been entered separately so that correction can be made if desired. The record of their birth-places was as shown in Marginal Table 10. Rohillas do not appear in the table as they are a branch of a Pathan race and included under Hindustani Mahomedans. Chulias are not known as such in Madras but as Lubbai, Marakhayar or Ravuthar ; they are said to be descendants of Hindus converted to Mahomedanism in the time of Hyder Ali, and they speak Tamil. Madras-Mahomedans are an Urdu-speaking race descended from a mixture of Pathans, Afghans and Moguls which are all Mahomedan races ; they do not intermarry with Tamils or Chulias. The Moplas have become known by this name in Burma on account of their recent rebellion, but hitherto they have more generally been known in Burma by the term Kaka which is not known in Madras ; they are descendants of marriages of

10. Birth-places of Coringhi Mahomedans.

Birth-place.	Males.	Females.
In Burma ...	1,650	372
Elsewhere ...	397	446
Total ...	2,047	818

Arab sailors centuries ago with the women of the Malabar coast, and their language is Malayalam. The term Chetty in Madras means strictly a shopkeeper and is used for the keeper of a petty shop as well as for a large dealer; it seems to have acquired something of the same meaning with regard to money-lending as the term *bania* has in other parts of India, but it is nowhere restricted in Madras as in Burma to the Natukottai Chetty bankers. As the chetty is really a Tamil engaged in the particular trade of money-lending, he has been tabulated as a Tamil. The Surati are Mahomedans said to be known in India as Suni Vorah. The Punjabi Sikhs are included under Punjabis. The Wethali of Myitkyina District are Assamese and have been tabulated as such. There are also in Myitkyina district many descendants of Shans or Kachins by Assamese women who were captured in raids by those races upon Assam; constant intermarriage has submerged the Assamese strain and these returned themselves as Shans or Kachins according to the race to which they principally belong and whose customs and language they have adopted. The Myedu are the descendants of Mahomedans of Indian descent who were born and bred in certain Indian colonies in Shwebo. The Manipuris shown in previous censuses have disappeared from Imperial Table XIII; a discussion of them will be found in Article 169.

164. Indians in 1921.—The term *Indian* is used in this census to include all who described themselves as belonging to one of the forty races tabulated in Group X in Imperial Table XIII, or who, having failed to define their race clearly, appeared from other parts of their record to belong to one of those races and were accordingly tabulated as "Indians of unspecified race." As in the cases of Anglo-Indians and Europeans this is different from the definition adopted in the electoral rules. The total number of Indians recorded was 653,980 males and 233,097 females, amounting to nearly 10 and nearly 4 per cent of the total males and females respectively in the province and nearly 7 per cent of the total population. (More precisely these percentages may be given as 9·7, 3·6, and 6·7 respectively.) Although forty "races" are included, the majority of the Indians belong to one or other of six of these as is shown in Marginal Table 11.

11. Indians in Burma classified by race.

Race.	All Religions.		Hindus and Animists.		Mahomedans.	
	Males.	Females.	Males.	Females.	Males.	Females.
(1)	(2)	(3)	(4)	(5)	(6)	(7)
All Indian Races	653,980	233,097	379,529	104,428	249,600	116,671
Bengali ...	60,117	17,871	12,172	3,002	46,651	14,632
Chittagonian	129,854	76,534	5,110	286	122,872	75,682
Hindustani ...	107,557	26,020	82,482	19,657	23,400	5,984
Oriya ...	49,993	2,482	48,017	1,973	853	212
Tamil ...	100,315	51,749	68,192	36,761	31,328	7,196
Telugu ...	129,566	28,621	125,413	27,095	2,047	818
Other Indian Races	76,578	29,820	38,143	15,654	38,449	12,147

The distribution of the Indian population by religion is shown in Marginal Table 12. The Hindus and Animists ought really to be taken together, as it is so much a matter of chance for many of the uneducated Indians whether a Burmese enumerator records them as of the one or the other of these religions. The Mahomedan females exceed Hindu and Animist females together by about 12 per cent and are about one-half the total Indian females; but Hindu males exceed the Mahomedan males by about 50 per cent. A somewhat different aspect is given to the proportions of Hindus and Mahomedans if the districts of Arakan Division are excluded as in the next article. No other kind of Indian compares with the Hindus and Mahomedans in number; the Christians who come next have only about 2 per cent of all Indian males, 4 per cent of the

12. Indians in Burma classified by religion.

Religion.	Persons.	Males.	Females.
Hindu ...	477,531	374,524	103,007
Animist ...	6,425	5,005	1,420
Sikh ...	4,843	3,704	1,139
Arya ...	270	190	80
Brahmo ...	448	355	93
Mahomedan ...	366,271	249,600	116,671
Buddhist ...	7,155	5,822	1,333
Christian ...	22,602	13,674	8,928
Others ...	1,532	1,106	426
Total ...	887,077	653,980	233,097

females and 2·5 per cent of the total for both sexes; the numbers of other religions are much smaller still and altogether make up only 1·5 per cent of the whole. Including Indian Animists under Hindus, as will be done throughout the remainder of this chapter, the Hindus and Mahomedans together make up 850,227 or nearly 96 per cent of all Indians in the province.

The distribution of Indians by natural divisions is given in Marginal Table 13, where is shown their concentration in the Delta, Coast and Centre subdivisions of Burman division which together include 95 per cent of the total. In Delta subdivision 10 per cent of the population is Indian; but of this 10 no less than 4·5 is due to the inclusion of Rangoon which alone contains 189,334 Indians, or 21 per cent of the total in the province. So too in Coast subdivision in which one-sixth or 17 per cent of the population is Indian. Akyab District, in which the conditions are special, includes 201,388 Indians or 23 per cent of all the Indians of the province and accounts for no less than 12·5 of that 17 per cent; while Amherst accounts for another 2·5 of the remainder leaving only 2 per cent for the rest of the subdivision to contribute.

13. Indians in Natural Divisions.

Natural Division.	Persons.	Males.	Females.	Percentage of total population which is Indian.	Percentage of total Indians of province.
Province ...	887,077	653,980	233,097	7	100
Burman ..	866,299	637,453	228,846	8	98
Delta ...	*491,799*	*385,610*	*106,189*	*10*	*55*
Coast ...	*260,381*	*164,406*	*95,975*	*17*	*29*
Centre ...	*90,921*	*69,433*	*20,578*	*2*	*10*
North ...	*24,198*	*18,004*	*6,194*	*4*	*3*
Chin ...	2,691	1,897	794	2	...
Salween ...	1,328	1,110	218	1	...
Shan ...	16,759	13,520	3,239	1	2

This concentration of the Indians is brought out still more clearly in Marginal Table 14. In all the districts not shown in that table the proportion of Indians in the population is smaller than in those shown. The latter can easily be picked out on any of the maps in the introduction to this report. They include all the districts lining the shore of the Gulf of Martaban and have an off-shoot from Rangoon to the adjacent district of Insein and a continuation along the railway to Toungoo; Akyab and Mandalay are then added as isolated districts, the former being another littoral district. Myaungmya District as a matter of fact though it appears on the map as a littoral district is not really such, because the greater part of its coast has no population save in a few isolated fishing settlements, behind which is a wide belt of tidal jungle separating the coast completely from the populated area of the district; Myaungmya is thus for practical purposes an inland delta district. In Thatôn District too the Indians are chiefly an extension from the Amherst colony into the Paung township in the south and from Pegu into the Kyaikto township in the north. The districts of the table apart from Akyab and Mandalay are thus best described as radiating from the ports of Rangoon and Moulmein and continued along the lines of communication by river from Rangoon to Bassein and by rail to Toungoo. The districts selected for the special statistics of Indians in Imperial Tables XIB and XIV include also Yamèthin besides the districts of Marginal Table 14; but that district has slightly less numbers than some others, and was included because its Indian population, which is chiefly in the southern portion, is a further continuation along the railway line of the Toungoo colony.

14. Indians in Districts. (Nearest whole thousands in columns 2, 3, 4.)

District.	Persons.	Males.	Females.	Percentage of total population which is Indian.	Percentage of total Indians of the province.
Rangoon ...	189	155	35	55	21
Akyab ...	201	119	83	35	23
Amherst ...	41	30	11	10	5
Mandalay ...	30	23	7	8	3
Hanthawaddy	62	47	15	17	7
Pyapôn ...	25	19	5	9	3
Myaungmya	20	17	3	5	2
Bassein ...	22	19	3	4	2
Insein ...	32	24	8	11	4
Pegu ...	50	35	16	11	6
Toungoo ...	25	18	7	7	3
Thatôn ...	30	22	8	6	3
All others ...	159	155	33	2	18
Total ...	887	654	233	7	100

Rangoon naturally attracts all immigrants as the capital, the ordinary port of arrival and the industrial centre of the province. More than half its total population and approximately two-thirds of its males and one-third of its females are Indians; but still, as was pointed out in Chapter II, the Burmese females exceed the Indian and make up one-half of the total.

Amherst owes much of its large number of Indians to the former history of Moulmein as the principal port; a large Indian colony having once been started has grown and spread beyond the town.

Mandalay district includes numbers of Indians in the railway centre of Myitngè as well as in Mandalay City and Maymyo where the cantonments make a considerable contribution to the district total.

Akyab is a special case because of its contiguity to India, the ease with which the boundary is crossed, and the special local conditions of a seasonal immigration which leads to the presence on the date of the census of a number of Indians who will return shortly after to India. Actually of the 201 thousand Indians shown in Marginal Table 14 for Akyab 78 thousand males and 76 thousand females were born in the district; the phenomenon is as much an annextion of part of India by Burma as an invasion of Akyab by Indians. About 90,000 of the Indians of the district were enumerated in Maungdaw township which is separated from the rest of the district by hills and jungle that form a much more effective barrier to daily intercourse than the Naaf River which separates it from Chittagong. Another 45,000 were in the adjacent township of Buthidauug just over those hills and 20,000 more in Kyauktaw which is no great journey further on. Adding to these a purely adventitious Indian population of 13,000 in Akyab town, four-fifths of the Indians in the district are accounted for. Outside Akyab town, in the townships remote from the Naaf River, the percentage of Indians is small; even with Mahomedan Arakanese included the Hindus and Mahomedans together make up only 4 per cent of the population in Ponnagyun township and 10 per cent in Pauktaw, while in the adjacent district of Kyaukpyu they form less than 2 per cent. The proportion of Indians dies off very rapidly in fact as the distance from the Naaf River increases. The seasonal immigration to which reference was made a bove is an immigration of Chittagonians to reap the rice-harvest of the district and work the rice-mills and port of Akyab town. The number of these immigrants varies from year to year according to the conditions in Chittagong, increasing if the agricultural conditions there are unfavourable. In February and March these immigrants return home, and by the middle of March most have returned although a certain number stay on somewhat longer, chiefly in the port of Akyab. As the date of the census varies by a few days it happens that the number of these immigrants included in any census is an accident; no arguments can be based therefore on variations in the enumerated Indian population of Akyab District. The census of 1921 being on the 18th March was later in the year than either that of the 1st March 1901 or that of the 10th March 1911 and consequently included comparatively few of such adventitious Indian population; 13,000 were reckoned as such in Akyab town, but practically all the Indians enumerated outside the town were normal population—as indeed is implied by the indication already given that three-quarters of them were born in the district. But the census of 1911 and still more that of 1901 included considerable numbers of temporary immigrants in the figures for Akyab District.

165. Near and Distant Districts.—It was shown in Marginal Table 11 of Chapter III that the aspect of immigration from India was changed if the four districts of the Arakan Division—Akyab, Kyaukpyu, Sandoway and the Hill District of Arakan—and two other districts touching India along a comparatively easily crossed land-frontier—the Chin Hills and the Upper Chindwin—were marked off and separate totals compiled for the remainder of Burma. This will frequently be the case again in the study of the statistics of Indians. The particular circumstances of Akyab district have been recounted in the preceding article. That district dominates the statistics of the group specially mentioned above, and in some cases is the only one of the group for which the statistics are large enough to demand special consideration; but it is convenient, and will never cause any difficulty, to associate uniformly the six districts mentioned. As the determining factor in this special treatment is the proximity of the six districts to India, they will be styled the *Near Districts* while the remainder of the province will be represented by the term *Distant Districts*. The distant districts thus form that part of Burma in which, as they can only reach it by sea, casual or very short

term immigration of Indians is small. For convenience of comparison with figures obtained in succeeding articles, the total populations of the near and distant districts at three censuses are given in Marginal Table 15. In all three years,—1901, 1911 and 1921—the near districts contained roughly one-tenth as many people of each sex as the distant districts, and so had about one-eleventh of the whole population of the province. The figures for Indians given in Marginal Tables 11 and 12 are divided between the near and distant districts in Marginal Table 16. For the corresponding figures of 1911 and 1901 Marginal Tables 22 and 23 below and the article which includes them should be consulted. In 1921, as Marginal Table 16 shows, the Chittagonians were the most numerous Indian race in the province because of their strength in the near districts; that is due to their number in Akyab district which is so little separated from their own district of Chittagong. In the distant districts the most numerous races are the Telugu, Tamil and Hindustani which together make up nearly two-thirds of all the Indians, and together with the Oriya, Bengali and Chittagonian races make up six-sevenths of them. The precise figures for the proportions of Hindus and Mahomedans of each race in the distant districts can be extracted from Imperial Table XIII; but for all races except the Bengalis and Chittagonians the numbers will differ so little from those for the whole province in Marginal Table 11, that the latter can be taken as a rough approximation. Marginal Table 24 below also gives some statistics for females of the most numerous races.

15. Population of Near and Distant Districts.

	Census.	Total Population.		
		Persons.	Males.	Females.
Near Districts	1921	1,206,206	620,781	585,425
	1911	1,130,074	586,628	543,446
	1901	1,003,842	525,906	477,936
Distant Districts	1921	12,005,986	6,136,188	5,869,798
	1911	10,985,143	5,596,866	5,388,277
	1901	9,486,782	4,816,127	4,670,655

16. Indians in Near and Distant Districts. (Nearest whole thousand.)

Race or Religion.	Total.	Near Districts.	Distant Districts.
Total	887	212*	675*
Bengali ...	78	29	49
Chittagonia ...	206	167	39
Hindustanin ...	134	6	127
Oriya ...	52	2	50
Tamil ...	152	1	151
Telugu ...	158	1	157
Others ...	106	6	100
Hindu ...	484	21	463
Animist ...			
Mahomedan ...	366	189	178
Christian ...	23	...	22
Others ...	14	3	11

* Details below fail to make up these numbers owing to omissions of parts of thousands.

166. Immigrant and Indigenous Indians.—Marginal Table 17 shows the relative numbers (taken from Imperial Table XIII) of Indians of certain religions who were born in Burma or outside Burma. Christian and Buddhist Indians and 1,532 Indians of other religions are excluded from the table because separate records of them by birthplace have not been kept; but as the total exclusion amounts only to a little over 21,000 persons, or 2·5 per cent of the whole, this defect is not serious. The table shows that only about 300,000 or something over one-third of the Indians enumerated were born in Burma; all the rest were immigrants. Three hundred thousand is about 2·3 per cent of the 13·2 millions which form the whole population of the province. Immigrant Indians are nearly twice as numerous as the indigenous, but this is due entirely to a large preponderance of males; immigrant females are only four-sevenths as numerous as the indigenous. These results are greatly affected however by the inclusion of the figures of Akyab district. If, following the uniform system proposed in the preceding article, separate figures are compiled for the

17. Birthplaces of Indians of certain religions in the whole province. (Nearest whole thousand.)

Religion.	Persons.	Born in Burma.		Born outside Burma	
		Males.	Females.	Males.	Females.
Hindu Animist.	484	51	42	328	62
Sikh, Arya or Brahmo.	6	1	...	4	1
Mahomedan.	366	103	99	146	17
Total ...	856	155	142	478	80

distant districts, the totals are as shown in Marginal Table 18. The total immigrant outnumber the total indigenous Indians in both sexes; the immigrant males are nearly six times as numerous as the indigenous. The change from Marginal Table 17 is most marked for the indigenous Mahomedans, who, instead of being twice as numerous as the indigenous Hindus, are now only half as numerous. For the total of the religions of Marginal Table 18, which include nearly 96 per cent of all the Indians of the distant districts, the indigenous Indians number only 140 thousand which amounts to just under 1·2 per cent of the total population of those districts.

18. Birthplaces of Indians of certains religions in distant districts. (Nearest whole thousand.)

Religion.	Persons.	Born in Burma.		Born outside Burma	
		Males.	Females.	Males.	Females.
Hindu Animist.	463	50	41	312	61
Sikh, Arya, or Brahmo.	5	...	...	4	1
Mahomedan.	178	25	23	118	11
Total ...	645	76	65	433	73

167. Variations in the number of Indians.—In previous censuses the numbers of Indians were not tabulated. Numbers were given of course for the Hindu and Mahomedan and other religions; but they include others than Indians, and the numbers of Indians at previous censuses must be built up by modifying the figures given for each religion so as to allow for non-Indians. For comparison in each religion the same process will be used to discover the figures of 1921 although these are immediately available in the tables.

19. Indian Hindus and Mahomedans (see text for account of uncertainties of figures.)

Religion.	Census.	Persons.	Males.	Females.	Increase.	
					Absolute.	Per cent.
Hindus (including Animists)	1921	483,956	379,529	104,427	} 103,630	27
	1911	380,326	308,024	72,302		
	1901	274,352	232,203	42,149	} 105,974	39
Mahomedans	1921	366,271	249,600	116,671	} 31,949	10
	1911	334,322	227,918	106,410		
	1901	300,001	198,446	101,555	} 34,321	11
Hindus and Mahomedans	1921	850,227	629,129	221,098	} 135,579	19
	1911	714,648	535,936	178,712		
	1901	574,353	430,649	143,704	} 140,295	24

There is no record of the number of Indian Animists in 1911 and *nil* were shown in 1901; these seem therefore to have been treated as Hindus at both those census. Accordingly for a comparison with those censuses the numbers of Indian Hindus and Animists recorded in 1921 should be combined. An allowance has also to be made for the Kathè (Manipuri) who are discussed in a later article of this chapter and are included in the total numbers of Hindus. For 1901 and 1921 the tabulated numbers for Hindu Kathè can be subtracted; for 1911 an allowance of 3,000 of each sex above the numbers tabulated as Manipuri would bring those numbers about half way between the numbers for 1901 and 1921 and will at any rate reduce the error involved in using only those tabulated numbers. The figures given for Indian Hindus (including Animists) in Marginal Table 19 are thus obtained and may be taken as rough measures of the truth.

For Mahomedans the difficulties are greater because of the uncertainty about the numbers of Zerbadis and Arakan-Mahomedans who, together with Malay, Chinese and Burmese Mahomedans, should be subtracted from the recorded figures for Mahomedans to show the numbers of Indian Mahomedans. Using the tabulated numbers for these races, except the Arakan-Mahomedans in 1901 and 1911 for whom the estimates shown in the margin have been allowed, the figures for Mahomedans in Marginal Table 19 are obtained. The uncertainty of the accuracy of the subtracted figures appears also of course in the remainders shown in that table; the errors are of less importance in comparison with these larger numbers, but they may still be so large that that variations shown in the last two columns of Marginal Table 19 may be entirely wrong. A great deal of time has been given to an effort to discover some indirect

Census.	Males.	Females.
1911 ...	10,000	9,000
1901 ...	8,000	7,000

way of approximating to the correct figures, but I have not succeeded, and I have to italicise some figures of Mariginal Table 19 to mark them as uncertain; they must be regarded as simply the best estimate I could frame with inadequate data.

The numbers of Christian Indians tabulated in 1901, 1911 and 1921 are shown in Marginal Table 20; they are all liable to errors of the kind described with regard to Roman Catholics in the concluding Note of Chapter IV of this report. The number of Buddhist Indians in 1921 was 5,822 males and 1,333 females; in 1911 and 1901 none were tabulated, and it appears probable that they were tabulated under Hindu castes and are therefore included in the figures already used for Hindus. The number of Sikhs, Aryas, Brahmos, Jains and Parsis and all others can be derived from Imperial Table XIII of 1921 and Imperial Table VI of earlier censuses *; their totals are shown in Marginal Table 21 and it may be assumed that only Indians are included. The decrease in this total for 1921 is due to a decrease in the number of Sikhs employed in the military police.

20. Christian Indians.

Census.	Persons.	Males.	Females.
1921 ...	22,602	13,674	8,928
1911 ...	23,089	15,857	7,232
1901 ...	8,798	5,294	3,504

21. Sikhs and Others.

Census.	Persons.	Males.	Females.
1921 ...	7,093	5,355	1,738
1911 ...	7,488	6,138	1,350
1901 ...	6,934	5,950	984

Summing now the totals for the various religions the figures of Marginal Table 22 are obtained. The uncertainties in the figures for Christians do not seriously affect the table because the errors of recording Christian Indians as Hindus will have no effect on the total of Indians. There is still the doubt about the figures for Mahomedans; but, while the error of Zerbadis on which that depends may be large in comparison with the variations in the numbers of Indians in the successive decades, it cannot be large enough to affect perceptibly the percentages calculated in the last three columns.

22. Indians in Burma (see text for uncertainties of figures.)

Census.	Absolute numbers (Nearest whole thousand.)			Percentage of total persons males and females.		
	Persons.	Males.	Females.	Persons.	Males.	Females.
1921	887	654	233	6·7	9·7	3·6
1911	745	558	187	6·1	9·0	3·2
1901	590	442	148	5·6	8·3	2·8

Marginal Table 23 shows the result of applying for the distant districts the same process as was used to prepare Marginal Table 22 for the whole province; but it is somewhat more accurate than that table because it is free from estimates for the Arakan-Mahomedans. The percentage of Indians in the total population of the distant districts is seen to have increased by one-fourth in twenty years and to be approaching 6 per cent; but Indians still include only 2·5 per cent of the female population. While Indian females form so small a part of the total female population the proportion of Indians in the total population tends to be kept down by the absorption of their children in the Burmese race. Many Hindus marry Burmese women, and, except in a minority of cases of wealthy families, the children are brought up as Burmese and adopt the dress, manners and customs of the Burmese, so that even if they are not themselves absorbed into the Burmese race their children are. This is not so much the case with Mahomedans whose children by Burmese wives are called Zerbadis and are generally tabulated as such; but, even so, many of their descendants tend to join the Burmese race.

23. Indians in Distant Districts.

Census.	Absolute numbers (Nearest whole thousand.)			Percentage of total person males and females in the same districts.		
	Persons.	Males.	Females.	Persons.	Males.	Females.
1921	675	527	148	5·6	8·6	2·5
1911	562	445	118	5·1	7·9	2·1
1901	424	336	89	4·5	7·0	1·9

It cannot be too strongly emphasised that many of the absolute figures of this article are quite rough approximations. They are near enough to give something near the right percentage in the last three columns of Marginal Tables 22 and 23 but it would be rash to assert that the absolute increases which they suggest in each decade are correctly given, because the possible errors in them are not

* Eleven males and six females amongst the Agnostics, Atheists, etc., of 1921 were Indians.

small in comparison with those increases although small in comparison with the total figures of each census.

168. Indian versus Indigenous Population.—A complete study of the penetration of Burma by Indians would extend beyond the limits permissible in this report. The results reached in the last four articles however, together with those relating to Indians reached in the next two chapters of this report, seem to show the proper perspective of the problem. The frequent cry that the Indian is rapidly displacing the Burman is due to the large numbers of Indians who can be seen landing from the ships that come from India to Rangoon, and to the fact that the Indian population is concentrated in parts in which its presence was particularly noticed by the European observers who first raised that cry. About one-third derive their livelihood from cultivation ; the main part are engaged in occupations classed as Industry, Transport and Trade, and consequently are either in the towns or close beside the railway and river routes. This is true even in the districts in which the Indians are proportionally most numerous ; and it is exactly such a location as must make them be seen most frequently by observers. Their share in transport and some other industries however is exaggerated in the occupational tables. Their share in the skilled occupations of industrial establishments is discussed in Chapter XIII ; they have not such a monopoly of these as is sometimes suggested, and in any case allowance has still to be made for the overwhelming preponderance of the indigenous races in agriculture. It is true that in certain localities a large area of paddy land has gone into the possession of Indians or is worked by Indians ; but in a view of the whole province the area is still small and the problems involved are local. The last four articles preceding this have shown that the Indian question must be discussed separately for the near and the distant districts (or possibly for some divisions of the province differing slightly from those). In the distant districts the proportion of Indians (Marginal Table 23 of this chapter) is still only 1 in 18 of the population and it has grown by about 10 per cent in the last decade instead of the 13 per cent shown by the preceding decade. How far this falling off is only due to a falling off of the number of Indians leaving India to come to Burma and how far it is due to special losses of Indians through influenza is uncertain. But it seems clear that the power of a foreign immigrant population to displace the indigenous population must depend chiefly upon the number of the foreign women who come to settle in the country. Marginal Table 23 shows that Indian females have increased from 1·9 per cent of the female population in 1901 to 2·5 per cent in 1921 ; while Marginal Table 18 shows that in the distant districts less than half the Indian females of 1921 were born in Burma. Even a single homogeneous immigrant race of which this is true is far more likely to be absorbed than to dispossess. Exceptional results might come if the immigrants consisted chiefly of the highly educated or skilled classes or of financially powerful classes ; but while the Indians include all these, it cannot be said that the majority of them come under these descriptions. And the Indians of Burma are far from belonging to a single homogeneous race. The 2·5 per cent or 25 per mille of the female population of the distant districts which is Indian is distributed amongst a number of religions and races. Putting aside those which claim only a few persons, there are three religions and three races which share with large numbers in the manner shown in Marginal Table 24. Whether the tie of race or religion is regarded, the proportion to a thousand of the total female population is small for any unified class. The proportions have certainly been increasing. But this too has been due partly to the peculiar age-distribution

24. Indian females in distant districts, 1921.

Race.	Religion.	Number	Per thousand of total female population.
All races	Hindu ...	101,766	17
	Mahomedan	34,687	6
	Christian	8,910	2
	Others ...	2,421	...
	Total ..	147,784	25
Hindustani	Hindu ...	18,713	3
	Mahomedan	5,914	1
	Others ...	377	...
	Total ...	25,004	4
Tamil	Hindu ..	36,720	6
	Mahomedan	7,189	1
	Christian	7,577	1
	Others ...	201	...
	Total ..	51,687	9
Telugu	Hindu ...	27,066	5
	Others ...	1,525	...
	Total ...	28,591	5
Other races	Hindu ...	19,267	3
	Mahomedan	20,766	4
	Others ...	2,469	...
	Total ...	42,502	7

of the indigenous Buddhist population which Chapter V shows has caused the Buddhists to have a particularly low rate of increase just when the Indians of Burma had a natural rate of increase above their average. The age-distribution of the Buddhists may also have had an effect upon the increase of immigrant Indians. There has been since 1906 a relative defect of Buddhists in ages 20 to 35 which, by diminishing the economic competition against which the Indian immigrants have to contend, would naturally cause some of those immigrants to stay and survive who, if the competition had been fiercer, would have either returned to India or succumbed; the reports of Burma received in Indian villages would be more favourable on this account and so more people would be inclined to migrate to Burma. In recent years Burmese have been doing work commonly regarded as characteristically Indian, forming large travelling reaping-gangs and working barges to transport the rice-harvest; the extension of the railway to Ye-u is being carried out entirely by Burmese labour. It is reasonable to think that these developments are due partly to the increased proportion of young men of 20 to 25 amongst the Buddhists; and it may be expected that during the next decade Indian immigrants will find it more difficult to meet the competition of Buddhists of the most vigorous working-ages of 20 to 35. Other influences may have an opposite effect, but this must tend to make the rate of increase of immigrant Indians less than it would be otherwise.

The history of Burma moreover has something to tell. Immigration from India to Burma has been important since very early times. The earliest organised kingdoms in Burma owed their existence, cohesion and power largely to Indian immigrants of nearly 3,000 years ago; and not only the religion of the country but every branch of Burmese culture has been strongly affected by Indian influence. Pali, the classical language, is Indian. The carvings and frescoes in the Buddhist pagodas and monasteries at Pagan, dating from the 10th to the 12th centuries, give frequent evidence of the influence even of Vishnuism and Sivaism. The old Aryan god Indra is king of the Burmese nats. Nine hundred years ago in the time of king Anawrahta, a Hanthawaddy much more extensive than the Hanthawaddy district of to-day appears to have been actually under the dominion of the Cholas of Southern India. The great popular hero of Burmese history is Kyansittha who was a son of Anawrahta and reigned over all the present province of Burma except the Tavoy and Mergui districts from 1057 to 1075; a stone figure of him in the Ananda Pagoda at Pagan, which is so individualised that the archaeological experts are convinced that it is a true portrait, shows that his eyes and indeed his whole face were not Burmese. His mother is described as a princess of Wethali which was formerly identified as in India. In recent years it has been thought that Wethali was in Arakan, but this does not disprove that Kyansittha's mother was entirely or largely Indian by descent; and as the sculptor gave Burmese features to a companion figure, the stone figure shows conclusively that either Kyansittha had Indian features (which is the generally accepted and most probable view) or that such features were expected in kings. During the reign of Kyansittha an Indian prince of Pateikkaya came to Pagan desiring to marry Kyansittha's daughter; the king's advisers prevented the marriage *lest the foreigners should become too powerful in the country*, but the son of the royal lovers afterwards became king Alaungsithu. The common view therefore that the Burmese are in danger of losing their country to the Indians is not new but goes back at least 800 years to this twelfth-century romance; and it is not unreasonable to ask for special evidence that a dispossession which went on so slowly through these centuries when the indigenous races were absorbed in internecine strife is going to have lightning effect now. On the other hand, the last thirty or forty years have seen the indigenous races spreading out to reclaim to cultivation the jungle of the delta, the colonisation of which, with its difficulties of fever, flood and finance, is a feat that has not always been fully appreciated. Now it has been recognised that a complete development of the economic life of the province must be balanced, and that if the indigenous races are to retain their place they must take part in the larger industrial and commercial enterprises as well as in agriculture and in trade and industry on a small scale. One of the Burmese leaders expressed this in 1922 as follows: "The economic menace is imminent, and unless we are prepared to repel it our national existence is doomed. . . If we start organising ourselves from now and learn and strive diligently to get the control of the trade, commerce and industry of the country into our hands we may yet be saved." The principal difficulty in this seems to be the lack of financial credit; but the recent

developments in which Burmese have joined in industrial enterprises may establish this for them if they make its establishment their aim and sacrifice minor gains for it. The provision of banking facilities in the largest towns, which is involved in this need but does not constitute the whole of it, has been recognised as an urgent desideratum, and it is hoped that a beginning will soon be made. To a nation alive to the conditions the present numbers of Indians and their rate of increase offer no menace. There will be room for them always. But, while the Indians may come to Burma and work for the advantage both of themselves and of Burma there are at present no signs that they will within any reasonable time dispossess the Burmese and convert Burma into an Indian country. Those who come only for a short time cannot do this; those who stay will tend to be absorbed as they are being absorbed now. By their absorption they will of course influence Burmese development as they have always done, but the essential character of the country must remain Burmese.

169. Kathè, Manipuri and Ponna.—The people of the principal race in Manipuri call themselves *Meit'ei* and in Burmese are called *Kathè*. The *Meit'ei* language belongs to the Chin group and has been tabulated accordingly in Imperial Table IX, while in Imperial Table XI the Meit'ei race, in accordance with the usual rule of following the language-classification where there was not a definite reason for the contrary, has also been tabulated in the Chin group. All recorded as *Ponna* also have been regarded in the present census as Meit'ei, exactly as in the census of 1901 when they were similarly tabulated under *Manipuri*. There is however a good deal of difficulty attached to the term *Ponna*. Its origin is unsettled. In one sense it means simply a Brahman; but it tends to be used now as a race-description for any kind of Burmanised Indian, so that sometimes the Kalé (discussed with other Indo-Burman races earlier in this chapter) are referred to as *Kalé-Ponna*. The three principal kinds however are known as Bama (or Myamma) Ponna, Yakaing (or Arakan) Ponna and Kathé Ponna. The first regard themselves as descendants of Izzuna (who is Arjuna the Pandava of ancient India) and an aboriginal Manipur woman (that is a Chin) and describe the Meit'ei or Kathè as all the Hindu converts from various Chin tribes. The real difference appears however in the story that the Bama Ponnas are descendants of Hindus who came from Manipur to the court of the Pyu king Duttabaung in the ancient times of the kingdom of Tharekhettara (Prome). This story is given in a Burmese record of the time of King Bodawpaya (1781-1819) which describes an enquiry by him into the origin of the Bama Ponna, who were then known as the Sagaing Ponna; and the truth probably is that the Bama Ponna are the descendants of an ancient immigration (without mixture with the Burmese) while the Kathè are descendants of immigrants who came from Manipur centuries later when the racial constitution of the Manipur population had been modified. The story of the origin of the Bama Ponna is of course mixed up with the legends of the Indian kings from Kapilavastu who founded the first kingdoms among the original Burmese tribes. The Yakaing Ponna seem to have had a similar but less ancient origin, and the different environment of Chittagong and Arakan. Although the ordinary Burmese word for a Brahman is *Ponna*, the Ponnas of all three kinds include classes recognised among themselves as Brahman, Kshatriya, Vaisya and Sudra. Apparently the term *Ponna* came to mean a Brahman of any kind because the Ponna employed at ancient Burmese courts as astrologers were Brahmans; and now a Brahman from India who is not of Ponna descent must be described as Kala-Ponna if ambiguity is to be avoided. The Ponna, as the caste-division implies, are Hindus and worship certain Hindu gods; but the Yakaing Ponna do not worship the same gods as the Bama Ponna. The Bama Ponna are very strict about their Hindu customs, wearing the 9, 6 or 3 sacred threads and the sacred beads and being very watchful about ceremonial purity. They are also strict vegetarians. The Brahmans among them, like many other Brahmans, believe that it is their duty to renounce the world and undertake a life of meditation and religious austerity as Sadhu or Sannyasin at the age of 48; and it is said that many do make this renunciation. The Yakaing Ponna differ from the Bama Ponna by having no such custom of renunciation; and by religious practices which include the sacrifice of goats. A further difference between the Bama and Yakaing Ponna is that the former talk Burmese and the latter Chittagonian. Both the Bama and the Yakaing Ponna are very strict about intermarriage with other races; these classes do not even marry with each other, and any one marrying an outsider is no longer regarded as a Ponna; it is in this

way that the communities have been preserved so long in spite of their small numbers.

It is in the case of the Kathè Ponna that the tendency to use the term Ponna for any Burmanised Indian causes difficulty. Just as the Kathè Ponna differ from the Bama Ponna in the time of their arrival in Burma, so there are differences amongst the Kathè. A large number of Manipurians were brought to Burma as prisoners of war after the Burmese invasions of Manipur, particularly those of 1758, 1764 and 1819; and it is chiefly to the descendants of these that the term Kathè has generally been applied. These were skilful in weaving intricate patterns in silk cloths, and it was principally as weavers to the Burmese king of Ava that they were kept in Mandalay. They were also however employed later to dig canals; but so little of the pay disbursed from the royal treasury for them filtered through the hands of the various Burmese officers, that they used to escape secretly to British Burma and so founded colonies there. They were noted not only for their weaving but for their skill in astrology, music, dancing and massaging; and some accounts of them unfairly add begging to this list of accomplishments. As would be expected of people from the country in which polo originated, the Kathè were also noted for horsemanship. Besides the war prisoners and their descendants there are Kathè who have come freely from Manipur since, and among both these classes (who may be called the recent Kathè) the term Ponna has often been used merely as a description of those who practise astrology and conduct ceremonies. Many of the recent Kathè have become much Burmanised; indeed the greater part have been so completely absorbed by the Burmese that they describe themselves as Burmese Buddhists; in particular it is said that these transformed Kathè form a large part of the population of Mandalay and Amarapura. Some of these it is said still keep the six sacred threads and wear them occasionally, but generally leave them hanging on the wall of the house. Their former connection with Hinduism is also shown by sometimes calling Bama Ponna to conduct their marriage ceremonies in Sanskrit with Brahman rites which are not those of the ordinary Burmese marriage even when that is conducted, as it often is in the case of well-to-do people, by Ponna. The recent Kathè in some places however are still Hindus, and some are little affected by Buddhism; the Kathè of Myitkyina district for instance are simply Manipuri Hindus who have migrated.

All kinds of Kathè and Ponna are thus associated in some way with Manipur but it would perhaps have been better—if the same knowledge had been available before enumeration—to have had Bama Ponna and Yakaing Ponna separately tabulated. As it is, the Hindu Meit'ei of the tables include these and also the Hindus of the recent Kathè. The few Mahomedans are probably immigrants direct from Manipur, and the few Animists are probably members of Chin tribes of Manipur not yet converted to Hinduism. The Buddhists represent those who, while on their way to being Burmanised, have not yet claimed to be Burmese. In any case the enumeration of Kathè has been unsatisfactory at all the last four censuses. The numbers tabulated as Kathè and as Manipuri in 1891 are shown in Marginal table 25, where also those tabulated as Meit'ei in 1921, are shown as Kathè; it is impossible to say how the Hindu Manipuris were tabulated in 1891. The numbers recorded in 1921 in same localities are surprisingly small,—for instance only 28 in Prome; but I am unable to say how far these numbers represent the progress of Burmanisation. The census of 1901 showed 4,727 males and 6,405 females as Manipuris, with 1,796 males and 1,880 speakers of the Meit'ei language. The census of 1911 shows 1,626 males and 1,727 females as Hindus of the Manipuri caste (*sic*) and no speakers of the Meit'ei language. The remainder of the Hindu Kathè in 1911 must have been tabulated under other designations such as *Brahman* or *Caste not returned*, and it is impossible to say how the Buddhists and Animists were tabulated.

25. Kathè and Manipuri in 1891 and 1921.

Description as tabulated in 1891.	1891.		1921.	
	Male.	Female.	Male.	Female.
Kathè Buddhist	5,283	6,848	1,759	451
Do. Animist	148	159	116	104
Do. Hindu	...	...	3,644	3,245
Do. Mahomedan	2	...	36	48
Do. Christian	3	3	...	4
Manipuri Ponna Buddhists	1,083	1,086	...	...
Total ...	6,519	8,096	5,555	3,852

170. Castes and depressed classes amongst Indigenous Races.—Recently a paper was written by a Chino-Burman and read before the Burma Research Society in Rangoon to deny the statement so frequently made that there is no caste amongst the Burmese. The writer drew attention to the classes of *Sandala* or *Thubayanza* (grave-diggers) *Payakyun* (pagoda-slaves), *Thinchi* (described by him as pagoda-slaves), *Khwa* (pagoda-slaves who eat the offerings to shrines) and *Kèba* (hereditary beggars), and also to the *Don* (fishermen), *Hari* (sweepers) and *Hara* (washermen and barbers) of Arakan. He declared that all these and "people who follow certain despised trades and professions such as hunters, butchers, actors, intoxicating drug sellers and midwives are looked down upon as untouchables and they are absolutely debarred from taking any part in all social functions of the respectable classes; and therein the caste system among the Burmans, which is undreamt of by other races and foreigners who live side by side with the Burmese is as rigidly enforced by the respectable classes as by the Brahmans towards the Chandala and Panchama of India."

The use of the term *caste* with regard to the Burmese is a mistake, because that term has no meaning (except when it is used figuratively) apart from the whole Hindu social system. The *Don*, *Hari*, and *Hara* are known only in Akyab and are Hindu descendants of mixed marriages between Hindus and the Chin hill-tribes, who in conformity with regular Hindu practice occupy a low place in the caste-scale. The Kathè or Ponna discussed in the preceding article were not mentioned by the writer in his paper; they as Hindus have a place in the caste-system and they speak of themselves as including persons of all the four *varnas*—Brahman, Kshatriya, Vaisya and Sudra. All these however are essentially cases of colonies of Hindu society in Burma; and the existence of caste among them is on practically the same footing as the existence of caste among the Bengali, Tamil and Hindustan Hindus who come from India to Burma nowadays. The extension of the same term to the other classes mentioned is a different matter, because these are all Buddhists and entirely outside the Hindu social system. The *Thinchi* form the subject of the next article. The Sandala, Payakyun, Khwa and Kèba are fairly described as depressed classes, as they have not the same freedom of intercourse with the ordinary Burmese as these have with each other. For instance, a person of the ordinary classes would not be prepared to marry with them; and except in very special circumstances would not eat with them or allow them to use his dishes. The Sandala live outside the village or in a special quarter of it; the other classes live on land belonging to the pagoda or other edifice with which they are associated. But this is far from the conception of the untouchables of India. For instance, although a Burman would not ordinarily start a conversation with Sandala, he would have no hesitation in selling things to them and discussing the price, and he would not give a thought to the matter if in handling the goods his hands came in contact with theirs. From the Khwa the Burman regularly buys flowers on the steps of the Shwe Dagôn. The attitude of the ordinary Burman towards the Sandala, Payakyun, Khwa, and Kèba resembles much less the attitude of a high-caste Hindu towards an untouchable than the normal attitude of the ordinary rural Burman towards the uneducated classes of Indians. Less misconception will be caused if the term *caste* is avoided and some such term as *special classes* is used.

It is well-known that the payakyun include descendants of royal prisoners captured in war by the Burmese kings; the most famous of these probably is King Manuha, the Talaing king, whom the Burmese conquered in the eleventh century. It seems probable in fact that the disabilities of the original payakyun were to be ascribed to their being captive members of a conquered race rather than to their association with the pagodas and other sacred buildings; and that later, when the stigma had become firmly marked, others to whom it was desired to apply a stigma were added to them. Essentially the distinctive character of the status of a payakyun seems to be economic and to be that of a serf attached to pagoda-land and affected by the special conditions attaching to such land. With the increasing advance of thought the institution of payakyun will at least be modified and will probably fade away; indeed there are signs of such a development already. The mere increase of population and intensification of intercourse make it already much easier for a payakyun to conceal his status if he migrates to a reasonable distance; there can be no doubt that increasing numbers will take advantage of this, and the more educated classes of the ordinary population already feel there is no objection to it. The other classes

seem to accept the institution of payakyun as part of the world in which they live, and simply have never questioned it.

The ordinary statement that the Burmese have no depressed classes thus requires some modification ; but it cannot be said on that account that there is any idea of caste among them. There are besides the special classes mentioned in this article, divisions corresponding to education and economic condition ; but the suggestion of caste is as wrong for them as for ordinary English people, who even if they do not seek intercourse with classes of inferior culture, would still give no support to a suggestion that there was any matter similar to caste involved. Generally indeed there is probably as free intercourse between different economic and social classes of the Burmese as among any race or in any part of the world. The attitude of the Burmese to the hunters, butchers and sellers of intoxicating-drugs is simply a declaration of appreciation of two of Gotama's five precepts which he declared should be obeyed by every man. Three additional precepts were given which were not obligatory upon every man but were recommended as a means of rising to a higher moral level, and still two more were added for the monks. One precept, which in some accounts was No. 9 and therefore applied only to the monks but in some other accounts was No. 7 and therefore given to laymen, was to abstain from dancing, music, singing and stage-plays. It is not difficult therefore to comprehend that professions relating to these were disparaged ; everyone who entered them announced that he was content with the observance of the minimum of the Buddha's commandments. He was not so bad as a butcher because the latter disregarded even that minimum ; but he was only one step removed, even if that step was a long one.

Two other classes remain to be mentioned. The census report of 1901 gives a reference to the *Thugaung* of Salin Subdivision of the Minbu district, describing them as landed proprietors who intermarry only among themselves, live in groups of families in superior houses and have gradually come to consider themselves and to be regarded by others as a separate class. The *Thugaung* are the descendants of governors of charges round about Salin who were appointed by king Alaungsithu about 1100 A.D. and given special rank. Their descendants still have the right to certain appointments as *myothugyi*, and are recognised as a special class, so that if one of them is mentioned in conversation an allusion to the fact that he or she is a *thugaung* is almost invariably made. There are four branches or families, and their marriage customs exclude from the class the children of any *thugaung* woman who marries outside these four branches. The *Yabein* also, who have been tabulated in recent censuses as a race, have been described by some as being only a class who were despised because they bred silkworms for silk and consequently took life. In the present census 1,774 have been recorded as compared with 1,549 in 1911. In both censuses they have been recorded chiefly in the Pegu district, with a few more in Insein district ; there are said to be a few others in Prome district, but these have probably been recorded as Burmese as they tend to be absorbed by that race.

171. Thinchi.—About the year 1732 A.D. an Arakanese general with about 300 followers who plotted against and killed Narapadi, king of Arakan, were executed ; and as an enhancement of their punishment the dowager-queen directed that their descendants for ever should suffer social degradation. The degradation is said to have taken the form of dedication as slaves of pagodas and other religious edifices ; but the present-day descendants of the plotters, known as *Thinchi*, have for several generations earned their livelihood as agriculturists and traders, and are no longer employed in the service of any pagoda or other religious building ; and no distinction between them and other Arakan Buddhists is recognised by the Arakanese Buddhist monks. Some have migrated to other districts and have been absorbed into the general population. In Sandoway too it is said that some ordinary Buddhist girls have married thinchi men although they have then been regarded as thinchi themselves. The economic position of the thinchi appears to be neither better nor worse than that of their neighbours ; some are well-to-do and some poor ; there are day-labourers amongst them and merchants. The only objections to the thinchi on the part of the Arakanese at any recent time have been in respect of intermarriage and commensality. As to the first the Arakanese of pure blood object to marriages with Chins, Mros, Chaungthas and others, and so the objection in the case of thinchi is not peculiar. As to the second, the ordinary person would not partake of *cooked* food or of water handled by thinchi, but freely accepted or bought fish,

rice, vegetables, milk and so on. Thinchi might come to one's house on a friendly visit or for business purposes, but they would not be allowed to eat or drink from plates or cups used by the household. The betel-box however was shared without objection. Buddhist monks accepted alms or food, cooked or raw, from thinchi; and once so accepted, anyone could eat it without fear of contamination.

In accordance with the Arakanese tradition such an order as that imposed upon the thinchi might be annulled by a ruler of power equal to or greater than that of the king who made the order; and the sentence of degradation was cancelled by the Government of Burma on the 19th December 1922 and all the disabilities of the thinchi were thereby annulled.

The numbers of thinchi in 1921 have been reported by the Deputy Commissioner, Akyab, to be the number of Buddhists in two specified villages, and are accordingly 316 males and 290 females. In addition the Deputy Commissioner, Sandoway, reported 17 in his district; no others were known.

SUBSIDIARY TABLE I.—*Population in the natural divisions classified by Race (Nearest whole thousands given and estimated areas omitted).*

Race.	Province.	Burman.	Chin.	Salween.	Shan.	Subdivisions of Burman.			
						Delta.	Coast.	Centre.	North.
1	2	3	4	5	6	7	8	9	10
TOTAL ...	13,169	11,497	151	114	1,407	4,821	1,598	4,406	672
Indigenous races ...	11,985	10,389	148	112	1,336	4,217	1,270	4,263	639
Burma Group and Talaing.	9,007	8,811	2	4	189	3,332	1,060	4,166	254
Talaing ...	*324*	*323*	...	...	...	*134*	*189*	...	...
Karen Group ...	1,220	954	...	90	176	831	112	9	1
Tai (Shan) Group	1,018	314	...	17	686	46	23	6	239
Chin Group ...	289	145	144	...	...	9	49	81	5
Kachin Group ...	147	89	...	...	58	...	..	1	88
Palaung-Wa Group	157	5	...	...	152	...	...	...	5
Other indigenous races.	148	72	2	...	74	...	25	...	47
Chinese ...	149	96	...	...	53	64	16	8	7
Yünnanese ...	59	8	...	...	51	2	...	1	5
Other Chinese ...	90	88	...	...	2	62	16	7	2
Indo-Burman ...	120	119	..	...	1	30	50	38	1
Zerbadi ...	93	93	..	...	1	29	24	38	1
Arakan-Mahomedan.	24	24	...	...	...	...	24	...	...
Other Indo-Burman races.	2	2	...	...	...	..	2	...	...
Indian ...	887	866	3	1	17	492	260	90	24
Others ...	27	26	...	...	1	18	2	6	1
European and Anglo-Indian.	25	24	...	...	1	16	2	6	1
Miscellaneous ...	2	2	...	...	...	2	...	...	..
Summary by percentages of total in each division.									
Indigenous races	91	90	98	99	95	87	79	97	95
Chinese ...	1	1	...	...	4	1	1	...	1
Indo-Burman ...	1	1	...	...	...	1	3	1	...
Indian ...	7	8	2	1	1	10	17	2	4
Others ...	...	...	...	...	...	...	...	...	...
Percentage distributions by divisions.									
All races ...	100	87	1	1	11	37	12	33	5
Indigenous races	100	87	1	1	11	35	11	36	5
Chinese ...	100	64	...	...	36	43	11	1	...
Indo-Burman ...	100	99	...	...	1	25	42	31	1
Indian ...	100	98	...	...	2	55	29	10	3

SUBSIDIARY TABLE II.—*Proportionate Distributions by Peoples and Natural Divisions.*

Natural Division.	PEOPLES.													
	All	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII
		Burma and Mon Groups.	Christian Karens.	Non-Christian Karens.	Other Indigenous Races.	Chinese.	Burma Moslems.	Other Mahomedans.		Hindus, Indian Animists, Sikhs, Aryas and Brahmos.		Europeans and allied races.	Anglo-Indians.	Others.
								Born in Burma.	Born outside Burma.	Born in Burma.	Born outside Burma.			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
A.—Proportionate Distribution by Peoples of 1,000 persons of each Natural Division.														
Province ...	..	683	14	79	133	11	9	17	12	8	30	1	1	3
Burman ...	..	766	14	69	53	8	10	19	14	8	33	1	1	3
Delta ...	...	690	31	142	11	13	6	7	20	14	58	1	2	5
Coast ...	...	663	7	63	58	10	30	106	27	7	26	...	1	2
Centre ...	...	945	1	2	19	2	9	3	4	3	11	...	1	1
North ...	..	377	1	...	570	11	2	2	5	7	22	...	1	1
Chin ...	...	15	...	...	966	...	...	...	...	6	10	...	...	1
Salween ...	..	38	9	702	155	3	1	1	4	1	5	..	...	1
Shan ...	..	134	4	121	690	38	1	1	2	1	8	...	...	...
B.—Proportionate Distribution by Natural Divisions of 1,000 Persons of each People.														
Burman ...	873	978	909	759	351	643	992	995	982	969	967	953	978	977
Delta ...	366	370	828	656	31	431	250	147	586	676	708	549	656	716
Coast ...	121	118	64	97	53	109	404	778	262	104	104	66	110	117
Centre ...	335	463	13	7	48	55	326	64	112	140	117	318	192	130
North ...	51	28	4	...	219	48	12	6	22	48	38	19	20	14
Chin ...	11	...	...	...	...	...	...	...	...	9	4	4	1	5
Salween ...	9	...	58	77	10	2	1	1	3	1	1	3	...	2
Shan ...	107	21	32	164	556	354	7	4	15	21	28	40	21	16

CHAPTER XII.

Occupations.

172. Introduction.—There was besides the ordinary census a Special Industrial Census in which a record was made of certain matters associated with Industrial Establishments and the persons employed in them; that is treated in the next chapter of this report and must on no account be confused with the record of occupations which was made in the ordinary census that surveyed the whole population and is the subject of this chapter.

For the purposes of the tables of occupation in the ordinary census the whole population is divided into the two classes of *Workers* and *Dependents*. The term *Workers* includes (i) all those whose income or maintenance is received as payment for their labour or other services; (ii) all those whose income is derived directly from such sources as begging, pensions, rent, dividends or profit of trading; (iii) priests and Buddhist monks even if they have no income; and also (iv) prisoners in jails and inmates of asylums and some other special classes conventionally treated as workers. The term *Dependents* includes all who are not *Workers* and may be defined approximately as including all who have not their own direct incomes but are supported by another who does not stand to them in the relation of an employer. The standard relations of workers to dependents are those of a father to his wife and children who rely upon him for economic support. All workers are classified in the 225 groups shown in Part II of Imperial Table XVII, and the character which determines the group to which each worker is assigned is termed his *Occupation*. Corresponding to each group of workers is a group of the dependents who are supported by those workers; these are regarded as belonging to the same occupation as their supporters although, being dependents, they have no occupation at all in the ordinary sense of that word.

173. Enumeration.—The record of occupations was made in three columns 9, 10 and 11 of the enumeration-schedule which were headed as shown in the margin. The term *Actual Worker* was used in the enumeration in accordance with the wording prescribed for the schedule; in the preparation of the tables it was contracted to *Workers* without change of meaning. The principal instructions under which enumerators filled these columns of the schedule were as follows:

Occupation or means of subsistence of Actual Workers.		For Dependents, the occupation of the Worker by whom supported.
Principal.	Subsidiary.	
9	10	11

Column 9 (*Principal Occupation or Means of Subsistence of Actual Workers*).—Enter the principal means of subsistence of all persons who actually do work or carry on business, whether personally or by means of servants, or derive an income from their own property. By principal means of subsistence is meant that one of two or more sources from which the greater income is derived; for a person who has only one source of income that one is called the principal and entered in this column. A person who derives an income from house-rent, rent of land, a pension, interest, etc., is regarded as an actual worker; and if he derives an income from another source besides, the source of the greater income is to be recorded in this column as his principal means of subsistence. Enter the exact occupation and avoid vague terms such as "service" or "clerk" or "coolie." For example in the case of a coolie, say whether in the fields, or at an oil-well or in a rice-mill or cotton-mill or lac factory, or road-making, etc. In the case of agriculture distinguish between persons who work their own land and those who pay rent for the land they work. In the case of rent receivers distinguish rents from agricultural, building, mining or other kinds of land or from houses. If a person who makes any articles sells them *retail* he should be entered as "maker and seller" of them. Women and children who work at any occupation which helps to augment the family income must be entered in column 9 under that occupation and not in column 11. Column 9 will be blank for dependents.

Column 10 (*Subsidiary Occupation or Means of Subsistence of Actual Workers*).—Enter here any occupation or means of subsistence which actual workers have at any time of the year in addition to their principal occupation. Thus, if a person lives principally by his earnings as a boatman, but partly also by fishing, the word "boatman" will be entered in column 9 and "fisherman" in column 10. If an actual worker has only one source of income put a small cross in this column. For dependents leave this column blank.

Column 11 (*Means of Subsistence of Dependents*).—For children and women and old or infirm persons who do not work, either personally or by means of servants, and are not

principally supported by their own income enter the *principal* occupation of the person who supports them. This column will be blank for actual workers.

Supplementary instructions were given to supervisors to enable them to check the work of enumerators. Most of these were designed to remove difficulties which had been found by district officers in 1911 when instructing the census staff; some were designed to obtain some detailed information which the Department of Industries required.

174. **Statistics.**—The variety of entries in the occupation—columns of the enumeration schedule is so large that some systematic classification of them is necessary as a preliminary to their tabulation. The system used in Burma in 1921 is described in Sections A and B of Part I of Imperial Table XVII. It differs from the system used in Burma in 1911 only in some details which are set out in Section E of that Part. It also differs slightly from the system used in the other Indian provinces in 1921, and these differences are set out in Section D of the same Part. A summary of the system is that all occupations are collected into 225 *Groups* of more or less closely associated occupations (and some miscellaneous remainder-groups), and that these are similarly combined in 60 *Orders*, which in turn are combined in 14 *Sub-classes* of 4 *Classes*. For all further details of the system Part I of Imperial Table XVII should be consulted.

The system of classification having thus been set out in Part I of Imperial Table XVII, Parts II and III of the same table show the numbers of workers of each sex and of dependents principally supported by the occupations of each group, order, sub-class or class in the whole province and in each district and administrative division. Those workers of each sex who have in addition a subsidiary occupation are further classified according as that subsidiary occupation is agricultural or non-agricultural. In Imperial Table XVIII the workers of each sex in selected principal occupations who have subsidiary occupations are classified in greater detail according to those subsidiary occupations; and in Imperial Table XIX a converse tabulation is given to show the different principal occupations of those who have certain subsidiary occupations. Imperial Table XX classifies by *Peoples* (see Chapter XI, Article 150) the workers and dependents shown in Imperial Table XVII for each class, sub-class and order and for some selected groups of principal occupations; generally it gives statistics only for the whole province, but for all classes and sub-classes and some orders and groups it gives details for important natural divisions.

In addition eight subsidiary tables have been prepared and appended to this chapter as follows:—

I.—General distribution of the population by occupation.

II.—General table showing persons supported by classes and sub-classes of occupations.

III.—Statistics regarding four selected categories of occupations in each natural division and district.

IV.—The number per thousand of workers of selected sub-classes and orders in the province and in each natural division who have an agricultural subsidiary occupation.

V.—Distribution by subsidiary occupations of 10,000 landlords, cultivators and agricultural labourers of each sex.

VI.—Male and female workers of selected categories; and the increase in 1911-1921 of persons supported by those categories.

VII.—Distribution by occupation of 1,000 workers of each of certain groups of peoples.

VIII.—Distribution by peoples of 1,000 workers of each class, sub-class and order and of selected groups of occupations.

175. **Accuracy of the Enumeration and Compilation.**—Apart from the difficulty of selecting between principal and subsidiary occupations and the omission of one or other of the principal and secondary occupations, it is probable that the enumeration record was generally true although it was often incorrect in the sense that it failed to give a sufficiently precise description for the classification of the occupation to be made with certainty. Vague entries such as *bazaar-seller*, *shop-keeper*, *cooly* were of course made in large numbers exactly as in 1911, and the number of these has been increased by a mistake in copying the records on to slips. A contraction was suggested to represent retail trade, and of course it was intended and expected that the goods traded in would be

shown with it; but some districts used the contraction in the slips without specifying the goods shown in the enumeration-schedule, and so increased the number of vague entries. Similarly the petroleum refineries of Hanthawaddy District are represented by the absurdly defective total of 1,674 workers and dependents, while Order LIII (Insufficiently described occupations) shows over 16,000 more labourers for this district whose occupation was indicated without showing the particular head under which it was practised. In this particular case it ought to have been possible to make an approximately correct selection of those employed in the refineries by using the record of locality of enumeration; but when this particular case came to my notice, the figures had already been passed by the Assistant Superintendent, and the slips could not have been recalled without great expense.

No mistakes are likely to have been made through the confusion of actual occupation with caste or traditional occupation. Nor is there any likelihood of any important deliberate mis-statements of occupation. Mistakes may have occurred such as those experienced at the census of 1911 by which a son or a wife assisting the head of the family was shown either as a dependent or as a cooly; but the lesson of 1911 was applied by issuing initially instructions relating to this and to all the common mistakes noted in that census.

Some errors were bound to occur in the compilation. It would not be possible to compile over 13 millions of entries in 450 groups (of workers and dependents) without some errors even if each showed clearly the group to which it belonged. But in fact an enormous variety of names is often used for one occupation. The first step was to prepare an index of the names likely to be met. Unfortunately no copy of the index of Burmese names used in 1911 had been preserved; only one copy of the preliminary list made then was found and that was exceedingly inadequate. A classified list of industries was given in Part III of the Burma Census Report of 1901; but this was not of much use. An initial list was somehow prepared and additions were made as new occupations were met in sorting the slips, until at last a useful index had been obtained showing rather over 1,200 separate Burmese names of occupations and the serial number of the occupational-group to which each belonged. But errors were bound to creep in when the actual classification was made, the chief source of error being the ineradicable habit of the clerks in relying upon their memories for group-numbers. Commonly they were justified in this; but in a considerable number of cases errors were made in this way, especially when two occupations of different groups had somewhat similar names. All the work was checked, but a number of errors must remain. Anybody indeed who examines the tables carefully will find anomalies in them; some of these are apparent anomalies which can be explained away, but for some which I have discovered myself the only explanations are the difficulties of such complex work with a comparatively uneducated staff of casual employees, and the many simultaneous demands upon the Superintendent's personal attention. Generally however errors of classification would be unlikely to happen with occupations which recurred frequently in the records; consequently as a general rule occupations for which large numbers are recorded in several localities are likely to have figures in which the errors of compilation are small absolutely, and still smaller relatively than those in groups which were only found rarely.

176. Principal and Subsidiary Occupations.—In the supplementary instructions which were given to all census officers above the rank of enumerator, and were intended to be communicated by them to enumerators in the way of personal instruction, it was directed that enquiry should not be restricted to the employment of the particular day of the enumeration, but should be directed to discovering what sources of income or what kind of work each person had at any time; and that the occupation entered in column 9 as the principal occupation should be "that from which the greatest income is derived in an ordinary year," while that entered in column 10 as the subsidiary occupation should be "the second greatest source of income." All census officers were warned that although they were not allowed to ask the amount of a person's income, they were permitted to ask which of two sources yielded the greater income. It was also made clear that, in determining which was the principal occupation, the value of goods which a person made or grew and used directly without exchanging them for other things was to be regarded as income from the occupation of making or growing them.

In the census report of 1901 it was said that the record of subsidiary occupations in Burma cannot have much value because of the versatility of the Burman, who is likely to take up a different occupation in different years. It does not follow however that either the facts or the statistics obtained would be very different in different years. An agricultural labourer A may take up cart-driving one year for a subsidiary occupation and tap toddy-trees in the next year and turn fisherman or sawyer in another; but the demand for cart-driving is met in the second and subsequent years by B, C and D who took their turns at fishing, sawing, etc., in the first year. There are of course some variations, but they are controlled by the not very great variations of demand and the possibility for each man of combining any particular subsidiary occupation profitably with his principal occupation in a particular locality. Accordingly it does not seem that the versatility of the Burman affects the facts of subsidiary occupations in the way suggested; it seems very probable that the record of those occupations, though different for any particular man, would be much the same collectively in different years. Moreover, the variation of subsidiary occupations seems to have been exaggerated. While it is true that the Burman is versatile and able to take up various occupations successfully, it is also true that he is a human being and therefore tends to acquire habits and to do in any one year what he has done before if it has been successful. Moreover, there is always an obvious urge to take up the same subsidiary operation again and again, because of the advantages of the always increasing knowledge and experience of the sources of materials, implements or transport, locality and conditions of operation, disposal of the produce and so on. Although a number of men can be met anywhere who have practised a number of different occupations, the versatility thus appears in the variety of subsidiary occupations followed by persons of the same principal occupation in a given area and in the adoption of two or three different occupations successively in one year rather than in a change of this programme from year to year. But the versatility does affect the record of subsidiary occupations in another way; because through it a large number of people have at the date of the census an occupation different from their principal occupation. Then in spite of the emphatic instructions to the enumerators there is sure to have been a tendency to record as the principal occupation that which was being followed at the date of the census. At that time agriculture and inland fishing had almost ceased to be actively practised, and a number of the people who rely principally upon them were temporarily following other pursuits; while, on the other hand, road-making and all earth-work, transport, rice-milling, trade in textiles and household goods and particularly itinerant trading were at their maximum intensity as well as the occupations associated with such amusements as the drama. Thus there will certainly have been a tendency to record for some agriculturists only their subsidiary occupation and to omit all mention of the agriculture; while for others the subsidiary occupation will have been entered as the principal, and the principal as the subsidiary. In some cases where both the principal and subsidiary occupations have been entered there has probably been a bias in determining which of several occupations should be regarded as the principal. For instance, there are in Kyaukse a number of women who derive a great part of their income from working as porters at the railway station, and for some of them at least this must be the principal source of income; not one of them however is shown in the tables, and they have probably regarded petty bazaar-selling or other work which they do in the intervals between trains as the more respectable of their combined occupations and returned themselves accordingly. Similarly pagoda-slaves and similar classes have generally been entered as having some other occupation, *e.g.* sellers of something; but this would probably be justified on the ground that they do not get the principal part of their income from pagoda-service. In some cases too a person would be unable to say which of several is really his principal occupation; in such a case he would generally give the occupation of the particular day, or, subject to the suppression of any occupation which is commonly considered less respectable than his others, he would choose that occupation in which, whether he gets most income from it or not, he works with most independence. The commonest defects with regard to subsidiary occupations however are omissions. An outstanding case is the ownership of land as a subsidiary occupation. Imperial Table XIX shows that this subsidiary occupation was returned by 3,805 persons with an agricultural and 4,550 with a non-agricultural principal occupation; but it is quite certain that both

these numbers are largely in defect. Very few persons mentioned that they derived a subsidiary income from the ownership of houses. The sale of one article by a person who makes or repairs others either of the same or of a different kind also constitutes technically a subsidiary occupation which was generally omitted; *e.g.* a cycle-repairer who also sells imported cycles will be certain to omit one or other of these two occupations. The most important omissions however will be those of agricultural occupations combined with others either as principal or as subsidiary occupations.

177. Difficulties in the Classification System.—The system of classification is that of M. Bertillon which was approved by an international committee in 1907, and adopted by Sir Edward Gait, after consulting all the Provincial Superintendents of Census Operations, for the Census of India in 1911. But great care must be exercised in using any of the tabulated figures. Although under the necessity of providing some short title Imperial Table XVII is named *Occupations* few, if any, of the figures given are for any particular occupation in the ordinary sense of that word. The mere fact that closely associated occupations are included in one group, commonly makes that a group of industries rather than of occupations, while on the other hand some occupations which are practised in connection with different industries are distributed amongst those industries in the table. Builders of wooden buildings for instance are invariably recorded as carpenters and tabulated in group 44; builders of mat-houses are in Group 45*c* (if there are any who returned this as their principal occupation); all others engaged in building are in Groups 88 and 89, the former taking only bricklayers and masons while the latter takes house-painters, plumbers, tilers, glaziers and all persons of the miscellaneous occupations applied to building and also all the clerks, peons, watchmen and others who though employed as auxiliaries to the actual builders never do any building, and moreover are not in any considerable degree particularly associated with building by specialisation of knowledge or methods of work. As however the enumeration-record quite commonly states only *Clerk* in such a case without mentioning that the work is done in a builder's establishment, the record in Group 89 is not complete even as a record for the building industry. Moreover Group 89, though it excludes carpenters building wooden houses, does not exclude the painters of such houses; it is thus incomplete for building in metal, brick, and stone, but includes some extraneous persons. Group 88 of bricklayers and masons is probably fairly correct. But Group 44 to which the builders of wooden houses have been assigned does not consist entirely of those; it is entitled *Carpenters, turners, joiners, etc* and includes all of these trades who are not applying their labour to a particular industry *e.g.*, as carpenters in the railway-works or a ship-building yard or on board a ship; such are tabulated in the group corresponding to the industry in which they are employed, but for many of them that industry has not been specified and they have accordingly been tabulated in Group 44 with the unspecialised carpenters. Take again the tent-makers, sail-makers and paulin-makers, who are so closely allied that one would naturally expect to find them together. The first are assigned to Group 84, the second to Group 92, and for the third no group is indicated in the authoritative index; in Burma there are no general paulin-makers but there are in numerous establishments (*e.g.*, railway-works, motor-car works) persons employed in making and repairing paulins, and these have been distributed according to the industry with which they are associated. While Group 94 is provided for printers, the whole staff of a newspaper would be put in Group 177*e* with the editor and journalists if it were described in the schedules with sufficient precision; as a matter of fact it would not generally be so described, and Group 177*e* has therefore lost some entries to Group 94.

If the records for trading occupations are examined it must be noted that all who make as well as sell goods are supposed to be tabulated as makers. Makers of some goods also sell goods of the same or of different kinds made by others; for instance a silversmith may sell besides his own productions imported silverware, and in addition he may sell watches and clocks. In such cases it is to be presumed that the more important side of the business has determined the occupation recorded; the other side ought technically to have been recorded as a subsidiary occupation, but one may be quite sure that it has simply been omitted. Wholesale dealers commonly employ a number of clerks, messengers and others who are in no way specialised in the particular branch of trade, but are tabulated in the same group as their employers if the branch of trade has been specified and

in the appropriate group of Order LIII (Insufficiently described occupations) in other cases; figures for wholesale dealers therefore are as it were diluted with numbers of auxiliaries of the dealers proper, but do not represent the total of the dealers and all those auxiliaries. In retail trade these effects are much reduced. The lack of specialisation in many retail shops is to be noted; but as each shop would naturally be described by its main class of goods, and as the principal classes—such as piece-goods, grain, hardware, jewellery—are not usually combined in one shop (except in the case of the universal providers for whom Group 152 has been provided), this does not cause such serious defects as might at first be expected; some allowance should be made for it however in studying the figures of some particular branches of trade.

The figures recorded for public service and the professions and liberal arts are also diluted with numbers of auxiliaries, such as various miscellaneous trades in military cantonments tabulated under *Army*, and the caretaker or waterman of a Government Office under *Public Administration*. In the cases of Order XLVII (Law and Order) and Order XLIX (Instruction) the actual lawyers and teachers are separated from their employees and others who co-operate in the same work; but in most other cases this has not been done. In the same way in fact as certain carpenters and clerks are tabulated as rice-huskers because they are employed in a rice-mill, so the conception of an industry is as it were extended to include professions and branches of trade; and generally all associated with each industry in this extended sense are tabulated together, except some who have been put into the group of Order LIII (Insufficiently described occupations) because the "industry" was not indicated.

Some minor difficulties appear in a detailed examination of the tables. For instance 425 silk-weavers in the Pakôkku District are shown as having only 10 dependents. This is not an example of the unfavourable effect of silk-weaving upon fecundity, but it is an example of the reasons which have forbidden any elaboration of the tables in the manner of an English census to show such phenomena. The reason is simply that the silk-weaving is not generally the main industry of the families concerned; for some members it is a subsidiary industry and not recorded in Imperial Table XVII; those for whom it is the principal occupation are the younger working members of the family who have no dependents; the youngest of all have no occupation and are shown as dependents upon the principal occupation of those for whom weaving is subsidiary or who do not practise weaving at all. Again there is the case of the railway porters at Kyaukse which has already been recounted. Similarly amongst a number of anomalies are to be found many for which there are explanations in the application of the particular system of classification to a record with shortcomings.

Special care must be exercised about the titles of wide categories. Class B for instance in the standard scheme or classification has the title *Preparation and supply of material substances*, but it includes a number of occupations which are not covered by this; *e.g.*, Order XVII, Production and transmission of physical forces; Group 101, Billiard-markers, attendants at athletic grounds or theatres and all other persons (other than performers) employed in places of entertainment and all persons engaged in connection with sports and games; Groups 102 and 103, the disposal of refuse and scavenging; Group 120, the Postal, Telegraph and Telephone services; Group 121, Credit, finance and insurance, and Group 154 which includes farmers of tolls. In the Burma tables a new title of *Industry and Commerce* has been given to Class B, but even this does not include all the occupations mentioned.

The tables of occupations are thus different from the other tables in an important way. If it is desired to know the number of Hindus one has only to refer to Imperial Table VIA to find a definite statement of a number which is subject to small inevitable errors but is sufficiently accurate for all practical purposes. In a similar way all the other tables from I to XVI give more or less correct figures for clearly defined classes. The entries in the occupational tables must be used differently; they are to be regarded rather as evidence which must be considered in combination with all the other evidence available and have weight according to its intrinsic probability and the support it receives from other sources. The Special Industrial Census which is the principal subject of the next chapter of this report affords evidence in some cases. With care the statistics for Classes and Sub-classes can be used with fair confidence, and also those for some Orders and Groups for which the recorded numbers are large enough to allow the errors of enumeration or compilation to average out or be swamped in

the mass. But whatever figures are used, regard must be had to all such matters as the exact content of the title, the number of non-specialised persons included, the number of persons who are of the same occupations as some of those included but have been tabulated under other classified heads or in the groups of the unclassified, and the proportion of persons who combine any of the included occupations with another and may have given either the one or the other as principal occupation. In the cases of orders sub-classes and classes detailed examination on these lines for each separate group is generally required. Part I of Imperial Table XVII has been prepared to assist in weighing the evidence of the tables; and the principal use of Part III of that table is to give further assistance by showing what contributions different parts of the province with their varying conditions have made to the figures. In some cases too the classification by *peoples* of the workers in some occupational categories, which is given in Imperial Table XX, will afford useful evidence in combination with knowledge, derived from other sources, of the tendencies of some races to enter or avoid some occupations. It is rarely possible to assign a correct definite meaning forthwith to any number quoted directly from the occupational tables; and it may well happen that figures can be extracted for a particular description of occupations which would be useful for one enquiry but useless in another. For specific occupations in the ordinary colloquial sense of that word, instead of the special sense of characters which define the group in the tables to which a person is assigned, the tables almost invariably fail to give any useful figures at all; for these statistics covering a limited field are given in the Special Industrial Census of which some account is given in the next chapter.

178. Agricultural Occupations.—In the census of 1911 the occupations regarded as *Agricultural* were those shown in Marginal Table 1 in which the group-numbers both of 1911 and 1921 are given.

1. Agricultural and Non-Agricultural Occupations.

Group		Title.
1911.	1921.	
		A.—Agricultural Occupations.
1	1	Income from rent of agricultural land, etc.
		Ordinary Cultivators.
2	3*a*	(*a*) Cultivating their own land.
	3*b*	(*b*) Tenants.
	4	(*c*) *Taungya* cultivators.
4	3*c*	Farm servants and field labourers
		B.—Non-Agricultural Occupations
3	2*a*	Agents, Managers of landed estates, clerks, rent-collectors, etc.
5,6	5, 6, 7	All workers in plantations and gardens.
		All other groups not shown in this Table.

The title of Group 1 has been modified in the Burma tabulation of 1921 to show the real content of the group which is the control of land or water used for cultivation of any sort or for raising any sort of animal or for hunting or fishing or the exploitation in any way of wild animals or vegetation. Besides ownership of the land or water *control* includes the ownership of any rights over land or water. Practically the only property in land or water not covered is the ownership of land used for mining or non-agricultural building. The *Agricultural Occupations* thus include the ownership of agricultural land by those landlords who take no part whatsoever in any sort of cultivation and have been styled "non-agriculturists" in every Land Alienation Act. The agricultural occupations also included the ownership of land used for various occupations which were not themselves included. Amongst these were the raising of farm-stock, poultry or silkworms and also the cultivation of fruit, flowers, vegetables, betel-vine and all gardens and plantations. The number concerned with the ownership of land used for raising animals is negligible in Burma at present. The kinds of cultivation mentioned include all cultivation of vegetables and consequently a certain number of cases in which the owner is merely an investor in land, but these too are not very numerous for these kinds of cultivation; the number of cultivators of this class and their dependents who were excluded from the groups of *Agricultural Occupations* however was over 238,000, amongst whom were all those who grow vegetables and tobacco on sandbanks (*kaing* cultivation) by methods which are purely agricultural and have no relation to horticulture.

While so many non-agriculturist landlords were regarded as having an agricultural occupation, their managers, agents and clerks and rent-collectors were regarded as non-agricultural although they must come into contact with the

actual cultivators and in many cases have a real voice in the cultivation—*e.g.* when they supply seed or cattle or take as rent a share of the produce.

The *Taungya* cultivators mentioned in Marginal Table 1 are persons, generally (but not always) of the more primitive tribes, who clear by fire and cultivate for a single season patches of forest-land generally (but not always) on a hill-side. Taungya cultivation is in fact primitive cultivation; and it is not agriculture in the real sense of the term because the cultivated patch lapses to jungle again in the second year; but it was included amongst the "agricultural" occupations.

The term *Agricultural Occupation* has thus been interpreted in the past by somewhat curious conventions which have undoubtedly led to mistaken views being based on some of the statistics. The same system was prescribed for the census of 1921; and unfortunately when I pointed out these difficulties some provinces had already begun their compilation for occupations and could not have changed to the system I proposed, by which all the groups of which the titles are given in Marginal Table 1 should be regarded as agricultural. Accordingly in the present census as in that of 1911 the term "*Agricultural Occupations*" is a conventional term, which has not its natural meaning but includes the occupations and sources of income shown as agricultural in Marginal Table 1. There is however a change involved because certain terms have been more strictly interpreted in 1921. One of these is market-gardening which seems to have been interpreted in 1911 as cultivating vegetables for the market as distinguished from such cultivation for home-consumption; in 1921 this term has been used in its ordinary idiomatic sense of intensive cultivation to maintain the daily supplies of urban markets, while all the extensive cultivation of vegetables has been treated in the same way as the cultivation of paddy and other ordinary crops, and so comes within the term *Agricultural* although in 1911 most of it was assigned to the group corresponding to Group 7 of 1921. Thus although the nominal interpretation of agricultural occupations in terms of occupational groups has not changed, there has been a real transfer to them of people whose number is unknown but is probably of the order of 50,000.

The figures of 1921 for market-gardening are defective because many people occupied with this have some other occupation, in some cases agricultural and in other cases non-agricultural, and have been recorded under that, and probably also because the term *market gardening* was not very clearly understood by enumerators and tabulators; as however the error will generally consist in recording market-gardeners under an agricultural head, and as their total number can only be quite small, the effect of this error on the numbers of agricultural and non-agricultural can be ignored.

Sugar-cane and betel-vine, supporting over 36,000 persons by their cultivation, appear amongst the special crops in 1921 instead of the gardens as in 1911; but this makes no difference to the classification of these persons as agricultural or non-agricultural. Their classification in Group 6 in 1921 was determined before the implications of the definition of *agricultural* had been appreciated, and they were placed in Group 6 simply as crops for which separate figures were desired. I have since begun to think that although the prescribed title of the Order which includes Group 6 and the gardeners of Group 7 is *Growers of Special Products and Market-gardening*, Group 6 was really intended for the cultivation of plantations in which the labour is organized as in the tea-plantations of Assam or in some other special way. In that case the figures for the cultivation of tea in Burma were wrongly put in Group 6 both in 1911 and in 1921; they ought to have been included in an agricultural group, as there is no resemblance between the manners of cultivation of tea by peasant proprietors in Burma and by capitalist planters in the tea-estates of India or Ceylon.

The difference between the term *Agriculture Proper* used in Imperial Table XVII of 1921 and the term *Ordinary Cultivation* used in the corresponding table of 1911 should be noted. Marginal Table 2 shows the difference according to those tables; but some qualification of this is required on account of the inclusion in *Agriculture Proper* of some market-gardeners and of the ordinary cultivators of vegetables whose work in 1911 was not regarded as Ordinary Cultivation.

2. Agriculture Proper and Ordinary Cultivation.

Occupation.	Persons Supported.	
	Agriculture proper, (1921)	Ordinary Cultivation, (1911)
Cultivating Owners	4,064,042	3,810,610
Cultivating Tenants ..	1,814,164	1,599,331
Agricultural Labourers	2,085,806	...
Taungya	..	805,213
Total ...	7,964,012	6,215,154

A note must also be made about the figures relating to agricultural subsidiary occupations in Imperial Table XVII. In the table of 1911 the corresponding columns were headed *Partially Agriculturist* and their figures showed the numbers of those who had a non-agricultural principal occupation and combined with it an agricultural subsidiary occupation. A small number (15) tabulated in this column for agricultural principal occupations had probably crept in by mistake. In the table of 1921 the columns are headed to show workers with an agricultural subsidiary occupation; and persons with an agricultural principal occupation who had a subsidiary agricultural occupation which would belong to a different occupational group if regarded as a principal occupation have been entered in those columns. Consequently if the number of workers wholly or partially engaged in agricultural occupations is required the number contributed through agricultural subsidiary occupations is not the total of those columns but must be compiled as in Marginal Table 3 hereby. The totals of 1921 corresponding to the numbers of "partially agriculturist" of 1911 are given by the difference of lines 2 and 4 in the table, namely 42,414 males and 24,458 females; but these cannot really be compared with the figures of 1911 because the effect of differences in the recording of subsidiary occupations cannot be measured. The number of persons dependent wholly or partly on agricultural occupations cannot be discovered for either census, as no record is made of the dependents of those who practise these occupations only as subsidiaries; but the tables furnish materials for making estimates sufficiently accurate for most purposes.

3. Workers wholly or partially engaged in agricultural occupations, 1921.

	Persons.	Males.	Females.
Workers with agricultural principal occupations.	4,38,957	2,611,514	1,087,443
Workers with agricultural subsidiary occupations.	169,266	104,566	64,700
	4,708,223	2,716,089	1,992,143
Deduct workers counted twice above having both principal and subsidiary occupation agricultural.	102,394	62,161	40,233
Workers wholly or partially engaged in agricultural occupations.	4,805,829	2,653,928	1,951,901

179. Cultivation.—In the census of 1921 classification was effected for the whole of the enumerated population of 13,169,099 persons of whom 9,158,932 were shown to be principally supported by some form of cultivation (excluding mere land ownership) as compared with 8,101,615 in 1911. A classification of these numbers as tabulated is given in Marginal Table 4; but there are difficulties in comparing the figures given there for the separate occupations, because of the changes of classification, such as those of market-gardeners and other cultivators of vegetables. There has also been a change in the classification of the Chin cultivators of the Chin Hills district; in 1911 there were 116,889 of these shown as "Ordinary cultivators" and included in the figures given now in Marginal Table 3 for "Agriculture Proper", but in 1921 the Deputy Commissioner replied to a special enquiry by myself that these are all taungya cultivators. All cultivators of this kind in the Chin Hills have therefore been reckoned as taungya workers in 1921 and Marginal Table 4 must be corrected by a transfer of approximately 116,889 in 1911 from *Agriculture Proper* to *Taungya*. Marginal Table 5 shows the resulting figures so obtained; and, in order to make allowance for extensions of the area for which occupations

4. Persons principally supported by cultivation as tabulated in 1921 and 1911.

Occupation.	1921.	1911.
Agriculture proper	7,964,018	7,057,891
Taungya ...	942,285	805,213
Market-gardening ..	162	238,511
Special crops ...	90,682	
Horticulture ...	161,791	
Total ...	9,158,932	8,101,615

5. Persons principally supported by cultivation in 1911 and 1921 with corrected classification.

Kind of cultivation.	Absolute numbers		Proportion per 10,000	
	1921.	1911.	1921.	1911.
Taungya	942,285	922,102	715	788
All other cultivation	8,216,647	7,179,513	6,240	5,964
Total ...	9,158,932	8,101,615	6,955	6,730

were recorded and for the growth of the total population, the totals are converted there to show the proportion of each class to 10,000 of the total population classified by occupations. Even so the comparison is not quite exact because the proportion of taungya workers and of cultivators generally is probably greater in the areas of extension than in the province as a whole, and the figures of 1921 should be calculated for the same area as those of 1911 ; but the modification of the figures by this difference of area would be small. It appears therefore at first sight that the proportion of the population dependent upon taungya cultivation as a principal occupation has diminished by 7 per cent. while the proportion dependent upon ordinary agriculture has increased by nearly 5 per cent. Some allowance must however be made for the confusion of principal and subsidiary occupations. The easiest way of discovering the number of workers who practise some sort of cultivation as a subsidiary occupation in conjunction with a principal occupation which is not a form of cultivation is to sum the numbers given in Parts A, G, H, J, K of Imperial Table XVIII for subsidiary occupations of Groups 3 to 7 inclusive ; the result obtained is 36,843 males and 22,547 females. The number of dependents of these workers can only be estimated ; but they may be taken to bear roughly the same proportion to male workers as amongst those for whom cultivation is a principal occupation ; and so the total of workers and dependents may be estimated at 125,000 Adding this to the total given in Marginal Table 5 the number supported in 1921 wholly or partially by some kind of cultivation is found to be 9,284,000 approximately, that is 70·5 per cent of the total population. This is still a little too small because of the omissions of cultivators who omitted to mention their cultivating occupation and gave only the non-cultivating subsidiary occupation of the census date, and because some part of the figures for labourers whose occupation was recorded so vaguely that they could not be classified must belong to cultivation ; so that it is probably safe to write 72 per cent instead of 70·5 ; either of these percentages is stated most compactly and without real loss of accuracy as five-sevenths.

The correction for subsidiary employment in cultivation cannot be made for the figures of 1911. It would have required 8,488,000 cultivators to give the same percentage 70·5 of the total population in 1911, and therefore an addition to the total for 1911 Marginal Table 4 of about 386,000 for persons dependent upon cultivation as a subsidiary occupation and those dependent upon it as a principal occupation who had not given it as such. It is evident then that no reliable comparison with the figures of 1911 can be made for the total of all cultivators or for the taungya or other workers ; the probable errors are at least as large as the variations. General knowledge of the conditions suggests that the proportion of cultivators in 1921 cannot have been very different from the proportion in 1911, and that the difference shown by the figures above is due entirely to the various accidents of the enumeration, and particularly to the entry of subsidiary occupations of census day as principal occupations with consequent omission of the real principal occupation, which was cultivation.

We may still however regard the figures for 1921 as indicating something like the relative importance of the various occupations, and accordingly accept 72 as the percentage of the whole population directly supported wholly or partially by cultivation. If we consider only those tabulated as engaged in agriculture proper the numbers are as in Marginal Table 6. Slight changes are shown in the proportions of owners and tenants. The corrections of the table to allow for subsidiary occupations and for agriculturists (in the ordinary sense of that word) tabulated as growers of special crops or of vegetables forbid minute comparison of the figures of the two censuses ; but it seems safe to say there is a slight tendency for the number of labourers to increase more rapidly and for that of cultivating-owners to increase less rapidly than that of the total number of agriculturists, while the proportion of tenants shows little inclination to change.

6. Persons principally supported by Agriculture Proper.

Class of Worker.	Absolute numbers.		Per cent.	
	1921.	1911.	1921.	1911.
Owner ...	4,064,042	3,693,711	51	53
Tenant ...	1,814,164	1,599,331	23	23
Labourer ..	2,085,806	1,647,950	26	24
Total	7,964,012	6,940,992	100	100

180. General Survey.—Subsidiary Tables I, II and VI give a statement of the general distribution of the population by occupations. Difficulties of changes of classification and of the confusion of principal and subsidiary occupations are generally so much less in other occupations than in those asssociated with cultivation which have just been discussed that they can generally be ignored. Errors in the compilation are apt to bear a higher proportion to the smaller total figures which appear in these cases than to those for cultivation; but they will not be serious for groups or higher categories for which large numbers are tabulated. The most important point to be borne in mind is that the figures always cover a great many auxiliary persons of general occupations (*e.g.* clerks) besides those specifically described by the titles of the categories; so that they represent industries (in an extended sense) rather than occupations.

As cultivation is recorded as the principal occupation of nearly 70 per cent of the population Class A, Sub-class *Ib* and Order IIA which include it are naturally the largest categories of their grades. After Class A, the most important is Class B, which is entitled *Industry and Commerce* and is practically composed of occupations and industries naturally included under that title, although a few others are included—as noted earlier in this chapter—which the title must be somewhat strained to cover. Class D *Miscellaneous* is credited with over 5 per cent of the population, but four-fifths of this consists of the persons whose means of subsistence were too vaguely described for classification; the definite occupations of Class D account only for 1 per cent of the population and can accordingly be left out of account with less resultant error in the measure of the other classes and sub-classes than arises in other ways. Allowing for their probable shares of the unclassified, Class B *Industry and Commerce* supports nearly one-fifth of the population; the production of raw materials otherwise than by cultivation (the remainder of Class A apart from cultivation and agriculture) supports about one-twentieth; and Class C (Public service and the professions and liberal arts) supports about one-twenty-fifth. Subsidiary Tables II and VI give some statistics of the census of 1911 for comparison; but it will by this time be clear to the reader that such comparisons require in each case, to detect changes of classification and errors due to confusion of principal and subsidiary occupations and other causes, a detailed check which cannot be undertaken here.

Descending to Sub-classes, we find the three largest are all in Class B and together constitute that class. Sub-class *V Trade finance and insurance* stands second although so far behind Sub-class *Ib* that it supports less than one-eighth as many as Cultivation alone. After Sub-class V comes Sub-class *III Industry* with about four-fifths of its number, followed after another wide gap by Sub-class *IV Transport* with less than one-third. Then, leaving Class B, comes Sub-class *VIII, The Professions and liberal arts* with only one-fourth of the numbers of *Trade finance and insurance*. Landlords are divided between two Sub-classes *I and IX*; the latter although it includes pensioners and some other classes only covers a one-thousandth part of the population, and the two together only make up about one-seventieth. Imperial Table XIX shows a further 8,355 persons who are landlords by subsidiary occupation, and we may estimate about 35,000 to 40,000 for the total of these and their dependents; even this addition however gives a total of less than one-sixtieth of the total population. But it must be remembered that the ownership of land is generally with people who have other sources of income, and most of these would probably omit to report this source even as a subsidiary occupation. Domestic service supports only about one in 150.* The winning of minerals, including petroleum, supports only one in 300.

181. Occupation and Race.—A new table has been prepared as Imperial Table XX showing the classification by peoples of persons supported by occupations of each Class, Sub-class and Order and of some Groups. The same table can also be read as showing the distribution by occupation of each People. Subsidiary Tables VII and VIII of this chapter are based upon Imperial Table XX and show respectively the proportions by peoples in 1,000 workers of each occupation and the proportion in each occupation of 1,000 workers of each people; in both these tables however Hindus and Mahomedans are put together and divided only as they were born in or out of Burma, the object being to exhibit the part played by indigenous and other Indians in the economic life of the province.

In point of fact, as Appendix A to Imperial Table XX shows, Peoples VII, VIII, IX and X all include some non-Indians, namely Burmese and Malay

* Including an estimate for sweepers who are excluded from *Domestic Service* in the table and tabulated in Class B, Group 103.

Mahomedans and Kathè and Arakan-Kaman besides an insignificant number of other races. In Peoples VII and IX together these number 20,233 or 6 per cent of the whole; in Peoples VIII and X they number 2,215 or only two-fifths per cent of the whole. Further People XIII which includes altogether 33,695 persons has only 2,406 or 7 per cent non-Indians. Peoples VII and IX, VIII and X taken together thus differ slightly from the respective totals of Indians born in Burma and of Indians born elsewhere; but if the distinction by birthplace is to be retained they give the best figures available. Accepting them, Subsidiary Table VII shows that of immigrant Indians one-half are employed in *Industry and Commerce*, *Industry* taking 17 *per cent of them*, *Transport* 19 and *Trade finance and insurance* 13 per cent. These numbers are all defective, because for no less than 16 per cent of these two peoples the occupation recorded was too vague for classification, and it may safely be assumed that most of these were engaged in *Industry and Commerce*. Nine per cent are agricultural labourers and another seven per cent are owner or tenant cultivators working at agriculture proper; 18 per cent are engaged in all kinds of cultivation together. For Burma-born Indians the proportions are quite different; cultivation of all kinds together occupies over 60 per cent of these, while *Industry and Commerce* have only 25 per cent.

If the classification of Indians by birthplace is laid aside, column 7 of Subsidiary Table II furnishes approximate figures for the total of Indians supported by each of the main occupational categories. Again the figures have a difficulty because 24,506 non-Indians are included in them; but these amount only to 2·7 of the total figures shown, and even of these 22,448 are Hindus or Mahomedans, leaving only 1,058 or one-eighth per cent of others. Column 7 of Subsidiary Table II thus gives a fair account of the contribution of Indians to the total numbers in column 3 of the same table.

Marginal Table 7 exhibits the same figures in different lights, comparing the proportional distribution of Indians amongst the occupations with that of the total population and also showing the proportion of Indians in the part of the population which is supported by occupations of each class and sub-class. It will be seen that relatively to the general population Indians are deficient in Sub-classes *Ia* and *Ib* and that the compensation for these deficiencies is distributed throughout all the other sub-classes of occupations. The strength of the Indians is clearly in Class B (Industry and Commerce). Probably some of the 114 per 1,000 Indians recorded under Class XI (Insufficiently described occupations) really belonged to Sub-class *Ib*, but even if all were given to that sub-class the total would not be as high as for the general population; while it is probable that the majority really belong to Class B and should go to make its proportion higher still.

7. Indians and Occupations.

	Class or Sub-class of Occupations.	Proportion of Indians in 1,000 of total supported.	Proportion supported	
			In 1,000 Indians.	In 1,000 total population.
	All occupations ...	69	1,000	1,000
A	**Production of raw materials** ...	37	396	735
Ia	Control of land or water used for the exploitation of animals or vegetation.	44	8	14
Ib	Cultivated and wild plants ...	31	341	701
Ic	Domestic and wild animals ..	137	34	18
II	Exploitation of minerals ..	210	10	3
B	**Industry and Commerce** ...	150	382	176
III	Industry	137	131	66
IV	Transport	325	126	27
V	Trade, finance and insurance	104	125	83
C	**Public service and the professions and liberal arts.**	115	59	35
VI	Public force	366	31	6
VII	Public administration ...	99	11	8
VIII	The professions and liberal arts	54	17	21
D	**Miscellaneous**	212	164	54
IX	Persons (not in sub-class Ia) without an occupation but receiving an income.	245	4	1
X	Domestic service ...	466	37	6
XI	Insufficiently described occupations.	181	114	43
XII	Unproductive and unclassified	164	9	4

The tables however are defective on account of the system of classification prescribed for Imperial Table XVII which includes experts, clerks and unskilled labourers without distinction in each group. There is consequently nothing in the tables to show whether in any group in which they are numerous the Indians

are occupying influential positions or not; a true estimate of their position in the province would obviously have to take separate account of the unskilled labourers and of the bankers, merchants skilled workmen and clerks.

There is also another difficulty in the records for some occupations of which those catalogued under *Transport on land* (Order XXI) may be taken as an example. Part III of Imperial Table XX shows that of a total of 92,105 male workers at these occupations 48,602 belong to indigenous races and 40,385 belong to peoples VII, VIII, IX, X, XIII—that is are practically all Indians. Transport by rail is excluded from these figures which thus relate chiefly to those engaged in carting or road construction or as porters and messengers; Part II of Imperial Table XVII shows that carting occupies nearly one-half the total. But the greater part of the transport by carts which is done by Burmans Shans and Karens is not shown in the records at all, because so much of the transport of the harvest is regarded as part of agriculture and not even shown as a subsidiary occupation. The table therefore shows only the proportions of Indians and others specifically occupied in transport by land, not the proportion of such transport done by the same classes.

182. **Occupations of Females.**—The occupations of females are exhibited in Subsidiary Table VI. The proprtion of female to male workers is shown as 673: 1000 or roughly 2: 3 for all occupations. But this ratio does not give a correct impression at all; a woman who gives only a small part of her time to a remunerated occupation counts in it as a worker just as much as a man who spends all his working hours at his occupation. Logically many female workers should be shown as occupied principally in domestic duties and having their remunerated occupations as subsidiary occupations; then a much fairer description of their occupations would be obtained. It is not merely a matter of comparison with the figures for males; it is a matter of women, who spend all their working time at occupations in the same way as men ordinarily do, being entered in the tables with only the same weight as those who give only a little time. As an example, take what is perhaps the most important instance, namely the weaving industries. In a large number of houses the women have a loom always ready for a little weaving to be done when time can be spared from household duties; little by little in odd moments a piece of cloth is completed and the ends of the family budget helped to meet. In other houses, especially where there are more daughters than are required to assist in cooking etc., some women will specialise in weaving and give up the greater part of their time to it. Statistics which fail to distinguish these cases are obviously misleading; and it is certain that if whole-time female weavers were counted the figures would be very different from those actually tabulated. In a great part of the delta the part taken by women even in agriculture is very small, because the physical conditions are held to forbid it. Women plough only rarely. They do not as a rule transplant paddy where the water is deep. They take part in the reaping, but commonly only to the extent of tying and gathering sheaves. They do not as a rule undertake the threshing. In other parts of the country conditions are different. In parts of Prome district, with loamy soils and shallow water in the rice-fields, transplanting is not considered a proper occupation for a man except in special circumstances, and he will not risk the banter he would incur by doing it. But even so it would be found that a large number of the women recorded as workers with some kind of agriculture as their principal occupation really give a very small part of their time to it, and in England women who only did as much would not be regarded as having an occupation at all. So too for many occupations the tabulated female workers give a very small proportion of their time to the occupations shown for them. Moreover the part actually taken by women is worth consideration. In a large number of the cases in which a woman is described by Burmans as assisting in her husband's work her share consists chiefly in cooking the food for him and his direct assistants. Many of the women were recorded as agricultural workers only because at the time of the preliminary enumeration of the census they were actually camping with their husbands and children beside the threshing-floor so that the whole family considered itself as jointly engaged in the work; and in fact even the tiniest baby who can toddle does at those times do his share by helping to tend the cattle.

The figures given for female workers must be interpreted for each occupation according to the conditions under which it is carried on. The sum total for all occupations of the recorded figures includes women who give very different

proportions of their time to those occupations, and in fact it includes many who give no more time to them than did other women who did not consider the occasional help they gave their husbands constituted an occupation; so that it is really meaningless.

An attempt was made to get better statistics by having a record made of women who gave the major part of their time to household duties. It would then have been possible to tabulate female workers who gave little time to household duties as genuine workers of whom the occupation recorded was the principal occupation, and to show the occupations recorded for the others as subsidiary to house-keeping. There are some difficulties in such cases as a man and wife running a shop together and taking equal part in the work until the wife has to cook dinner in the evening while her husband loafs about and smokes; but these might have been left as roughnesses in the statistics. The real difficulty was that the object of the record was not appreciated, and consequently enumerators were generally badly instructed and the record was too badly made to be worth compilation; so that the project had to be given up after examining the records of some sample areas in districts for which the Deputy Commissioners had reported that the record had been done accurately.

It is particularly important to consider the record for cotton weaving as a subsidiary occupation in Imperial Table XIX Section E as well as that for such weaving in Group 27 of Imperial Table XVII. The figures of these tables are reproduced in Marginal Table 8. There is probably little or no difference on an average between the proportion of their time which is given to weaving by the women of the two classes shown, and probably there are still an equal number omitted who give just as much time to it. At the end of the next chapter will be found a short account of an enumeration of the handlooms in the province, and the tables of the Special Industrial Census give particulars of Industrial Establishments in which cotton is woven.

8. Female Cotton Weavers.

	Workers.
Weaving shown as principal occupation ...	46,863
Weaving shown as subsidiary occupation ...	44,848
Total ...	91,711

183. Conclusion.—The statistics of occupations are distinctly unsatisfactory and especially so when the large part of the entire cost of the census which is debitable to them is considered. To some extent this is inevitable. The defects are peculiar neither to Burma nor to India. In England for instance (in the census of 1911) the classification system puts bank-messengers and telegraph-clerks into the same order (Conveyance of Men, Goods and Messages) while a library messenger is among the Professions (Order III) and a porter may go to any one of the Orders I, III, IV, VI, XXII. It was on account of the difficulties of the systems used in various countries, as well as from a desire for a comparability of the statistics of all countries, that M. Bertillon proposed in 1889 the system of classification adopted in India in 1911 and used again in 1921. It is an axiom enunciated by the Commissioners of the Census of England and Wales and by similar authorities in other countries, and particularly applied by them to the statistics of occupations, that a census does not supply data which are suitable for minute classification. But admitting this, M. Bertillon's classification is not nearly so satisfactory as it looks, and it is not as successful as Sir Edward Gait apparently thought when he adopted it for the Census of India of 1911 and before there had been any experience of its application in India. It has certainly been adopted by a number of smaller countries such as Egypt, Bulgaria, Spain, Brazil, Chili, Venezuela and Mexico; but not by England or Germany, nor even by M. Bertillon's own country of France. Incidentally, M. Bertillon, though he made logic the touchstone of his scheme, omitted to define an occupation. But he avoided to some extent one of the difficulties pointed out earlier in this chapter, because he intended that all married females should be tabulated under *Domestic Service*. The scheme was apparently modified in this matter when it was applied to India. I was not aware of this at the time of initiating the record of *Housewives*, and that record was meant to make an allowance, which it is doubtful if M. Bertillon did, for married women engaged in whole-time or nearly whole-time remunerated employment. No country however is at all satisfied with the scheme it uses. The difficulties, as soon as one comes

to the practical details of classification, are immense. The statistics of the present census therefore should not be condemned too readily because they have defects and involve difficulties. But it is certainly desirable that another system should be sought, and that instead of seeking comparability with the statistics of other countries—which on account of the myriad differences of conditions and national character must be only a nominal and worthless comparability—a scheme should be prepared to give at least the most important statistics desired here *; and it seems extremely probable that uniformity of Burma with India will have to be given up if the statistics most useful in Burma are to be obtained.

* A scheme has been suggested in the Administrative Volume which constitutes Part III of this Reports

SUBSIDIARY TABLE I.—*General distribution of the population by occupation.*

Order No.	CLASS, SUB-CLASS OR ORDER. (If a sub-class includes only one order the latter is indicated only in column 1, and its title is not shown.)	Number per 10,000 of total population.		10,000 times the ratio of workers to all workers in the Province.	100 times the ratio of dependants to total supported.
		Persons supported.	Workers.		
1	2	3	4	5	6
	ALL OCCUPATIONS	10,000	5,160	10,000	48
	Class A.—Production of raw materials	7,347	3,691	7,152	50
I	*Sub-class Ia—Control of land or water used for the exploitation of animals or vegetation.*	170	90	164	51
	Sub-class Ib—Cultivated and wild plants	7,017	3,520	6,820	50
IIa	Cultivation	6,955	3,490	6,762	50
IIb	Forestry	62	30	58	52
	Sub-class Ic—Domestic and wild animals	178	89	173	50
IIc	Raising of farm stock	55	24	66	58
IIb	Raising of other animals	1	1	2	31
IIe	Exploitation of wild animals	122	64	105	36
	Sub-class II—Exploitation of minerals	53	27	45	39
III	Coal, petroleum and metals	21	10	20	38
IV	Minerals not of Order III or IV	8	6	12	29
V	Minerals soluble in water	3	1	3	50
	Class B.—Industry and Commerce	2,763	955	2,851	
	Sub-class III—Industry	661	367	712	44
VI	Textiles	87	64	123	37
VII	Hides, feathers, bristles and hard materials from the animal kingdom.	1	...	1	45
VIII	Wood	163	79	155	51
IX	Metals	53	24	26	58
X	Ceramics	23	15	23	36
XI	Manufacture or refining of chemical products and analogous substances.	15	8	16	47
XII	Food	170	95	190	42
XIII	Dress and the toilet	87	51	93	41
XIV	Furniture	1	...	1	45
XV	Building	17	8	16	51
XVI	Construction of means of transport	7	4	7	42
XVII	Production and transmission of physical forces	...	...	...	68
XVIII	Other industries	58	26	51	55
	Sub-class IV—Transport	269	147	283	45
XIX	Transport by air	...	...	...	...
XX	Transport by water	90	51	99	43
XXI	Transport on land otherwise than by rail	151	80	154	47
XXII	Transport by rail	21	12	25	40
XXIII	Postal, telegraph and telephone services	7	4	7	50

Order No.	CLASS, SUB-CLASS OR ORDER. (If a sub-class includes only one order the latter is indicated only in column 1, and its title is not shown.)	Number per 10,000 of total population.		10,000 times the ratio of workers to all workers in the Province.	100 times the ratio of dependants to total supported.
		Persons supported.	Workers.		
1	2	3	4	5	6
	Class B.—Industry and Commerce—concld.				
	Sub-class V—Trade, Finance and Insurance	633	441	854	47
XXIV	Credit, finance and insurance	17	9	17	46
XXV	Brokerage, commission, auditing	12	7	11	34
XXVI	Trade in cotton, silk, hair or other textiles or in piece-goods	47	24	47	47
XXVII	Trade in skins, leather, furs, feather, horn, etc., and articles made from these not included in Order XXXIV or other orders.	3	1	3	54
XXVIII	Trade in wood (not firewood), cork, bark, bamboo, thatch, etc. and articles made from these.	20	12	23	38
XXIX	Trade in metals, machinery, knives, tools, etc.	3	2	3	34
XXX	Trade in pottery, bricks and tiles	1	1	1	33
XXXI	Trade in chemical products	3	2	3	33
XXXII	Hotels, cafés, restaurants, etc.	38	21	41	45
XXXIII	Other trade in foodstuffs	271	141	276	47
XXXIV	Trade in ready-made clothing and other articles of dress and the toilet.	6	3	6	45
XXXV	Trade in household goods	14	8	16	46
XXXVI	Trade in building materials (other than bricks, tiles, thatch and woody materials)	9	6	14	32
XXXVII	Trade in means of transport	15	8	15	46
XXXVIII	Trade in fuel	9	4	8	58
XXXIX	Trade in articles of luxury and articles pertaining to letters or to the arts or sciences.	11	5	9	55
XL	Trade of other sorts	340	186	360	46
	Class C.—Public service and the professions and liberal arts	351	176	340	50
	Sub-class VI—Public Force	58	29	56	50
XLI	Army	6	6	12	50
XLII	Navy	...	...	...	...
XLIII	Air-force	...	...	...	...
XLIV	Police and professional village-watchmen	52	23	44	56
XLV	*Sub-class VII—Public administration*	78	26	51	67
	Sub-class VIII—The professions and liberal arts	215	121	236	43
XLVI	Religion	145	80	155	32
XLVII	Law	8	3	4	74
XLVIII	Medicine	43	18	35	53
XLIX	Instruction	20	11	22	36
L	Letters and the arts and sciences	20	10	20	46
	Class D.—Miscellaneous	539	238	555	32
LI	*Sub-class IX—Persons (not in Sub-class Ia) without an occupation but receiving an income.*	10	3	7	68
LII	*Sub-class X—Domestic service*	36	29	28	31
LIII	*Sub-class XI—Insufficiently described occupations*	436	207	518	30
	Sub-class XII—Unproductive and unclassified	37	20	35	43
LIV	Prisoners in jails, etc., and inmates of asylum and alms-houses	13	13	23	...
LV	Beggars, vagrants, prostitutes, etc.	22	16	21	25
LVI	Other unproductive occupations and unclassified ...	3	1	1	67

SUBSIDIARY TABLE II.—*General table showing persons supported by classes and sub-classes of occupations.*

Class or Sub-class. (Serial letter or number and Title.)		Persons supported. 1921.	Persons supported. 1911.	Increase 1911 to 1921. Number.	Increase 1911 to 1921. Per cent.	Indians* included in column 3.	Proportion supported per 10,000 of total population. 1921.	Proportion supported per 10,000 of total population. 1911.	Proportion supported per thousand of the total population in each natural division, 1921. Burman. Burman.	Burman. Delta.	Burman. Coast.	Burman. Centre.	Burman. North.	Chin.	Salween.	Shan.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	All occupations	13,169,099	12,039,083	1,130,016	9	911,583	10,000	10,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
A	Production of raw materials	9,675,097	8,639,688	1,035,409	12	360,715	7,347	7,176	725	712	772	713	787	971	857	778
I	*Exploitation of animals or vegetation. Sub-classes Ia, Ib and Ic.*	*9,632,212*	*8,624,395*	*1,007,817*	*12*	*351,707*	*7,314*	*7,163*	*722*	*711*	*766*	*709*	*779*	*971*	*857*	*773*
Ia	Control of land or water used for the exploitation of animals or vegetation.	157,135	220,608	−63,473	−29	6,952	119	183	13	19	14	15	4	...	1	4
Ib	Cultivated and wild plants	9,239,997	8,144,380	1,095,617	13	313,710	7,017	6,765	690	679	719	681	754	970	853	758
Ic	Domestic and wild animals	235,080	259,407	−24,327	−9	31,045	178	215	19	20	33	13	21	1	3	11
II	Exploitation of minerals	42,885	15,293	27,592	180	9,008	33	13	3	1	6	4	8	...	...	5
B	Industry and commerce	2,321,919	2,403,804	−81,885	−3	347,012	1,763	1,997	193	202	159	207	115	6	67	69
III	Industry	870,827	806,431	64,396	8	119,038	661	670	73	62	57	93	31	3	12	18
IV	Transport	354,274	393,652	−39,378	−10	115,079	269	327	30	33	29	28	17	1	6	10
V	Trade, finance and insurance	1,096,818	1,203,721	−106,903	−9	113,775	833	1,000	90	107	73	81	67	2	49	41
C	Public service and the professions and liberal arts.	462,007	438,879	23,128	5	53,393	351	364	35	33	29	37	45	18	22	42
VI	Public force	76,100	79,495	−3,395	−4	27,044	58	66	6	5	4	6	15	13	5	4
VII	Public administration	103,041	103,108	−67	...	10,159	78	86	7	8	7	7	10	4	6	13
VIII	The professions and liberal arts ..	282,866	256,272	26,290	10	15,200	215	212	22	20	18	24	20	2	11	25
D	Miscellaneous	710,076	556,712	153,364	28	149,653	539	463	47	53	49	43	53	5	54	111
IX	Persons (not in Sub-Class Ia) without an occupation but receiving an income.	13,800	6,967	6,833	98	3,375	10	6	1	1	1	1	1	1	...	...
X	Domestic service	73,669	85,771	−12,102	−14	34,338	56	71	5	6	4	4	3	2	1	11
XI	Insufficiently described occupations ..	573,641	429,399	144,242	34	103,886	436	357	37	48	31	34	46	2	51	97
XII	Unproductive and unclassified ...	48,966	34,575	14,391	42	8,051	37	29	4	4	4	4	3	...	2	3

* The figures of column 7 represent the sum of Peoples VII to X inclusive and People XIII less Armenians; they thus include 24,506 non-Indians, chiefly Burmese, Kathè, and Malay Hindus and Mahomedans, and Arakan-Kaman, Jews, Japanese and Singhalese.

SUBSIDIARY TABLE III.—*Statistics regarding four selected categories of occupations in each natural division and district.*

NATURAL DIVISION OR DISTRICT.	Cultivation (Order IIA).				Industry and Mining (Sub-classes II and III).				Commerce (Sub-classes IV and V).				The professions, etc. (Sub-class VIII).			
	Persons supported.		Workers.		Persons supported.		Workers.		Persons supported.		Workers.		Persons supported.		Workers.	
	Number.	Percentage of total population.	Percentage of total supported.	Ratio of females to 100 males.	Number.	Percentage of total population.	Percentage of total supported.	Ratio of females to 100 males.	Number.	Percentage of total population.	Percentage of total supported.	Ratio of females to 100 males.	Number.	Percentage of total population.	Percentage of total supported.	Ratio of females to 100 males.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Province	9,158,932	70	50	72	909,410	7	56	68	1,433,294	11	53	72	282,566	2	87	81
Burman	7,834,047	68	49	71	874,010	8	55	69	1,377,842	12	53	73	246,316	2	84	83
Delta	3,845,908	67	49	61	301,524	6	56	35	675,446	14	53	80	99,087	2	81	14
Rangoon	7,486	1	54	15	90,859	90	64	11	127,326	37	61	14	17,705	5	46	81
Insein	293,700	10	43	57	13,073	5	59	31	37,014	13	51	55	5,605	2	49	16
Hanthawaddy	239,733	65	39	57	18,830	5	51	25	53,772	15	47	69	7,120	2	30	12
Tharrawaddy	377,615	77	46	72	23,068	5	52	63	44,709	9	48	88	8,533	2	50	10
Pegu	323,335	73	45	51	18,688	4	49	52	61,215	14	46	70	9,251	2	57	11
Bassein	354,810	79	51	78	23,643	5	55	33	67,413	14	56	76	8,933	2	57	11
Henzada	411,950	75	56	91	16,213	3	54	71	59,213	11	51	110	9,414	2	81	14
Myaungmya	266,101	72	52	65	13,533	4	52	34	47,790	13	53	84	5,806	2	52	15
Maubin	331,962	67	57	86	16,029	5	58	118	46,174	14	53	103	6,144	2	51	18
Pyapôn	211,178	73	45	44	10,107	4	44	21	37,758	13	53	56	5,521	2	53	11
Toungoo	270,461	71	46	61	16,068	5	48	56	43,713	12	47	70	7,518	2	53	11
Thatôn	357,362	76	46	59	20,387	4	51	94	47,172	10	51	95	7,778	2	50	15
Coast	1,140,031	71	43	53	100,825	6	54	69	163,648	10	55	87	28,188	2	48	16
Akyab	440,304	78	39	31	26,728	5	55	96	59,717	10	58	33	8,715	2	45	12
Kyaukpyu	154,891	77	51	88	2,187	1	43	31	11,750	6	53	14	2,750	1	48	8
Sandoway	85,302	76	52	91	4,918	4	51	120	6,903	6	48	109	1,635	1	44	9
Amherst	283,443	68	45	61	31,164	9	52	56	53,318	13	50	45	9,138	2	53	20
Tavoy	56,573	68	47	58	17,172	15	60	84	20,093	13	63	153	3,417	1	50	19
Mergui	79,495	59	53	53	11,026	8	47	29	12,497	8	51	70	2,183	2	42	23
Centre	2,972,058	67	51	84	446,317	10	56	107	482,650	11	53	108	105,614	2	60	11
Prome	257,203	69	45	69	31,089	9	59	140	44,796	12	50	106	7,422	2	48	13
Thayetmyo	188,953	74	51	81	16,230	6	49	86	34,549	10	47	128	4,605	2	49	10
Pakôkku	303,741	65	51	79	71,014	15	53	116	54,216	12	55	151	9,744	3	65	8
Minbu	181,548	69	58	92	22,622	8	57	120	31,267	11	59	144	6,006	2	47	11
Magwe	334,457	79	57	102	28,978	7	56	25	35,197	9	58	65	6,186	1	78	8
Mandalay	122,107	34	31	71	77,179	22	61	104	80,233	22	55	82	17,533	5	84	11
Shwebo	303,717	76	61	131	10,435	3	59	112	25,033	7	51	92	9,148	2	70	9
Sagaing	217,265	66	52	85	38,167	12	57	131	35,436	11	56	131	10,602	3	55	27
Lower Chindwin	241,013	70	53	113	47,600	14	53	116	26,549	8	53	82	7,431	2	68	4
Kyaukse	88,662	62	45	51	10,752	7	52	91	15,812	11	53	119	3,578	3	58	19
Meiktila	200,744	69	41	53	32,941	10	53	151	32,103	11	50	143	6,093	2	71	18
Yamèthin	233,203	68	39	48	22,322	7	46	83	37,812	11	46	77	6,716	2	59	9
Myingyan	305,362	69	49	83	47,405	8	63	134	39,416	9	55	178	8,701	2	55	13
North	494,020	74	52	82	26,304	4	59	51	36,057	8	52	61	13,687	2	47	14
Bhamo	86,417	77	53	96	3,535	3	55	52	11,100	10	54	76	3,641	3	46	33
Myitkyina	96,571	80	52	71	5,543	5	75	8	6,418	5	50	57	1,799	1	55	86
Katha	177,014	70	45	75	7,878	3	54	89	22,653	9	47	72	6,131	2	43	16
Putao	6,128	80	58	111	99	1	92	1	91	12	64	9	89	1	67	7
Upper Chindwin	129,880	72	56	91	9,151	5	53	82	15,756	9	54	54	4,820	3	52	10
Chin	146,387	97	67	107	350	...	83	3	834	...	52	28	250	...	57	4
Hill District of Arakan	19,378	94	65	96	89	...	53	4	312	1	63	18	48	...	48	10
Chin Hills	107,121	97	63	108	256	...	46	3	207	...	51	...	225	...	54	3
Pakôkku Hill Tracts	19,888	98	57	113	45	...	80	30	15	...	53	...	19	...	53	18
Salween	96,909	85	53	81	1,409	1	48	49	6,240	5	52	30	1,325	1	45	8
Salween	45,200	90	43	55	712	1	49	30	1,788	4	42	24	380	...	44	13
Karenni	51,729	81	54	105	697	1	48	40	4,452	7	53	62	945	1	50	3
Shan	1,063,569	76	57	79	32,702	2	63	42	70,779	5	58	69	24,444	2	74	28
Northern Shan States	470,565	84	58	90	21,067	4	70	37	30,333	5	58	53	9,484	2	72	2
Southern Shan States	593,004	70	56	70	11,634	1	49	...	40,446	5	58	83	14,960	2	74	—

SUBSIDIARY TABLE IV.—*The number per thousand of workers of selected sub-classes and orders in the province and in each natural division who have an agricultural subsidiary occupation.*

Sub-class or Order. Serial Number: Sub-class.	Order.	Title.	Province.	Natural Divisions. Burman.	Chin.	Salween	Shan.
1	2	3	4	5	6	7	8
Ia		*Control of land and water used for the exploitation of animals or vegetation.*	28	24		111	112
Ic		*Domestic and wild animals* ...	24	21	10	26	72
	IIc	Raising of farm stock ...	27	17	10	34	76
	IIe	Exploitation of wild animals ..	21	23			59
II		*Exploitation of minerals* ...	8	11		...	...
III		*Industry*	31	30	19	12	71
	VIII	Wood	22	21	...	8	46
	IX	Metals	20	16	207	..	66
	XII	Food	60	60	...	51	31
	XIII	Dress and the toilet ..	8	8	...	9	19
	XVIII	Other industries * ...	17	13		...	140
IV		*Transport*	23	22	..	18	48
	XX	Transport by water	35	35	...	..	53
	XXI	Transport on land otherwise than by rail.	20	18	...	21	52
V		*Trade, finance and insurance* ...	19	15	10	24	76
	XXIV	Credit, finance and insurance ...	43	42	..	..	175
	XXVI	Trade in cotton, silk, hair or other textiles or in piece-goods.	15	12	....	...	73
	XXVIII	Trade in wood (not firewood), cork, bark, bamboo, thatch, etc. and articles made from these.	40	40	250	50	39
	XXXIII	Other trade in foodstuffs * ...	16	15	...	20	51
	XXXVII	Trade in means or transport ...	33	29	...	89	64
	XL	Trade of other sorts * ...	21	14	6	35	90
VI		*Public force*	20	17	89	3	40
VII		*Public administration*	269	188	638	132	570
VIII		*The professions and liberal arts* ...	8	8	9	27	12
IX		*Persons (not in Sub-class Ia) without an occupation but receiving an income.*	37	33	161	167	101
X		*Domestic service*	18	2	82	100	75
XI		*Insufficiently described occupations*	30	11	72	9	74

			Subdivisions of Burman Division. Burman.	Delta.	Coast.	Centre.	North.
Ia		*Control of land and water used for the exploitation of animals or vegetation.*	24	19	34	24	42
Ic		*Domestic and wild animals* ..	21	15	28	22	28
	IIc	Raising of farm stock ..	17	9	12	25	22
	IIe	Exploitation of wild animals ..	23	18	33	20	33
II		*Exploitation of minerals* ...	11	23	14	10	5
III		*Industry*	30	10	14	47	36
	VIII	Wood	21	15	20	27	25
	IX	Metals	16	11	22	20	20
	XII	Food	60	4	7	121	22
	XIII	Dress and the toilet ...	8	7	4	10	23
	XVIII	Other miscellaneous and undefined industries. *	13	6	11	8	143

[See next page for conclusion of the table.]

* In titles marked * the word *other* is not to be interpreted with reference only to orders shown in this table; all titles have the same meaning as in Imperial Table XVII or Subsidiary Table I.

SUBSIDIARY TABLE IV.—*The number per thousand of workers of selected sub-classes and orders in the province and in each natural division who have an agricultural subsidiary occupation*—concluded.

Sub-class or Order.			Subdivisions of Burman Division.				
Serial Number.		Title.	Burman.	Delta.	Coast.	Centre.	North.
Sub-class.	Order						
1	2	3	4	5	6	7	8
IV		*Transport*	22	8	67	20	32
	XX	Transport by water	15	7	118	18	24
	XXI	Transport on land otherwise than by rail.	18	11	11	24	43
V		*Trade, finance and insurance* ...	15	12	19	17	24
	XXIV	Credit, finance and insurance .	42	28	63	60	30
	XXVI	Trade in cotton, silk, hair or other textiles or in piece-goods.	12	3	7	17	18
	XXVIII	Trade in wood (not firewood), cork, bark, bamboo, thatch, etc. and articles made from these.	40	17	149	22	102
	XXXIII	Other trade in foodstuffs * ...	15	13	13	17	19
	XXXVII	Trade in means of transport ...	23	30	41	13	50
	XL	Trade of other sorts * ..	14	12	18	14	23
VI		*Public force*	17	9	1	34	1
VII		*Public administration*	188	128	165	236	366
VIII		*The professions and liberal arts* ...	8	8	9	6	14
IX		*Persons without an occupation but receiving an income.*	33	13	44	40	97
X		*Domestic service*	2	3	3	1	5
XI		*Insufficiently described occupations*	11	5	21	15	15

* In titles marked * the word *other* is not to be interpreted with reference only to orders shown in this table; all titles have the same meaning as in Imperial Table XVII or Subsidiary Table I.

SUBSIDIARY TABLE V.—*Distribution by subsidiary occupation of* 10,000 *landlords, cultivators and agricultural labourers of each sex.*

Subsidiary Occupation.	Principal Occupation.					
	Landlord.		Cultivating owner or tenant.		Agricultural labourer.	
	Males.	Females.	Males.	Females.	Males.	Females.
1	2	3	4	5	6	7
No subsidiary occupation ...	7,956	8,611	8,202	8,799	9,120	9,227
All subsidiary occupations ..	2,044	1,389	1,798	1,201	880	773
All Agricultural ..	299	267	293	245	62	70
Landlord	...	...	12	9	2	3
Cultivating owner ...	163	131	89	83	28	26
Cultivating tenant ...	51	42	53	39	19	29
Agricultural labourer ...	53	67	61	62	...	...
Taungya	32	27	78	52	14	12
All Non-Agricultural ..	1,745	1,122	1,505	956	818	703
Gardener	97	57	170	115	33	27
Collector of forest produce ...	95	7	118	31	63	22
Fisherman	19	3	35	8	35	7
Cotton-weaver	5	247	3	434	2	132
Basket maker or mat-weaver	34	13	49	18	19	13
Oil-presser	7	3	18	8	1	1
Sweetmeat maker and toddy drawer	34	14	82	46	9	6
Boatman, cartdriver, etc. ...	87	7	269	13	166	10
Money-lender or pawnbroker	411	163	14	6	14	1
Trader	455	380	214	216	120	283
All others	572	227	533	263	355	210

SUBSIDIARY TABLE VI.—(1) *Male and female workers of selected categories.* (2) *Increase in persons supported by selected categories, 1911 to 1921.*

NOTE.—In some cases owing to differences of classification in the two censuses, the figures of columns 7 and 8 are not strictly comparable; they are given however as tabulated in Imperial Table XVII and must be treated in each case on their merits. Sections B, D and E of Part I of Imperial Table XVII should be consulted in every case.

CLASS, SUB-CLASS, ORDER OR GROUP.			WORKERS, 1921.			PERSONS SUPPORTED.		
Serial number.		Title.	Males.	Females.	Ratio of females per 1,000 males.	1921.	1911.	Increase per cent 1911-21.
Class Order.	Sub-class Group.							
1	2	3	4	5	6	7	8	9
...	...	**ALL OCCUPATIONS** ...	4,060,921	2,734,517	673	13,169,099	12,039,083	9
A	...	**Production of raw materials** ...	2,843,137	2,016,572	709	9,675,097	8,639,688	12
	1	*Exploitation of animals or vegetation (sub-class 1a, 1b and 1c)*	2,816,117	2,013,577	715	9,632,212	8,624,395	12
I	1a	*Control of land or water used for the exploitation of animals or vegetation.*	36,596	40,732	1,113	157,135	220,608	−29
	1b	*Cultivated and wild plants* ...	2,689,311	1,945,333	723	9,239,997	8,144,350	13
IIa	...	Cultivation	2,657,681	1,937,779	729	9,158,932	8,101,615	13
	3a, 3b, 3c	*Agriculture proper* ...	2,300,084	1,639,578	713	7,965,012	7,057,811	13
	3a	Cultivating owners	1,165,537	903,295	775	4,064,042	3,810,010	7
	3b	Cultivating tenants	512,302	331,178	646	1,814,104	1,590,331	13
	3c	Agricultural labourers ...	622,185	405,105	652	2,085,806	1,647,950	27
	4	Taungya	278,011	246,833	888	942,285	805,213	17
	5, 6, 7	All other cultivation	79,586	51,068	642	252,635	238,511	6
IIb	...	Forestry	31,630	7,554	239	81,065	42,765	90
	8	Forest officers, rangers, guards, etc.	4,189	189	45	12,168	5,116	138
	9, 10	All collectors of forest produce ...	27,441	7,365	268	68,897	37,649	83
	1c	*Domestic and wild animals* ...	90,210	27,512	305	235,080	259,407	−9
IIc		Raising of farm stock	34,085	10,205	292	72,611	105,044	−31
IId	...	Raising of other animals ...	768	382	497	1,660	1,459	14
	15	Birds, bees, etc.	197	177	898	748	1,459	14
	16	Silk-worms	571	205	359	912		
IIe		Exploitation of wild animals ...	54,457	16,023	311	160,809	152,004	6
...	...	Fishing and pearling ...	52,402	16,790	320	157,855	151,601	4
	II	*Exploitation of minerals*	27,020	3,095	111	42,885	15,293	180
III	...	Coal, petroleum and metals ...	19,486	856	44	28,136	8,173	244
	19	Coals mines	23	1	43	54	3,319	300
	20	Petroleum wells	9,487	309	33	13,229		
	21	Metals and minerals from which metals are extracted.	9,976	546	55	14,853	4,854	206
IV	...	Minerals not of Order III or V ...	5,989	1,720	287	10,787	3,896	177
	22b	Rubies, spinels and associated stones and all precious stones.	756	938	1,241	2,412	..	...
V	...	Minerals soluble in water	1,545	419	271	3,962	3,224	23
B	...	**Industry and Commerce** ...	727,098	530,819	730	2,321,919	2,403,804	−34
	III	*Industry*	280,631	203,317	724	870,827	806,431	8
VI	...	Textiles	8,859	75,018	8,468	115,338	155,050	−26
	25	Cotton ginning, cleaning and pressing.	1,039	2,872	2,764	5,278	2,282	131
	26	Cotton spinning	508	3,490	6,870	5,114	132,737	−46
	27	Cotton sizing and weaving ...	1,846	46,863	25,386	63,913		
	34	Silk spinning	83	490	5,904	926	18,621	63
	35	Silk weaving	2,936	18,041	6,145	29,436		
VII	...	Hides, feathers, bristles and hard materials from the animal kingdom.	537	53	99	1,067	624	71
VIII	...	Wood	79,498	24,870	313	214,170	191,686	12
	43	Sawyers	25,737	1,685	65	60,040	143,719	5
	44	Carpenters, and turners joiners, etc.	36,399	2,283	63	90,969		
	45a	Lacquer-workers and makers of basket-work, sieves and cages of bamboo, cane, etc.	6,343	3,263	514	16,535	47,967	32
	45b	Makers with woody material of mats not used for walls or floors.	5,131	10,386	2,024	24,712		
	45c	All others working with leaves or other woody materials.	5,888	7,253	1,232	21,924		

SUBSIDIARY TABLE VI—(1) *Male and female workers of selected categories.* (2) *Increase in persons supported by selected categories, 1911 to 1921*—continued.

NOTE.—In some cases owing to differences of classification in the two censuses, the figures of columns 4 and 5 are not strictly comparable; they are given however as tabulated in Imperial Table XVII and must be treated in each case on their merits. Sections B, D and E of Part I of Imperial Table XVII should be consulted in every case.

CLASS, SUB-CLASS, ORDER OR GROUP.			WORKERS, 1921.			PERSONS SUPPORTED.		
Serial number.		Title.	Males.	Females.	Ratio of females per 1,000 males.	1921.	1911.	Increase per cent 1911-21
Class Order.	Sub-class Group.							
1	2	3	4	5	6	7	8	9
IX	..	Metals	16,699	1,037	62	41,776	34,912	20
	46, 47, 48	All workers in iron and makers of arms and of articles principally or exclusively made of iron.	12,920	755	58	33,001	29,593	12
X	..	Ceramics	9,901	9,771	987	30,602	18,821	63
	55	Potters and earthen pipe and bowl makers.	3,129	7,693	2,438	17,055	15,323	11
	56	Brick and tile makers ..	6,517	1,872	287	12,629	3,242	290
XI	...	Manufacture or refining of chemical products and analogous substances.	9,021	1,778	197	20,324	10,560	92
XII	..	Food	68,293	60,807	890	223,528	178,255	25
	63	Rice huskers and pounders; and flour grinders.	36,527	24,402	668	97,116	110,623	−12
	71	Sugar, jaggery and kyantaga makers.	748	5,686	7,602	8,040	8,298	−3
	72	Sweetmeat makers, preparers of jam and condiments, etc.	3,217	8,795	2,734	19,971	2,113	845
	74	Toddy drawers.	23,938	8,331	318	70,645	35,152	101
	75	Tobacco manufacturers ...	1,412	13,056	9,246	21,540	13,171	64
XIII	..	Dress and the toilet	41,144	26,057	633	114,864	116,056	−1
	77	Tailors, milliners, dressmakers, darners and embroiderers on linen.	19,466	17,635	906	64,971	60,870	7
	78	Shoe, boot and sandal makers ...	5,539	1,162	210	11,776	11,972	−2
	79	Makers of umbrellas and of other articles pertaining to dress.	2,121	720	339	4,796	1,607	198
	80	Washing, cleaning and dyeing articles of dress.	8,078	2,311	286	17,233	23,742	−27
	81	Barbers, hairdressers and wig-makers.	3,324	192	58	5,006	4,877	3
	82	Massagers (*ahnsikthi*) and tattooers	2,497	3,936	1,576	10,569	12,624	−16
XIV	..	Furniture	374	97	259	850	1,862	−54
XV	..	Building	9,583	1,236	130	22,023	24,257	−9
XVI	...	Construction of means of transport ...	4,359	274	63	9,037	2,187	316
XVII	..	Production and transmission of physical forces.	177	5	28	577	180	221
XVIII	..	Other industries	32,252	2,314	72	76,602	71,981	6
	IV	*Transport*	*177,404*	*15,938*	90	*354,274*	*393,652*	−10
XIX	..	Transport by air (aeroplanes, etc. and aerodromes).	...	...	...	...	...	...
XX	..	Transport by water	64,930	2,350	36	118,083	131,071	−10
XXI	...	Transport on land otherwise than by rail	92,105	12,615	137	193,089	230,168	−14
XXII	...	Transport by rail	15,876	818	52	27,774	27,686	...
XXIII	...	Postal, telegraph and telephone services	4,503	145	32	9,328	4,727	97
	V	*Trade finance and insurance* ..	*269,058*	*311,564*	*1,158*	*1,096,818*	*1,203,721*	−9
XXIV	...	Credit, finance and insurance ..	8,706	2,979	334	22,210	17,345	28
XXV	...	Brokerage, commission, auditing ..	6,940	586	84	16,409	21,415	−23
XXVI	..	Trade in cotton, silk, hair or other textiles or in piece-goods.	14,881	17,194	1,155	55,306	74,875	−26
XXVII	..	Trade in skins, leather, furs, feathers, horn, etc., and articles made from these not included in Order XXXIV or other orders.	962	342	356	2,811	1,481	90
XXVIII	.	Trade in wood (not firewood) cork, bark, bamboo, thatch, etc., and articles made from these.	11,325	4,328	382	34,519	21,988	57
XXIX	...	Trade in metals, machinery, knives, tools, etc.	1,240	934	769	4,795	1,644	192
XXX	..	Trade in pottery, bricks and tiles ...	445	336	755	1,603	...	...

SUBSIDIARY TABLE VI.—(1) *Male and female workers of selected categories.* (2) *Increase in persons supported by selected categories,* 1911 *to* 1921—concluded.

NOTE.—In some cases owing to differences of classification in the two censuses, the figures of columns 4 and 5 are not strictly comparable; they are given however as tabulated in Imperial Table XVII and must be treated in each case on their merits, Sections B, D and E of Part I of Imperial Table XVII should be consulted in every case.

CLASS, SUB-CLASS, ORDER OR GROUP.			WORKERS, 1921.			PERSONS SUPPORTED		
Serial number.		Title.	Males.	Females.	Ratio of females per 1,000 males.	1921.	1911.	Increase per cent 1911-21.
Class Order.	Sub-class Group.							
1	2	3	4	5	6	7	8	9
XXXI	...	Trade in chemical products ...	2,717	1,972	729	9,941	2,903	242
XXXII	...	Hotels, cafes, restaurants, etc. ...	17,567	9,822	559	49,662	21,651	129
XXXIII	...	Other trade in foodstuffs ...	75,839	111,743	1,473	357,010	513,911	−31
	131	Fish	10,509	22,388	2,130	60,565	107,111	−43
	132	Grocery, vegetable oil, salt, and other condiments.	5,995	6,262	1,045	23,591	35,978	−43
	134	Sugar, jaggery and sweetmeats ...	11,233	27,925	2,486	65,060	108,839	−40
	135	Cardamon, betal-leaf, vegetables, fruit and areca nut.	11,432	24,031	2,155	64,326	117,309	−45
		Grain, pulse, flour and bran—						
	136a	Wholesale dealers and brokers	15,645	7,648	489	59,590	105,338	−11
	136b	Retail dealers and hawkers ...	9,890	9,177	928	34,391		
	137	Tobacco and opium	4,702	10,153	2,159	28,271	22,362	26
XXXIV	...	Trade in ready-made clothing and other articles of dress and the toilet.	2,681	1,597	596	8,410	6,531	29
XXXV	...	Trade in household goods ...	4,154	6,651	1,601	17,907	13,496	33
XXXVI	...	Trade in building materials (other than bricks, tiles, thatch and woody materials).	2,805	5,837	2,643	11,865	...	...
XXXVII	...	Trade in means of transport ...	7,338	3,028	413	23,739	15,661	52
XXXVIII	...	Trade in fuel	3,732	1,832	491	11,568	10,753	8
XXXIX	...	Trade in articles of luxury and articles pertaining to letters or to the arts or sciences.	4,189	2,170	518	14,176	10,961	29
XL	...	Trade of other sorts	104,137	140,263	1,347	454,857	455,663	...
	152	General store-keepers and shop-keepers otherwise unspecified.	103,629	139,856	1,350	452,916	450,939	...
C	...	Public services and the professions and liberal arts.	214,983	17,760	83	462,007	438,879	5
	VI	*Public force ... ...*	*37,628*	*469*	*12*	*76,400*	*79,495*	*−4*
XLI	...	Army	7,839	21	3	11,026	24,984	−56
XLII	...	Navy	...	...	...	...	28	...
XLIII	...	Air force	...	...	...	...	...	...
XLIV	...	Police and professional village watchmen	29,789	448	15	65,374	54,483	20
XLV	*VII*	*Public administration ... ...*	*33,242*	*992*	*30*	*103,041*	*103,108*	...
	VIII	*The professions and liberal arts ...*	*144,113*	*16,299*	*113*	*282,566*	*256,276*	*10*
XLVI	...	Religion	97,077	8,024	8	155,310	140,834	10
XLVII	...	Law	9,779	93	33	10,936	8,306	32
	169	Lawyers of all kinds	1,472	41	28	6,113	6,079	5
	170	Lawyers' clerks, petition writers, etc.	1,307	52	40	4,523	2,227	103
XLVIII	...	Medicine	20,564	3,332	162	56,258	52,172	8
	171	Medical practitioners of all kinds ...	18,883	1,767	94	49,491	49,582	...
	172	Nurses, midwives, vaccinators, compounders.	1,681	1,565	931	6,767	2,590	161
XLIX	...	Instruction	11,940	2,955	247	33,794	26,939	25
L	..	Letters and the arts and sciences ...	11,753	1,895	161	26,268	28,025	−6
D	...	Miscellaneous	275,708	169,366	611	710,076	556,712	28
LI	*IX*	*Persons (not in Sub-class Ia) without an occupation but receiving an income.*	*3,230*	*1,175*	*363*	*13,800*	*6,967*	*98*
LII	*X*	*Domestic service ... ...*	*43,059*	*8,001*	*186*	*73,669*	*85,771*	*−14*
LIII	*XI*	*Insufficiently described occupations ..*	*202,629*	*149,294*	*737*	*573,641*	*429,399*	*34*
LIV to LVI	*XII*	*Unproductive and unclassified ...*	*26,790*	*10,896*	*407*	*48,966*	*34,575*	*42*

SUBSIDIARY TABLE VII.—*Distribution by occupation of* 1,000 *workers of each of certain groups of peoples.*

Serial Number. Class or Order.	Sub-class or Group.	Title.	Total Populations.	People I—IV.	People V.	People VI.	People VII and IX.	People VIII and X.	People XI.	People XII.	People XIII.
1	2	3	4	5	6	7	8	9	10	11	12
		ALL OCCUPATIONS.	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
A		Production of raw materials	715	761	387	467	667	236	70	45	307
B		Industry and commerce ...	185	155	469	414	219	487	303	375	313
C		Public service and the professions and liberal arts.	34	32	15	35	28	62	470	320	82
D		Miscellaneous	66	52	129	84	86	215	157	260	298
I	*Ia*	*Control of land or water used for the exploitation of animals or vegetation.*	*11*	*12*	*3*	*20*	*14*	*2*	*4*	7	*3*
	1	Ownership and rights over land or water used for occupation of sub-class Ib or Ic.	11	12	2	19	14	2	1	3	2
	Ib	*Cultivated and wild plants* ...	*682*	*731*	*300*	*202*	*615*	*182*	*22*	*21*	*270*
II-A		Cultivation—	676	725	293	399	613	179	9	11	267
	3	Agriculture proper—	580	623	44	188	603	155	2	6	254
		(*a*) Cultivating owners ...	305	333	30	181	212	29	1	2	36
		(*b*) Cultivating tenants	124	132	4	110	164	39	...	1	84
		(*c*) Agricultural labourers ...	151	158	10	97	197	87	1	3	134
	6*b*	Rubber	1	...	...	1	1	10	6	5	2
II-B		Forestry	6	6	2	3	2	3	13	10	3
	Ic	*Domestic and wild animals* ...	*18*	*16*	*24*	*43*	*37*	*34*	...	*3*	*29*
II-C		Raising of farm stock	7	5	17	18	23	30	...	1	15
II-D		Raising of other animals	...	...	1	3	1	..	..	...	...
	16	Silk-worms	...	...	...	3	1	...	...	...	...
II-E		Exploitation of wild animals ...	11	11	6	22	13	8	...	2	14
	II	*Exploitation of minerals*	*4*	*2*	*60*	*2*	*1*	*18*	*44*	*14*	*5*
III		Coal, petroleum and metals ...	3	1	48	1	1	16	44	14	5
IV		Minerals not of Order III or V ...	1	1	11	1	...	2	...	...	...
V		Minerals soluble in water ...	...	...	1	...	...	..	...	...	...
	III	*Industry*	*71*	*63*	*121*	*103*	*78*	*171*	*92*	*86*	*95*
VI		Textiles	12	13	1	12	12	1	...	..	2
	27	Cotton sizing and weaving ...	7	8	...	2	1	...	...	...	1
	35	Silk weaving	3	3	...	5	6	...	...	...	1
VII		Hides, feathers, bristles and hard materials from the animal kingdom.	...	...	1	..	...	...	...	...	...
VIII		Wood	15	14	71	14	7	22	13	8	7
	44 } 83 }	Carpenters, turners, joiners, cabinet-makers, polishers, carriage-painter, etc	6	5	67	5	3	7	1	..	4
IX		Metals	3	2	5	4	3	6	1	2	2
X		Ceramics	3	3	1	1	2	7	...	...	2
	55	Potters and earthen pipe and bowl makers.	2	2	...	...	...	1	..	...	...
XI		Manufacture or refining of chemical products and analogous substances.	2	1	1	2	2	11	45	34	7
XII		Food	19	17	14	29	18	61	18	13	16
XIII		Dress and the toilet	10	8	22	22	12	34	2	5	18
	77	Tailors, milliners, dress makers, darners and embroiderers on linen.	5	5	10	15	5	10	1	4	6
	78	Shoe, boot and sandal makers ...	1	1	10	1	1	2	...	...	1
XIV		Furniture	...	...	...	1	..	..	...	...	...
XV		Building	2	1	2	7	3	7	...	2	3
XVI		Construction of means of transport ...	1	...	1	4	1	4	3	4	1
	90	Making, assembling or repairing cycles or motor land-vehicles.	...	...	...	2	...		4	1	...
XVII		Production and transmission of physical forces.	...	...	...	...	...	...	1	2	...
XVIII		Other industries	5	4	2	7	9	18	6	16	31
	IV	*Transport*	*28*	*25*	*22*	*49*	*46*	*186*	*132*	*212*	*98*
XIX		Transport by air (aeroplanes, etc. and aerodromes).	...	...	...	...	...	...	...	...	...
XX		Transport by water	10	5	4	6	9	72	87	39	30
XXI		Transport on land otherwise than by rail	15	10	16	37	28	81	10	39	39
XII		Transport by rail	2	...	2	4	7	28	23	76	20
	118	Railway employees of all kinds other than labourers, doctors, police, sweepers and postal service.	1	...	...	3	5	16	23	76	18
	119	Labourers of all kinds associated with railways (excluding sweepers)	1	...	1	1	2	11	...	...	2

SUBSIDIARY TABLE VII.—*Distribution by occupation of* 1,000 *workers of each of certain groups of peoples*—concld.

Serial Number. Order.	Sub-class Group.	Title.	Total Population.	Peoples I—IV.	People V.	People VI.	Peoples VII and IX.	Peoples VIII and X.	People XI.	People XII.	People XIII.
1	2	3	4	5	6	7	8	9	10	11	12
XXIII		Postal, telegraph and telephone services	1	...	...	2	2	5	13	58	9
	V	*Trade, finance and insurance* ...	*86*	*77*	*326*	*262*	*95*	*130*	*79*	*77*	*120*
XXIV		Credit, finance and insurance ..	2	1	4	2	2	9	12	10	6
XXV		Brokerage, commission, auditing ...	1	1	3	4	1	5	9	7	6
XXVI		Trade in cotton, silk, hair, or other textiles or piece-goods.	5	4	13	23	5	13	2	1	10
XXVII		Trade in skins, leather, furs, feathers, horn, etc., and articles made from these not included in Order XXXIV or other orders.	..	..	1	1	...	...	1	...	...
XXVIII		Trade in wood (not firewood), cork, bark, bamboo, thatch, etc., and articles made from these.	2	2	2	3	1	1	3	2	3
XXIX		Trade in metals, machinery, knives, tools, etc.	..	...	.	2	1	1	..	1	1
XXX		Trade in pottery, bricks and tiles ...	...	...	...	1	...	.	...	...	...
XXXI		Trade in chemical products ...	1	1	2	5	1	1	2	3	2
XXXII		Hotels, cafes, restaurants, etc. ...	1	2	52	15	6	14	2	6	7
XXXIII		Other trade in foodstuffs ...	28	26	59	99	29	35	6	13	33
	136a	Wholesale dealers and brokers (grain, pulse, flour and bran).	3	3	12	8	4	5	2	6	6
XXXIV		Trade in ready-made clothing and other articles of dress and the toilet.	1	1	1	3	...	1	...	...	1
XXXV		Trade in household goods ...	2	2	1	2	2	2	1	...	1
XXXVI		Trade in building materials (other than bricks, tiles, thatch and woody materials	1	1	1	1	...	...	...	...	...
XXXVII		Trade in means of transport ...	1	1	3	11	3	2	1	2	2
XXXVIII		Trade in fuel	1	1	2	1	1	2	...	...	...
XXXIX		Trade in articles of luxury and articles pertaining to letters or to the arts or sciences.	1	1	2	6	1	2	2	2	4
XL		Trade of other sorts	36	33	180	83	41	42	39	29	44
	VI	*Public force*	*6*	*3*	*1*	*4*	*6*	*42*	*247*	*35*	*9*
XLI		Army	1	...	...	...	1	11	228	4	2
XLII		Navy	...	...	...	...	...	...	...	...	...
XLIII		Air-force	...	...	..	...	..	...	...	...	...
XLIV		Police and professional village watchmen	5	3	1	4	5	31	19	31	7
	159	Police	4	3	1	4	5	31	19	31	7
XLV	*VII*	*Public administration*	*5*	*5*	*4*	*11*	*6*	*9*	*51*	*116*	*24*
	VIII	*The professions and liberal arts* ...	*23*	*24*	*10*	*20*	*16*	*11*	*172*	*169*	*49*
XLVI		Religion	15	17	1	4	3	2	38	10	5
XLVII		Law	...	..	...	3	1	1	4	12	3
XLVIII		Medicine	4	3	3	5	3	4	22	49	16
XLIX		Instruction	2	2	4	7	3	2	94	88	15
L		Letters and the arts and sciences ..	2	2	2	1	6	2	14	11	10
LI	*IX*	*Persons (not in sub-class Ia) without an occupation but receiving an income.*	*1*	..	*1*	*5*	*2*	*2*	*11*	*42*	*6*
LII	*X*	*Domestic service*	*7*	*4*	*22*	*18*	*17*	*44*	*14*	*14*	*182*
	183	Private motor-drivers and cleaners	...	...		2	..	1	...	2	1
LIII	*XI*	*Insufficiently described occupations*	*52*	*43*	*98*	*50*	*50*	*168*	*130*	*188*	*98*
	XII	*Unproductive and unclassified* ...	*6*	*5*	*8*	*11*	*17*	*6*	*2*	*16*	*12*
LIV		Prisoners in jails, etc., and inmates of asylums and alms-houses.	3	2	4	4	4	2	8	14	4
LV		Beggars, vagrants, prostitutes, etc. ...	3	3	4	7	13	4	...	1	8
LVI		Other unproductive occupations and unclassified.	...	...	...	...	...	..	...	1	...

SUBSIDIARY TABLE VIII.—*Distribution by peoples of* 1,000 *workers of each class, sub-class and order and of selected groups of occupations.*

Serial Number. Class or order.	Sub-class or Group.	Title.	Peoples I—IV.	People V.	People VI.	Peoples VII and IX.	Peoples VIII and X.	People XI.	People XII.	People XIII.
1	2	3	4	5	6	7	8	9	10	11
		ALL OCCUPATIONS	894	13	6	14	68	1	1	3
A	...	Production of raw materials	952	7	4	13	23	...	...	1
B	...	Industry and commerce	750	34	13	16	180	1	2	4
C	...	Public service and the professions and liberal arts.	826	6	6	11	125	12	8	6
D	...	Miscellaneous	707	27	8	18	224	2	3	11
I	Ia	*Control of land or water used for the exploitation of animals or vegetation.*	954	3	10	17	15	...	...	1
	1	Ownership and rights over land or water used for occupation of sub-class Ib or Ic.	959	3	10	18	10	...	...	...
	Ib	*Cultivated and wild plants*	959	6	4	12	18	...	...	1
II-A		Cultivation	959	6	4	12	18	..	...	1
	3	Agriculture proper	961	1	4	14	19	...	...	1
		(a) Cultivating owners	958	1	4	11	6	...	...	...
		(b) Cultivating tenants	953	...	5	18	22	...	...	2
		(c) Agricultural labourers	936	1	4	18	39	...	..	2
	6b	Rubber	242	6	9	15	712	5	4	7
II-B	...	Forestry	952	5	3	5	31	2	1	1
	Ic	Domestic and wild animals	799	19	15	29	134	...	...	4
II-C	..	Raising of farm stock	631	34	17	48	264	...	..	6
II-D	...	Raising of other animals	708	101	102	52	37	...	...	...
	16	Silk worms	795	...	133	72	...	...	...	...
II-E	...	Exploitation of wild animals	907	7	13	16	54	...	...	3
	II	*Exploitation of minerals*	529	182	2	3	271	9	3	3
III	...	Coal, petroleum and metals	398	216	2	2	361	13	4	4
IV	...	Minerals not of Order III or V	758	129	5	5	102	...	...	1
V	...	Minerals soluble in water	947	45	...	7	..	...	1	...
	III	*Industry*	784	123	9	15	164	1	1	3
VI	...	Textiles	975	...	6	13	6	...	..	...
	27	Cotton sizing and weaving	995	1	1	2	...	...	...	...
	35	Silk weaving	991	..	9	28	1	...	...	1
VII	...	Hides, feathers, bristles and hard materials from the animal kingdom.	456	137	2	46	359	...	..	...
VIII	...	Wood	827	62	6	6	97	1	...	1
	44, 83	Carpenters, turners, joiners, cabinet-makers polishers, carriage-painters, etc.	762	157	5	7	67	...	...	2
IX	...	Metals	780	81	8	16	169	...	1	2
X	...	Ceramics	821	4	2	10	162	...	...	1
	55	Potters and earthen pipe and bowl makers,	963	4	...	3	32	...	...	...
XI	...	Manufacture or refining of chemical products and analogous substances.	435	7	8	13	483	25	18	11
XII	...	Food	745	10	9	13	219	1	1	2
XIII	...	Dress and the toilet	689	30	14	30	232	...	..	5
	77	Tailors, milliners, dress-makers, darners and embroiderers on linen.	813	26	16	13	128	..	1	3
	78	Shoe, boot and sandal makers ...	690	141	5	15	146	...	...	3
XIV	...	Furniture	590	8	53	45	304	...	...	...
XV	...	Building	629	14	27	25	299	...	1	5
XVI	...	Construction of means of transport ...	559	25	34	14	354	7	5	2
	90	Making, assembling or repairing cycles or motor land-vehicles.	563	11	91	31	263	28	6	7
XVII	..	Production and transmission of physical forces	495	55	55	33	225	22	71	44
XVIII	...	Other industries	701	6	8	25	237	1	3	19
	IV	*Transport*	492	10	10	22	447	4	6	9
XIX	...	Transport by air (aeroplanes, etc., and aerodromes).	...	..	...	...	...	...	...	...
XX	...	Transport by water	461	6	4	12	498	8	3	8
XXI	...	Transport on land otherwise than by rail ...	576	14	14	25	362	1	2	6
XXII	...	Transport by rail	122	9	9	37	769	8	25	21
	118	Railway employees of all kinds other than labourers, doctors, police, sweepers and postal service.	92	2	10	48	762	13	42	31
	119	Labourers of all kinds associated with railways (excluding sweepers).	166	19	7	21	781	...	..	5

SUBSIDIARY TABLE VIII.—*Distribution by peoples of* 1,000 *workers of each class, sub-class and order and of selected groups of occupations*—concluded.

Serial Number. Order.	Sub-class or Group.	Title.	Peoples I—IV.	People V.	People VI.	Peoples VII and IX.	Peoples VIII and X.	People XI.	People XII.	People XIII.
1	2	3	4	5	6	7	8	9	10	11
XXIII	...	Postal, telegraph and telephone services ...	360	3	20	40	459	16	69	33
	V	*Trade, finance and insurance*	*806*	*51*	*18*	*15*	*104*	*1*	*1*	*4*
XXIV	...	Credit, finance and insurance	568	35	5	16	356	6	5	9
XXV	...	Brokerage, commission, auditing ...	580	37	21	15	322	7	5	13
XXVI	...	Trade in cotton, silk, hair or other textiles or in piece-goods.	725	37	30	16	187	...	..	5
XXVII	...	Trade in skins, leather, furs, feathers, horn, etc. and articles made from these not included in Order XXXIV or other orders.	725	93	41	13	120	5	1	2
XXVIII	...	Trade in wood (not firewood), cork, bark, bamboo, thatch, etc., and articles made from these.	927	14	7	6	40	1	1	4
XXIX	...	Trade in metals, machinery, knives, tools, etc.	680	11	36	42	222	...	3	6
XXX	...	Trade in pottery, bricks and tiles ...	755	6	31	40	166	...	1	1
XXXI	...	Trade in chemical products	790	46	39	14	98	2	4	7
XXXII	...	Hotels, cafès, restaurants, etc.	547	175	22	19	232	...	1	4
XXXIII	...	Other trade in foodstuffs	845	29	22	15	86	...	...	3
	136d	Wholesale dealers and brokers (grain, pulse, flour and bran).	818	46	15	15	100	1	1	4
XXXIV	...	Trade in ready-made clothing and other articles of dress and the toilet.	828	29	24	8	108	...	...	3
XXXV	...	Trade in household goods	898	10	8	14	68	...	...	2
XXXVI	...	Trade in building materials (other than bricks, tiles, thatch and woody materials.)	971	7	3	3	16	...	...	...
XXXVII	...	Trade in means of transport	825	29	42	28	79	...	1	3
XXXVIII	...	Trade in fuel	774	26	8	14	176	...	...	2
XXXIX	...	Trade in articles of luxury and articles pertaining to letters or to the arts or sciences.	791	28	36	15	116	1	2	11
XL	...	Trade of other sorts	817	97	14	16	81	1	1	3
	VI	*Public force*	*417*	*2*	*5*	*16*	*513*	*38*	*5*	*4*
XLI	...	Army	134	...	1	16	671	171	2	5
XLII	...	Navy	...	...	...	...	...	...	...	...
XLIII	...	Air-force	...	...	...	...	...	...	...	...
XLIV	...	Police and professional village watchmen ...	490	2	5	16	473	4	6	4
	159	Police	490	2	5	16	473	4	6	4
XLV	*VII*	*Public administration*	*800*	*11*	*13*	*17*	*119*	*9*	*19*	*12*
	VII	*The professions and liberal arts*	*930*	*6*	*5*	*9*	*33*	*6*	*6*	*5*
XLVI	...	Religion	980	1	2	2	11	2	1	1
XLVII	...	Law	728	4	47	36	137	8	21	19
XLVIII	...	Medicine	860	12	8	11	81	5	11	12
XLIX	...	Instruction	773	23	19	20	78	37	33	17
L	...	Letters and the arts and sciences ...	871	13	3	38	53	6	4	12
LI	*IX*	*Persons (not in sub-class I-a) without an occupation but receiving an income).*	*595*	*20*	*49*	*52*	*195*	*14*	*53*	*22*
LII	*X*	*Domestic service*	*446*	*40*	*14*	*31*	*404*	*2*	*1*	*62*
	183	Private motor-drivers and cleaners ...	525	...	98	15	341	...	11	10
LIII	*XI*	*Insufficiently described occupations* ...	*731*	*25*	*6*	*13*	*215*	*2*	*3*	*5*
	XII	*Unproductive and unclassified*	*849*	*21*	*12*	*41*	*70*	...	*2*	*5*
LIV	...	Prisoners in jails, etc., and inmates of asylums and alms-houses.	881	21	9	20	59	1	5	4
LV	...	Beggars, vagrants, prostitutes, etc. ...	822	20	14	58	80	...	...	6
LVI	...	Other unproductive occupations and unclassified	918	2	4	2	56	2	12	4

CHAPTER XIII.

Supplementary Industrial Enumerations.

A.—The Special Industrial Census.

184. Enumeration.—In addition to the ordinary census in which every person was enumerated either at his residence or at the place where the enumerator met him a *Special Industrial Census* was made of all *Industrial Establishments* and of the persons employed in them. For this purpose the Government of India defined an Industrial Establishment as follows :—

"Industrial Establishment for the purpose of these schedules means any premises wherein, or within the precincts of which, ten or more persons are employed on separate remuneration in any process for making, repairing, ornamenting, finishing or otherwise adapting for use for transport or for sale any article or part of an article. It does not include such industries as are carried on by members of a household in their joint interest with less than ten hired labourers."

Schedules were prepared and sent out to District Magistrates for issue to the owners or managers of all the industrial establishments in their districts in accordance with the provisions of Section 9 of the Census Act of 1920 with the following letter which was printed on the front cover of Schedule A in English and on the back cover in Burmese :—

Sir,—Under sections 4, 9 and 10 of the Indian Census Act (extract appended), I have the honour to request that you will fill in the Schedule A which is on the inner pages of this letter and Schedule B which accompanies it, showing the number of persons employed in the abovementioned establishment on any *normal* working day in April 1921. You should note that where shifts are employed the record should cover all persons on the pay-roll and should not be confined to those at work at a particular instant and that all employees are to be shown whether resident on the premises or not.

2. The information recorded in these forms will be used solely for the preparation of the census statistics of occupations, *and for no other purpose whatever*. The forms will be shown to no one outside the Census Office and will be destroyed as soon as the tables have been compiled.

3. Arrangements will be made for a census officer to call for the forms on the afternoon of the last day of April. They should be completed before noon of that day and be held in readiness for him to collect them.

4. Will you kindly inform me at once if you find any difficulty in filling up the schedules.

I have the honour, etc., ... (*District Magistrate*).

On the two inner pages of the letter Schedule A, which asked for all the particulars tabulated in Imperial Tables XXIIA and XXIIB except those relating to skilled and unskilled labourers, was printed in English only, because for those owners or managers who had no knowledge of English it would generally be impossible to make the questions of this schedule intelligible in Burmese. Schedule B in which the records of labourers had to be made was bilingual, both the headings and instructions being in English and in Burmese. Deputy Commissioners were asked to arrange for a suitable officer to call at each establishment and explain any difficulties which the manager or owner might find in filling the schedules and to see that the requirements were properly understood. For Rangoon Town the month of March was substituted for April in the fourth line of the above letter. The promise to keep the schedules confidential and afterwards to destroy them has been duly kept.

185. Scope of the Special Industrial Census.—The object of the particular definition of an industrial establishment adopted by Government and reproduced in the preceding article was to include any establishment of the

nature of a factory in which labour is concentrated under a definite management and paid by definite individual remuneration, and to exclude the cottage or family industry where the work is done in the house by members of a family and profits are shared in the family. On account of the omission of cottage industries the statistics of looms given in Part B of this chapter were collected. Apart from cottage industries all very small establishments with less than ten persons employed, such as a small workshop of a man with four or five paid assistants, are also excluded. A manufacturing or repairing branch of a business, *e.g.* such a branch of a tailor's shop or a bicycle dealer's, is included only if that branch alone is qualified by the number of its employees for entry. Jails are entirely excluded, but Government industrial undertakings proper are included. All the industries of actual transport or communication are excluded; the industries concerned with the construction of the means of transport or communication are included however as Group P and a special census of employees of the Railways and the Post and Telegraph Departments was made as noted in Part B of this chapter. Similarly all the Public Works Department, apart from the exceptional case of those employed in a workshop, are excluded; there was a special census of the Irrigation Branch as noted in Part B of this chapter, but the remainder is represented only in the ordinary census. Agriculture is also excluded generally from the special industrial census, although a large part of the agriculture of the province is conducted on typically industrial lines with specialisation of workers and a capitalist system of organisation even in the smallest holdings, so that some years ago the rice-growing agricultural holdings of Lower Burma were admirably described in some articles in the *Rangoon Gazette* as "Factories without Chimneys." Certain kinds of cultivation have however been included in the special industrial census and shown in the tables as Group A—*Cultivation for special products.* I am not sure whether the intention of Government was to include under this head cultivation for which the labour was organised in the manner typical of the tea-plantations of Ceylon and Assam, or in some other manner differing from that of an ordinary agricultural holding in some analogous way; or whether the intention was to include cultivation which was associated with some manufacturing process as in the case of a rubber estate. The latter interpretation has been adopted.

Three sets of schedules received from Mergui relating to groups of elephant-hunters and some others from Hanthawaddy relating to the builders of new factories were rejected in the central census office as not relating to industrial establishments.

There is some doubt about the inclusion of the Rangoon telephone system in the tabulation. As the making of contacts to connect subscribers can hardly be regarded as the *construction* of a means of communication, the staff of the exchange ought to have been excluded, and only the staff employed in making, installing or repairing wires and instruments should have been tabulated; but various subsidiary compilations had already been made when the inclusion of the operators was discovered and it would not have been worth the expense and trouble of correcting all the work. The numbers involved are not large and there would in any case have been some difficulty in deciding whether some parts of the staff should be included or not; the principal point about it is that the only skilled female labourers tabulated in Imperial Table XXIIB are the 51 telephone operators.

186. Variation from the Census of 1911.—The tables prepared for the present census are much more elaborate than those of the Special Industrial Census of 1911. There is in addition the important change that the definition of an industrial establishment was made in 1921 to cover all establishments with ten or more persons, whereas in 1911 it excluded all that had not at least twenty persons employed in them.

187. Groups and Classes.—The various industries have been divided for purposes of tabulation into *Groups* distinguished by the letters A to R inclusive, each group being further divided, generally according to the materials used or products obtained, into *Classes* distinguished by serial numbers.

188. Selected Industries.—Certain important groups or classes of industries have been selected for the tabulation of certain statistics which have not been prepared for other industries. These are described for the purposes of reference as the *Selected Industries*, and include the following:—A4 Rubber cultivation; B Mines; F2 Sawmills and timber-yards; G Metal industries; J4 Petroleum refineries; K3 Ricemills and P Construction of means of transport or communication. Group B was divided into five classes corresponding to petroleum, tin and wolfram, silver and lead, rubies, other minerals; and each class was regarded as a separate selected industry.

189. Statistics.—The records of the schedules are tabulated in Imperial Tables XXIIA and XXIIB, the former dealing with all establishments and the latter only with establishments of the selected industries.

The first part of Imperial Table XXIIA gives an account of the establishments of each industry graded according to the number of persons they employ, and showing those persons classified as skilled and unskilled and by sex and broad racial divisions, while the unskilled are further classified into age-groups which, being divided at ages 14 and 18, correspond to children, young persons and adults. The second part gives a similar account for each district without grading the establishments. The third part is a statement of the mechanical power employed, while the fourth is of small importance in Burma as it shows the number of looms employed in industrial establishments but omits all those used in the homes of the workers or in small factories with less than ten workers.

Imperial Table XXIIB deals with the ownership and personnel of the selected industries. Part I classifies establishments according to the races of owners, directors and managers and shows the relative shares in the executive and immediate financial control of industry by European (including Anglo-Indian) Indian and *Home Races*, the last term (*see* Article 149 of Chapter XI) meaning indigenous races in a broad sense which includes the Indo-Burman but not the Anglo-Burman races. Part II of Imperial Table XXIIB classifies the children, young persons and adults among skilled and unskilled labourers of each selected industry into those born in Burma and those born outside as well as by race, and in the case of the skilled gives these details for each occupation. Part III is a table prepared at provincial cost because it is not included among those prescribed by the Government of India; it shows the duration of residence in Burma of the foreign-born amongst the skilled and unskilled labourers, and also classifies them into *permanent residents*, that is those who propose to spend all their lives in Burma, and others.

The first seven of the subsidiary tables appended to this chapter also give statistics derived from the special industrial census, and generally are simple extracts from the Imperial Tables or summaries of them. They are as follows:

I.—Employees and principal locations of industrial establishments.

II.—Particulars of establishments of selected industries, 1921 and 1911.

III.—Establishments of selected industries classified by race of owners or directors.

IV.—Birth-places of labourers in selected industries.

V.—Races of superior employees in all industrial establishments.

VI.—Proportional distribution amongst all industrial establishments of 1,000 females age 14 or over and by sex of 1,000 children under 14.

VII.—Distribution of power in industrial establishments.

190. Accuracy of the Statistics.—Unfortunately the schedules were extremely badly filled. The special officers appointed by the Deputy Commissioners seem to have had no idea as a rule of what was required, and to have been quite incapable of perceiving the grossest errors in the schedules. There was great delay in collecting the schedules, and when they were received in the central census office so many errors and omissions were found that it was impossible to use them. Fortunately the schedules from Rangoon were generally in fair order; only a few of these had to be sent back, and in some cases I was able to put things right by a personal visit to the office of the factory. But for

almost every other district I had to write a long statement of the errors in a few schedules, and then to return all the schedules to the Deputy Commissioner with instructions for correcting the errors mentioned and a request that all the other schedules should be checked and corrected on the same lines. In most cases it took some months to get the schedules back, and then an examination of them showed so many errors still persisting that I had to go through them all personally and write again either to the Deputy Commissioner or direct to the manager to get corrections, and in some cases considerable correspondence was necessary to get intelligible and satisfactory reports of even quite simple matters.

Samples of the errors passed by district offices were the inclusion in Schedule B of all the families of the labourers. In other cases the record of labourers ended with such a note as: "And a lot more." Men were shown as skilled labourers and yet as durwans or peons. Illegible entries were very numerous, and there were large numbers of legible names of occupations which could not be understood and were often names peculiar to a particular establishment. Religion and race were almost constantly confused. Typists and other clerks and also managers themselves and even the owner's infant family were entered among the labourers. Extraordinary statements were made about the power used. Thousands of horsepower were stated to drive dynamos of 3 or 4 kilowatts. In many cases the most probable explanation of the recorded figures which I could imagine was that the maker's number of the engine had been given as its horsepower. Engines used to drive dynamos were hopelessly mixed with those which drove the characteristic machinery of the establishment directly. A list was sometimes given of certain items and their horsepower in which it was afterwards discovered that some items represented engines and some the boilers which supplied them with steam, all being mixed without distinction. Electric power was shown to be obtained from an outside supply by rice-mills in remote villages where this was quite impossible. An enquiry about the omission of generators of alternating currents was met by the statement that a request for the entry of dynamos related only to generators of direct currents. More reasonable perhaps, although steam, oil, water and gas were all specifically mentioned in examples given in the schedule as the principal sources of power, was the entry of steam-engines as engines driven by water-power. Some establishments, including one in Rangoon managed by Europeans, foreshadowed the golden age by including every employee as an "Owner or Director." The principal impression given by the errors was that the entries had been made quite irresponsibly and that no intelligent examination of them had been made by the Deputy Commissioners or any of their subordinates. The difficulty was of course that in the ordinary district office it is difficult to find a person who would know definitely that a kilowatt was not an engineer with a special kind of certificate; and being puzzled by the part of the schedule relating to power, and regarding the whole census as an unqualified nuisance and the Special Industrial Census in particular as a strongly qualified nuisance, the officers who collected the schedules had no zeal for accuracy, and I suppose they never looked at a single entry in a schedule. Tables prepared even after the first correction of the schedules would not have been worth the paper they were printed on. The only course was a return of all the schedules for verification, detailed instructions being sent with them to explain what appeared to be errors or matters requiring special attention. As received back they were probably fairly correct; a few errors were still detected and rectified by direct correspondence with the manager, but generally there were no errors which could be detected without detailed knowledge of the particular establishment represented. The tables of this special census have thus cost an enormous amount of time and much more than their proper share of expense; but the only alternative was complete rejection of the whole, and that was forbidden by the need to provide a platform on which something better could be built at next census. As the tables stand those relating to the personnel, except as affected by the difficulty (described in the next article) of distinguishing *skilled* and *unskilled*, are probably fairly correct; while those relating to the power employed, though more liable to error are probably free from really serious errors.

191. Skilled and Unskilled Labourers.—The distinction between skilled and unskilled labourers is exceedingly difficult to draw. Probably there never

was a time when it was altogether simple. There were always some who were clearly skilled; and, if the skill that is easily and quickly obtained by almost everybody who practises them is taken for granted, there have always been some occupations which were clearly unskilled. But it must not be overlooked that there is a tacit convention here to take some skill for granted; for instance, that of a hand-cart coolie in packing the cart with the best balance. Even so there were degrees of skill, and there must always have been some difficulty in determining whether some occupations were skilled or unskilled. The introduction of machinery has increased the number of these intermediate occupations. A large proportion of the machines which are used to do the work formerly done by highly skilled men are capable of performing only a limited number of operations and leave little scope for the adaptability and all-round skill of the worker. This is true even in engineering work; and the effect is generally still more marked in other kinds of work. Some machines are "fool-proof" and hardly call for any skill at all; others call for skill but commonly of a narrow and special type which does not really require the long apprenticeship of pre-machine days, and men who serve these are better described as semi-skilled. Even then there are occupations which cannot very easily be described as skilled, semi-skilled or unskilled, but seem to fall into two of these classes. And when the managers of industrial establishments found themselves confronted with a census schedule which recognised only black and white and saw nothing grey, they naturally found still greater difficulty in classifying the semi-skilled. Accordingly there are probably some inconsistencies in the classification made in the tables. But not all apparent inconsistencies are real. Men whose occupation has the same name in two establishments may do different work. A motor-driver for instance is reasonably described as unskilled; but when an establishment employs as a driver a fitter who has specialised in motor-car work and does all or most of the necessary repairs to the cars he drives he has been described as skilled; a so-called clock-winder may be a skilled man who keeps a large number of clocks in repair. Generally the description of skilled or unskilled has been adopted for each occupation in accordance with the description given by the majority of the schedules for each kind of establishment; but where any considerable numbers were involved, or where there was reason to suppose the occupation-record had other than its usual meaning, a reference was made to the manager to settle the point. Apprentices to skilled trades have been treated as skilled; foremen, overseers or maistries have been treated on their merits—they are sometimes properly regarded as skilled although the gangs they control are entirely unskilled.

A list has been appended to Imperial Table XXIIA to show the occupations treated as skilled. The list is possibly not complete, but probably none but occupations followed by few persons are omitted. One of the difficulties in classifying as skilled or unskilled appears again in preparing such a list and arises from the ambiguity of the names of some occupations recorded. A cotton-mill for instance employs machine-fitters* and also gin-fitters; but commonly both were represented only as fitters in the schedules until references were made to the manager. A plater may be a worker in sheets of metal or a nickel-plater. A driller may make holes for rivets or bolts, or he may be an oil-driller sinking tubes for winning petroleum. Painting in a ship-building yard is quite a different occupation from painting in a fan or umbrella factory. Then again many names are used for men who apply the same kind of skill under different circumstances, and often these names vary from one establishment to another; the occupations tabulated under engine-driver, sawyer, planer, gunner appeared in the record of one sawmill alone under the various names shown in the margin. The identity of these occupations was discovered in an interview with the manager; and in addition no less than 56 separate descriptions of unskilled occupations in that one establishment

Sawyer.	*Gunner.*
Sawman.	Instructor.
Timber cutter.	Foreman.
Sawbench man.	Sq. yard maistry.
Saw maistry.	Head of Rack Bench.
Planer.	Saw bench maistry.
	Rack bench maistry.
Planing machine driver.	R.B. Maistry. ‡
T. & G. maker. †	Timber cutting maistry.
Planing man.	Square passer.
Planer.	Plank passer.
P. T. & G. maistry. †	Examiner of logs.
Planing machine master.	Head square gunner.
	Head scantlings gunner.
Engine driver.	Gunner for cutting timber.
	Mill gunner.
Crane driver.	Butting gunner.
Steam winch driver.	Cutting machine maistry.
Donkey driver.	Maistry in charge of mill.

† T. & G. represents *tongue and groove.*
‡ R.B. represents *rart beach.*

*The ordinary name for a *fitter* in an engineering shop in Burma is *viceman* but tabulation has been made under the orthodox name of *fitter*.

were identified with names peculiar to the particular industry—that is excluding such names as durwan, punkha-puller, sweeper which are in use in all ordinary establishments. In different sawmills some men whose occupations are described by the same name may have different duties.

It is clear that under these conditions there must be some tabulated as skilled or as unskilled who would more properly be in the other class. Great pains however have been taken in the matter and it is reasonable to hope that the occupations treated as skilled generally require more training and skill and adaptability in the application of the skill than those treated as unskilled, and that, except perhaps in some classes for which small numbers are recorded, the tables do give a fair account of the relative numbers of skilled and unskilled in the various industries and races.

192. General Survey of Industrial Establishments.—The total number of establishments covered by the special industrial census was 1,198 and the total number of their employees was 118,443, of whom 5,498 or one in 21 or 22 were females. Many of the establishments carry on more than one industry at different seasons of the year, *e.g.* some ricemills work as sawmills or as oil-pressing mills in their off-seasons; and in some cases it is perhaps a matter of accident which is reported by the manager as the principal business and so decides the classification in the census tables; the largest ricemills however generally confine themselves to rice. Some mills close during the off-season; in particular the cotton-ginning season was over a short time before the census was taken, so that several mills had reduced the number of their employees to less than 10 and were excluded from the census. Again some large establishments include distinct departments which might well rank as separate establishments; *e.g.* the fitters' shops in the large petroleum refineries are larger than some of the establishments tabulated as engineering shops The silver and lead mines also produce large quantities of zinc and small quantities of molybdenum and other rare metals; the figures tabulated for these mines include persons engaged in smelting and in transport associated with the mines and smelters, and in addition cover the coal mines and iron mines which are worked as auxiliaries of the silver-lead smelting. Vegetable-oil mills include establishments which press sesamum or ground-nuts for oil and also those which distil citronella oil from the leaves of the plant. These last escaped my attention for a time until a change would have involved great difficulty and much expense; otherwise I should have transferred them to Group A as I believe they are always associated with citronella plantations.

The largest numbers of establishments are tabulated under the group of Food Industries which has 482 and that of Wood Industries which has 150 establishments; but as establishments vary so much in size it is better to have regard rather to the number of persons employed than to the number of establishments. The most important classes of establishments, having regard to character as well as size then appear to be those shown in Marginal Table 1, in which, on account of their specially close association, petroleum wells and refineries and pipe-line pumping stations and bulk-oil installations are added together although tabulated separately in the Imperial Tables. The petroleum industries are now seen to employ the greatest number of people, with ricemills in the second place. The petroleum industries include the large establishments of the Burma Oil Company (and of other companies) and also some quite small establishments with

1. The principal classes of industries.

		Establishments.	Employees	
	Description.	Number.	Number.	Percentage of those in all establishments.
A4	Rubber cultivation ...	39	5,720	5
B2	Tin and Wolfram mines ...	41	4,076	3
B3	Silver and Lead mines ...	3	4,310	4
F2	Sawmills and timber-yards	139	13,712	12
H8	Brick tile and firebrick factories.	72	3,936	3
B1, J4, J5	Petroleum industries ...	47	34,309	29
K3	Ricemills	388	21,678	18
P6	Shipbuilding, etc. ...	15	5,756	5
R1	Printing	48	3,950	3
...	All others	406	22,006	19
	Total ...	1,198	118,443	100

between 10 and 20 employees and no mechanical power. The rice mills too vary very much in size from small mills of 10 to 20 employees to the largest with 1,247; but most differ from petroleum refineries in belonging more peculiarly to the province and they include large numbers of mills of small and moderate sizes independent of European capital. It cannot be said that they are universally flourishing. A note on ricemills in the Prome, Shwebo and Mandalay Districts was written by Mr. H. O. Reynolds, I.C.S. in September 1921 after an enquiry prompted by the desire of the Government of India to combine an industrial survey with the census of 1921. His principal conclusions were as follows:—

Prome District.—The older mills which are not heavily in debt may continue to make a sufficient profit to maintain the miller and his family in comfort, but little more. Many of the new mills, as well as such of the old mills as are heavily in debt, are likely to be worked at a loss. There are too many mills already and no scope for any more.

Shwebo District.—There is no room for any more mills and it is a question whether there are not rather more than there is room for already. It seems not unlikely that several of the mills which commenced operations only in 1921 will go under, as at the time of the enquiry they were either being worked at a dead loss or were closed altogether.

Mandalay District.—Owing to the gradual cutting off of the Shwebo supplies of paddy the best days of rice-milling in Mandalay are over. The paddy from the parts of Mandalay District which are irrigated by canals will always be available, and the local demand for rice must remain considerable; but the mills are already too numerous even for this, while the prospects of the larger mills exporting down the Irrawaddy are poor unless they can retain at least the milling of paddy from the Katha District.

The distribution by race and function of the 118,443 employees of industrial establishments is as shown in Marginal Table 2, where the number of non-Indians included in *Others* is negligible. It should be noted that where the owner of an establishment manages it himself he has been counted as one of its employees, classified of course as manager even if he forms by himself the whole of the supervising, technical and clerical staff. Roughly five-eighths of all the employees in industrial establishments are Indians and a little over a quarter belong to Home races while the remainder—about 4 per cent—are principally European, Anglo-Indian and Chinese. The strength of the Indians is amongst the labourers, both skilled and unskilled; of all the employees in all establishments rather above one-half are unskilled Indian labourers, and over one-tenth more are skilled Indian labourers, while less than one-quarter are included in the classes of skilled and unskilled labourers of Home races. Amongst Indians and Chinese together three-quarters

2. Race and function of employees of industrial establishments.

Race.	Total.	Managers, supervising and technical.	Clerical.	Labourers.	
				Skilled.	Unskilled.
I. *Total persons* ...	*118,443*	*4,207*	*6,393*	*22,547*	*85,296*
Home races ...	33,744	1,974	3,837	8,048	19,985
European and Anglo-Indian	2,400	1,511	298	421	170
Chinese and Japanese	82,899	1,422	2,258	1,545	3,158
Others ...				10,533	61,983
II. *Average distribution of 1,000 employees by race and function*					
All races ...	1,000	36	54	190	720
Home races ...	280	11	32	68	169
European and Anglo-Indian	20	13	3	3	1
Chinese and Japanese	700	12	19	13	27
Others				106	523
III. *Percentage distribution of each race by function.*					
Home races ...	100	4	12	24	60
European and Anglo-Indian	100	63	12	18	7
Chinese, Japanese and Others	100	2	3	17	78

are unskilled labourers and one-sixth are skilled labourers; altogether 95 per cent are labourers and 3 per cent clerical, only 2 per cent belonging to the superior staff of managers and supervising and technical workers. Amongst Home races 84 per cent are labourers and 12 per cent clerical, and 4 per cent belong to the superior staff.

Managers of industrial establishments would naturally describe Tavoyans and Merguese as Burmese; consequently these are included under the description *Burmese* in the tables. The separate figures given for Arakanese in sections 2 to 4 of Part II of Imperial Table XXIIB are likely to be short through some non-Burman managers or clerks who filled the schedules making no distinction between Arakanese and Burmese; but they must simply be accepted as liable to these errors. To escape such difficulties the Arakanese (and consequently Yanbye and Chaungtha) are included, like the Tavoyans and Merguese, in the entries for *Burmese* throughout Part II of Imperial Table XXIIB. The numbers of the separate Home races are given by Imperial Table XIII and the three appendices to Imperial Table XX. The Burmese race proper contributes 64 per cent of the males and 65 per cent of the females, and the races included under *Burmese* in Imperial Table XXIIB make up 70 per cent amongst the males and 71 per cent amongst the females of all Home races. Amongst the people of Home races employed in industrial establishments however the proportion of Burmese, as defined for those establishments, is much higher. For males in selected industries it is 93 per cent amongst skilled and 88 per cent amongst unskilled labourers, or 90 per cent for skilled and unskilled together, while for females in selected industries it is 86 per cent. About the same proportions would undoubtedly have been shown for all industries together if these statistics for them had been tabulated, and the figures for labourers of Home races in Imperial Table XXIIA should be interpreted accordingly as representing chiefly "Burmese." Amongst the managers and supervising and technical staff the proportion of "Burmese" amongst persons of Home races is probably even higher still.

A comparison of the number of persons supported by industrial establishments with the total population cannot be made because due allowance cannot be made for the number of their dependents. But a fair comparison can be made with the number of *workers* shown in Imperial Table XX, and this can be extended approximately to a description by race if the actual figures of Imperial Table XX for the sum of workers in Peoples I to IV and VI are increased by the number of workers included in the other Home races but not included in those peoples. As Appendix C of Imperial Table XX shows that these races have altogether only 9,636 males and 12,828 females, or one in 600 and 500 respectively of the total males and females in all Home races, the error in any reasonable estimate of the number of workers in these races will be negligible; accordingly an estimate of 5,500 males and 2,500 females may be accepted for the addition required. With this allowance Marginal Table 3 shows, for all races together and for each of the three main racial divisions separately, the average proportion in 1,000 workers of both sexes taken together and of 1,000 workers of each sex independently who are employed in industrial establishments; the proportion for Home races is very small in comparison with that for other races.

3. Average proportion employed in industrial establishments of 1,000 workers of both sexes and for each sex separately in all races and in each racial division.

Race.	Persons.	Males.	Females.
All races	17	28	2
Home races	5	8	1
Europeans and Anglo-Indians	210	231	72
Others	126	138	52

193. Owners and Directors.—Statistics of the races of the owners or directors of selected industries are given in Part I of Imperial Table XXIIB and summarised in Subsidiary Tables II and III of this chapter. These tables relate however only to selected industries; and, while these are the largest industries which are carried on in industrial establishments it must not be assumed that the same proportions by race would hold good amongst all industries. The subsidiary tables are defective also in allowing the same weight to establishments of different sizes; a petroleum well worked by ten or twenty people without using mechanical power is reckoned as one establishment just the same as a large oil-drilling establishment with 300 or more employees. As a rule however establishments

owned by companies are larger than those owned by private persons. Marginal Table 4 shows that in the selected industries the Home races own the majority of privately-owned establishments while those belonging to companies belong chiefly to companies of non-Indian foreign directors, that is European or Chinese. Of the establishments of selected industries in the private ownership of Home races Subsidiary Table III shows that 73 per cent are ricemills and 16 per cent are sawmills. It is uncertain whether the relative shares of the race-classes shown in Marginal Table 4 would be the same if all industries instead of only the selected industries were considered. But if the conclusion drawn in the next article, that managers generally belong to the same race-classes as the owners or directors, is accepted, column A of Marginal Table 5 of that article gives the percentage distribution by race of the establishments whose owners or directors are of the race-classes shown. Home races, on this assumption, own 44 per cent of all the establishments, while other races together own 56 per cent of them; the corresponding percentages for selected industries derived from Marginal Table 4 are 42·5 and 57·5 respectively.

4. Race of owners or directors respectively of establishments in selected industries owned, A.—Privately B.—By companies.

Race.	Number of establishments.	
	A	B
Home races	287	93
Indians ...	106	23
Others ...	104	186
Total ...	497	230

194. Managers, Supervising and Technical Staff.—Statistics of the races of managers of establishments are given in columns 7 to 9 of Part I of Imperial Table XXIIA, and for selected industries in Part I of Imperial Table XXIIB. Subsidiary Table V reproduces the latter figures but does not press the classification so far. The total number of managers tabulated is 1,202, which slightly exceeds 1,198, the total number of establishments, because some establishments had two joint owner-managers. Marginal Table 5 shows the percentage of managers in each race; the *Others* are almost exclusively Chinese in the case of selected industries, and are probably such for all industries although the figures for these have not been recorded. For selected industries Part I of Imperial Table XXIIB shows the association of races of managers and the races of owners or directors; a summary of the figures is shown in a convenient form in Marginal Table 6, where the entries show the numbers of establishments. It is clear that the manager generally belongs to the same race-class as the owners or directors, because although actual figures are not given it is known that Chinese managers are generally found in Chinese establishments. It is safe to assume that the same associations would be found if statistics for all industries were tabulated.

5. Races of managers in A.—All industries and B.—Selected industries.

Race.	Per cent.	
	A	B
Home races ...	44	44
European or Anglo-Indian	20	24
Indians ...	36	17
Others ...		15
Total ...	100	100

6. Races of managers associated with owners or directors of particular races in the selected industries.

Race of Manager.	Race of owners or directors.			
	Home.	Indian.	Others.	Total.
Home ...	303	10	13	326
Indian ...	2	114	9	125
European and Anglo-Indian	..	3	171	174
Chinese ...	4	1	103	108
Total ...	309	128	296	733

The numbers of employees in the supervising and technical staffs are given in Part I of Imperial Table XXIIA and Subsidiary Tables I and V; and an abstract of them is given in Marginal Table 7. Home races supply three-twelfths of the whole and Europeans and Anglo-Indians five-twelfths leaving four-twelfths for Others. Amongst the selected industries the share of the Home races is larger, the three classes having approximately equal shares of four-twelfths. The Europeans are naturally found chiefly in such industries as the winning and refining of petroleum where specialised scientific training is required or in the construction of means of transport or in the larger sawmills and ricemills where heavy or complex machinery is in use.

7. Supervising and technical staffs classified by race.

Race.	Supervising and technical staff.	
	Numbers.	Per cent.
Home races	735	25
European and Anglo-Indian	1,375	49
Others ...	995	33
Total ...	3,005	100

For the sum of managers and the supervising and technical staffs the figures of Part I of Imperial Table XXIIA (reproduced in Subsidiary Table V) are collected in Marginal Table 8. Europeans and Anglo-Indians together form more than one-third of the whole, but the Home races are still equal to seven-eighths of the total of Indians and Chinese together.*

8. Total of managers, supervising and technical staffs.

Race.	Numbers.	Per cent.
All industries	4,207	100
Home races	1,374	30
European and Anglo-Indian	1,511	36
Others ..	1,422	34

195. Clerical Staff.—The term clerical staff is used in the tables to include all employees who are not labourers, either skilled or unskilled, and yet cannot be classified as managers or as supervising and technical staff. The majority are engaged in ordinary clerical work in the offices, but there are some other occupations included too, such as time-keepers, tally-clerks, store-keepers, salesmen, and bill collectors. Medical attendants, compounders and dressers and the like exclusively employed in some establishments have also been included under "clerical" as the prescribed tables offer no suitable column; the column for technical staff is not suitable because these are not employed in the specific industry of the establishment. But in the case of chemical drug and medicine works the chemists and doctors are of course the regular staff of the establishment and classified as *Supervising and technical*. So too private telegraphists and telephone and helio operators in ordinary establishments have been reckoned as clerical although in the case of the Rangoon telephone system the operators have been reckoned as skilled employees. Surveyors on rubber estates have been regarded as technical staff. Although these exceptional persons included under *Clerical* are comparatively few, a detailed discussion of the numbers of clerical employees would be pointless because the particular place of employment of a clerk is largely a matter of accident; the same man will take a post in a factory-office or in another office equally readily if the pay and other conditions are the same.

196. Labourers.—Marginal Table 9 shows the numbers of skilled and unskilled labourers tabulated in Part I of Imperial Table XXIIA, but the notes of Article 191 on the classification of skilled and unskilled must be borne in mind. The Indians of Marginal Table 9 are really those tabulated in Part I of Imperial Table XXIIA as *Others*, but the number of non-Indians is a few units and is negligible in proportion to the Indians. Home races supply rather more than one-third of the skilled labour and nearly one-fourth of the unskilled, while Indian races supply rather more than half the skilled labour and nearly three-quarters of the unskilled. Again a caution is necessary—that the scope of the statistics is limited as described in the second article of this chapter. Chinese and Japanese are put together for tabulation, but the number of Japanese is so small that the figures may be taken as representing Chinese. There are five unskilled Indians to one skilled, and for Home races this proportion is just one-half as large. The real figures of these proportions are of course a little indefinite owing to the indefiniteness of the term *skilled*; but it may at least be regarded as certain that the proportion of skilled amongst Home races is the higher.

9. Labourers in all industries.

Race. (1)	Skilled. (2)	Unskilled. (3)	Per cent of total skilled. (4)	Per cent of total unskilled. (5)	Ratio of unskilled to skilled. (6)
Home races	8,048	19,985	36	23	2·5
European and Anglo-Indian	421	170	2	...	0·4
Chinese and Japanese ...	1,545	3,158	7	4	2·0
Indians	12,533	61,983	55	73	5·0
Total ...	22,547	85,296	100	100	3·8

Part II of Imperial Table XXIIB classifies the labourers of each race in the selected industries as born in or out of Burma. The Indians and Chinese born in the province take little part in industrial establishments. Only 835 Indian males in a total of 65,333 employed and only 150 Chinese and Japanese males in a total of 3,049 were born in Burma; so practically all the indigenous workers are of Home races while practically all of other races are immigrants. Amongst the Indian immigrants the principal races are Telugus, Oriyas, Bengali and

* Really a few persons who are neither Indian nor Chinese are included under *Others*, but their numbers are very small.

Chittagonian Mahomedans and non-Mahomedan Hindustanis; but whereas Telugus are most numerous amongst the unskilled, the Bengali and Chittagonian Mahomedans are most numerous amongst the skilled. In Part III of Imperial Table XXIIB the immigrant labourers in the selected industries have been classified according as they stated that they proposed to end their lives in Burma or not. Only 4·6 per cent of the males and only 2·8 per cent of the females declared that they intended to complete their lives in Burma, but probably many more will actually do so. Putting aside all those who die early there are probably many who intend to return to India, China, or Europe, but for one reason or another never do so and finally settle down permanently in Burma.

I. Races of immigrant Indian labourers in selected industries.

Race.	Males.		Females (unskilled).
	Skilled.	Unskilled.	
Telugu	1,956	22,132	529
Oriya	905	10,719	26
Bengali and Chittagonian Mahomedans.	3,380	9,013	2
Non-Mahomedan Hindustanis.	1,521	7,231	3
Remainder	2,087	4,389	68
Total Indians ...	9,849	53,484	628

Subsidiary Table IV of this chapter gives an extract of some of the figures of Part II of Imperial Table XXIIB, but its numbers of persons born in the district of enumeration are complete instead of covering only persons of age 18 or more as do those for such persons in the latter table.

197. Females in Industrial Establishments.—The distribution of females amongst the various industries is exhibited in column 3 of Subsidiary Table VI; rubber cultivation, cotton-ginning and textile industries generally and rice milling are the industries which employ most women. The total number of female labourers employed is 4,638 and of all females together is 5,498 of whom 315 are under 14 years of age. The distribution by race is shown in the last ten columns of Part I of Imperial Table XXIIA; as might be expected most of them belong to Home races. The proportions of females to males in the various industries are shown in Subsidiary Table I. For all industries the ratio for persons over 14 years of age is 46 females to 1,000 males or roughly 1 to 22. The ratio is naturally highest in textile industries where there are approximately 7 females to 13 males (54 per cent.), and it is equally natural that it should be lowest in the metal industries which in fact employ no females at all.

198. Children in Industrial Establishments.—The employment of children under 14 in industrial establishments is exhibited in the last column of Subsidiary Table I. The distribution of children under 14 by race is given in Imperial Table XXIIA and in Marginal Table 11 hereby. Subsidiary Table VI shows their distribution among the various industries; rubber cultivation, petroleum refineries and ricemills employ most of them. For all industries there is one such child employed for every 87·5 adults. Further particulars regarding the numbers and races of children are given for the selected industries in Part II of Imperial Table XXIIB.

II. Children in industrial establishments.

Race.	Persons.	Males.	Females.
Home races ...	482	236	246
Chinese and Japanese	14	9	5
Others	843	779	64
Total ...	1,339	1,024	315

199. Power in Industrial Establishments.—The tabulation for power is in Parts IIIA, IIIB and IIIC of Imperial Table XXIIA; in connection with it Note 4 of the title-page of that table should be consulted. Steam is the most popular medium for the transmission of power. Paddy-husk is used as fuel in the ricemills, and residues of crude oil after it has been deprived of its more volatile constituents are used in the refineries. Other factories sometimes use coal, but more often wood or sawdust or husk or whatever can be got. Oil-engines are of ordinary types. The gas-engines shown in the tables generate their own gas from charcoal, coke, cocoanut shells and other materials. The principal example of the use of water-power is the installation in the Northern Shan States which develops electricity for the silver-lead mines and smelting establishments thirty miles away.

B.—Miscellaneous Enumerations.

200. **Post Office and Telegraph Departments, Irrigation Department and Railways.**—As at the census of 1911 special enumerations were made of persons employed in Burma on the 18th March 1921—

(1) in the Post Office and Telegraph Departments;
(2) in the Irrigation Branch of the Public Works Department;
(3) on Railways.

The results are shown in Subsidiary Tables VIII, IX and X respectively of this chapter. The statistics for the Irrigation Branch and for the Railways are probably correct and are tabulated by race and compared with the statistics of 1911 in Marginal Table 12. The railways represented include the Arakan Light Railway as well as the Burma Railways, and the Southern Shan States Railway and other railways operated by the Burma Railways Company, but not the service-tracks maintained by some industrial establishments. The statistics for the Post Office and Telegraph Departments are less reliable. The organisation of this enumeration was entirely out of my hands. The orders for submission of returns were issued by the Postal Department through the Postmaster-General under the instructions of the Director-General of Posts and Telegraphs. Instead of each postal divisional office collecting and checking the returns of its own division and sending me a summary, a large number of small offices sent separate returns which often overlapped returns submitted by their subordinates or supervisors; and I had no means of checking the returns or even of knowing whether the figures they gave were of anything like the right order of magnitude. Some officers reported only the staff of their own personal offices and left to chance the reporting for subordinate offices or for men working outside the office. Some assumed wrongly that their superiors had reported for them. I was not even supplied with a list of reporting officers until I applied for one; and then an erroneous list was supplied, the errors being discovered by the receipt of returns from offices not inclined in it and on writing to others in the list who had submitted no returns. I had no authority to demand returns or corrections from postal officers and had to invoke the aid of the Postmaster-General in several cases. The form prescribed for the submission of the returns was badly drafted; there was not even a heading to indicate the office or establishment it represented, and I had to give orders that whenever such a report was received the envelope should be put up to me to enable me to discover the origin of the report by the postmark, this being as a general rule the only legible evidence I got. The classification of officers in the prescribed form was still unsatisfactory even after it had been revised; and many officers reported in the unrevised form. I have done my best to discover errors and to get correct figures; and to ensure the best compilation in my power I compiled the returns personally. But I am unable to accept any responsibility for the results or to advise that they should be regarded as correct. The total figures for 1921 and 1911 are as shown in Marginal Table 13.

12. Employees of Railways and the Irrigation Department.

Race.	Railways.		Irrigation Department.	
	1921.	1911.	1921.	1911.
Europeans and Anglo-Indians.	643	783	8	89
Chinese	363	27,427	3	14,509
Home Races ...	8,070		1,688	
Indians	25,298		2,878	
Others	...		...	
Total ..	34,374	28,210	4,577	14,538

13. Employees in Postal and Telegraph Departments.

Race.	1921.	1911.
Europeans and Anglo-Indians.	351	383
Home Races	1,000	4,816
Indians	3,643	
Others	10	
Total ...	5,004	5,199

201. Handlooms.—An enumeration of the handlooms in the province was also undertaken in connection with the census, and the resulting figures are shown in Marginal Table 14. In addition 97,551 "primitive looms" were counted amongst Chins, Kachins and other primitive races; these have no frame, but the warp is stretched from a bamboo post or a tree to a belt worn by the weaver. The number of such contrivances counted could hardly be complete anywhere, and in Salween District they were omitted from the enumeration as it was thought only proper looms with rigid frames should be counted. In the Chin Hills there is only one ordinary loom and all the others are of the primitive type; in the Pakôkku Hill Tracts, the Salween District and Karenni only the primitive type is used and *nil* is accordingly shown in the marginal table. The districts of the heart of the Irrawaddy delta—Myaungmya, Ma-ubin, Pyapôn—show few looms because home-weaving is not done in those districts, concentration on paddy-cultivation paying better. Hanthawaddy, Insein and Pegu have small figures for the same reason. Rangoon shows small figures also because weaving is not done there. Toungoo has small figures because the Karens who form a large part of the population use the primitive looms which are not shown in the table. For the whole province the figures give an average of one loom to 27 persons, and for Delta and Centre Subdivisions respectively one loom to 94 and 15 persons respectively.

14. Looms enumerated at the census.

District.	With Fly-shuttle.	Without Fly-shuttle.
Province	907	478,730
Burman	873	427,362
Delta	*101*	*51,097*
Rangoon	...	7
Insein	1	226
Hanthawaddy ...	...	445
Tharrawaddy ...	7	16,367
Pegu	13	2,772
Bassein	48	5,650
Henzada	19	15,098
Myaungmya ...	...	101
Ma-ubin	5	468
Pyapôn	4	123
Toungoo	2	1,685
Thatôn	9	8,135
Coast	*6*	*51,946*
Akyab	...	22,528
Kyaukpyu	...	8,737
Sandoway	...	4,758
Amherst	6	14,361
Tavoy	...	1,321
Mergui	...	241
Centre	*755*	*290,344*
Prome	23	23,322
Thayetmyo ...	...	19,666
Pakôkku	26	38,194
Minbu	1	17,989
Magwe	3	24,112
Mandalay	586	11,863
Shwebo	...	37,057
Sagaing	2	20,090
Lower Chindwin ...	41	28,561
Kyauksè	...	1,621
Meiktila ...	...	22,556
Yamèthin	4	16,806
Myingyan	69	26,577
North	*11*	*33,975*
Bhamo	...	4,745
Myitkyina	...	9,689
Katha	11	11,939
Putao	...	541
Upper Chindwin ...	...	14,068
Chin	...	3,719
Hill District of Arakan ..		3,718
Chin Hills ...	...	1
Pakôkku Hill Tracts ...	...	...
Salween	...	...
Salween	...	...
Karenni	..	...
Shan	34	47,649
Northern Shan States	34	16,450
Southern Shan States	...	31,193

202. Industrial Studies.—The Government of India suggested that besides the statistical work represented by the census tables, census officers should undertake the collection of general information regarding industrial and economic conditions. Such an enquiry cannot be made in Burma in any complete and satisfactory way by the Superintendent of Census Operations who has quite enough to do in the census alone. But Mr. W. F. Grahame, I.C.S., was placed on special duty by the Local Government to make a study of the industries of the Mandalay District. It was intended that another enquiry should be made in Myaungmya District as a sample of the Irrawaddy Delta; an officer was appointed for this, but financial stringency caused his appointment to be cancelled as soon as he began work and consequently no enquiry was made. Mr. Grahame continued his study in Mandalay but had to undertake other work beside. He has embodied the results of his study in a series of short articles which are published at the end of this report as Appendix C.

SUBSIDIARY TABLE I.—*Employees and Principal Locations of Industrial Establishments.*

GROUPS OF INDUSTRIAL ESTABLISHMENTS.	Total number of Establishments.	Districts where chiefly located.	Number of persons employed.																Number of females over 14 employed per 1,000 males over 14.	Number of children under 14 of both sexes employed per 1,000 adults.
			TOTAL.		Direction, supervision and clerical.						Skilled Labourers.		Unskilled labourers.							
					Home Races.		Europeans and Anglo-Indians.		Other Races.				Age 18 and over.		Age 14 to 18.		Age under 14.			
			Males.	Females	Males.	Females	Males.	Females	Males.	Females	Males.	Females	Males.	Females	Males.	Females	Males.	Females		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
All Industrial Establishments.	**1,198**	.....	**122,945**	**5,498**	**4,990**	**121**	**1,762**	**47**	**3,974**	**6**	**21,881**	**666**	**75,978**	**3,472**	**3,636**	**871**	**1,024**	**315**	**46**	**11**
A—Cultivation for special products.	44	Insein, Hanthawaddy, Toungoo, Thatôn, Amherst, Tavoy, Mergui.	4,976	905	71	...	86	....	76	....	74	...	3,971	608	477	221	221	74	175	53
B—Mines ...	70	Tavoy, Mergui, Thayetmyo, Minbu and the Shan States.	10,208	351	220	4	247	3	259	....	986	...	8,202	257	218	39	85	48	30	13
C—Stone quarries ...	15	Thatôn, Tavoy	1,320	116	6	...	3	....	26	..	14	....	1,177	96	69	17	25	3	87	20
D—Textiles ...	39	Rangoon, Thayetmyo, Mandalay, Sagaing, Meiktila, Myingyan.	1,575	862	126	31	13	...	97	...	301	162	909	416	79	210	50	43	537	40
E—Leather and Bone ...	15	Rangoon, Insein, Prome, Mandalay.	440	11	16	...	11	...	47	...	72	...	288	7	3	2	3	2	21	11
F—Wood ...	150	The whole province ...	13,642	289	862	12	105	1	406	....	2,720	....	8,783	221	664	44	102	11	21	9
G—Metals ...	32	Rangoon, Mandalay ...	2,448	..	44	...	64	...	107	...	1,149	...	980	...	60	...	44	...	...	18
H—Glass & Earthenware	83	Rangoon, Pegu Division, Mandalay.	3,709	397	67	..	...	...	98	....	831	23	2,600	290	82	55	31	29	100	15
J—Chemical products.	78	Rangoon, Hanthawaddy, Thayetmyo, Pakôkku, Magwe, Myingyan.	34,414	549	1,441	15	629	9	681	3	4,880	..	25,361	429	1,141	77	281	16	16	9
K—Food ...	482	The whole province	29,251	1,829	1,559	52	233	4	1,056	1	1,931	392	16,850	1,102	507	193	115	85	79	8
L—Clothing ...	48	Rangoon, Bassein	979	54	17	....	14	3	124	..	662	26	131	19	24	6	7	...	56	7
M—Furniture ..	12	Rangoon	597	1	49	1	16	...	38	...	225	...	250	...	11	...	8	...	2	14
N—Building ...	17	Rangoon, Mandalay, Southern Shan States.	1,259	11	53	..	17	2	35	...	345	..	781	8	25	...	3	1	18	3
P—Construction of means of transport or communication.	41	Rangoon, Mandalay	11,191	70	207	1	204	15	286	2	5,902	51	4,303	1	183	...	36	...	16	3
Q—Electricity, light and heat.	10	Rangoon	686	4	37	...	31	4	18	...	210	...	470	...	20	...	...	...	16	...
R—Other Industries ...	62	Rangoon, Mandalay	3,320	49	215	5	89	6	309	..	1,679	12	922	18	73	5	13	3	14	...

SUBSIDIARY TABLE II.—*Particulars of Establishments of Selected Industries, 1921 and 1911.*

NOTE.—In every trio of entries, as in the first, the italic figures relate to all establishments of selected industries in 1921 while the other two lines relate to industrial establishments employing 20 or more persons. The industries represented by the symbols in the headings of columns 4 to 14 are shown by columns 1 and 2 of Subsidiary Table III below.

Particulars tabulated.	Census.	KIND OF INDUSTRY. All Selected Industries.	A4	B1	B2	B3	B4	B5	F2	G	J4	K2	P
1	2	3	4	5	6	7	8	9	10	11	12	13	14
1.—Number of Establishments— Total	1921	*733*	*39*	*22*	*41*	*5*	*1*	*3*	*139*	*32*	*24*	*388*	*41*
Employing more than 20 persons	1921	584	38	14	32	3	1	2	126	25	24	285	35
	1911	277	...	19	18	...	...	...	82	...	7	152	...
2.—Ownership of Establishments— (i) Owned by Government or a Local Authority.	1921	*6*	...	...	...	...	...	...	...	*2*	...	...	*4*
	1921	6	...	...	...	...	...	...	...	2	...	...	4
	1911	6	...	...	...	...	...	...	...	2	...	...	4
(ii) Owned by private persons— (a) Of Home Races	1921	*287*	*5*	*9*	*8*	*1*	...	*1*	*46*	*7*	...	*210*	*8*
	1921	196	3	4	4	1	...	1	38	5	...	142	...
	1911	92	...	1	1	...	...	...	18	...	...	52	...
(b) Indians	1921	*106*	*4*	...	*8*	...	...	...	*35*	*9*	*1*	*52*	*3*
	1921	75	3	...	2	...	...	...	35	8	1	20	3
	1911	55	...	1	...	...	...	...	30	...	...	24	...
(c) Others	1921	*104*	*10*	...	*13*	*1*	...	*1*	*15*	*5*	...	*40*	*10*
	1921	87	9	...	11	1	...	...	14	4	...	48	6
	1911	35	...	...	7	...	...	...	8	...	...	20	...
(iii) Owned by registered companies	1921	*230*	*22*	*13*	*18*	*1*	*1*	*1*	*43*	*9*	*23*	*77*	*22*
	1921	218	22	10	16	1	1	1	41	9	23	72	22
	1911	115	...	17	9	...	...	...	26	...	7	56	...
3.—Number of persons employed— (a) Direction, Supervision and Clerical. Males	1921	*816*	*217*	*81*	*100*	*382*	*53*	*11*	*1,333*	*215*	*2,484*	*2,553*	*677*
	1921	7,818	213	75	816	382	53	7	1,296	204	2,448	2,228	600
	1911	4,387	69	842	83	22	46	...	1,290	173	444	1,418	369
Females	1921	*89*	...	*3*	...	*4*	...	...	*13*	...	*18*	*30*	*18*
	1921	79	...	1	...	4	...	...	13	...	18	34	15
	1911	102	...	...	1	...	...	...	58	...	...	28	14
(b) Skilled Labourers Males	1921	*17,222*	*66*	*148*	*901*	*552*	*91*	...	*2,600*	*1,140*	*4,672*	*1,847*	*5,008*
	1921	16,808	66	139	901	552	91	...	2,513	1,102	4,672	1,618	5,049
	1911	15,173	340	1,374	403	17	100	6...	2,172	1,146	2,886	3,660	2,735
Females	1921	*51*	...	...	...	...	...	...	...	...	...	...	*51*
	1921	51	...	...	...	...	...	...	...	...	...	...	51
	1911	156	...	6	13	...	...	...	53	...	...	84	...
(c) Unskilled Labourers Males	1921	*69,977*	*4,559*	*816*	*3,147*	*2,364*	*706*	*82*	*9,400*	*1,084*	*25,559*	*16,258*	*4,588*
	1921	68,319	4,530	749	3,331	2,364	936	69	9,414	1,040	25,559	15,334	4,502
	1911	40,773	3,887	3,904	1,808	1,785	2,187	...	5,961	1,108	7,377	22,932	1,607
Females	1921	*2,811*	*878*	*98*	*238*	*8*	...	*6*	*276*	...	*353*	*981*	*1*
	1921	2,689	878	55	227	8	...	6	273	...	353	888	1
	1911	2,730	152	198	32	...	...	...	203	59	40	1,946	94
4.—Adult women— Per 1,000 adult men (1921, all establishments).	...	*31*	*181*	*91*	*62*	*3*	...	*65*	*315*	..	*11*	*40*	*6*
5.—Children under 14 (of both sexes) per 1,000 adults (1921, all establishments).	...	*10*	*51*	*2*	*23*	*2*	...	...	*2*	*12*	*2*	*6*	*3*

SUBSIDIARY TABLE III.—*Establishments of Selected Industries classified by race of Owners or Directors.*

Selected Industries.		Total Number of Establishments.	Number owned by GOVERNMENT or a Local Authority.	Establishments owned PRIVATELY classified by race of owners.			Establishments owned by REGISTERED COMPANIES classified by race of directors.		
				Home Races.	Indians.	Others.	Home Races.	Indians.	Others.
1	2	3	4	5	6	7	8	9	10
	All Establishments of Selected Industries.	733	6	197	106	204	22	22	186
A4	Rubber cultivation ...	39	...	3	4	10	1	...	21
B1	Petroleum wells	22	...	9	...	...	3	...	10
2	Tin and Wolfram mines ...	41	...	8	2	13	...	...	18
3	Silver and Lead mines	3	...	1	...	1	...	...	1
4	Ruby mines	1	...	...	...	...	...	...	1
5	Other mines	3	...	2	...	1	...	...	1
F2	Sawmills and timber-yards ...	139	...	46	35	15	3	8	32
G	Metal industries	32	2	7	9	5	...	2	7
J4	Petroleum refineries and pipe-line pumping stations.	24	—	...	1	—	1	1	21
K2	Rice-mills	388	—	210	32	49	14	9	54
P	Construction of means of transport or communication.	41	4	2	2	10	...	2	20

SUBSIDIARY TABLE IV.—*Birth-places of Labourers in Selected Industries.*

Industry.	Total number of labourers.		Birth-place.					
			In the Province.				Outside the Province.	
			District of employment.		Other Districts.			
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
1	2	3	4	5	6	7	8	9
SKILLED LABOURERS.								
A4. Rubber cultivation ...	66	...	26	...	11	...	30	...
B1. Petroleum wells	748	...	74	...	42	...	28	...
2. Tin and Wolfram mines ...	801	...	85	...	49	...	185	...
3. Silver and Lead mines ...	552	...	4	...	118	...	430	...
4. Ruby mines	91	...	1	...	77	...	13	...
5. Other mines	...	...	...	...	...	...	...	...
F2. Sawmills and timber-yards ...	2,600	...	981	...	289	...	1,320	...
G. Metal industries	1,149	...	354	...	138	...	663	...
J1. Petroleum refineries and pipe-line pumping stations,	4,082	...	682	...	852	...	3,168	...
K2. Rice-mills	1,847	...	488	...	223	...	1,136	...
P. Construction of means of transport or communication,	2,908	81	1,082	28	491	15	2,332	8
UNSKILLED LABOURERS.								
A4. Rubber cultivation ...	4,850	878	837	860	129	78	2,896	211
B1. Petroleum wells	816	93	514	88	78	4	230	...
B2. Tin and Wolfram mines ...	3,447	838	541	200	130	80	2,777	18
B3. Silver and Lead mines ...	2,364	8	174	3	267	5	2,233	...
B4. Ruby mines	796	...	14	...	250	...	518	...
B5. Copper, wolfram and coal mines	68	6	28	...	2	...	33	6
F2. Sawmills and timber-yards ...	3,400	276	1,868	188	391	82	1,831	6
G. Metal industries	1,064	...	154	...	43	...	867	...
J4. Petroleum refineries and pipe-line pumping stations,	25,259	353	2,988	216	2,890	131	19,041	6
K2. Rice-mills	16,258	981	1,583	586	473	78	14,088	300
P. Construction of means of transport or communication,	4,588	1	348	...	86	...	4,088	1

SUBSIDIARY TABLE V.—*Races of Superior Employees in all Industrial Establishments.*

Group of Industries.	Total.	Number employed as											
		Managers.			Supervising Staff.			Clerical Staff.			Skilled workmen.		
		Home Races.	Europeans and Anglo-Indians.	Other Races.	Home Races.	Europeans and Anglo-Indians.	Other Races.	Home Races.	Europeans and Anglo-Indians.	Other Races.	Home Races.	Europeans and Anglo-Indians.	Other Races.
1	2	3	4	5	6	7	8	9	10	11	12	13	14
All Industries M. ...		513	233	428	652	2,960	994	2,526	869	2,853	7,443	369	14,073
F. ...		26	3	2	14	15	1	11	89	3	605	28	3
A. Cultivation for special products.	809	6	28	10	30	48	47	15	10	10	41	1	38
B. Mines ...	M. 1,803	M. 24	26	16	38	M. 186	31	158	M. 38	183	369	25	358
	F. 1	F. 4				F. 1			F. 2				
C. Stone quarries ...	49	3	1	11	...	1	6	3	1	2	1	...	13
D. Textiles ...	M. 378	M. 20	5	14	M. 16	5	16	90	3	97	M. 184	...	119
	F. 198	F. 1			F. 30						F. 168		
E. Leather and Bone	146	3	4	8	6	5	6	7	2	12	2	...	30
F. Wood ...	M. 4,003	M. 53	24	72	M. 72	73	68	M. 731	M. 8	266	1,198	2	1,582
	F. 13	F. 1			F. 6			F. 5	F. 1				
G. Metals ...	1,364	9	10	13	4	48	28	31	6	66	417	28	607
H. Glass and Earthenware,	M. 996	47	...	36	8	...	46	14	...	16	M. 858	...	843
	F. 83										F. 93		
J. Chemical products	M. 7,831	83	28	81	M. 63	324	66	M. 1,349	M. 87	M. 304	1,473	80	2,382
	F. 28				F. 11			F. 4	F. 9	F. 3			
K. Food ...	M. 4,779	M. 274	M. 54	M. 139	M. 230	M. 168	481	M. 1,005	17	438	M. 608	18	M. 1,291
	F. 449	F. 15	F. 2	F. 1	F. 25	F. 8		F. 8			F. 369		F. 3
L. Clothing ...	M. 839	10	M. 8	32	5	M. 9	63	2	...	89	M. 191	M. 1	470
	F. 29		F. 1			F. 2					F. 84	F. 8	
M. Furniture ...	M. 328	M. 1	3	7	24	13	23	14	...	8	119	...	296
	F. 1	F. 1											
N. Building ...	M. 480	9	3	5	1	13	15	42	M. 1	18	119	18	814
	F. 3								F. 2				
P. Construction of means of transport or communication	M. 6,599	M. 2	23	M. 13	16	M. 134	M. 12	169	M. 48	261	1,848	M. 190	3,597
	F. 69	F. 1		F. 1		F. 5	F. 1		F. 10			F. 81	
Q. Electricity, light and heat.	M. 206	3	8	8	4	M. 18	2	30	M. 8	24	86	2	81
	F. 4					F. 2			F. 2				
R. Other Industries ...	M. 2,318	M. 80	14	26	M. 30	M. 31	84	148	M. 44	819	M. 446	M. 26	1,280
	F. 83	F. 3			F. 2	F. 2			F. 3		F. 7	F. 5	

SUBSIDIARY TABLE VI.—*Proportional Distribution amongst all Industrial Establishments of* 1,000 Females age 14 or over *and by Sex of* 1,000 Children under 14.

	INDUSTRIES.	Distribution by Industries of:—			
		1,000 Females over age 14.	1,000 Children under 14.		
			Total.	Males.	Females.
1	2	3	4	5	6
	All Industries	1,000	1,000	765	235
A	Cultivation for special products ...	160	220	165	55
	4. Rubber	156	216	164	52
B	Mines	58	99	163	36
	1. Petroleum wells	18	4	1	3
	2. Tin and Wolfram mines ...	38	70	38	32
	3. Silver and Lead mines ...	2	25	24	1
C	Stone quarries	22	21	19	2
D	Textiles	158	69	37	32
	1. Cotton-ginning, cleaning and pressing.	93	37	15	22
	2. Cotton-weaving	32	10	...	10
	3. Rope-making	19	23	22	1
	4. Silk-weaving	14	...	...	...
E	Leather and bone*	3	4	3	1
F	Wood*	54	84	76	8
G	Metal	...	33	33	...
H	Glass and earthenware	71	45	23	22
	2. Brick tile and fire-brick factories	67	44	22	22
J	Chemical products	103	223	210	13
	1. Salt refineries	4	9	3	6
	4. Petroleum refineries ..	69	203	199	4
	7. Vegetable-oil mills	30	5	2	3
K	Food	336	149	86	63
	3. Rice mills	188	105	71	34
	7. Sugar factories	54	31	12	19
L	Clothing	10	5	5	..
M	Furniture	...	6	6	...
N	Building	3	3	3	1
P	Construction of means of transport or communication.	14	27	27	...
Q	Electricity light and heat ...	1	...	...	...
R	Other industries	9	12	10	2
	Actual total number engaged in all industries.	5,183	1,339	1,024	315

* Women and children are confined in industries of Class E to Leather factories and in those of Class F to Saw-mills.

SUBSIDIARY TABLE VII.—*Distribution of Power in Industrial Establishments.*

NOTE.—Establishments using steam, oil, water or gas engines only to drive an electric generator are not entered in columns 3 to 8; but otherwise an establishment with more than one kind of power is entered separately in columns 3 to 8 for each kind.

	GROUP OF INDUSTRIES.	Number of establishments using each kind of power.					
		Steam.	Oil.	Water.	Gas.	Electricity.	
						Generated on the premises.	Supplied from without.
1	2	3	4	5	6	7	8
A	Cultivation for special products ..	8	5	1	5	3	...
B	Mines	14	4	...	1	5	...
C	Stone quarries	2	1	...	...	...	...
D	Textiles	14	16	...	...	9	...
E	Leather and bone	1	...	...	...	1	...
F	Wood	129	4	...	...	7	1
G	Metals	11	1	...	1	...	7
J	Chemical products	44	23	...	2	18	2
K	Food	397	14	1	...	128	3
N	Building	2	...	...	...	...	...
P	Construction of means of transport or communication.	9	4	...	...	11	14
Q	Electricity light and heat	6	3	...	...	1	4
R	Other industries	1	3	...	...	1	21

SUBSIDIARY TABLE VIII.—*Number of Persons employed on the 18th March 1921 in the* Post Office and Telegraph Department *in Burma.*

Class of Persons employed.	Total Persons.	Classification by Races.			
		Europeans and Anglo-Indians.	Home Races.	Chinese.	Indians.
1	2	3	4	5	6
Total persons employed	5,004	352	1,002*	9	3,643
(1) Post and Telegraphs	4,770	311	983*	9	3,467
1. Supervising officers (including Probationary Superintendents and Inspectors of Post Offices and Assistant and Deputy Superintendents of Telegraphs and all officers of higher rank than these).	72	49	13	...	10
2. Postmasters, including Deputy, Assistant, Sub and Branch Postmasters and Telegraph Masters.	441	22	113	2	300
3. Signalling establishment including warrant officers, non-commissioned officers, military telegraphists and other employés.	437	235	65	...	137
4. Miscellaneous agents, Schoolmasters, Station Masters, etc.	52	13	25	...	14
5. Clerks of all kinds	930	19	291	7	613
6. Postmen	1,069	...	185	...	884
7. Skilled labour establishment including foremen, instrument-makers, carpenters, blacksmiths, mechanics, sub-inspectors, linemen and line-riders and other employés.	405	3	50	...	412
8. Unskilled labour establishment including line coolies, cable guards, batterymen, telegraph messengers, peons, and other employés.	1,119	...	130*	...	941
9. Road establishment, consisting of overseers, runners, clerks, booking agents, boatmen, syces, coachmen, bearers and others.	179	...	65	...	110
(2) Railway Mail Service	234	...	18	...	216
10. Supervising Officers (including Superintendents and Inspectors of Sorting)	5	...	1	...	4
11. Clerks of all kinds	18	...	11	...	7
12. Sorters	97	...	12	...	85
13. Mail guards, mail agents, van peons, porters, etc.	114	...	5	...	109

* One Siamese included in this figure; all others of Home Races.

SUBSIDIARY TABLE IX.—*Number of Persons employed on the 18th March 1921 in the* Irrigation Department *in Burma.*

Class of Persons employed.	Total Persons.	Classification by Races.			
		Europeans and Anglo-Indians.	Home Races.	Chinese.	Indians.
1	2	3	4	5	6
Total persons employed *	4,877	8	1,888	3	2,978
Persons directly employed	470	8	190	2	270
Officers	8	5	1	...	2
Upper Subordinates	4	...	1	...	3
Lower Subordinates	31	...	4	...	27
Canal Inspectors	5	1	4	...	...
Canal Surveyors	24	...	24	...	...
Toll Collectors	2	...	1	1	...
Draughtsmen	8	...	3	...	5
Clerks	26	2	11	...	13
Peons and other servants	134	...	81	1	52
Coolies	148	...	60	...	188
Persons indirectly employed †	4,407	...	1,698	1	2,708
Contractors †	59	...	14	1	44
Contractors' regular employés †	10	...	4	...	6
Others †	4,338	...	1,680	...	2,658

* Figures in this total line for columns 3 to 6 in order include 24, 3, 5, nil, 16 respectively for Delta Circle who do other work besides irrigation.

† Some of these are employed on other work than irrigation; most of the *Others* are employed during the construction season only.

SUBSIDIARY TABLE X.—*Number of Persons employed on the 18th March 1921 on* Railways *in Burma.*

Class of Persons employed.	Total Persons.	Classification by Races.			
		Europeans and Anglo-Indians.	Home Races.	Chinese.	Indians.
1	2	3	4	5	6
Total of all Classes	34,274	643	8,070	363	25,198
Persons directly employed	30,391	632	2,582	296	26,881
Officers	78	71	2	...	5
Subordinates drawing—					
(i) Over Rs. 75	1,160	451	81	35	611
(ii) Rs. 20 to 75	3,237	105	882	171	8,169
(iii) Under Rs. 20	11,821	5	1,617	...	10,199
Persons indirectly employed	13,983	11	5,488	167	8,317
Contractors	390	6	48	18	339
Contractors' regular employees	3,668	3	577	36	3,052
Others	9,925	...	4,863	113	5,049

APPENDIX A.

Correction of the Age-Statistics.

(With reference to Article 88 of Chapter V.)

Bloxham's method of correcting the age-statistics, which was advocated in connection with the census of India in 1901 and used in the Burma census of 1911, was applied to the statistics shown under the heading "As recorded" in Subsidiary Table I of Chapter V. It consists of first substituting for the number tabulated at each age the average of itself and the numbers for the two preceding and two following ages; and then performing a similar operation upon the new series so obtained, but substituting for each term the average of 11 numbers consisting of itself and the five preceding and five following terms. The series obtained by taking these steps in turn are shown in the columns P and Q of the table on the next page. Finally the Q series should be plotted out and adjustments made which will give a curve free from *abrupt* changes of curvature. This demand for continuity in the curvature was met by plotting also the successive differences of the terms of the series, which were then so adjusted as to make the curve of the differences continuous and free from *abrupt* changes of curvature as well as the curve of the original terms, one advantage of this being that it afforded guidance at the numerous points at which the smoothing of the principal curve was somewhat arbitrary. The curves are not reproduced here as it is of little use reproducing them on a small scale, and the expense of reproducing on a sufficiently large scale would be quite unjustifiable; they were drawn on a scale which made them about four feet long, so as to enable the smoothed values for each age to be read off accurately. As the sum of the new series differed slightly from 100,000 its terms were multiplied by a constant factor to bring its sum to that number. The final result is shown in Subsidiary Table I of Chapter V, but it cannot be pretended that it is correct. In the first place the method of averaging cannot be applied to the earliest terms of the series; for instance there are not two terms preceding the number recorded for age 1 to be used in the first averaging of five terms for that age, and the device of using only three terms then is invalid. Similarly for the second averaging over eleven terms. The figures for ages below eight are thus obtained in a makeshift way different from the other terms of the series. When the final smoothing is done there is only one direction at this part of the curve in which there is any guidance, and the actual figures obtained made me only too painfully aware of this. Moreover, an instant's consideration of the problem of infant mortality convinces that the correct figure for age 0 could not be obtained by extension backwards even of a satisfactorily established curve for subsequent annual periods; the variations of mortality at successive stages within the first year are too great for that. Similar objections prevail at the other end of the series, and consequently both ends must be rejected. We can perhaps retain age 7 at the lower end as the direction of the curve is indicated sufficiently for that; at the other end we may as well stop at age 70 without arguing about higher ages. Then the series no longer represents the age-distribution of a definite total population, and so loses part of its value; but it might still represent the proportionate numbers at ages from 7 to 70. Even this however cannot be conceded. The first averaging over five terms is intended to distribute the excess persons shown in the original records with ages which are multiples of 5; the second averaging over eleven term is to make a further correction for the predilection for ages which are multiples of 10. Eleven is chosen because it is desired to include an equal number of terms on each side of the substituted term, so that an odd number, either nine or eleven, is necessary for the system. The final result is to give as the substitute for each term a weighted average of itself and of the seven preceding and following terms. The average is so weighted that it consists of one-eleventh (*i.e.*, five-fifty-fifths) of the central term and of each of the three immediately following it, four-fifty-fifths of the term after those, and three, two and one fifty-fifths of the terms successively following that, and symmetrical fractions of the seven terms preceding it. This however involves entirely unfounded assumptions as to the way the errors arose; and the results, as was noted in the Burma Census Report of 1911, cannot be taken as the basis of any detailed conclusions. The true curve must lie somewhere in the neighbourhood of the curve given by this process; but there is no reason for supposing that the distribution represented by the latter is any more accurate than that obtained by merely collecting the crude figures into age-groups as is done in Imperial Tables VII and XIV, in which case the series obtained for five-yearly age-groups would be proportional to the figures in column P for ages 2, 7, 12, 17, etc. The tendency of the process is to smooth out, not so much errors as the irregularities which ought to exist and are the points of particular interest in the series. It tends perhaps to give a representative age-distribution of no particular date rather than the age-distribution of the actual time of the census; but this is uncertain, and in any case it means that the characteristics of the distribution are lost. There is also absolute loss of the two ends of the series. In the particular case of the figures for Burmese Buddhists the simple collection of the crude figures into five-yearly groups has over all

such methods as Bloxham's the advantage of giving results which, can be more fairly and accurately compared with the equally erroneous figures for all Buddhists; the error in such a comparison is possibly quite small.

Intermediate Stages of the Smoothing of Subsidiary Table I of Chapter V.

P = Recorded figures averaged over periods of 5 years; Q = Column P averaged again over periods of 11 years.

Age.	Males.		Females.		Age.	Males.		Females.	
	P	Q	P	Q		P	Q	P	Q
0	2,476	2,476	2,670	2,670	50	800	782	841	780
1	2,453	2,493	2,533	2,595	51	777	741	834	751
2	2,550	2,544	2,584	2,592	52	757	701	827	724
3	2,583	2,565	2,559	2,590	53	570	676	618	698
4	2,660	2,563	2,612	2,568	54	599	649	623	663
5	2,640	2,552	2,589	2,536	55	554	617	579	631
6	2,590	2,555	2,587	2,508	56	515	594	545	597
7	2,493	2,562	2,437	2,500	57	493	572	498	563
8	2,626	2,545	2,543	2,479	58	613	536	568	517
9	2,469	2,528	2,380	2,468	59	554	517	511	489
10	2,529	2,489	2,403	2,446	60	553	493	495	460
11	2,517	2,444	2,365	2,427	61	546	469	467	439
12	2,528	2,399	2,439	2,401	62	538	447	462	405
13	2,357	2,365	2,352	2,384	63	364	429	317	387
14	2,399	2,310	2,438	2,359	64	359	398	311	361
15	2,235	2,264	2,375	2,340	65	330	370	302	339
16	2,145	2,201	2,375	2,303	66	298	341	271	318
17	2,032	2,136	2,302	2,262	67	274	312	251	299
18	2,178	2,064	2,249	2,202	68	290	275	303	269
19	2,023	2,006	2,266	2,150	69	268	253	286	252
20	1,959	1,943	2,179	2,082	70	245	230	266	234
21	1,843	1,888	1,992	2,014	71	236	210	262	216
22	1,797	1,836	1,910	1,938	72	228	191	256	200
23	1,735	1,798	1,782	1,873	73	131	174	131	186
24	1,724	1,737	1,782	1,804	74	126	154	130	167
25	1,707	1,685	1,692	1,732	75	109	136	113	149
26	1,629	1,638	1,626	1,661	76	101	119	104	131
27	1,569	1,597	1,542	1,603	77	93	103	94	114
28	1,609	1,546	1,588	1,534	78	86	84	102	92
29	1,514	1,503	1,491	1,477	79	75	75	90	82
30	1,448	1,456	1,464	1,415	80	67	65	86	71
31	1,444	1,409	1,399	1,366	81	59	56	75	62
32	1,392	1,366	1,357	1,321	82	56	48	72	54
33	1,239	1,331	1,157	1,289	83	26	43	19	46
34	1,257	1,288	1,154	1,248	84	23	38	17	38
35	1,208	1,253	1,098	1,216	85	19	34	13	31
36	1,188	1,221	1,150	1,188	86	15	31	18	24
37	1,157	1,190	1,129	1,156	87	14	28	11	18
38	1,190	1,149	1,190	1,117	88	34	23	13	18
39	1,132	1,127	1,135	1,096	89	33	21	12	10
40	1,130	1,100	1,148	1,070	90	32	19	11	9
41	1,092	1,075	1,154	1,047	91	29	17	10	8
42	1,106	1,048	1,048	1,016	92	28	16	9	7
43	944	1,027	919	994	93	2	15	2	6
44	990	994	934	963	94	2	12	3	5
45	961	964	865	934					
46	933	932	840	908					
47	894	901	809	878	95				
48	927	853	892	839	and	3	19	12	16
49	827	821	849	812	over				

If any comparison with the Bloxhamised figures of 1911 and 1921 is contemplated it must be noted that the latter are confined to Burmese while the former include Buddhists of all kinds in the areas from which they were selected. These areas are not on record for the figures of 1911. Also the figures tabulated in Subsidiary Table I of Chapter V of the Census report of 1911 were not smoothed; they correspond not to Subsidiary Table I of Chapter V of 1921 but to column Q in the table of this appendix.

A more elaborate method of dealing with the figures, which was used by the actuary employed by the Government of India to examine the age-records of all Indian provinces after the census of 1911, is described in the All-India report of that census; but his method

too was based upon a perfectly arbitrary assumption. A special correction was made for age 5: but for every other age which is a multiple of 5 he calculated the excess of the recorded number above the mean of the numbers for the two adjacent ages and transferred one-half of this excess to the earlier of those two ages, leaving the other half untouched. This of course graduated the numbers involved, and it gave a workable series; but there is no reason for regarding it as accurate. For India proper it may be the best that can be done with a bad job; but the actuaries employed in 1901 and 1911 both remarked that the Burma returns were superior to those from other provinces.

Other methods of dealing with the figures have also been tried; for instance, on the assumption that the errors lay chiefly in the multiples of 5 and 10 years, these terms were omitted from the series and a smoothed curve was constructed from the remaining terms by which new figures for the omitted ages were then interpolated. No obvious advantage seemed however to be gained by any of the methods tried.

No uniform mechanical method in fact can be expected to furnish the proper corrections; a successful method must be adapted in its application at every age to the particular manner in which the record was corrupted. If the manner of this corruption could be discovered there would be hope of reversing the process so as to get back from the actual record to an approximately correct statement. The tables were accordingly examined again with this object. The entries for young children seem to be inconsistent amongst themselves as well as with the entries for older children. There are specially large numbers shown for ages which are multiples of 10 or odd multiples of 5, which are clearly due to persons stating their ages in such round numbers. In that case the deficiency shown in ages ending in 1, 4 or 9 is easily explained as due to persons of those ages giving the near multiple of 5 or 10; some ages ending in 6 do not seem to be avoided to the same extent—for instance age 46 is well patronised by males—but in most cases the numbers shown for such ages are small too. There is a preference for some ages ending in 2 or 3, but this is not the same for males as for females; for instance ages 32 and 33 are both particular favourities for males, but 33 is not so attractive to females as 38.* Now everybody estimates ages by tens first of all, and if one ten is too high and another too low the half-way five is naturally thought of. Then if an attempt at accuracy is being made, some qualification will be added, showing whether the true figure is probably above or below that half-way figure. Every settlement officer has experienced this (with fifties instead of fives) in discussing the outturns of their holdings with Burmese or Karen cultivators, and it seems to be a universal human tendency. But the enumerator is not allowed to record a five-year range of ages: he must either ask for a definite age to be stated or invent one. Naturally he chooses the half-way figure again, which may end either in 2 or 3, or in 7 or 8. Thus one would expect ages ending in 1 or 4 to be in defect by losing numbers to those ending in 0, 2, 3 or 5 while those ending in 2 and 3 would also lose to those ending in 5 and still more to those ending in 0. Similarly for those ending in 6 or 9. Accordingly the actual disturbances of the figures apart from the youngest ages seemed to be just those which would occur in an endeavour to give a correct record without having exact knowledge. Another point considered was that the recognised number for a person's age amongst all the indigenous races, and thus amongst the majority of the population, is the ordinal number of the year of life,—that is, the age next birthday; and it is probable that although so much emphasis was laid upon the instruction to record the age at the last birthday ("the number of *completed* years") a certain number recorded the age as one year too great on this account. This effect however would be spread fairly evenly over all the ages or at any rate would not be very different at near ages; accordingly it would not affect the age-distribution appreciably in any year except the first, the loss to the succeeding always tending to balance the gain from the preceding age.

Enquiries were made from Deputy Commissioners and others, both European and Burmese, in many districts about the manner in which the ordinary people remember and state their ages, and as to whether and by how much they are inclined to over or under-estimate. In a number of villages the census enumeration-record was checked over again, each person's age being carefully enquired into by a capable officer; the census record and true record were compared and the frequency of particular units-digits in erroneous entries was observed. Many officers took great interest in this enquiry and gave it considerable time and attention; some indeed gave assistance who had no duties whatsoever in connection with general administration and must be specially thanked accordingly. The larger number of enquirers unfortunately were obsessed by the substitution of ordinal for cardinal numbers, and thought that would account for any vagaries of the record. The general tendency of the reports of others was that, while there were naturally a few hopeless errors, such as 80 for 8 or 27 for 72, errors by one year were not numerous and errors by two years or more were rare, and that overstatement and understatement were equally common. It seems that the errors which give rise to such large aberrations in the record must be more numerous than these reports would suggest; but that may be due to an unconscious and pardonable desire to present the census work of the particular district in the best possible light. There is in the reports considerable support for the hypothesis of the origin of the errors which was reached in the preceding paragraph, and it seemed justifiable to work on that.

According to that hypothesis the numbers of persons in age-groups of five years ought to be approximately correct, if the people who state the ages and endeavour to estimate

* The figures obtained by Bloxham's method of smoothing are useful here as they must show something near the true figures, and comparison of the recorded figures with them shows sometimes where figures are really excessive and where they only appear excessive because their neighbours are defective.

them correctly have any reliable knowledge to help them form their estimates. Odd people in Burma will make the wildest statements about their ages; but when ages are recorded for a whole family there is an automatic correction applied by the inevitable comparisons. Proceeding on the assumption that the errors in the numbers for five-yearly age-groups were of moderate magnitude, the curves shown in Article 89 of Chapter V were drawn for Buddhist females; and as noted in Article 90 of that chapter these show that although the errors in the numbers for these groups are not negligible, they are not so large as to forbid the valid use of those numbers if their limitations are borne in mind. It may safely be assumed that the figures for Burmese if collected into five-yearly age-groups are at least as accurate as those for all Buddhists.

It must be remembered that errors in the age-record are not peculiar to Burma, but are met in every country in Europe and America, where yet are based upon them elaborate calculations on which depend the use of large sums of money in insurance and public health expenditure. Wilful mis-statements of age occur in England, but they are believed to have an inconsiderable effect upon the statistics as a whole except amongst females between 15 and 35. So too in Burma there is evidence of an exaggeration of the ages of females between 15 and 20, which may or may not be wilful; but at other ages the effect of wilful mis-statement appears to be negligible, at any rate for Buddhists who comprise the major part of the population. According to the English census report of 1911 the mis-statement of the ages of infants is not universal; but it appears in England and Germany and probably also in Holland and Denmark where however it is disguised by other influences. Dr. Dunlop has shown* that in England the number of children under one year of age as given by the census is about 4·8 per cent in defect, and that for the succeeding ages there are the errors shown in the margin. In Burma it seems that children are often described as 1, 2 or 3 years old and so on, not when they have seen so many birthdays, but when they have reached certain stages of development such as crawling, toddling, running, talking, and that these stages are actually reached as a rule, at any rate in the eyes of admiring parents, before the ages conventionally assigned to them.

Age.	Error per cent.
Under 1	−4·8
1—2	−2·9
2—3	+0·7
3—4	+2·7

* Journal of the Royal Statistical Society, May 1916.

APPENDIX B.

Indigenous Languages and Races.

By Mr. L. F. Taylor, I.E.S.

[Note.—It was originally intended that this Appendix should take the form of a monograph on the Indigenous Languages and Races of Burma. It has since become necessary to confine it to a brief statistical discussion based on an examination of the figures given in the language and race tables. The preparation of the monograph will be one of the tasks of the coming "Ethnographical and Linguistic Survey of Burma."]

1. *Classification of Indigenous Languages.*—The present system of classification of the Indigenous Languages of Burma is shown in Subsidiary Table IB, Part I, at the end of this Appendix. It is also shown in Part IA of Imperial Table X. A comparison with the classification of 1911 is made in the diagram given below:—

1911.				1921.			
Family.	Sub-family.	Branch.	Group.	Group.	Branch.	Sub-family.	Family.
Tibeto-Chinese.	Tibeto-Burman.	Assam-Burmese.	Burma Lolo ... Kuki-Chin ... Kachin ...	Burma Lolo-Mus'o Kuki-Chin Naga ... Kachin Sak ...	Assam-Burmese.	Tibeto-Burmese.	Tibeto-Chinese.
				Mishmi	North-Assam.		
				Mro ..	Unclassed		
	Siamese-Chinese.		Tai ...	Tai ...	Tai ...	Tai-Chinese.	
			Sinitic or Karen.	(See below)			
			...	Chinese	Chinese		
Malayo-Polynesian.			Malay ...	Malay ...	Indonesian	Austronesian.	Austric
Austro-Asiatic.	Mon-khmer		Talaing ... Palaung-Wa. ...	Mon Palaung-Wa. Khasi ...	Mon-Khmer	Austroasiatic.	
			Miao-Yao	Man ...			Man
			...	Karen ...			Karen

Four new groups have been added to the Tibeto-Burman sub-family. These are the Naga, Sak, Mishmi and Mro groups. The addition of the Mishmi group necessitates the addition of a new branch, the North-Assam branch. Mro, which had previously been shown as a language of the Burma group now constitutes a group of its own. The exact relationship of this group with the other groups of the Tibeto-Burman sub-family has not yet been ascertained.

In the Tai-Chinese sub-family two changes have been made: the Karen group of languages has been removed to constitute a new family and the Chinese group has been added. The Malayo-Polynesian and Austroasiatic families of 1911 are now united into the Austric family. A Khasi group has been added to the Mon-Khmer branch while the Miao-Yao group, renamed the Man group, has been removed to constitute the Man family. A statement of the philological evidence upon which the changes have been based cannot, unfortunately, be given here. Some of the changes have been suggested by Sir George Grierson and some by myself. In every instance, however, the agreement of Sir George Grierson has been accorded save in the cases of newly discovered languages where it has not been possible to supply him with materials. The present classification lays no claim to finality; it is merely based on the scanty materials collected up to date. Nothing authoritative or exhaustive can be attempted until a Linguistic Survey of Burma shall have collected and examined and classified materials from all the indigenous languages of the Province.

2. *Classification of Indigenous Races.*—Up to the present time language has been the principal basis of classification of the races of Burma and this is as true of the present Census as it was of the 1911 Census. The races corresponding to each indigenous language group have been regarded as forming a racial group to which the same group name has been assigned. No anthropological or biological classification is yet possible as the data collected up to date is too scanty to justify such an attempt. Our knowledge of the origin and relationships of the indigenous races has not increased much during the decade and is not likely to do so until the Linguistic Survey has made much further progress and has been supplemented by Ethnographical and Anthropometrical Surveys. In the meantime races are becoming more and more mixed and the threads more difficult to disentangle.

3. *Elementary Constitution of the Races of Burma.*—The great bulk of the indigenous inhabitants of Burma are composed of a mixture, in varying degrees, of the Indonesian and Southern Mongol stocks, the Southern Mongol preponderating. Dr. A. C. Haddon describes the Indonesians as "a race with undulating black hair, often tinged with red; tawny skin, often rather light; low stature of 1·54—1·57 metres (5 ft. 0½ in. to 5 ft. 1¾ in.); mesaticephalic (index 76—78), probably originally dolichocephalic; cheek bones sometimes projecting; nose often flattened, sometimes concave. It is difficult to isolate this Indonesian type as it has almost everywhere been mixed with a brachycephalic Proto-Malay stock." The Nagas may be regarded as typical representatives. Of the Southern Mongols he writes "Hair black and lank, little hair on the face; skin colour varies from yellowish in the north to olive and coppery-brown in the south; stature varies a good deal, but is generally short, averaging about 1·6 metres (5 ft. 3 in.); often thick set; brachycephalic (index 80—85); frequently prognathic; nose short and broad; eyes often very oblique, with Mongolian fold. Most of the peoples of this group are considerably mixed with other races; they comprise the Tibetans, Himalayans, Chinese proper, and the bulk of the populations of further India and Indo-China. Those members who spread into the East Indian Archipelago are often called Oceanic Mongols, but a better term is Proto-Malays; and it is from these the true Malay is derived." Other stocks are also present but to a much smaller extent. The Kachins, for instance, often exhibit two types, one markedly Mongoloid, the other taller with long oval face, pointed chin, aquiline nose and a tendency to dark brown hair. Such features indicate a so-called Caucasic strain such as is to be found among the independent Lolos of Sze-Chuan province in Western China. The Karens exhibit both these types, but the Brek Karens show traces of yet another stock, *viz.*, the pre-Dravidian stock represented by the Veddahs of Ceylon and the Sakai of the Malay Peninsula. It is suspected that the Was also contain a pre-Dravidian strain and it is reasonable to believe that both the Was and Karens have absorbed a pre-Dravidian population on whose land they had settled down.

The Southern Mongols, as a result of mixture with other races not only in Burma but also before they arrived in Burma and possibly also as a result of changes produced by local conditions, have split up into many sub-races such as the Shans, Talaings, Kachins and Karens which correspond roughly to the indigenous Race-groups of Imperial Table XIII. These, by splitting up and by intermarriage with one another and with races of Indonesian and other stocks, have produced all the varieties which are recognized as indigenous races in the same table.

4. *Definitions.*—In an anthropological sense "Race" denotes "a main division of mankind, the members of which have important physical characters in common" (Dr. Haddon) and applies to the races or stocks denominated Southern Mongol, Indonesian, pre-Dravidian and Caucasic which have already been described. Such races are probably of respectable antiquity anthropologically considered. In Imperial Table XIII the term has been applied to much smaller units of mixed origin which are of recent formation and which might more aptly have been designated "Tribes" or "Peoples." A tribe, according to Dr. Haddon, is "a group of a simple kind occupying a circumscribed area, having a common language, common government, and a common action in warfare" while a people is "a community inhabiting any given area independent of race." Neither of these definitions are however quite suitable for census purposes. The Talaings cannot be called a "tribe" in accordance with the definition just quoted because they do not possess a common language: 58 per cent of them habitually speak Talaing whilst the remainder speak Burmese. The term "people" on the other hand implies a degree of diversity of race which would give a misleading impression of the Talaings. In the absence of any suitable term capable of exact definition, the word "Race" was finally adopted as a general term to be defined by the units to which it has been applied. In this sense it represents variously "a group of a simple kind who at one time occupied a circumscribed area, and had a common language, common government and a common action in warfare," "a conglomerate composed by the fusion of such groups" and "the elements into which such a group has disintegrated."

The Talaings come into the first category, the Burmese into the second and the various kinds of Shans into the last.

As regards the use of the term "Language" in Imperial Table X it is sufficient to say that the names given as separate languages are generally only dialects of parent languages to which the term "Language-group" has been applied. For instance Burmese, Arakanese, Chaungtha, Tavoyan, etc., are very similar variations of one ideal * language and are descended from a parent language which is represented by the term "Burma group."

5. *The Burma Group.*—This group has been reconstituted since 1911 by the removal of the Mro and Kadu languages and the inclusion of Atsi, Lashi, Maru and Maingtha which were then classed as Kachin-Burma Hybrids. These four languages differ considerably from ordinary Burmese and, together with P'un which may be regarded as a connecting link with Burmese, form a distinct sub-group of the Burma group. The precise degree of their relationship with Burmese still remains to be worked out, but there is no doubt that they belong to the Burma rather than to any other group.

During the decade speakers of languages of the Burma group have increased by 11 per cent whilst persons of races belonging to the group have increased by 8·8 per cent., a rate which is slightly greater than the general rate of increase of the Province. The conclusion is obvious that the Burma languages are making headway amongst the non-Burma races.

Burma group in year.	Race.	Language.
1921 ...	8,683,035	9,232,636
1911 ...	7,982,063	8,304,785
Increase	700,972	927,851

* "Ideal" in the Platonic sense much as the non-existent "Standard English" is an ideal language.

Speakers of Burmese have increased by only 6 per cent, but a considerable increase is shown for speakers of other languages of the group. The explanation is to be found in more correct enumeration. Persons who at the last census returned themselves as speaking Burmese have been questioned to ascertain their particular dialect. It is probable also that many Atsis, Lashis and Marus were in 1911 returned as Kachins speaking Kachin.

3. Languages.	1921.	1911.	Increase.
Arakanese and Yanbye	497,709	323,962	173,747
Chaungtha ...	9,052	2,515	6,537
Tavoyan ...	131,746	46	131,700
Danu	72,925	18,694	54,231
Atsi	5,663	805	5,458
Lashi	16,570	...	16,570
Maru	20,577	209	20,368
Total ...	754,242	345,631	408,611

The number of persons of races of the Burma group who speak languages belonging to other groups is very small, but more than half a million persons belonging to other races habitually speak Burmese as the language of their homes. The actual details are of some importance as they indicate the direction in which the Burmese power of assimilation is asserting itself. The other languages of the group are scarcely spoken by persons of races not belonging to the group. The great majority of the Shans who speak Burmese are returned from the Katha and Upper Chindwin districts. There can be no doubt that the Shans in these districts are rapidly losing their characteristics and coming to regard themselves as Burmese. If the homes of the persons shown in marginal table 4 were to be plotted on the map they would be found to envelop the area usually regarded as being typically Burmese on the North, West and South, whilst on the East the expansion is continued by the Danus whose language differs but little from Burmese. Internally there is a continued absorption of Indians and Chinese.

4. Persons of following Race-groups who speak Burmese, to nearest thousand.	
Chin group	15
Sak Kadus	24
Tai group	114
Mon Talaings	134
Karen group	103
Chinese group	25
Mahomedan Zerbadis ...	93
Indian Hindus and Mahomedans ...	40
Others	5
Total ...	553

5.	1921.		1911.	
	Shan Race.	Shan Language.	Shan Race.	Shan Language.
Katha ...	82,347	37,509	89,257	89,257
U. Chindwin.	82,457	48,672	76,084	76,052
Total ...	164,804	86,181	165,341	165,309

6. *The Lolo-Mus'o Group.*—This group has been increased since 1911 by the addition of Pyin which was formerly classed as a Palaung-Wa language and of Nung and Wat'ao-khum which did not appear at all in the 1911 Census. Speakers have increased during the decade by 15 per cent, whilst persons of the Lolo-Mus'o races have increased by 12 per cent. The increase in both cases is largely due to more careful enumeration. Nungs are found mostly in the parts of Putao which were omitted from the Census operations, hence the smallness of the numbers enumerated. It is interesting to note that 25 Nung men have already been enrolled in the Chin-Kachin Battalion of the Burma Rifles. Tangsir and Hop'a are dialects of Nung, but no speakers were enumerated within the Census area.

7. *The Chin Group.*—It has always been a particularly difficult matter to classify the Chins of Burma. Many of the dialects have never been studied and classified and many of the names returned in the Hill areas are village names rather than tribal names. The more civilized Chins who live in the plains are often returned under some nickname applied to them by the Burmans. In the present Census exceptional pains were taken to make a satisfactory enumeration with the result that the classification of the 1911 Census can be extended and improved. Nothing beyond a tentative classification however will be possible until the matter has been fully investigated by a proper Linguistic Survey. Kamhow, Paite and Yo are said to be sub-dialects of Sokte. Of these the first is called after a Sokte Chief named Kamhow who collected a number of followers and founded a new clan. The language now spoken is said to differ from Sokte in minor respects. In the same way two Tashon Chiefs, Yahow and Hlunseo, established new clans which have developed dialectical peculiarities. Tlantlang and Yokwa are probably tribal names only. There were no entries of speakers of a Tlantlang dialect though such a dialect has been reported to exist. The great majority of the

6. Classification of Chin Races and Language.	
A.—Meit'ei or Manipuri	B.—*continued.*
B.—Chin proper ...	
I. Northern group—	III. Old Kuki group—
Tado ...	Kyaw.
Siyin ...	IV. Southern group—
Sokte	Anu.
Kamhow ...	Chinbok.
Paite ...	Chinboh.
Yo ...	Chinmè.
II. Central group—	Khami.
Tashon or Shunkla	Taungtha.
Yahow ...	Yindu.
Laiyo ...	Sho.
Kwangli ...	V. Unclassed—
Ngorn ...	Chin unspecified.
Kwelshim ...	Chaunggyi.
Lai ...	Kaukadan.
Tlantlang ...	Kaungtso.
Yokwa ...	Ledu
Lakher ...	Matu.
Law'tu ...	Saingbaung.
Yotun ...	Sittu.
Shentang ...	Taman.
Lushei ...	
Hualngo ...	

Tlantlangs and Yokwas have been returned as speaking Lai. Hualngo is said to be a dialect of Lushei. Of the unclassed languages almost nothing is known, but it seems probable that Kaungtso is the same as Anu shown in the Southern group.

It is to be regretted that so many entries of Chin (unspecified) have appeared for both race and language, but it has been possible to make a partial distribution of these. For instance in Imperial Tables X and XIII for the Pakôkku Hill Tracts the number of Chins of unspecified Chin races and of speakers of unspecified Chin languages is shown as 19,712. A statement has recently been received from the district which distributes these in the manner shown in marginal table 7. A distribution can also be made in the cases of certain other districts where something is known of the Chins who reside in them. In this way 116,591 unspecified Chins may be reduced to 32,256 and the 105,490 speakers of unspecified Chin languages may be reduced to 29,974. These figures are, of course, only approximations. The adjusted figures for the races and languages concerned are printed in italics in the Subsidiary Tables at the end of this appendix immediately below the figures obtained by actual enumeration. During the decade the Chins have decreased by 6 per cent whilst speakers of Chin languages have decreased by 9 per cent. The former decrease is partly due to the absorption of civilized Chins by the Burmans, but principally, as marginal table 9 shows, to a serious decrease in the numbers enumerated in the Chin Hills. This decrease is, again, confined to the Haka subdivision and is attributed to the ravages of influenza, to political unrest and to consequent emigration across the border into Assam. The deduction of the figure 9,123 is explained in paragraph 153 of Chapter XI of this Report. The decrease in the number of speakers of Chin languages is partly due to the same causes as the decrease in the number of Chins, it is also due to the fact that the civilized Chins who live in the plains are rapidly adopting Burmese as their language. In all nearly 20,000 Chins were enumerated whose language used in the home is Burmese.

7. Chin races and languages in the Pakôkku Hill Tracts.

	Administered Area.	Unadministered Area.*
Chinbok ...	15,006	4,331
Chinbon ...	1,077	...
Yindu ...	3,029	922
Mgan ...	...	650
Matu ...	...	2,853
Total ...	19,712	8,756

* The figures for the Unadministered Area are not included in Imperial Tables X or XIII or in the Subsidiary Tables at the end of this Appendix. They are given here for information only. In both Administered and Unadministered Areas race and language figures are the same.

8. Distribution of Chin (unspecified).

Adjusted figures for	Race.	Language.
Chin (unspecified)	32,256	29,974
Chinbok ...	15,006	15,006
Chinbon ...	4,077	4,077
Yindu ...	4,551	4,551
Sho ...	60,701	51,882
Chin (unspecified) as enumerated.	116,591	105,490

9. Census of

	Province.	Chin Hills.
1921 ...	288,847	108,167
1911 ...	308,070	117,588
Apparent Decrease	19,223	9,421
Deduct ...	9,123	...
Actual decrease ...	10,100	9,421

8. *The Naga Group.*—Nagas were enumerated only in the Upper Chindwin district. The number returned is considerably smaller than in 1911, but it is possible that some of the 809 persons recorded as Chins of unspecified race in that district may in reality be Nagas. It is known also that Nagas are rapidly absorbed when they come to live in administered areas by their more civilized neighbours. They are more numerous in the unadministered territory which was excluded from the Census.

9. *Kachin Group.*—Nine names are now included in this group; of these only Kachin was enumerated in 1911. The new names represent races and dialects recently discovered in the Putao district. The numbers are small because the Census operations were confined to the Hkamti Long plains. Mr. J. T. O. Barnard, C.I.E., the Deputy Commissioner of Putao has kindly supplied grammatical notes and vocabularies of Nogmung, Ntit and Pangsu which make it certain that these languages are dialectical varieties of Kachin. He has also supplied some interesting notes on the various tribes and on their traditional history. Unfortunately there is no room to reproduce them here and they must be left over to be dealt with by the future Ethnographical and Linguistic Surveys. Of the Kang, Langkhai, Nokkyo, Yoya and Tawhawng races very little is known. They are classed provisionally with the Kachins, but future investigation may result in their transfer to the Lolo-Mus'o or Mishmi groups.

During the decade speakers of the Kachin language have very unexpectedly decreased by 14 per cent and persons of Kachin race by 10 per cent. The districts principally affected are the Northern Shan States, Katha, Bhamo and Myitkyina. These are the districts where the Atsi, Lashi and Maru, who have so often been mistaken for Kachins, are most numerous and there is a strong probability that many of these races were enumerated as Kachins in 1911. The marginal table for the Northern Shan States and Katha suggests that in these two districts about 12,000 ought to be deducted from the Kachin figures for 1911 and added to the figures for Atsi, Lashi and Maru. This would still leave a decrease in these

10. Kachins in whole Province.

	Race.	Language.
1921	146,079	145,618
1911	162,368	169,414
Decrease	16,289	23,796

areas of 12,000 Kachins and 8,000 speakers of Kachin. Absorption may account for some of this and emigration into Yünnan for the rest. The marginal table for Bhamo and Myitkyina indicates a more favourable state of affairs. The figure 110 for speakers of Atsi, Lashi and Maru in 1911 is probably a tabulation error, and 9,110 is a more likely figure. This correction would leave 73,229 speakers of Kachin in that year. There has therefore been an actual increase of Kachin persons and speakers in these two districts. If besides this it be estimated that 16,000 persons were returned in 1911 as Kachin persons and speakers who ought to have been returned as Atsis, Lashis or Marus, the increase in the figures for Kachins become even more striking.

11. Northern Shan States and Katha.	Kachins.		Atsi, Lashi, and Maru.	
	Race.	Language.	Race.	Language.
1921	63,949	64,381	13,855	13,356
1911	88,297	84,701	414	500
Increase	− 24,348	− 20,320	+ 13,441	+ 12,856

12. Bhamo and Myitkyina.	Kachins.		Atsi, Lashi and Maru.	
	Race.	Language.	Race.	Language.
1921	80,265	79,925	9,382	29,126
1911	71,405	82,229	9,352	110
Increase	+ 8,860	− 2,304	+ 30,030	+ 29,316

An estimate for the provincial figures for Kachin in 1911 adjusted as stated above is given in Marginal table 13. According to this there has in reality been an increase in the number of persons of the Kachin race of 8·7 per cent. which is about that of the general rate of increase of the province, and in the number of Kachin speakers of 10 per cent. A reference to Subsidiary Table III of this appendix will show that in 1921 only two thousand Kachins spoke languages other than Kachin and that there were only one thousand speakers of Kachin who were not of Kachin race.

13. Adjusted figures for Kachins in whole Province.		
	Race.	Language.
1921	146,079	145,618
1911	134,368	132,414
Increase	11,711	13,204

10. ***The Sak Group.***—The classification of Kadu and Sak was a problem for many years. They were known to be similar, but Kadu was placed in the Burma group and Sak in the Chin group. Mr. Grant Brown has recently published a vocabulary and some grammatical notes of Kadu and a study of these materials has enabled Sir George Grierson to determine its place in relation to other Tibeto Burman languages. He finds Kadu to be related to Andro and Sengmai, pre-Manipuri languages of the Manipur Valley, and has placed these languages together into a new group to which he has given the name "Lui." The Manipur representatives of the group have now become extinct and it is only in Burma that representatives are to be found. Ganan is a variety of Kadu, but it is sufficiently distinct to be separately tabulated. Finally Daingnet is the language, much corrupted by Bengali, of the descendants of Sak prisoners of war from the Valley of the Lower Chindwin who were captured by King Mindi of Arakan at the close of the thirteenth century and made to settle in the Akyab district.

Of the races who speak these languages the Kadus and Ganans form the great majority and it is significant that they refer to themselves as Sak or ă-Sak. It is possible that they are the descendants of the Saks of Burmese History and the Andro and Sengmai of Manipur may have been Sak refugees who fled from Burma during times of unrest and oppression. The term Sak has been applied to the group in the place of Lui partly because of the importance of the Sak element and partly because in Manipur the term Lui has also been applied to various servile races besides the Andro and Sengmai. This change in nomenclature has been accorded the consent and approval of Sir George Grierson. The figures given in marginal statement 14 show that both race and language have increased since 1901. In 1911 the enumerators probably failed to distinguish the Kadus from the Shans and Burmese amongst whom they live. The percentage increase since 1901 is 30 in the racial strength and 29 in the number of speakers of Sak languages. There are about 25,000 Kadus and Ganans who speak languages belonging to other groups. Of these about 24,000 speak Burmese and 1,000 Shan.

14. Sak.	1921	1911.	1901.
Race group ...	49,726	12,219	38,273
Language group	25,145	19,068	19,472

11. ***The Mishmi Group.***—The Mishmis are recorded in Burma for the first time. Their dialects, so far as Burma is concerned, constitute a new group of the Tibeto-Burman languages. In Burma Mishmis are mostly confined to the unadministered areas in the west and north of the Putao district, and the few who were enumerated were stragglers into the Hkamti Long plains. The race representing this group in Burma is the Khaman-Mishmi, the affix of Mishmi having been added in this census to prevent confusion with the Arakan-Kaman race of Akyab district.

12. ***The Mro Group.***—Mro has proved a most difficult language to deal with. It bears relationships to many languages but is closely connected with none. In Volume III of the Linguistic Survey of India it is classed as a dialect of Burmese, but this is only a tentative classification pending the further light that is expected to be thrown on the subject by the coming Linguistic Survey of Burma. Materials of this as well as of other languages have recently been furnished by Maung San Shwe Bu, Honorary Archaeological Officer, Akyab, but they have not yet been properly examined. In the

15. Province.	1921	1911	1901
Mro race ...	14,771	2,708	12,628
Speakers of Mro	14,394	2,718	13,414

meantime Mro can safely be placed in a group of its own and this group may be placed in the Tibeto-Burman sub-family. Both language and race figures have increased since 1901 as marginal statement 15 shows, the racial figures by 17 per cent and the language figures by 7 per cent. The few Mros who do not speak their own language speak Khami Chin.

13. *The Tai Group.*— In the present Census an effort was made to ascertain correctly the numbers of the different varieties of Shans; the entry *Shan (unspecified)* was only to be made after proper enquiry had failed to identify the exact race and language of each person enumerated. Despite this precaution the entries for Shan (unspecified) were very numerous. Of the 288,984 Shans of unspecified race, 249,860 were enumerated in the Northern Shan States. Of speakers of unspecified Shan dialects, 260,445 were enumerated in the Northern Shan States, 25,471 in Katha, 8,214 in Toungoo and 7,629 in Mergui. In view of this large residue of unspecified entries it will not be profitable to institute a comparison race by race and language by language of the 1921 figures with those of 1911. The groups must be compared as a whole as shown in marginal statement 17. It is somewhat surprising, when we know that the Shans have absorbed many of the Palaung-Wa races, to find that during the decade the racial strength has increased by only 2 per cent whilst speakers of Shan languages have decreased by 5 per cent. The six marginal tables that are given for different areas are designed to show the changes that have taken place during the decade in more detail. The race figure shows a decrease in the Southern Shan States and Karenni and in the Pegu and Tenasserim divisions, but there is an increase elsewhere, particularly in the Bhamo and Myitkyina districts. The inclusion of the Hkamti Long plain in Putao is responsible for 4,666 of the provincial increase. The numerical relationship between race and language is extremely complicated. The number of speakers has increased in Bhamo and Myitkyina and in the Tenasserim division and in the Southern Shan States and Karenni, but has decreased everywhere else. Even the small increase in the Southern Shan States and Karenni is much smaller than the number of Palaungs who, during the decade, have given up their own language in favour of Shan. The number of Shans who employ as their home language the languages of other groups is about 119 thousand, or 12 per cent of the whole. Of these 114 thousand speak Burmese, 2 thousand Taungthu and the rest various languages. Burmese as the language of the home, has made but little progress amongst the Shans of the Shan States. Conversely about 23 thousand persons who are not Shan by race have returned Shan as their language as shown in marginal statement 24.

16. Province.	Race.	Language.
Shan group ...	1,017,987	921,507
Shan (unspecified)	288,984	326,515

17. Province.	Race.	Language.
1921 ...	1,017,987	921,507
1911 ...	996,420	968,375
Increase ...	21,567	−46,868

18. Shan in S. Shan States and Karenni.	Race.	Language.
1921 ...	430,973	435,714
1911 ...	438,286	434,629
Increase	−7,313	+1,085

19. Shans in N. Shan States and Katha. *	Race.	Language.
1921 ...	351,515	309,351
1911 ...	340,707	341,847
Increase ...	+ 10,808	−32,496

* Including Ruby Mines for 1911.

20. Shan in U. Chindwin.	Race.	Language.
1921 ...	82,457	48,672
1911 ...	76,084	76,052
Increase	+6,373	−27,380

22. Pegu division.	Race.	Language.
1921 ..	22,613	15,440
1911 ..	29,860	18,604
Decrease ...	7,247	3,164

21. Shans in Bhamo and Myitkyina.	Race	Language.
1921 ...	69,583	60,533
1911 ...	47,991	49,356
Increase ...	+21,592	+11,177

23. Shans in Tenasserim division.	Race.	Language.
1921 ...	49,659	41,449
1911 ..	51,480	40,176
Increase ...	−1,821	1,273

24. Persons other than Shans who speak Shan languages.	
Burma group ...	2,500
Kuki-Chin group ...	700
Kachin ,, ..	1,000
Sak ,, ...	700
Palaung-Wa ,, ...	8,000
Taungthu Karens ...	4,500
Other Indig. races ...	3,000
Non-Indig. ,, ...	600
Hindus and Mahomedans.	2,000
Total ...	23,000

14. *The Malay Group.*—The constitution of this group is the same as in 1911, Malay and Salon being the only representatives found in Burma. The Malays show an increase during the decade in racial strength but a decrease in the number of speakers. They are almost entirely confined to the Mergui district and those who do not speak Malay as their home language probably speak Burmese. The figures for the Salons are less reliable, they are discussed in Article 155 of Chapter XI.

25. Province.	Race.	Language.
Malay, 1921 ...	4,712	3,446
Do. 1911 ...	4,939	4,190
Salon, 1921 ...	1,911	1,931
Do. 1911 ...	1,984	1,871

26. Province.	Race.	Language.
Talaing 1921 ...	323,509	189,363
Do. 1911 ...	320,629	179,443

27. Talaings in Amherst and Thatôn.

	Race.	Language.
Amherst, 1921	187,259	151,028
Do. 1911	164,470	139,070
Thatôn 1921	69,016	36,201
Do. 1911	80,923	34,805

15. ***The Mon Group.***—Talaing is the only representative in Burma of this group. During the decade the racial strength has increased by only 1 per cent probably on account of absorption by the Burmese. Speakers on the other hand have increased by 5 per cent. The increase is almost entirely confined to the Amherst district; elsewhere, with the exception of Thatôn, there has been a decrease in both racial strength and the number of speakers. In Thatôn, however, the language figures have increased, though there has been a large decrease in the number of persons returning themselves as Talaing by race. Those Talaings who do not speak their own language speak Burmese.

28. Palaung-Wa Group.

Province.	Race.	Language.
1921 ...	156,703	147,841
1911 ...	175,940	166,212
Decrease ...	19,237	18,371

16. ***The Palaung-Wa Group.***—The racial strength and the number of speakers of languages of this group have both decreased by 11 per cent. The race mostly concerned is Palaung whose loss more than covers the increase made by the other members of the group. The decrease has taken place in the Southern Shan States as marginal table 31 shows. In the Northern Shan States there has been a small increase in racial strength though the number of speakers has diminished. Those who do not talk Palaung have returned Shan as their home language. The changes that taken place during the decade are most probably to be attributed to a Shan absorption which has been particularly effective in the Southern Shan States. The other races and languages of group show changes such as may be attributed to the difficulties entailed in enumerating uncivilized peoples who live on the mountain tops.

29. Palaung.

Province.	Race.	Language.
1921 ...	122,257	117,725
1911 ...	144,139	144,248
Decrease ...	21,882	26,523

30. Northern Shan States and Kathu.

Palaung.	Race.	Language.
1921 ...	109,530	105,139
1911 ...	108,117	107,756
Increase ...	+1,413	−2,617

31. Southern Shan States.

Palaung.	Race.	Language.
1921 ...	12,389	12,336
1911 ...	35,761	36,191
Decrease ...	23,379	23,855

17. ***The Khasi Group.***—Only three Khasis were recorded and they were enumerated in the Hkamti Long plain in the Putao district. The Khasi language is related to the Palaung-Wa languages on the one hand and to the Munda languages on the other. Their home is in Assam but as it is likely that their numbers will increase in future years, a separate place has been made for them in the scheme of classification.

18. ***The Karen Family.***—It has been the custom for many years to regard the Karen languages as constituting a branch of the Tai-Chinese sub-family of the Tibeto-Chinese family of languages. This view was apparently based on a somewhat hastily comparison of Karen vocabularies with those of Shan and Chinese and on the order of words in the sentence. During the last four years considerable linguistic material has been accumulated in preparation for a proper Linguistic Survey of Burma and more comparisons have been made. The Karen languages have now been reconstituted to form a separate family of closely related forms of speech which may tentatively be sub-grouped as shown in the marginal table :—

32. Internal classification of Karen languages.

Group I.—Sgaw, Paku, Wewaw and probably Monnepwa.
II.—Pwo, Tenasserim and Delta dialects.
III.—Mopwa dialects.
IV.—Karenbyu, Bwè and Brek.
V.—Karenni dialects.
VI.—Padaung, Yinbaw and Gheku.
VII.—Taungthu dialects.
VIII.—Zayein dialects.

The groups are inter-related in a curious fashion which is indicated in the following statement—

I.—The Sgaw and Pwo groups are closely related.

II.—The Sgaw and Karenbyu groups are closely related.

III.—The Karenbyu and Padaung groups are closely related.

IV.—The Sgaw and Padaung groups are related, but less closely.

V.—The Pwo and Mopwa groups are related.

VI.—Karenni, though in many respects individual is related to the Sgaw, Pwo, Karenbyu and Padaung groups.

VII.—Taungthu is the most independent but is obviously related to all the other groups

VIII.—The Zayein group is individual in many respects but is also widely related.

It is interesting to note that the present classification closely resembles the much older one of Dr. Mason given in the ***British Burma Gazetteer*** of 1879-80.

In considering the peculiarities of the Karen languages as a whole many interesting problems arise. There are, for instance, resemblances between the structure and vocabulary of the Karen languages on the one hand and of the Chin and Sak languages on the other. These appear to be the result of contact and borrowing of one from the other rather than of common descent. Resemblances have also been pointed out between Karen and certain languages of the Nepal Himalayas designated Kiranti by Brian Hodgson and Khambu by Sir George Grierson. No complete explanation of these phenomena is yet possible, but Sir George Grierson suggests the possibility of a widespread pre-Tibeto. Burman population which was absorbed, together with parts of its language, by the later Tibeto Burman immigrants. Such a population may have been Karen, or the Karens may have absorbed much of the older language in the same way that the Tibeto-Burman races have done. Sir George Grierson and Dr. Finot have also noticed resemblances between the Karen and the Man families of languages.

In the present census an effort was made to get all the enumerated Karens properly described with reference to their race and language. The entry *Karen (unspecified)* was only to be made after every effort to identify the race and language had failed. On the whole considerable success was attained. It is unfortunate that more Karens (unspecified) were returned from Toungoo than from any other district. Toungoo is the home of many of the smaller races and languages and had the enumerators there been better trained the numbers of many of these races would have been known with considerable exactitude. It is possible to reduce the entry Karen (unspecified) in many ways. Some may, for instance, be returned by a district where Sgaws are known to preponderate; these may then be deducted from the heading Karen (unspecified) and added to Sgaw. Similarly a Karen (unspecified) who speaks Bwè may be added to the Bwè race, and *vice versâ* a Bwè who speaks Karen (unspecified) may be regarded as being a speaker of Bwè. In this manner the entries Karen (unspecified) for Race and Language have been considerably reduced, the residue being made up of the heads Paku, Wewa, Monnepwa, Brek, Mopwa, and Zayein belonging to the Toungoo and Yamèthin districts and the Shan States; the great majority being in Toungoo. The adjusted figures for Sgaw and Pwo are almost complete. Marginal table 33 shows the manner in which the figure for unspecified Karen have been distributed both by race and by language. In the Subsidiary Tables at the end of this appendix the adjusted figures for the races and languages are given in italics immediately below the enumerated figures.

33. Distribution of Karen (unspecified).

	Race.	Language.
Adjusted figures for Karen (unspecified)	16,761	14,861
Sgaw " ...	35,818	64,547
Paku	...	759
Monnepwa	79	...
Bwè	3,733	934
Karenbyu	94	5,373
Pwo	6,919	12,939
Karen (unspecified) as enumerated.	63,627	98,713

Persons of the Karen group of races have increased by 11 per cent during the decade, a rate which is considerably above the general rate of increase of the Province. On the other hand speakers of the languages of the Karen group have increased by only 4 per cent. This may be explained by the fact that no fewer than 103,000 Karen now speak Burmese as shown in marginal table 34. It is fruitless to make comparisons between the individual races and languages of this census and of previous censuses because in the past the vague entry "Karen" without any further specification has been excessively great.

34. Karens Speaking Burmese.

	Nearest thousand.
Karen unspecified ...	8
Sgaw	35
Pwo	53
Taurgthu	6
Others	1
Total ...	103

The Man Family.—At the last census Miao and Yao, which together constitute the Man family, were treated as forming a group of the Mon-Khmer branch of the Austroasiatic languages. It is now realized that in many respects, particularly in the matter of tones, such a classification cannot be sustained. Sir George Grierson finds some resemblances between the Man and the Karen languages, but it is not yet known whether these are the result of contact and borrowing or of common descent. The Miao and the Yao races come from Southern China and are comparatively recent immigrants into Indo-China. The numbers recorded in 1921 were only about half of those recorded in 1911. This is largely due to the fact that in 1921 none were recorded in the Northern Shan States. From what is known of the movements of these Races in other parts of Indo-China it is probable that immigration into Burma is still continuing but that the immigrants rapidly lose their own characteristics and languages and become absorbed into the races surrounding them. It is significant that in the Southern Shan States, though the racial strength has not varied appreciably, the number of speakers has greatly increased indicating the arrival of recent immigrants who have replaced the older immigrants who have already been absorbed.

35.

Locality.	Man races.		Man languages.	
	1921	1911	1921	1911
N. Shan States	..	555	...	555
S. Shan States	593	603	591	365
Elsewhere ..	4	...	...	...
Total ..	597	1,158	591	920

SUBSIDIARY TABLE IA.—*Distribution of Total Population by Race-groups.*

For explanation of names and figures printed in italics see paragraph 7 of Appendix B.

Race.	Racial strength.			Number per 10,000 of total population.		
	1921.	1911.	1901.	1921.	1911.	1901.
1	2	3	4	5	6	7
A. Burma Group	8,683,035	7,982,063	7,048,423	6,593	6,588	6,801
Burmese	7,837,985	7,479,433	6,508,682	5,952	6,173	6,280
Arakanese, Yanbye and Chaungtha.	515,038	346,629	406,492	391	286	392
Danu, Intha and Taungyo	154,194	143,288	128,776	117	118	124
P'un, Atsi, Lashi, Maru and Maingtha.	44,190	10,545	1,955	36	8	1
B. Lolo-Mus'o Group ...	75,845	67,693	47,107	58	56	45
C. Kuki-Chin Group ...	288,847	308,070	222,095	219	254	214
Khami	26,104	16,372	24,937	20	14	24
D. Naga Group	406	1,263	592	...	1	1
E. Kachin Group	146,845	162,368	64,405	112	134	62
F. Sak Group	49,726	12,729	38,273	38	10	37
G. Mishmi Group	13	...	...	...	...	...
H. Mro Group	14,771	2,708	12,532	11	2	12
I. Tai Group	1,017,987	996,420	880,750	773	822	850
J. Malay Group	6,653	6,223	4,308	5	5	4
K. Mon Group	323,509	320,629	321,898	246	265	311
L. Palaung-Wa Group ...	156,703	175,940	80,712	119	145	84
Wa	14,762	14,674	7,385	11	11	7
Palaung	122,257	144,139	56,866	93	119	55
M. Khasi Group	3	...	...	...	...	...
N. Karen Group	1,220,366	1,098,974	903,361	927	907	872
Karen (unspecified) ...	62,627	873,358	457,355	48	721	441
Karen (unspecified) ...	*16,761*	*873,358*	*457,355*	*13*	*721*	*441*
Sgaw	437,110	...	86,434	332	...	83
Sgaw	*472,928*	...	*86,434*	*359*	...	*83*
Bwè	7,467	8,356	...	6	7	...
Bwè	*11,200*	*8,356*	...	*9*	*7*	...
Karenbyu	18,370	790	...	14	1	...
Karenbyu	*18,394*	*790*	...	*14*	*1*	...
Pwo	411,891	...	174,070	313	...	170
Pwo	*418,210*	...	*174,070*	*317*	...	*170*
Taungthu	218,237	183,054	168,301	166	151	162
Padaung, Yinbaw and Gheko.	22,169	9,427	7,895	17	8	8
Karenni	35,391	19,008	4,936	27	16	5
O. Man Group	597	1,158	...	...	1	...
R. Chinese Group	149,060	122,834	62,525	113	101	60
Total Indigenous Races including Chinese.	12,134,856	11,255,219	9,693,001	9,214	9,290	9,353
Total Non-Indigenous Races excluding Chinese.	1,034,743	859,998	670,612	786	710	648
GRAND TOTAL ...	13,169,599	12,115,217	10,363,613	10,000	10,000	10,001

SUBSIDIARY TABLE IB. PART I.—*Distribution of total population by Language groups.*

For explanation of names and figures printed in italics see paragraph 7 of Appendix B.

Order.	Family.	Sub-family.	Branch.	Group.	Total number of speakers. 1921.	1911.	1901.
1	2	3	4	5	6	7	8
Indigenous (or Indo-Chinese) Languages.	Tibeto-Chinese.	Tibeto-Burman.	Assam-Burmese.	A. Burma ..	9,232,636	8,304,785	7,427,105
				B. Lolo-Mus'o	75,686	65,821	47,350
				C. Kuki-Chin	268,380	295,913	209,099
				D. Naga ..	402	...	..
				E. Kachin ..	145,918	169,414	65,570
				F. Sak (Lui)	25,145	19,068	19,472
			North Assam	G. Mishmi	...	...	...
			Unclassed ...	H. Mro ...	14,324	2,718	13,414
		Tai-Chinese	Tai ...	I. Tai ..	921,507	968,375	831,544
			Chinese ...	R. Chinese	122,162	108,877	47,414
	Austric ...	Austronesian	Indonesian .	J. Malay ...	5,377	6,061	3,743
		Austroasiatic	Mon-Khmer	K. Mon	189,263	179,143	154,183
				L. Palaung-Wa	117,841	166,819	77,109
				M. Khasi ...	...	...	...
	Karen ...	..	...	N. Karen ...	1,114,016	1,066,635	881,290
	Man .	..	..	O. Man ...	591	920	..
Non-Indigenous Languages			X. Indian Languages		880,406	741,659	565,479
			Y. European Languages	...	21,441	25,204	19,244
			Z. Other Languages	..	1,004	1,112	443
	Total Speakers of Indigenous Languages				12,263,248	11,347,242	9,778,423
	Total Speakers of Non-Indigenous Languages				905,851	767,975	585,159
	GRAND TOTAL ..				13,169,099	12,115,217	10,363,582

SUBSIDIARY TABLE IB. PART II.—*Distribution of total population by Languages.**

Language.	Total number of speakers. 1921.*	1911.	1901.	Number per 10,000 of total population 1921.	1911.	1901.
1	2	3	4	5	6	7
A. Burma Group	9,232,636	8,304,785	7,427,105	7,010	6,857	7,169
A1. Burmese ...	8,400,094	7,883,299	7,006,495	6,378	6,507	6,763
A2. Arakanese ...	247,691	383,962	383,400	188	268	370
A3. Yanbye	250,018			190		
A4. Chaungtha ...	9,052	2,515	1,350	7	2	1
A5. Tavoyan ...	131,746	46	5	100	...	...
A6. Merguese	177	...	...	...	...	...
A7. Yabein	...	...	...	...	...	...
A8. Yaw	2	...	5	...	2	...
A9. Danu	72,925	48,694	18,000	55	36	17
A10. Intha	55,007	55,880	5,851	42	46	6
A11. Taungyo	22,534	19,317	10,543	17	16	10
A12. P'un	243	342	...	...	...	...
A13. Atsi	5,663	205	756	4	...	1
A14. Lashi	16,570	...	84	13	...	...
A15. Maru	20,577	209	151	16	...	...
A16. Maingtha ...	339	316	465	...	...	...

* Race figures corresponding to entries in column 2 of this table are given in column 2 of Subsidiary Table III.

SUBSIDIARY TABLE IB. PART II.—*Distribution of total population by Languages*—continued.

For explanation of names and figures printed in italics see paragraph 7 of Appendix B.

Language.	Total Number of speakers.			Number per 10,000 of total population.		
	1921.*	1911.	1901.	1921.	1911.	1901.
1	2	3	4	5	6	7
B. Lolo-Mus'o Group ...	75,686	65,821	47,250	57	54	46
B1. Lis'aw	13,152	9,066	1,605	10	8	2
B2. Lolo	769	339	...	1	...	...
B3. Lahu	22,742	18,500	16,732	17	15	16
B4. Ako	51	794	1,162	...	1	1
B5. Pyin	927	273	...	1	...	...
B6. Kwi	3,676	3,931	...	3	3	...
B7. Akha	34,265	32,945	27,751	26	27	27
B8. Nung	64	...	...	...	...	...
B11. Wat'ao-khum ...	40	...	...	...	...	...
C. Kuki-Chin Group ...	268,380	295,913	209,999	204	244	203
C1. Meitei	2,404	1,649	3,636	2	1	4
C2. T'ado	2,243	...	...	2	...	...
C3. Siyin ...	3,143	151	...	2	...	...
C4. Sukte	17,313	...	...	13	...	...
C5. Kamhow	8,664	...	...	7	...	...
C6. Paite	1,254	...	...	1	...	...
C7. Yo	5,419	...	...	4	...	...
C8. Tashon	7,559	...	...	6	...	...
C9. Yahow	10,045	...	...	8	...	...
C10. Laiyo	9,277	...	...	7	...	...
C11. Kwangli	3,604	...	...	3	...	...
C12. Ngorn	3,832	...	...	3	...	...
C13. Kwelshim	2,458	...	...	2	...	...
C14. Lai	19,438	1,924	...	15	2	...
C15. Tlanlang ...	...	...	...	...	...	...
C16. Yokwa	212	...	...	...	...	...
C17. Lakher	6	...	...	...	...	...
C18. Lawt'u	3,043	...	...	2	...	...
C19. Yotun	5,169	...	...	4	...	...
C20. Shentang	5,772	...	...	4	...	...
C21. Lushei	305	...	...	...	...	...
C22. Hualngo	3,150	...	...	2	...	...
C23. Kyaw	331	249	215	...	...	...
C24. Anu	713	474	775	1	...	1
C25. Chinbok	...	18,179	...	...	15	...
Chinbok ...	*15,006*	*18,179*	...	*11*	*15*	...
C26. Chinbon	653	1,600	...	1	1	...
Chinbon	*4,760*	*1,600*	...	*4*	*1*	...
C27. Chinmè	...	...	...	...	...	...
C28. Khami	26,571	16,431	24,359	20	14	24
C29. Taungtha ...	6,253	17,744	4,578	5	14	4
C30. Yindu	105	4,348	43	...	4	...
Yindu	*4,656*	*4,348*	*43*	*4*	*4*	...
C31. Sho	...	...	...	...	...	...
Sho	*51,882*	...	...	*39*	...	...
C32. Chin (unspecified) ..	105,190	233,684	176,323	80	193	170
Chin (unspecified) ...	*29,974*	*233,684*	*176,323*	*23*	*193*	*170*
C33. Chaungyi ...	666	...	...	1	...	...
C34. Kaukadan ...	9	...	...	...	...	...
C35. Kaungtso ...	57	...	...	...	...	...
C36. Ledu	2,011	...	...	2	...	...
C37. Matu	51	...	...	...	...	...
C38. Saingbaung ...	7,732	...	...	5	...	...
C39. Sittu	3,918	...	...	3	...	...
C40. Taman	91	...	...	...	...	...
D. Naga Group	402	...	...	...	...	...
D1. Naga (unspecified) ...	166	...	...	...	...	...
D2. Tangkul	236	...	...	...	...	...
D3. Senkadong ...	...	...	...	...	...	...
E. Kachin Group	145,918	169,414	65,570	111	139	63
E1. Kachin	145,618	169,414	65,570	111	139	63
E2. Nogmung	168	...	...	...	...	...
E7. Nokkyo	132	...	...	...	...	...
F. Sak Group	25,745	12,068	19,472	19	11	19
F1. Kadu	18,791	11,069	16,300	14	10	16
F2. Ganan	1,922			1		
F3. Sak	614	80	67	...	...	...
F4. Daingnet	4,915	919	3,105	4	1	3

* Race figures corresponding to entries in column 2 of this table are given in column 2 of Subsidiary Table III.

SUBSIDIARY TABLE IB. PART II.—*Distribution of total population by Languages*—concluded.

For explanation of names and figures printed in italics see paragraph 7 of Appendix B.

Language.	Total number of speakers.			Number per 10,000 of total population.		
	1921.*	1911.	1901.	1921.	1911.	1901.
1	2	3	4	5	6	7
G. Mishmi Group	...	...	...	...	...	...
H. Mro Group	14,324	2,718	13,414	11	2	13
H1. Mro	14,324	2,718	13,414	11	2	13
I. Tai Group ...	921,507	963,375	831,544	700	799	815
I1. Shan (Unspecified) ...	325,515	897,578	730,173	248	740	737
I2. Shangale	474,878			361		
I3. Shangyi	18,074			14		
I4. Shan-Tayok ...	23,473	...	...	18	...	...
I5. Daye	746	225	...	1	...	...
I6. Siamese	8,743	8,912	19,531	7	8	19
I7. Khun	33,210	48,408	42,161	25	40	41
I8. Lu	26,108	13,252	19,380	20	11	19
I9. Lao	3,954	...	...	3	...	...
I10. Shan-Burma ...	5	...	...	...	...	...
I11. Kamti	5,934	...	...	4	...	...
J. Malay Group	5,377	6,061	3,743	4	5	4
J1. Malay	3,446	4,193	2,425	3	3	2
J2. Salon	1,931	1,868	1,318	1	2	1
K. Mon Group	189,263	179,443	154,483	144	148	149
K1. Talaing	189,263	179,443	154,483	144	148	149
L. Palaung-Wa Group ...	147,841	166,212	77,109	112	136	62
L1. Wa	13,658	12,548	20,119	10	10	7
L2. Danaw	1,143	...	994	1	...	1
L3. En	...	3,684	...	...	3	...
L4. Khamuk	203	...	75	...	...	...
L5. Lem	782	...	...	1	...	...
L6. Tai-Loi	...	...	...	...	...	...
L7. Yang (Unspecified) ...	1,197	5,732	4,490	1	4	4
L8. Yanglam	12,853			10		
L9. Yangsek	...			...		
L10. Palaung and Pale ...	117,725	144,248	51,121	89	119	49
M. Khasi Group	...	...	...	...	...	...
N. Karen Group	1,114,015	1,056,635	881,290	846	881	851
N1. (Karen Unspecified ...	98,773	851,655	704,835	75	702	680
(Karen Unspecified) ...	*14,851*	*851,655*	*704,835*	*11*	*702*	*680*
N2. Sgaw	368,382	...	...	280	...	...
Sgaw	*432,829*	...	...	*329*	...	...
N3. Paku	1,266	...	...	1	...	...
Paku	*1,965*	...	...	*1*	...	...
N4. Wewaw	256	...	...	...	...	...
N5. Monnepwa ...	72	...	...	...	...	...
N6. Bwè	10,727	9,100	669	8	8	1
Bwè	*11,561*	*9,100*	*669*	*9*	*8*	*1*
N7. Brek	606	...	...	...	...	...
N8. Karenbyu	11,160	777	...	8	1	...
Karenbyu	*16,533*	*777*	...	*13*	*1*	...
N9. Pwo	330,116	...	...	268	...	...
Pwo	*364,705*	...	...	*279*	...	...
N10. Mopwa	...	...	...	...	...	...
N11. Taungthu ...	210,535	168,326	160,436	160	159	155
N12. Padaung	13,713	8,516	9,321	10	7	9
N13. Yinbaw	5,351	2,166	...	4	2	...
N14. Gheko	2,779	...	...	2	...	...
N15. Karenni	31,218	21,203	1,363	26	18	1
N16. Zayein	3,911	4,892	4,606	3	4	5
N17. Talaing-kalasi ...	...	...	...	...	...	...
O. Man Group	591	920	...	...	...	...
O1. Miao	391	646	...	...	...	...
O2. Yao	197	274	...	...	...	...
R. Chinese Group	122,162	103,877	47,444	92	89	46
R1. Yunnanese ...	55,616	103,877	47,444	42	89	46
R2. Other Chinese languages	66,546			51		
X Indian Languages ...	880,406	741,659	565,472	663	621	546
Y. European Languages ...	24,441	25,804	19,244	19	22	19
Z. Other Languages ...	1,034	1,112	443	1	2	...
TOTAL ...	13,159,099	12,115,217	10,353,582	9,993	9,993	10,005

* Race figures corresponding to entries in column 2 of this table are given in column 2 of Subsidiary Table III.

SUBSIDIARY TABLE IIA.—*Distribution by Race-groups of the population of each district and natural division.*

District and Natural Division.	Number per 10,000 of population belonging to the following race groups.									
	Burma.	Kuki-Chin.	Kachin.	Tai.	Mon.	Karen.	Chinese.	Indo-Burman.	Indian.	Others.
1	2	3	4	5	6	7	8	9	10	11
Province ...	6,593	219	112	773	246	927	113	91	674	252
Burma ...	7,383	126	77	273	281	829	83	104	754	90
Delta ...	*6,633*	*18*	...	96	278	*1,723*	*133*	*62*	*1,020*	*37*
Rangoon ...	3,019	10	...	13	8	56	697	254	5,537	406
Insein ...	7,231	15	.	190	24	1,266	113	36	1,039	36
Hanthawaddy ...	6,960	1	..	166	198	765	116	79	1,697	19
Tharrawaddy ..	8,998	26	...	69		555	49	31	269	3
Pegu ...	6,657	38	..	138	1,055	819	134	28	1,131	6
Bassein ..	6,989	8	..	14	93	2,281	81	83	443	8
Henzada ...	8,788	62	...	9	1	888	36	16	198	2
Myaungmya ...	6,492	1	..	5	1	2,810	121	34	534	2
Ma-ubin ...	6,839	3	...	3	7	2,678	72	24	372	2
Pyapôn ...	8,092	1	...	15	142	730	156	7	855	2
Toungoo ...	6,580	28	...	392	20	2,162	72	62	666	19
Thatôn ...	2,363	...	...	160	1,465	5,171	94	102	642	2
Coast ..	*5,447*	*308*	...	*145*	*1,184*	*704*	*102*	*312*	*1,629*	*171*
Akyab ...	5,308	432	...	1	...	...	11	431	3,494	323
Kyaukpyu ...	8,923	819	...	...	...	...	5	76	183	...
Sandoway ...	8,795	703	...	2	...	7	7	382	103	2
Amherst ...	1,695	3	...	311	4,481	2,001	202	281	985	40
Tavoy ...	8,615	1	...	4	122	662	173	103	303	16
Mergui ...	6,045	...	...	740	12	1,355	317	419	608	505
Centre ...	*9,455*	*185*	*2*	*13*	...	*22*	*19*	*87*	*204*	*14*
Prome ...	9,249	289	...	25	.	103	39	44	248	3
Thayetmyo ...	9,006	816	..	...	...	3	14	39	118	3
Pakôkku ...	9,539	409	...	...	...	2	6	6	36	1
Minbu ..	9,077	776	...	1	...	2	18	18	105	2
Magwe ...	9,661	43	...	...	...	2	15	17	248	14
Mandalay ...	8,312	147	82	103	...	4	64	386	843	119
Shwebo ...	9,710	..	1	...	...	5	11	37	232	4
Sagaing ...	9,818	28	...	1	...	2	4	66	79	3
Lower Chindwin ...	9,919	1		1	...	2	7	5	64	2
Kyauksè ..	9,484	2	...	9	...	3	17	376	107	3
Meiktila ...	9,716	2	..	3	...	17	13	66	174	9
Yamèthin ...	9,190	44	...	16	...	135	28	280	298	9
Myingyan ...	9,921	...	...	...	...	1	9	9	58	1
North ..	*3,277*	*80*	*1,811*	*3,557*	...	*13*	*106*	*21*	*359*	*776*
Bhamo ...	2,234	4	3,998	3,142	...	22	162	29	328	83
Myitkyina ...	2,869	11	2,965	2,880	...	6	194	28	852	194
Katha ...	4,286	5	245	3,246	...	19	105	22	219	1,853
Putao ...	119	1	1,969	6,081	...	..	242	1	1,401	185
Upper Chindwin	4,785	283	6	4,600	...	3	7	13	206	97
Chin ...	151	9,524	...	...	...	2	4	...	178	142
Hill Dist. of Arakan	987	7,634	...	1	...	...	...	...	373	1,005
Chin Hills ...	8	9,826	..	...	...	1	5	...	156	3
Pakôkku H. Tracts	65	9,835	..	...	..	3		...	96	1
Salween ...	367	1	...	1,533	11	7,919	29	8	116	15
Salween ..	372	1	...	804	9	8,597	23	9	169	15
Karenni ...	368	1	...	2,107	13	7,385	34	8	74	16
Shan ..	1,341	1	412	4,881	..	1,253	375	7	119	1,611
N. Shan States ..	830	1	1,033	4,813	...	21	906	6	180	2,210
S. Shan States ...	1,698	1	2	4,926	...	2,066	25	7	19	1,215

SUBSIDIARY TABLE IIB.—*Distribution by Language-groups of the population of each district and natural division.*

District and Natural Division.	Total population.	Number per 10,000 of population speaking languages of the following language groups.								
		Burma.	Kuki-Chin.	Kachin.	Tai.	Mon.	Karen.	Chinese.	Indian.	Others.
1	2	3	4	5	6	7	8	9	10	11
Province ...	13,169,099	7,011	204	111	700	144	846	93	669	224
Burma ...	11,496,993	7,852	108	76	183	165	742	60	749	65
Delta ...	*4,820,745*	*7,204*	*13*	.	*64*	*78*	*1,522*	*99*	*986*	*34*
Rangoon ...	341,962	3,480	3	...	4	1	45	548	5,541	377
Insein ...	293,083	7,516	6	...	158	3	1,163	88	1,030	4
Hanthawaddy ...	364,624	7,703	1	..	66	..	452	94	1,665	17
Tharrawaddy ...	492,429	9,136	25	...	63	...	485	34	285	3
Pegu ..	445,620	7,985	33	...	96	10	692	100	1,077	6
Bassein ...	489,473	7,572	5	...	5	2	1,938	58	413	7
Henzada ...	550,920	9,028	47	...	4	...	725	27	166	3
Myaungmya ...	370,551	6,087	...	...	4	1	2,691	107	508	1
Ma-ubin ...	330,106	7,485	1	...	1	...	2,140	45	327	1
Pyapôn ...	288,904	8,585	...	..	...	5	508	121	839	1
Toungoo ...	381,883	7,057	15	...	978	9	1,973	46	601	18
Thatôn ..	471,100	3,574	...	...	106	768	4,914	42	593	8
Coast ...	*1,598,493*	*5,924*	*105*	...	*137*	*949*	*698*	*55*	*1,778*	*159*
Akyab ..	576,430	5,330	434	...	...	..	..	9	3,911	315
Kyaukpyu ...	190,873	8,988	804	...	...	...	...	4	204	...
Sandoway ...	112,929	9,203	681	...	1	...	6	5	102	2
Amherst ...	417,910	3,080	...	...	915	3,614	1,973	68	990	32
Tavoy ...	156,786	8,875	...	...	3	40	654	137	277	14
Mergui ...	135,465	6,575	...	.	861	8	1,223	234	581	413
Centre ...	*4,405,770*	*9,617*	*148*	*2*	*11*	...	*19*	*13*	*178*	*13*
Prome ...	371,575	9,417	931	..	23	...	88	27	211	3
Thayetmyo .	255,406	9,145	734	...	...	..	3	11	106	2
Pakôkku ...	405,771	9,615	347	...	...	...	2	4	32	1
Minbu ..	274,302	9,268	618	...	1	...	2	11	98	2
Magwe ...	423,252	9,706	42	...	...	...	1	8	229	14
Mandalay ...	356,621	8,857	35	21	99	...	2	51	820	114
Shwebo ...	391,284	9,894	...	1	...	...	4	8	89	3
Sagaing .	326,908	9,916	7	...	-	...	1	3	72	2
Lower Chindwin	342,880	9,933	...	...	1	..	1	4	59	2
Kyauksè ...	142,677	9,881	.	...	4	...	2	13	96	3
Meiktila ...	289,897	9,823	...	...	2	...	9	10	147	9
Yamèthin .	393,189	9,520	40	..	7	...	127	19	278	8
Myingyan ...	442,008	9,940	...	...	.	...	..	6	53	1
North ..	*671,985*	*5,514*	*65*	*1,290*	*2,268*	....	*10*	*99*	*343*	*410*
Bhamo ...	112,960	2,602	1	3,964	2,835	...	20	148	314	57
Myitkyina ...	118,382	3,408	7	2,969	2,409	...	4	187	843	173
Katha ...	253,725	7,041	2	243	1,478	...	15	98	191	932
Putao ...	7,673	96	1	708	7,461	..	...	241	1,392	99
Upper Chindwin	179,245	6,774	234	4	2,715	..	2	6	201	64
Chin ...	151,036	156	9,520	...	...	...	1	2	179	142
Hill Dist. of Arakan	20,914	1,015	7,604	...	...	...	...	...	376	1,005
Chin Hills ..	110,079	9	9,836	...	...	...	1.	3	156	4
Pakôkku H. Tracts	20,043	69	9,835	...	...	...	...	...	95	1
Salween ...	114,229	440	...	...	1,578	4	7,846	18	108	6
Salween ..	50,379	489	...	...	774	2	8,556	15	158	7
Karenni ...	63,850	402	...	...	2,219	7	7,286	20	68	5
Shan ..	1,406,841	1,407	..	415	4,929	..	1,216	375	111	1,547
N. Shan States ...	559,223	906	...	1,041	4,861	...	7	907	176	2,102
S. Shan States ...	847,618	1,738	1	2	4,974	..	2,013	24	68	1,180

SUBSIDIARY TABLE III.—*Comparison of indigenous races and languages.*

For explanation of names and figures printed in italics see paragraph 7 of Appendix B.

Race and Language.	Racial* strength.	Persons of race who speak racial languages.		Persons of race who speak other languages.		Persons of other races who speak racial language	
		Actual.	Percentage of racial strength.	Actual.	Percentage of racial strength.	Actual.	Percentage of racial strength.
1	2	3	4	5	6	7	8
A. Burma Group	8,683,035	8,674,762	100	8,273	...	557,874	7
A1. Burmese	7,837,985	7,834,119	100	3,625	...	563,735	7
A2. Arakanese	300,700	207,115	69	93,365	31	40,350	13
A3. Yanbye	168,183	167,061	99	1,122	1	81,955	49
A4. Chaungtha	47,153	8,438	18	37,715	80	614	1
A5. Tavoyan	129,817	127,816	99	1,171	1	3,939	3
A6. Merguese	178	131	74	47	26	46	26
A7. Yabein	1,774	...	...	1,774	100	...	...
A8. Yaw	89	...	...	89	100	2	2
A9. Danu	71,622	68,612	96	6,030	8	4,313	6
A10. Intha	56,175	53,784	96	2,391	4	1,123	2
A11. Taungyo	23,677	21,859	92	1,818	8	673	3
A12. P'un	367	242	66	125	34	1	...
A13. Atsi	4,857	4,670	96	187	4	993	21
A14. Lashi	17,710	16,138	97	572	3	132	1
A15. Maru	21,125	20,151	95	974	5	126	1
A16. Maingtha	531	306	58	225	42	33	6
B. Lolo-Mus'o Group	75,845	75,412	99	433	1	274	...
B1. Lis'aw	12,360	12,807	98	363	2	255	2
B2. Lolo	569	569	100	...	...	...	...
B3. Lahu	22,693	22,693	100	4	...	50	...
B4. Ako	51	51	100	...	...	...	...
B5. Pyin	936	927	99	9	1	...	...
B6. Kwi	3,713	3,676	99	37	1	...	...
B7. Akha	34,765	34,765	100	...	...	...	...
B8. Nung	118	64	54	54	46	...	...
B11. Wat'ac-khum	37	37	100	...	...	3	8
C. Kuki-Chin Group	288,847	267,785	93	21,062	7	595	...
C1. Meit'ei	9,107	2,194	25	7,913	75	10	...
C2. T'ado	2,281	2,231	98	56	2	18	1
C3. Siyin	3,747	3,441	97	100	3	...	...
C4. Sokte	17,469	17,183	98	286	2	183	1
C5. Kanhow	8,468	8,154	98	214	2	210	2
C6. Paite	1,327	1,026	77	301	23	128	1
C7. Yo	5,559	5,114	98	115	2	5	...
C8. Tashon	8,270	7,570	91	750	9	39	...
C9. Yahow	5,108	5,077	99	31	1	4,608	86
C10. Laiyo	11,486	9,211	83	1,875	17	66	1
C11. Kwangli	4,642	3,539	76	1,103	24	65	1
C12. Ngorn	3,911	3,801	96	150	4	31	1
C13. Kwelshim	9,062	9,045	99	17	1	413	20
C14. Lai	9,152	8,716	93	636	7	10,742	115
C15. Tlantlang	8,058	...	...	8,058	100	...	...
C16. Yokwa	2,505	212	8	2,293	92	...	...
C17. Lakher	12	6	50	6	50	...	...
C18. Lasʻtu	3,043	3,043	100	...	...	...	...
C19. Yotun	5,112	5,109	100	3	...	...	...
C20. Shentang	6,492	5,720	91	372	6	...	...
C21. Lushei	317	299	94	18	6	7	2
C22. Hualngo	3,300	3,026	92	274	8	124	4
C23. Kyaw	351	351	100	...	...	...	...
C24. Anu	412	402	98	10	2	310	75
C25. Chinbok	1	...	...	1	100	...	...
Chinbok	*15,007*	*15,006*	*100*	*1*	...	...	...
C26. Chinboh	683	683	100	...	...	...	...
Chinbon	*4,760*	*4,760*	*100*	...	...	...	...
C27. Chinmè	...	...	...	...	...	...	...
C28. Khami	26,104	26,104	100	...	...	...	...
C29. Taungtha	7,570	6,253	82	1,317	18	467	2
						...	...

* Language figures corresponding to entries in column 2 of this table are given in column 2 of Subsidiary Table IB. Part II.

SUBSIDIARY TABLE III.—*Comparison of indigenous races and languages*—continued.

For explanation of names and figures printed in italics see paragraph 7 of Appendix B.

Race and Language.	Racial strength.	Persons of race who speak racial language.		Persons of race who speak other languages.		Persons of other races who speak racial language.	
		Actual.	Percentage of racial strength.	Actual.	Percentage of racial strength.	Actual.	Percentage of racial strength.
1	2	3	4	5	6	7	8
C30. Yindu	105	105	100	...	...	...	...
Yindu	*4,656*	*4,656*	*100*	...	...	...	...
C31. Sho	...	...	...	...	...	...	...
Sho	*60,701*	*51,882*	*85*	*8,919*	*15*	...	...
C32. Chin (unspecified) ...	116,591	104,851	90	11,740	10	639	1
Chin (unspecified) ...	*32,256*	*29,335*	*91*	*2,921*	*9*	*639*	*2*
C33. Chaunggyi ...	666	666	100	...	...	...	...
C34. Kaukadan ...	293	9	3	284	97	...	...
C35. Kaungtso ...	370	57	15	313	85	...	...
C36. Ledu	2,234	2,011	90	223	10	...	...
C37. Matu	51	51	100	...	...	...	...
C38. Saingbaung ...	7,519	7,232	96	287	4	...	...
C39. Sittu	3,918	3,918	100	...	...	...	...
C40. Taman	815	92	11	723	89	...	...
D. Naga Group	406	402	99	4	1	...	...
D1. Naga (unspecified) ...	169	166	98	3	2	...	...
D2. Tangkul	237	236	100	1	...	...	...
D3. Senkadong ...	...	...	...	...	...	...	...
E. Kachin Group	146,845	144,772	99	2,074	1	1,147	1
E1. Kachin	146,079	144,471	99	1,608	1	1,147	1
E2. Nogmung	169	168	99	1	1	...	...
E3. Ntit	10	...	...	10	100	...	...
E4. Pangsu	173	...	...	173	100	...	...
E5. Kang	81	...	...	81	100	...	...
E6. Langkhai ...	102	...	...	102	100	...	...
E7. Nokkyo	132	132	100	...	...	...	...
E8. Yoya	32	...	...	32	100	...	...
E9 Tawhawng	67	...	...	67	100	...	...
F. Sak Group	49,726	24,722	50	25,004	50	423	1
F1. Kadu	37,710	13,142	35	24,568	65	5,452	14
F2. Ganan	6,474	743	11	5,731	89	279	4
F3. Sak	614	614	100	...	...	...	...
F4. Daingnet	4,928	4,910	100	18	...	5	...
G. Mishmi Group	13	...	...	13	100	...	...
G1. Khaman-Mishmi ...	13	...	...	13	100	...	...
H. Mro Group	14,771	14,311	97	460	3	13	...
H1. Mro	14,771	14,311	97	460	3	13	...
I. Tai Group	1,017,987	898,946	88	119,041	12	22,561	2
I1. Shan (unspecified) ...	288,984	274,529	95	14,455	5	51,986	18
I2. Shangale	588,405	464,309	79	124,096	21	10,569	2
I3. Shangyi	29,004	17,733	61	11,271	39	341	1
I4. Shan-Tayok ...	28,701	23,080	80	5,621	20	393	1
I5. Daye	968	707	73	261	27	39	4
I6. Siamese	13,286	8,440	64	4,846	36	303	2
I7. Khun	33,394	33,127	99	267	1	83	...
I8. Lu	25,870	25,833	100	37	...	275	1
I9. Lao	4,506	3,697	82	809	18	154	3
I10. Shan-Bama ...	16	5	31	11	69	...	...
I11. Kamti	4,851	4,832	100	19	...	1,072	22
I12. Annamese ...	2	..	...	2	100	...	...

SUBSIDIARY TABLE III.—*Comparison of indigenous races and languages*—concluded.

For explanation of names and figures printed in italics see paragraph 7 of Appendix B.

Race and Language.	Racial strength.	Persons of race who speak racial language		Persons of race who speak other languages.		Persons of other races who speak racial language.	
		Actual.	Percentage of racial strength.	Actual.	Percentage of racial strength.	Actual.	Percentage of racial strength.
1	2	3	4	5	6	7	8
J. Malay Group	6,653	5,372	81	1,281	19	5	...
J1. Malay	4,713	3,442	73	1,270	27	4	...
J2. Salon	1,941	1,930	99	11	1	1	...
K. Mon Group	323,509	187,700	58	135,809	42	1,563	...
K1. Talaing	323,509	187,700	58	135,809	42	1,563	...
L. Palaung-Wa Group ..	156,703	147,480	94	9,223	6	361	...
L1. Wa	14,762	13,646	92	1,116	8	2	...
L2. Danaw	1,669	1,423	85	246	15	10	1
L3. En	17	...	...	17	100	...	...
L4. Khamuk	402	201	50	201	50	2	...
L5. Lem	791	782	99	9	1	...	...
L6. Tai-Loi	2	..	...	2	100	...	...
L7. Yang (unspecified) ...	2,924	1,197	41	1,727	59	...	...
L8. Yanglam	13,879	12,833	93	1,046	8	20	...
L9. Yangsek	..	...	...	...	..	...	...
L10. Palaung and Pale ...	122,257	117,369	96	4,888	4	356	...
M. Khasi Group	3	...	...	3	100	...	...
M1. Khasi	3	..	...	3	100	...	...
N. Karen Group	1,220,356	1,108,728	91	111,628	9	5,288	...
N1. Karen (unspecified) ...	62,627	48,380	77	14,247	23	50,333	80
*Karen (unspecified)** ...	*16,761*	*13,750*	*82*	*3,011*	*18*	*1,111*	*7*
N2. Sgaw	437,110	366,378	84	70,732	16	1,904	4
Sgaw	*472,928*	*431,000*	*91*	*41,928*	*9*	*1,829*	...
N3. Paku	1,986	1,200	60	786	40	6	...
Paku	*1,986*	*1,959*	*99*	*27*	*1*	*6*	...
N4. Wewaw	335	256	76	79	24	...	...
N5. Monnepwa ...	...	...	...	...	...	72	...
Monnepwa ..	*72*	*72*	*100*	...	...	...	...
N6. Bwè	7,467	6,513	87	954	13	4,114	55
Bwè	*11,200*	*11,180*	*100*	*20*	...	*381*	*3*
N7. Brek	618	616	100	2	...	...	...
N8. Karenbyu	18,370	11,007	60	7,363	40	153	1
Karenbyu	*18,394*	*16,404*	*89*	*1,990*	*11*	*129*	...
N9. Pwo	411,891	349,413	85	62,478	15	3,053	1
Pwo	*418,110*	*363,366*	*87*	*54,744*	*13*	*1,339*	..
N10. Mopwa	5	...	...	5	100	...	..
N11. Taungthu	218,237	206,360	95	11,877	5	4,175	2
N12. Padaung	13,755	13,725	100	30	...	18	..
N13. Yinbaw	5,751	5,353	93	398	7	9	...
N14. Gheko	2,663	2,578	97	85	3	1	...
N15. Karenni	35,391	34,306	97	1,085	3	182	1
N16. Zayein	4,147	3,910	94	237	6	1	...
N17. Talaing-Kalasi ...	3	...	...	3	100	...	...
O. Man Group	597	591	99	6	1	...	...
O1. Miao	396	394	99	2	1	...	...
O2. Yao	201	197	98	4	2	...	...
R. Chinese Group	149,060	121,512	82	27,548	18	650	...
R1. Yunnanese ...	59,232	54,850	93	4,382	7	766	1
R2. Other Chinese ...	89,828	63,495	71	26,333	29	3,051	3

* Made up mostly of Pakus, Wewaws, Monnepwas, Breks, Mopwas and Zayeins belonging to Toungoo Yamèthin and Shan-States, the great majority being in Toungoo.

APPENDIX C.

Note on the Occupations of the Mandalay District.

By Mr. W. F. Grahame, I.C.S.

The enquiries on which this appendix on occupations is based were carried out only in the Mandalay District, and it must be understood from the outset that this chapter describes conditions in that district only. But similar if not identical conditions no doubt prevail in other Districts of Burma in which the same occupations are found. However some of the industries dealt with are peculiar to Mandalay. The detailed figures of the 1921 census were not available when this appendix was being written and I could therefore give only the figures that I had obtained by local enquiry, namely the numbers of families engaged on various occupations as reported by Ward or Village Headmen, modified in a few instances in the light of subsequent information. When the detailed figures were ready it was found useless to compare them with my figures because the occupation groups of Census Table XVII often include several associated occupations, and always include not only persons who practice the particular technique of an included occupation but also all clerks, watchmen, and others, whose work is ancillary to it. The time available for the examination of industries and occupations was extremely limited, and on this account indulgence is asked for the shortcomings of this appendix.

2. It must be remembered that in Mandalay District, as in other Districts in Burma, there are not distinct classes of people following definite occupations, as is believed to be the case in India. Burmans are versatile, and there is no restriction to the occupations which they can take up, nor are they averse to changing their occupations, especially their subsidiary occupations. As in other parts of Burma agriculture is by far the most important occupation in Mandalay District and is the chief source of income of about two-thirds of the population. But whereas the ample rains of Lower Burma enable cultivators (or, at least, such as are free from debt) to live in comfort on the produce of their fields, the precarious rainfall of Upper Burma makes it impossible for most cultivators to derive their entire living from their land. Being driven to supplement their income from other sources they turn to such occupations as are congenial to them, and suitable to follow, either from proximity of raw material or general demand, or otherwise. Therefore the number of persons following any particular occupation varies from year to year. Thus after a bumper harvest there will be more carters than usual carrying the grain to market in the months before the commencement of preparation for the next year's cultivation; whereas in a bad year many peasants will leave their wives or sons to reap the meagre crops, and go early into the forest to cut timber, or make bamboo mats, or spokes for cartwheels, or to twist rope, or burn charcoal, or the like, in order to get enough to live on for the rest of the year, while their wives will weave more cotton cloth than in a good year. The statistics of occupations will therefore not hold good of every year, and may be very far out in some years, except in respect of Cities or large factory centres. Citizens of Mandalay are not cultivators, and the occupations that they follow are their main (and in most cases their only) source of livelihood. Each person there acquires skill in his own occupation, and follows that year after year, rather than change to a new occupation which would be strange to him. In Amarapura Town also the predominant industry of silk weaving, which is carried on in their cottages by 626 families, out of a total number of 739 families in the town, is practically the sole source of livelihood of those families, and is continued by the same people year after year.

3. In the course of our enquiries we investigated the conditions of life generally throughout the District as well as in the City. Besides general information from well informed persons, and from every Village and Ward Headman, we got details of the income and expenditure of 235 families engaged in various occupations including agriculture. As almost invariably happens the incomes were understated, and the expenditure exaggerated. However the incomes are probably relatively correct and quite useful for comparison of incomes in 1914 with incomes in 1921, or 1931 when that comes. The same is true of expenditures. As was to be expected, wages and expenses rose very largely between 1914 and 1921. By 1922 expenses had begun to fall slightly. But expenses rose much higher in proportion than wages, and when things were at the worst many of the poor both in Country and Town had to fall back on clothing and food of inferior quality. For instance in winter cotton coverings were used instead of blankets, and many people had to be content, it was said, with gunny sacking; cotton jackets had to be worn instead of flannel, and people had to go on wearing their old clothes because they could not afford new: some people resorted to broken rice, and others had to eke out their rice with gram, millet, beans, and other unaccustomed, and to their mind inferior, diet; for curry they had to give up their occasional fish and meat and use vegetables alone; clocks and other luxuries had to be given up and charitable offerings were severely cut down.

Wages are said to be lower in occupations that are held in general esteem and higher in occupations that are looked down upon. Also wages in steady continuous occupations are apt to be lower than in seasonal or periodical occupations. Children are rarely employed

and only in light occupations such as bead stringing, umbrella making, slipper making, sewing, and weaving; but many women in Upper Burma have to work, and frequently work as carriers, besides being even more fully employed than men in certain occupations such as weaving and cigar rolling. Their wages are usually about three quarters of the wages earned by men in the same occupations. Married women often work right up to the time of their confinement, but stay away for two or three months after childbirth, during which period of absence they are not paid. The working classes live in their own houses as a rule, but houses of a very cheap and inferior kind made of bamboo; and they live as near their work as they can for the sake of economy and convenience. Some employers of labour provide accommodation for their workers, *e.g.* some owners of mills and factories, and some employers of gold beaters. Educational facilities for the children of workers are practically non-existent. There is no unemployment in Mandalay, and there are no trades unions or other labour organisations, but there have been two or three small strikes. We found no sweated trades.

The proportion of Indian labourers is very small compared to that in Lower Burma. Apart from these Indians there is next to no migration of labour, only a small amount of temporary seasonal migration, and none at all from the plains to the hills or *vice versa*.

The average family was found to contain almost exactly 5 persons, and to consume about two *pyis* of rice a day divided in about the same proportions as those accepted in Europe, namely:—

Adult male ...	0·50
Adult female	0·43
Child between 10 and 14 ...	0·43
Child between 6 and 10 ...	0·35
Child under 6	0·25
	1·96

4. It is not intended in this appendix to deal separately with the classes engaged in cultivation, pasturing, or the exploitation of forests. These classes form three-eighths of the entire population of the District, and if Mandalay City is excluded nearly three-fifths of the entire population. But nearly all these excluded persons are engaged in cultivation which has been the subject of so many discussions, particularly in the Land Revenue Settlement Reports, that there is no need to treat it here where space is required for other occupations not treated elsewhere.

5. The following list shows the number of families in the whole of Mandalay District including Mandalay City and also Amarapura, Maymyo, and other towns, who derive the greater part of their income from certain non-agricultural occupations.

Corresponding group numbers in Census Table XVII.	Serial No.	Occupations.	Families.
35	1	Silk weaving	3,814
37	2	Dying (textiles)	186
44 & 83	3	Carpentry (which includes some furniture makers, some house-builders and makers of teak chests and coffins).	1,078
89	4	House building	641
83 (*a*) & (*b*)	5	Furniture making	197
77	6	Tailoring	1,000
17	7	Fishermen	1,087
78	8	Shoemaking (including three distinct classes of industry) (i) Oxford shoes and Chinese shoes (ii) Tanned hide sandals (iii) Wooden clogs	440
	9	Making of "peindan" sandals (raw hide sole surmounted by a piece of palm leaf, the whole covered with velvet or flannel).	272
88	10	Masons	487
45 (*a*)	11	Making of baskets for measuring paddy, and rough and smooth baskets of bamboo, bamboo sieves, bamboo trays and the like.	378
	12	Making baskets of palm leaf ("pas,")	173
98 (*c*)	13	Goldsmiths and Silversmiths	350
46 & 48	14	Blacksmiths	322
49	15	Brass work, chiefly making of Buddhas, bells and gongs	319
22 (*c*)	16	Marble quarrying	66
177 (*c*)	17	Marble sculpture	223
45 (*b*) & (*c*)	18	Mat weaving and fan making	263
55	19	Potters	242
61	20	Oil pressing	223
98 (*c*)	21	Gold leaf beaters	191
99 (*b*)	22	Making of Burmese embroidered cloth (Shwegyido work)	164
79	23	Umbrella making	151
56	24	Brick and tile making	145
52	25	Glass mosaic work	143
83 (*b*), 89	26	Painting	118
48	27	Making of iron umbrellas for pagodas	111
42	28	Ivory carving	14
79	29	Making of combs (of wood or bamboo)	103
45 (*a*)	30	Lacquer work (manufacture of big lacquer chests and thrones for Buddhas, and repair of small lacquerware).	53

Corresponding group numbers in Census Table XVII.	Serial No.	Occupations.	Families.
96	31	Musical instrument making	13
100	32	Making of paper lanterns (for festivals)	61
70	33	Dairying	61
71	34	Jaggery boiling	15
91	35	Cycle repairing	51
50	36	Tinsmiths	84
99	37	Bead and rosary making	80
97	38	Watch repairing	39
95	39	Book binding	16
40 & 78	40	Leather work	13
98 (*c*)	41	Cutting and polishing of precious stones	114
22 (*b*)	42	Extraction of precious stones	51
92	43	Boat making	46
91	44	Cart making	81
44	45	Wood carving	151
64 (*a*)	46	Soap manufacture	21
100	47	Manufacture of toys and masks	88
39	48	Tanners	33
63	49	Paper making (only coarse paper for use with gold leaf)	39
40	50	Burmese saddle and bridle making	58
71	51	Sugarcane pressing	17
53	52	Eventurine or venetian glass work	15
64 (*c*)	53	Makers of beeswax candles and flowers	3
98 (*e*)	54	Niello work	5
23	55	Salt boiling	4
42	56	Horn work (handless for various implements)	2
42	57	Tortoiseshell work	1
79	58	Making of Shan and Kachin bags	48

A few brief notes may throw light on the above figures.

Paper lantern makers (serial No. 32) work in paper generally, the principal sale of paper lanterns being confined to the festival of the full moon of Thadingyut (about mid-October) and to the Tazaungdaing festival (festival of lights about mid-November). They occupy part of the year in getting paper lanterns ready for these occasions, and for casual festivals in the dry season (December to April). The rest of their time is devoted to making paper articles generally, such as paper fans and paper flowers.

Toy makers (serial No. 47) also make masks for actors and wooden figures of various kinds.

Jaggery makers (serial No. 34). A few persons, probably all of these 15 families, live by jaggery boiling alone. This can be done only where palm trees are very numerous. These people occupy themselves in the off-season by cutting firewood for the boiling season. They sometimes have to go some distance for a sufficient quantity of fuel. They also lop off and sell the leaves of the palm trees for roofing, and making fans and other small articles. They also makes brooms out of the bases of the leaf stems that remain all round the tree stem; and make palm leaf baskets too. But most of the jaggery boiling is done by cultivators in the intervals of cultivation, or by members of the family not engaged at the moment in ploughing or other husbandry.

Oil pressing (serial No. 20) refers solely to the pressing of sesamum oil in home made presses each pulled by a single ox. It is a whole time occupation for quite a number of families, almost all of whom live in Mandalay City. But in most villages containing uplands (on which sesamum is grown) there is an oil press or two worked by members of cultivators' families when not otherwise busy.

Sugar cane pressing too (serial No. 51) is done in small, hand made, presses. In the Maymyo Subdivision the press is sometimes worked by a single ox, while in other cases the press is worked by water power from one of the small streams which abound in Maymyo Subdivision. In Mandalay the press is worked by a man turning a handle.

Shoemaking (serial No. 8) and sandal making (serial No. 9). There are four different kinds of shoe and sandal makers, as will be described in detail later on. Unfortunately the printed cards on which we collected our statistics provide for two classes only so all the other kinds of shoe maker have doubtless been entered as "shoe makers."

Leather work (serial No. 40) refers to cobblers in general, who make straps, repair shoes, etc.

"Extractors of precious stones" (serial No. 42) are constantly going up from Mandalay to Mogôk (where the ruby mines are), or to the jade mines, and coming back with precious stones which they get polished and sell, or with jade which they cut and export to China. While at Mogôk they hire Kadu (Shan-Burman) or Maingtha (Shan-Chinese) coolies to dig up the precious stones on areas to work which they apply to the Deputy Commissioner for permits.

"Pa making" (serial No. 12), making of bamboo baskets for measuring rice, etc. (serial No. 11) and mat weaving (serial No. 18) are done by cultivators sometimes in their spare moments, besides being the main source of living of a certain number of families.

Cart making (serial No. 44) is also done by some cultivators in their leisure.

Dying (serial No. 2) is not only the main (or sole) source of income of a number of families, but is also practised by a number of silk weavers and cotton weavers who dye their own thread before weaving.

Makers of Shan bags (serial No. 58) make jackets and do tailoring work generally when not making or selling Shan bags. The income from the latter alone would scarcely support a family.

Tailors (serial No. 6) include a number of families who live by making ready-made clothing, which is described later on.

6. Besides the above main occupations there are nine subsidiary occupations followed by the number of families shown opposite to each in addition to agriculture or some other main occupation, namely :—

Corresponding group numbers in Census Table XVII.			
27	Cotton weaving	...	1,384 families.
29	Rope making ...	...	1,327 "
75	Cigar rolling ...	...	1,069 "
9 (*c*)	Cutch boiling ...	...	4 "
9 (*d*)	Thitsi extraction	...	7 "
9 (*a*)	Charcoal burning	...	117 "
45 (*c*)	Broom making ...	...	31 "
45 (*c*)	Kamauk making	...	13 "
10	Gathering of lac	...	9 "

Cotton weaving is done only for home consumption, and practically none of the cloth is sold. Rope making is scarcely a source of income. Nearly every villager, who lives in a locality where suitable bark is available can twist rope, and makes the rope that he needs for his own use. A little surplus rope is made and sold to acquaintances, but there is practically no trade in it. There are scarcely any stalls in Mandalay bazaar where rope is sold and that rope is said to be obtained from Thaman and Paungga villages in Sagaing District.

7. There are also occupations ancillary to either main or subsidiary occupations on which are employed the same persons as are employed on the main or subsidiary occupation. They are :—

Corresponding group numbers in Census Table XVII.				
45 (*a*) & 29	Manufacture of fishing implements	...	392	ancillary to fishing.
69	Ngapi making ...	...	178	ancillary to fishing.
47 & 48	Dah and spear making	...	26	ancillary to blacksmiths' work.
26	Cotton Spinning...	...	225	ancillary to cotton weaving.

8. A more detailed description may now be given of the more important occupations :—

1. Silk Weaving.

One of the oldest industries of Burma is the silk industry. It employs a large number of people both male and female. The chief centres are Amarapura, Shwedaung, Tavoy, and Inle Lake in the Southern Shan States. A little weaving is done at Paukkaung. Amarapura Town, Mandalay City, and Amarapura Township, between them probably contain far more persons engaged in silk weaving and its ancillary occupations than all the other centres in Burma put together.

Though it is a large and important industry the raw material is unobtainable locally except to a very small extent in Prome District (Paukkaung) and in parts of the Shan States. Burma has to depend almost entirely on China for raw silk. Fortunately efforts to improve and extend sericulture are being made by the Agricultural Department in Lashio, Maymyo, and Prome, and by Political Officers in the Shan States, and have met with success. But a great deal remains to be done before Burmese weavers can escape from the hard grasp of Chinese traders. A very few persons use raw silk from Dacca, and only in making very fine qualities such as gaungbaungs, pawas, and the like.

The raw silk imported from China is of two kinds namely "mohnyin" silk which comes *via* Bhamo (formerly Mohnyin) and "thinbaw" silk which, as its name implies, is brought into Burma by sea. "Mohnyin" silk (akyit) is tight twisted and smooth. "Thinbaw" silk (apwa) is loose and woolly. Ordinary weavers use "mohnyin" for the warp (အတိုး) and "thinbaw" for the weft (အထပ်ကြိုး). The latter is cheaper but too coarse and woolly to put through Burmese headles. At the Saunders Weaving Institute, in the Burma Silk Company's workshop, and usually where good fabric is wanted "mohnyin" silk is used for both warp and weft. The thickness of Chinese silk is not indicated by the "denier" system used in other countries but only by division into three grades, No. 1 fine, No. 2 medium, and No. 3 coarse.

The price of raw "monhyin" silk before the War was about Rs. 32 a viss and of raw thinbaw silk about Rs. 25. Towards the end of 1921 the former cost Rs. 50 a viss and the latter about Rs. 45, and the price was still rising then. At times during 1920 and 1921 when the supply was low and the demand great the price was raised to Rs. 70 or more a viss.

Raw silk is first boiled and then put through the various processes of dyeing, winding, warping, rolling, drafting, gaiting, and sizing, before it is ready for weaving.

(*a*) Boiling is needed to remove the gum and other natural impurities in the silk. The raw silk is boiled in a solution of soap and alkaline sand for 15 minutes and then rinsed in clear water. This makes it white, silky in feel, and lustrous.

(*b*) Dyeing, if any colour other than white is needed. In former times only native dyes were used but as designs and colourings became more elaborate the use of foreign dyes became inevitable. This gradual resort to foreign dyes can be traced as far back as the middle of the 19th century. Being cheap to buy and easy to use foreign dyes have almost completely ousted indigenous dyes. The Burmese dyes (vegetable) were made from lac, indigo, saffron, arnotto, etc. Of these only three of any importance remain, indigo, Shan tea for producing a khaki or tussore shade, and arnotto for orange colour. The last named is also used at times in combination with aniline dyes to produce scarlet and various shades of deep red. The foreign dyes in use came most by from Germany before the war. Now America and Japan vie with Germany as principal sources of foreign dyes.

(*c*) Winding means transferring the yarn from the hank to the bobbin, and is preliminary to warping.

(*d*) Warping means the spreading out of a sheet of threads to the required length and width.

(*e*) Rolling, beaming, or dressing, means the opening, stretching and winding of this sheet of threads evenly on a roller called the warper's beam.

(*f*) Drafting means the taking of the threads of this rolled sheet through the headles in the order required for the pattern which is to be woven. Control is obtained over the individual threads by putting them through headles. After that they are taken through split reeds in pairs.

(*g*) Gaiting is fixing the warp and tying the headles and peddles on a loom preparatory to weaving.

(*h*) Sizing, by applying liquid paste to the threads, is necessary to strengthen the threads to undergo the strain and friction of weaving.

The warp is now ready for weaving. In the indigeneous loom the shuttle containing a spool of weft is thrown across from hand to hand. The loom, and resulting cloth, is narrow, (22 inches or less) and the process slow; so the output is small. The improved looms introduced by Mr. L. H. Saunders, C.S.I. are not only double the width but the exertion of throwing the shuttle is saved for it is thrown from side to side automatically by the backward jerk to the "slay." The rate of weaving is much faster and the cloth is twice as wide, so the output is from three to four times as great as on the indigeneous loom and the earnings proportionately increased.

The methods of payment by the old and new systems also differ. The Co-operative Hita Society's method is a fair sample of the latter system. They hand over one and a half viss of raw silk and Rs. 30 cash advance to the weaver at Rs. 1-4 per cent. per mensem for the cash and the value of raw silk handed over. They then buy back the finished articles from the weavers at prices fixed by a committee.

The net result of the new loom with its double width and automatic shuttle and of the new system of payment is that the average earnings of a family of four adults has arisen from about Rs. 12 a month to about Rs. 40. Formerly nearly all weavers were heavily in debt to the Yetkandaings or employers, and, what was worse, unable to get free however hard they worked. Now those who use the improved loom and take advantage of co-operation are in a very satisfactory financial position.

The first movement towards co-operation among silk weavers began in 1905. In 1911 four co-operative silk societies were founded with a capital of Rs. 2,000. These with the advice of Mr. Saunders experimented on improved methods. In 1918 an association of weavers was founded at Amarapura Shore with a membership of 300. The society buys raw silk direct from Chinese importers in Mandalay City and thereby saves a good deal of money. A saving of about Rs. 1,200 on a purchase of Rs. 6,000 worth of raw silk was effected in this way recently. But more is needed. Co-operative purchase of silk from the growers in China as directly as possible has been contemplated, and if this can be achieved it will be an enormous gain to silk weavers in Burma.

The average quantity of raw silk required to produce 50 yards (or 3 pasoes) of woven silk 22 inches wide is about 1½ viss. Besides the cost of the silk the employer or Yetkandaing or Saya has to pay the following charges:—

Boiling, 12 annas per viss.	Rolling, Re. 1 per 6 pasoes.
Dyeing, Rs. 1-4 per viss.	Placing silk in headle, Re. 1 per 6 pasoes.
Winding, Rs. 3-8 per viss.	Putting on reeds, Rs. 1-8 per 6 pasoes.
Warping, Re. 1 per 6 pasoes.	Miscellaneous expenses As. 4 per 6 pasoes.

For the finished article the Saya or Yetkandaing (employer) gets from Rs. 25 to 28 for a paso 44 inches wide (ekanan) and Rs. 15 to 17 for a paso 22 inches wide.

The number of weavers given at the Census of 1911 is considerably less than the number given in 1901. This result was possibly caused in part by people using dress of foreign manufacture. The present growth of the industry has been stimulated by the war, and by the national movement which has created a demand for Burmese silks, and thereby induced better prices and better wages.

Amarapura Town is the silk weaving centre. There in the great majority of cases the whole family join in the work, one or more at their own house according to the number of looms and the remainder at other people's houses. While some are weaving others are spinning and others dyeing or working at other processes. In a few cases the man works as a Carpenter, or at some other job, while the rest of the family work at silk weaving. Some of the houses in Amarapura Town, notably the Burma Silk Weaving Co. have so

many looms in one building that they resemble miniature factories. In Mandalay City this development has not come, and no house has more than two looms. In Amarapura Township (excluding the town) 1,529 families are returned as silk weavers, but in other townships there are very few. In these jungle villages it is very unusual to find more than one loom under a house. In Mandalay City and in jungle villages silk weaving occupies only part of the family. The adult males work at other occupations in Mandalay City, or at cultivation in the jungle.

2. Cotton Weaving.

In the old days cotton weaving was a necessity and every household had its own loom, large households more than one, on which the women of the household wove the cloth needed for the use of the family when not busy with other duties, one or other woman or girl of the family being at work at the loom at intervals throughout the day. With the advent of finer and cheaper machine woven cloth the occupation has died down to very small dimensions.

Though cotton weaving in Burma is still so important in the mofussil it has to depend for its raw materials mainly on yarn imported from other countries, *e.g.*, India, England, and Japan. The yarn used in Burma may be classified into three kinds:—

(i) Twisted or double yarn (Taikchi).
(ii) Single yarn (Apwa or Thinbawchi).
(iii) Hand spun (Letkyitchi).

Of these the first variety is imported almost wholly from England. Recently a small quantity has come from Japan also, but the quality is not so good as that of English yarn. Twisted yarn is used for the warp of fine varieties of cloth. The second variety is almost wholly imported from India, but a little comes from Japan. It is generally used for warp in coarse materials and is always used for weft. The third variety is, as the name implies, spun by hand by women and as a rule a hand spinner uses up all her own handspun yarn.

The cotton cloth woven in Burma is generally of a coarse texture and the yarns imported are therefore suitable for such cloth only. In the twisted varieties 2/40s (double fortys) is the yarn mostly used and imported. Very seldom are yarns of higher counts, *i.e.* 2/60s, 2/80s, 2/100s used. In the untwisted varieties yarns varying between Nos. 8s and 20s are used. Counts of 10s, 12s, 16s, are in general use.

In the handspun yarns there are no fixed counts. The fineness and uniformity of the yarn depend on the skill of the workman. But the yarn is generally coarse and is used for home made blankets and so forth. All the above varieties of yarns are used in grey, or are bleached, or dyed. The different varieties of cloths for which these are used are longyis, shirtings, coatings, blankets, towels, dusters, etc., the kind of yarn used depending on the variety of cloth woven.

The trade in cotton yarn is mostly in the hands of Chinese and Indian merchants A few English firms also deal in yarn, mostly English, but they deal wholesale. The yarn having to pass through several hands before it reaches the buyer, its price is unnecessarily raised. Further the buyer is a double loser in not getting correct weight nor correct counts of the yarn he pays for. To remove these difficulties co-operative yarn stores dealing directly with the firms manufacturing yarns are the best means. At present there are not anywhere in Burma appliances to test the counts and strength of yarn. But it is hoped that the Saunders Weaving Institute, Amarapura, will soon be equipped with a complete set of testing appliances.

After the yarn is purchased from the market it has to undergo the following various processes before it is ready for weaving:—

(i) Sizing (This in the case of untwisted yarn only is done in the hank whereas the twisted yarn is not sized.)

(ii) Winding, (iii) Warping, (iv) Beaming or rolling, (this generally in the case of long warps is not done). The long warp in the form of a sheet is bundled in a piece of cloth, hung near the weaver and dressed in short lengths during the process of weaving.)

(v) Drafting, (vi) Gaiting, (vii) Weaving.

These are generally done in the same way as for silk and need not be described again.

The number of families engaged in cotton weaving in Mandalay District is large, but this is a purely subsidiary occupation, cotton cloth being woven only for home consumption and the incomes of these families being earned in other ways, chiefly by agriculture.

3 (*a*). Woodworkers (*House-Builders*).

The Burmese word let-tha-ma can be and is regularly applied to Carpenters, Joiners, Builders and Furniture Makers, as well as to men who make carts, carriages, and boats, and carve wood. Owing to this ambiguity the families who live by carpentry have not been properly divided up. In the form in which statistics were collected for this appendix six headings for this kind of occupation were given, *viz.*, "Carpenters", [ ], "Furniture Makers" [], "House Builders" [], "Boat Makers" [], "Cart Makers" [], and "Wood carvers" []. No doubt those under the last five heads are correctly shown, the numbers of families concerned being 197, 641, 46, 81 and 151 respectively. But by far the greatest

number of families (1,078) is shown under the generic head "Carpenters." Probably no Boat Makers or Cart Makers or Wood Carvers are included among those 1,078, and they are probably all either Furniture Makers or Builders.

There are two Pali words used to denote those who work in wood, *e.g.*, Carpenters, Builders, Cabinet Makers, Wood Carvers. These two words are "ဓနုကော" and "ဓနုက." The former is applicable to Carpenters, Joiners and Builders only and the latter to Wood Carvers, Cart and Carriage Makers, Cabinet Makers, and the like. The term "ဆိုးဆောက်ဆုံဆု" is never used. A person who is employed in the building of a house is called a "ကောက်သားး" [Carpenter] though every "ကောက်သားး" may not be able to build a house without the guidance of a Master Joiner or Sayagyi.

Houses are usually built by contract. The Contractor, who is either a Master Joiner, or a Master Mason, draws the design and when it has been approved, after modification if necessary, executes it. Some of the big Contractors have capital, the smaller Contractors finance themselves by repeated advances, as the work proceeds, from the owner. The Contractor engages all the workmen and pays them, usually by a series of advances as the work progresses.

Present day Carpenters are generally not the equals in workmanship of their ancestors in the trade. This can be seen by comparing the houses built half a century ago with those built thirty or forty years later. The doors of the old houses are much better made and more lasting than those of latter day buildings. In other parts of the house also the old carpenter could give points to his successor.

The tools now used are mostly of western manufacture and their prices have almost doubled since 1914. A chisel costing 12 annas in 1914 costs now Rs. 1-8-0. The price of a two-foot saw has risen from Rs. 2-8-0 to Rs. 4. Pègoot "ဝဲခုတ်" axes and a kind of mortise chisel "ဆေးဝဆေတ်" are made locally. These have also risen considerably in cost.

Wages also have about doubled since the war. A man's worth is judged by the way in which he handles a plane. If he is an expert with it he gets Rs. 2 a day. Before the war the same man would only get one rupee per day. Inferior workmen got about ten annas a day in 1914 and are getting Rs. 1-4-0 now.

3 (*b*). WOODWORKERS (*Cabinet Makers*).

The use of chairs and tables though confined to the royalty and nobility in the days of the Burmese dynasty is now gradually spreading to all classes. In Upper Burma fifteen years ago furniture after western models was used mostly by Government officials and a very few of the well-to-do classes. Now in almost all the houses of Burmese officials, clerks, and people of means, one finds beds, tables, chairs, almirahs, boxes, and so forth.

There are three kinds of furniture dealers:—(1) the person who owns a work-yard as well as a shop for selling finished articles; (2) the person who keeps a shop but orders his furniture from makers giving them advances of money; (3) the person who has a shop and buys his furniture ready-made from various work-yards. Most of the work-yards are situated to the north of Mandalay Fort, and the workmen live in their own small houses near the yards. It is a cheap quarter of the city to live in. Occasionally one can buy an article or two from a work-yard but the workmen cannot quote a price, and are not authorised to make sales. Furniture shops are nearly all located in B Road or in its continuation South Moat Road, which are about the most frequented parts of the city. Burmese teakwood chests, and coffins, however form a distinct branch of the trade. The makers of these live in a group near the centre of the city. They make their boxes and coffins in their houses, and sell them there. The workmen live close by or in adjoining wards.

The workmanship is on the whole good and some of the makers can produce good copies of European furniture, getting their designs from catalogues. In every yard catalogues of well-known English furniture dealers are to be found and one has only to go through these and point out the articles wanted for reproduction.

The cost of articles has risen over 100 per cent since 1914. First quality teak is only used when specially ordered or for conspicuous parts of large pieces of furniture. The bulk of the materials used is second quality teak. One ton of 2" × 1" (2nd quality) teak costing Rs. 25 in 1914 has risen to Rs. 60 now. Even at the latter price the quality of the wood is not equal to that used in 1914. Fittings, nails, screws, etc., have also risen about 100 per cent since the war. Varnish too has risen about 100 per cent. The wages paid by owners to carpenters are now from Rs. 7 (for polishers) to Rs. 45 per mensem or 50 per cent increase on 1914 wages. One ton of teak wood (logs) costs from Rs. 75 to 300 according to quality. Most makers buy odds and ends of sawn timber in lots which come up to about Rs. 80 per ton. In some cases cabinet makers buy teak logs, have them sawn, sell the good planks back to mills and use the remaining parts for making furniture.

Furniture makers and dealers are very reticent about their earnings and profits. They say that their profits are about the same as in 1914 and this may be accepted for they seem to maintain about the same standard of living. Of the types mentioned above the type that owns its own work-yard as well as its shop probably earns as far as I can guess (the owners decline to say) over 20 per cent per annum on its capital outlay which varies from about Rs. 1,000 in some cases to over Rs. 5,000 in a few. The second type makes about 15 per cent and the third type about 10 per cent per annum on its capital, which varies from about Rs. 500 to Rs. 1,500. Persons of the second type usually have rather

more capital to lay out than the 3rd. Makers of teak chests and coffins have about Rs. 500 to Rs. 900 capital and get a nett return of about 16 or 17 per cent. per annum as far as I can judge.

Furniture is also hired out at a monthly rent. According to some of the dealers the profits from this are equal to, if not more than, the profits gained by the sale of furniture.

3 (*c*). WOODWORKERS (*Cart-makers*).

In Mandalay City the number of families engaged in this occupation is 60. They are to be found all over the city but most reside in Amaratani East, Amarasangaung, and Thirihema East.

To make a cart the following materials are required :—

24 pieces (2 ft. × 8 in.) of teak wood.	One piece (3 ft. × 8 in.) *padauk*.
18 pieces (8 in. × 3 in.) *in* wood.	25 viss ... .. iron.

The axle is made of iron in light carts used for carrying people, which are rarely found except in Towns. The ordinary cart used for carrying goods as well as people found in every jungle village and also found in numbers in Towns, has an axle of *hpanga* wood (Terminalia Chebula) or *thitya* (Shorea obtusa) or *yon* (Anogeissus accuminata). The usual number of spokes is 12 to a wheel but in some carts there are 14 spokes. Prices of materials have risen greatly since 1914. Enough teak wood to make a cart (24 pieces of 2 ft. × 8 in.) cost from Rs. 7 to Rs. 8 in 1914 and costs now from Rs. 10 to Rs. 14. The piece of padauk cost Rs. 2 then and now costs from Rs. 2-8-0 to Rs. 3. The price of one ton of *in* wood was Rs. 50 in 1914 and is now Rs. 65. One hundred viss of iron which used to cost Rs. 25 then costs now Rs. 35. A man takes on the average about five days to finish a cart. His wages for this were Rs. 7 in 1914 and are Rs. 10 now. The price of a cart is from Rs. 45 to Rs. 50. It used to be about Rs. 35 in 1914.

Profits are about the same now as in 1914. By selling a cart at Rs. 35 in 1914 a cart-maker made a little over Rs. 10 profit. He now makes about Rs. 12 by selling his cart at Rs. 50.

3 (*d*). WOODWORKERS (*Sampan-makers*).

There are 9 families engaged in boat-making in Mandalay City and these only make sampans of various sizes according to requirement. The most usual size would seem to be about 18 feet long and 3 feet wide at the bottom. The boat and its name are of Chinese origin. The Burmese call it "hnget" probably, because it resembles a bird in shape. To carry the resemblance further eyes are painted in bright colours at the sides of the bow. It is used chiefly by ferrymen. Sampans are generally made of *shitsha* wood (Cicca albizzioides) the ribs being made of teak. About 20 cubit feet of *shitsha* are required to make a sampan 18 feet long. Its cost was about Rs. 15 in 1914 and is about Rs. 22-8-0 now. About 2½ viss of nails are required for one boat. The price of nails used to be 4 annas per viss in 1914 and is now Rs. 1-4-0 a viss. Two oars are also supplied with the sampan. These are made of *in* wood and their cost has risen from Rs. 1-10 to Rs. 2-8. The cost of wood for the gunwale which is also of *in* has risen from 4 annas to 12 annas. In addition to the above about ½ viss each of *indwe*, petroleum and tar is required. The cost of these have doubled since 1914. Paint for the bows cost Re. 1 in 1914 and costs now Rs. 2.

It takes 5 men about 2 days to finish one sampan. Their wages were Rs. 10 per sampan in 1914. They now get Rs. 15. The price of a sampan was about Rs. 45 in 1914. Its price now is Rs. 60.

4. MASONRY.

Masonry work is done on contract, some of the contracts being for Government buildings, bridges, etc., and some for private buildings, pagodas, etc. Profits or losses are taken by the contractors: the masons work for daily wages according to their skill. Estimates seem to be fairly good on the whole as it is said that profits are not very great on the one hand, and losses are seldom incurred on the other.

The tools and other accessories of the masons, with a few exceptions, are obtained locally. These are large and small trowels, brick-cutters (ဓွန်တူ), hammers for placing the bricks in line (ထောင်တူ) and a kind of trowel for drawing lines on the cement (ဂေါ်တံ) spirit level and plumb line. The last two come from Europe. A big trowel, which used to cost 10 annas, costs now Rs. 1-12-0 and the price of a small trowel has risen from 4 annas to 8 annas. A spirit level, the price of which was Rs. 1-4-0 in 1914, costs now Rs. 2-8-0.

The wages of the workmen before the war were from As. 12 to to Re. 1 per day for masons and As. 6 for female coolies As. 8 for male coolies. These latter carry bricks, bring water and the like. A master mason then got about Re. 1-8-0 a day. Now the wages have risen a great deal, in some cases by about fifty per cent. The masons get from Rs. 1-4-0 to Rs. 1-8-0 a day, female coolies As. 8 and male coolies Re. 1. A master mason gets from Rs. 1-12-0 to Rs. 2 per day now.

Contractors also get a five per cent commission from brickmakers, and the people who supply lime, sand, timber, etc.

5. Ready Made Clothing.

A decade ago this industry was confined to the making of Burmese jackets. Now this is supplemented by the making of shirts, sports coats, and long coats. The number of dealers is over two hundred and the big dealers are found mostly in Block "L" Zegyo bazaar and in the Yondawgyi facing the Zegyo on the south. The industry occupies the whole time of all the members of a household but is not in any way developing on factory lines as the work is done at home. The most skilful do the cutting out, while others paste the pieces in their places, and others again sew them, mostly on a machine, put on buttons and button loops, and so on.

The materials used are mostly from Europe: twills for shirtings, serges, tweeds, padonma or cotton lawn, taffeta, tussorre, etc., for jackets. The prices of all these have about trebled since 1914. One piece of 40 yards of twill, which used to be Rs. 9-8-0 before the war, has now risen to Rs. 30-8-0. The price of a piece of padonma, ten yards in length, was Rs. 3-12-0 then and is Rs. 10 now. A box containing 12 gross of buttons, costing Rs. 3-8-0 in pre-war days, now costs Rs. 13-8-0. Sewing charges alone may be said to have remained stationary, as the extra money now paid to the workers is for the rise in the price of thread. A box containing 12 reels of cotton thread cost 12 annas before the war and has now gone up to Rs. 3-12-0.

The piece-goods merchants are mostly Indians and get their goods direct from Europe. The ready-made clothing dealers buy from them on credit, the time allowed for payment being in most cases three months. Sales have been bad since last year and are now about fifty per cent less than they were before the war. The profits are about 15 per cent. The people who reap most profit are the piece-goods merchants.

5 (*b*). Tailors.

Work to order. They sometimes make garments for individuals, but more often sew for ready-made clothiers who have more making and sewing than their own family can manage. In most cases the whole family of a tailor joins in his work. In working for ready-made clothiers they are supplied with thread and have to do the cutting as well as sewing. The wages earned by them for sewing 100 shirts in 1914 was Rs. 20. In 1921 they are getting Rs. 30. Some even get Rs. 35 now for 100 shirts. They are paid more because by good cutting they can produce more shirts than others from a given amount of cloth. For one padonma jacket they used to get 8 annas each and are getting 12 annas in 1921 and 1922. For one tweed jacket they got Rs. 2 each in 1914 and are getting Rs. 3 now. In some of the tweed and taffeta jackets cross stitching in contrasting colours is done along the inside flaps and for this the tailors get from 6 annas to 8 annas extra. This was introduced only a few years ago, during the war. Stitching of *longyis* and *patsoes* is done for individuals. It is done in two ways, namely, "nabedat" "pashuchok." The charges for the latter are double those for the former. For sewing one *longyi* (nabedat) they used to get one anna in 1914 and are getting two annas now. For one *patsoe* (nabedat) they used to get two annas then and get four annas now.

6. Fisheries.

In Mandalay District there are two kinds of fisheries,—inland fisheries and riverine fisheries. Singu Township contains 84 fisheries, Madaya Township 52, Amarapura Township 36 and Patheingyi Township 11. The majority of these 183 fisheries are riverine.

2. The industry is seasonal. Fisheries open from *Waso* (June) and preparations commence then in the way of procuring implements, putting down screens, etc., but fish are not caught until *Tawthalin*. Ordinary fisheries are worked up to the full moon of *Tagu*, *Mayin* fisheries up to the full moon of Kason. The various methods of fishing are as follows: First by means of various kinds of nets, large and small, casting nets and hauling nets. Second by means of *yagwins*. The *yagwin* is a kind of box made of netting with no top, kept open and in shape by bamboo laths. A pole is attached to the whole at the crossing place of the two bamboos that keep the mouth open. This pole is then held by two or three men (it is too heavy for one) in a boat, and submerged as the boat moves along. At the end of the pole is a rope, and the *yagwin* is submerged deeper by letting go the pole and holding on to the rope. The deeper it is submerged the more fish are likely to get in. From time to time it is raised above the surface of the water and such fish as have got into the *yagwin* are taken out. This method can only be used in the river, and is adopted only in two fisheries of Mandalay District.

The third method is by a *myinwunse*, or long bamboo screen put as a barrier right across the outlet of the fishery, with an opening, to which a death trap is attached, in the place where the current is strongest.

The fourth method is by *hmyons*, which are cylindrical baskets made of bamboo laths closed at the top and bottom, with an opening in the side. This opening is lined with a fringe of bamboo laths converging towards a central narrow vertical slit like the entrance to some rat traps, so that fish can push their way through or be forced through by the current, but cannot get back out again. These *hmyons* are placed under water, and their doors are put against openings in *yins*, or bamboo screens fixed across the outlet of the lake where there is a current of water running out.

Implements.—Casting nets of all kinds are manufactured at Thayettabin and Thayagon in Mandalay City and at Wingyan on an island in the Irrawaddy in Patheingyi Township. *Limbet* or hauling nets are obtained at Myaungnabet in Myinmu. The *yins* used in the Mandalay District are supplied from Mwebongan, Shwebondaing and Shwedon in the Madaya Subdivision. *Hmyaws* or strong posts used for fixing screens are obtained from Htongyi and villages above that as far as Singu. The fishermen in Amarapura Subdivision buy their *hmyaws* from timber merchants of Mandalay. Cloth for the sails of boats is bought from Yindaw in Yamèthin District.

The chief person in a fishery is the *Indaing* or Lessee who gets the lease from Government and is responsible for the revenue. Next comes the *Swedaing*, the broker, who buys all the fish from the Lessees and sells it to fishmongers of Mandalay City. The *Swedaings* all wait every morning at dawn at the river bank at Mayangyan (near the Government Timber Depôt) in Mandalay. Third come the fishermen, and fourth come the boatmen who bring the fish from the fisheries to Mandalay Shore at Mayangyan. The boatmen get no payment in cash but they get the benefit of the difference in the size of the Licensee's and the *Swedaing's* baskets. Ten of the former contain as much as thirteen of the latter, and the boatmen get the three extra baskets as their hire (worth about Rs. 4-8); not much considering that each boat needs three men to paddle it and they often have to paddle all night. When fish are plentiful more than ten of the Lessee's baskets—perhaps twenty or more—are brought in on one trip. Fifth and last come the fish mongers who buy fish from the *Swedaing* and retail it in the Zegyo Bazaar. Of the men working at the fishery the most important man is called *Sètein*. He looks after the barriers and screens and must watch them carefully, diving into the water when necessary to see that they are not rotting or getting weak in any place. If any opening were to come from breaking of the bamboo laths, fish would escape, and if the whole screen were to fall down owing to the posts (*hmyaws*) breaking, the season's catch would be considerably reduced. The salary of a *Sètein* is Rs. 15 to Rs. 30 a month according to the size of the barrier (*sè*) which he takes in charge. The wages of other fishermen are less than those of a *Sètein*. An ordinary fisherman gets only Rs. 10 and his food. As a rule all the workers in fisheries get food free in addition to their cash pay from their Lessees. They work from early in the morning till dark, and in emergencies they work at night. The pay of the workmen in fisheries has neither increased nor decreased since pre-war days.

7. BLACKSMITHS.

There are 322 families of blacksmiths in Mandalay, of whom about two-thirds confine themselves entirely to the making of iron alms bowls (*than thabeik*). The remaining one-third are about evenly distributed between makers of (*b*) shovels, (*c*) *damas* and occasionally spears, (*d*) table knives, (*e*) scissors, (*f*) cauldrons, (*g*) sickles, (*h*) adzes, axes, hammers, saw setters, screws, and cattle bells, (*i*) tweezers, pincers, earpicks, toothpicks, small knives, and nail cutters, which articles are sold in bunches on rings.

The charcoal used by blacksmiths of all kinds comes from Shwepyi, Thekkègyin, Kangyi, Kanbyin, and Bok, villages in Mandalay District. The price per 100 baskets was Rs. 25 in 1914 and Rs. 50 in 1921.

Wrought iron alms bowls are made in no other place in Burma, and purchasers come here from all over the Province. As they are unbreakable they have become much more popular than the black earthen alms bowls, which they resemble in colour and general appearance as well as in shape and size.

The smiths buy iron sheets, imported from England, 8 feet long, 4 feet wide and one-sixteenth of an inch thick, at a cost of Rs. 10-8 in 1921 (Rs. 7 or 8 in 1914). In 1920 the price of iron rose to Rs. 20 a sheet. This wrought iron is known as "shwethan" in Burma because it is malleable like gold, other "iron" such as cast iron or steel not being malleable. The wages for making a thin alms bowl (made from sheet iron one-sixteenth of an inch thick and probably a little over $\frac{1}{2}$ of an inch when finished) is eight annas, and for a thick alms bowl (made from iron sheeting one-eighth of an inch thick) is twelve annas. Each smithy contains not less than three members, a "master" and two journeymen, and they can finish three bowls a day between them if they work from 6 a.m. to 6 p.m. Forty alms bowls can be made out of one iron sheet. Thin sheets are used far more than thick. When the blacksmiths have finished the bowls they hand them over in large quantities to "*payeikkhaya sayas*" at Rs. 1-8 or Rs. 2 each according as they are "thin" or "thick." The *payeikkhaya sayas* (vendors of goods and apparatus required by *pôngyis*) then get them varnished with black lac (thitse) by persons who live by that work alone. At that price the head of the smithy makes a profit of 2 annas 9 pies on each thin bowl, and 1 anna 6 pies on a thick one. The wholesale dealers make larger profits.

In Amaratani Quarter of Mandalay, in which there are more blacksmiths than in any other quarter, there is a Capitalist who buys iron sheets, issues them at a valuation to a few master blacksmiths, and takes all the alms bowls they make for sale to "*payeikkhaya sayas.*" As he gives his blacksmiths a trifle lower price than the "*payeikkhayas sayas*" those blacksmiths that work for him make less than others. However as far as we could discover all other master blacksmiths provide their own capital and work independently. There are pupils also working in the smithies, who get eight annas a day for their work as soon as they have acquired a little skill, but pay the master blacksmith one anna commission on each bowl that they make. From all sources an average master blacksmith earns about a rupee a day. One who has a large number of workers and pupils makes

more. One master has eight workers and pupils working for him, others have five or six, the average is about four.

(*b*) ***Shovel-makers*** are a distinct class of blacksmith and make nothing else. The usual number in a smithy is from a minimum of three (including the master smith) to about six. A master and two men can make fifty ordinary or twenty large shovels in a day between them. Owing to the great heat (the iron has to be worked red hot) they start work at 3 a.m. and work till 10 a.m. Again from 1 to 6 p.m. they work, but at finishing under mild heat with a file. The wages paid are:—

	1914.			1921.		
	Rs.	A.	P.	Rs.	A.	P.
For 100 ordinary shovels ...	1	8	0	2	0	0
For 100 large shovels ...	2	8	0	4	0	0

For 100 ordinary shovels the price obtained on sale was Rs. 25 to Rs. 27 in 1914 and Rs. 37-8 in 1921. For 100 large shovels the price was Rs. 35 to Rs. 37-8 in 1914 and Rs. 65 to Rs. 70 in 1921.

(*c*) ***Makers of Damas.***—Mandalay *das* are not popular and there are very few *da* makers in the city. At Taungbyon village, about eight miles north of the city, there are a few *da* makers. But most Upper Burmans prefer *das* made in Mônywa District (Aungtha and Baunggya) or in Shwebo District (Myédu and Tabayin). Tabayin *das* are the most prized. There is no wholesale dealer in *das* in Mandalay. Whereas the blacksmiths at the great *da*-making centres mentioned above continued to buy good iron even when the price rose to unusual heights during the war, wishing to keep up their reputation for good *das*, *da*-makers of Mandalay made their names even worse than before by buying up during the war refuse iron from mills at Rs. 50 per hundred viss, the pre-war price for refuse iron having been Rs. 5 or thereabouts. At that time the price of good iron was Rs. 175 per 100 viss. In the making of *das* steel is welded with iron (a slow process taking about a month). The price of steel has risen from Rs. 20 per 100 viss before the war to Rs. 60 in 1921. As in other branches of the blacksmith's craft the minimum number of workmen is three to each smithy (including the master). Each of these finishes two *das* a day. The wholesale price of *das* was Rs. 1 to Re. 1-2 in 1914 and rose to Rs. 1-8 each in 1921, but to regular retailers the makers usually sell at Rs. 1-4 per *da*. Workman's wages were 4 annas for each *da* in 1914, and 6 annas in 1921. *Da*-makers make spears also, but only when they receive an order from some intending purchasers. They imagine that they are liable to prosecution for having spears in their houses.

(*d*) Household knives of an inferior quality for cutting onions and foodstuffs are made by another class of Blacksmiths in Mandalay City, who make no other kind of ironware. They are made from the iron straps that come round bales. Each strap is 6½ feet long and is sold at the bazaar for 6 annas. Before the war they were sold at 8 annas for 10 straps. Ten knives are made out of each ordinary strap and they were sold at Rs. 12-8-0 per 100 before the war, while they now realize Rs. 17-8-0 per 100. Single knives are sold for 4 annas each.

The two workmen who work with the master get 8 annas a day each, which is the same wage as they received before the war. A workman finishes 10 or 12 knives a day if he works from 6 a.m. to 6 p.m. The polishing is done in the afternoons by pupils who receive 8 annas a day for that and for fixing on bamboo handles and blowing the bellows during the earlier part of the day.

The cost of bamboos for handles was Rs. 1-8-0 per 100 up to 8 feet long in 1914 and Rs. 3-8-0 in 1921. Each bamboo produces about 20 handles. The master blacksmith earns about Re. 1 a day.

(*e*) Scissor-makers in Mandalay are few in number. Like other classes of blacksmiths, they confine their work to making one kind of thing. The places famed for scissors in Burma are Pyawbwè, Yamèthin, Mônywa and Magwe. The scissors made in Mandalay are coarse and are used only for cutting tobacco leaf and the leaf wrappers of cheroots, whereas the scissors made in the other places named are used for cutting cloth.

They are made in Mandalay of ordinary sheet iron which cost Rs. 25 per 100 viss in 1914, rose to Rs. 100 during the war, and fell again to Rs. 40 in 1921. As in other smithies the minimum number of smiths, including the master, is three. Wages were 6 annas a day in 1914, and 8 annas a day in 1921. Scissors were sold in 1914 at Rs. 12-8-0 a hundred, and in 1921 at Rs. 13-8-0 a hundred.

(*f*) ***Cauldrons.***—About the middle of 1921 one U Lwin of Amaratani east quarter of Mandalay (in which most of the Blacksmiths live and work) started making cauldrons as an experiment. He was formerly a maker of alms bowls like the great majority of blacksmiths in Amaratani. He found the experiment a success and has since continued making cauldrons at one of his two smithies, while he makes alms bowls as before at the other. Cauldrons are made in the same manner as iron alms bowls except for the shape, the mouth of a cauldron being much wider than the mouth of an alms bowl. Only malleable iron (shwethan) can be used for making cauldrons. U Lwin is still the only maker of cauldrons in Mandalay, and, as far as we know, in Burma. But the use of his cauldrons is gradually spreading in Mandalay and to some other parts of Burma. Hitherto Indian cauldrons, made of cast iron, have been used. The new Mandalay cauldrons are cheaper in price and last longer because they never crack when used for frying as the Indian cast iron cauldrons do. There are six sizes classified by the width of the mouth, namely: 8″, 9″, 10″, 11″, 12″, and 13″.

The wholesale prices to brokers are:—
8", 9", and 10" ten for Rs. 5.
11" ten for Rs. 6.
12" ten for Rs. 9.
13" ten for Rs. 10.

In U Lwin's cauldron smithy there are three Blacksmiths including himself (he is "master" in both his smithies). Each workman gets Rs. 1-4-0 for every ten finished cauldrons (with handles attached) of 8", 9", 10", and 11" size, but they seldom finish more than 8 in one day. For cauldrons of 12" and 13" size (with handles attached) Rs. 2 is paid for every ten finished, but only five are finished in a day as a rule. The cost of material is as for alms bowls.

(*g*) *Sickle making.*—A few Blacksmiths in Mandalay make sickles (and nothing else). As usual the smithy comprises three persons, but unlike other branches of iron work the two workmen get different rates of wages. The master values his work now-a-days at 12 annas a day and if he goes out to work elsewhere (as occasionally happens) he actually receives that amount. The second man, who does the bending of the sickle, gets 10 annas a day, and the third man, who blows the bellows and uses the hammer gets only 6 annas. Before the war they used to get 8 annas, 6 annas, and 4 annas, respectively.

Sickles are made of steel (which is bought at the prices noted in the case of *das*). The master does not buy at a time more than enough for about 30 to 40 sickles, which the three of them can make in a couple of days, working from 6 a.m. to 6 p.m. They then send their wives to sell these to the retailers at the Zegyo, and buy another lot of steel. Sickles are made in three sizes and sold as follows:—

		In 1914.	In 1921.
Small,	each ...	4 annas	6 annas
Medium,	" ...	6 "	10 "
Large,	" ...	8 "	12 "

(*h*) In one smithy the following articles are made and sold:—

	1914.	1921.
	Rs. A. P.	Rs. A. P.
Adzes sold at	2 0 0	2 8 0 each.
Axes	1 0 6	1 4 0 "
Hammers	0 10 0	0 12 0 "
Iron cattle bells (used in Shan States).	50 0 0	70 0 0 per 100.
Saw setters	7 0 6	10 0 0 per 100.
Screws	1 0 0	1 8 0 per viss.

At this forge the owner acts merely as supervisor except when there is a particularly difficult piece of work and the others seem likely to go wrong. Under him is a "master" Blacksmith who was paid Rs. 1-4-0 a day in 1914 and Rs. 1-12-0 in 1921. The trained Blacksmiths get from 12 annas to Rs. 1-8-0 a day according to the amount and quality of the work done by them. Apprentices also are entertained at 6 annas a day and when they get to know their work fairly well are usually paid half the daily wages of a trained man. These articles are made from the same kind of iron as *das*.

(*k*) Another group of Blacksmiths make tweezers, pincers, ear-picks, tooth-picks, small knives, and finger nail cutters which are formed into a bunch and sold at Re. 1 in 1914 and Rs. 1-8-0 in 1921. There is only one forge in Mandalay (Dawnagyan quarter) where the master knows how to make all these articles though in several others some of these articles are made. At that one forge the master works with the aid of only one workman whom he pays Rs. 1-8-0 a day. He came from Pyawbwè and started this work only about a year ago.

There is another forge in Amaratani quarter where small bunches of inferior quality articles are made, consisting of pincers, tooth-picks and ear-picks. Of these 1,000 bunches were sold at Rs. 25 or Rs. 30 in 1914 and at Rs. 35 in 1921.

One thousand small pincers were sold at Rs. 5 or Rs. 6 in 1914 and at Rs. 7 in 1921.

8. Cheroot Making.

Two kinds of cheroots are made in Burma. One is known as ဆေးပျဉ်းထိပ် *sepyinleik* ဘင်္ဂလားထိပ် (bingalaleik in Mandalay) which is made entirely of cured tobacco leaves. The other is known as *sepawleik* ဆေးပေါ့လိပ် and made of dried tobacco leaves cut up and mixed with chopped pieces of the stem of the tobacco plant or chopped pieces of *Onhnè* wood, the whole being sprinkled with jaggery or tamarind syrup. The latter is the national Burmese cheroot.

The outer wrapper of the *sepawleik* is made of the leaves of the Banbwè ဘန်းတော် (Careya arborea) at Prome, and the sheath of the maize cob ပြောင်းဖူးတစ် *Pyaung-bu-bet* in Lower Burma generally. But in Mandalay *thanatpet* သနပ်ခတ် sometimes called *thanpet* because *thanat* (Cordia myxa) trees are rarely found outside the Shan Hills, or the sheath of the betel palm stem *kun-thi-bet* ကွမ်းထိုးတစ် or the leaf of the Kywedo ကျွဲတို့ is used, as well as the sheath of the maize cob. The last named is the most common wrapping all over the Province, while the *kun-thi-bet* (sheath of the betel palm stem) is the most highly prized; indeed the use of cigars wrapped in carefully treated and highly polished *kun-thi-bet*, was formerly restricted to members of the royal family, and such cigars are still to be found only in the houses of *ex*-Queens and Princesses for no one else knows how to prepare them.

Tobacco is grown in most riverine Districts of Burma. Mandalay tobacco comes chiefly from Mwe-hintha and Mwe-shwegè villages in Singu Township. The cost is Rs. 50 per 100 viss.

Rollers of the *sepyinleik*, invariably women, usually work from about 9 a.m. to about 5 p.m. every day and finish about 250 cheroots a day. For completing 1,000 cheroots, some four days work, the cheroot roller got Re. 1 in 1914 and Rs. 1-4-0 in 1921. The cheroot rolling is usually done in some rich person's house by women from other houses who come and work on hire. Sometimes as many as 20 women are found rolling cheroots inside a house. The person who sets up a cheroot-rolling business got a profit of Rs. 8 when the cheroots were sold wholesale at Rs 7 per 1,000. The retail vendors got a profit of Rs. 3 when the cheroots were retailed at Rs. 10 per 1,000.

Thanatpet comes chiefly from Mông Nai, Laihka, Mông Pawn, and Hopong, of the Southern Shan States and Hsipaw, of the Northern Shan States. The present cost of 100 viss of *thanatpet* is Rs. 132-8-0 to Rs. 225 according to quality and treatment after plucking, the cost before the war was about 8 per cent to 10 per cent less. The usual time for making the Burmese cheroot is 9 a.m. to 5 p.m., and about 125 cheroots a day are completed. The wages for 100 cheroots is annas 4 or 5 annas a day as it was before the war. The wholesale dealer gets Re. 1 profit when 1,000 cheroots are sold at Rs. 13-12-0 and the retail vendor gets Rs. 1-14-0 when he sells 1,000 cheroots for Rs. 15-10-0. This was the pre-war price (one pice a cheroot) and it has not changed.

The roller of *sepawleik* never rolls *sepyinleik*, or *vice versa*. The persons engaged on the two kinds of work are quite distinct and neither class is conversant with the work of the other. There is much more trade in *sepyinleik* than in *sepawleik*, and the number of persons engaged in rolling the former for sale is far larger than the number engaged in rolling the latter *for sale*; but those who roll the latter national Burmese cheroot for home consumption and not for sale are more numerous than those who roll *sepyinleik*. In fact practically every Burmese woman can, and does, roll *sepawleik* for home consumption. Burmans as a rule prefer their home made *sepawleiks*.

9. Embroidery.

Burmese embroidery, called by them Shwe-gyi-do work (literally gold thread sewing) contains modifications of what Europeans know as embroidery, inasmuch as it contains patterns made by stitching on to cloth small silver sequins (small flat discs with a small hole in the middle) and silver sequins gilded over to look like gold, and short or long lengths of tubular spirals of silver or silver washed in gold (called *bunwe*), and pieces of glass to represent jewels, and patterns made by cutting out from cloth, differing in colour from the ground cloth, figures of men or horses or elephants, etc., stitching them on to the ground cloth and further embellishing them with sequins or *bunwe* or gold or silver thread-work or glass (imitation jewels), besides patterns made as in European embroidery by sewing with gold and silver thread. Some of the figures were raised by being stuffed with cotton wool (under the cloth) before being embellished. Plainer garments, to be worn by attendants of Royalties or Officers, were adorned only with braid (*yetgya*) about half to three quarters of an inch wide stitched round the sleeves and neck, etc.; this braid is loosely woven with cotton thread as the warp and silver or gilt-thread as the weft. Similarly woven cloth, but of ordinary width (say 20 to 22 inches) called *pasunsi*, with a backing of thin red cloth was often used as a background being stitched on to the ground cloth before embellishments were added. The Burmese used their embroidered cloth for curtains (over mirrors, or over doors—there were no windows in those days), and as tapestry on the walls in the houses of Royalty or of high officials or for court robes of royal personages and officers or for trappings for their horses. It is an old industry in Burma which is said to have been started in the time of Alaungpaya, the founder of the last dynasty. The embroidery of his day was very rough as real full-sized gold coins were stitched together over coarse country made cotton cloth. Some improvements came in after the invasion of Siam (that is in the time of Alaungpaya's son) when floral designs (flowers, leaves, and stems) were introduced. Considerable change was made in the reign of King Mindon. For the ground-work was now used velvet imported from Europe, or hand woven in the palace.

Under the Burmese kings the use of embroidered clothing and articles was limited to members of the royal family and officers of the Government. Each privileged personage employed his or her own set of workers to make embroidery for his or her own use. Those people did not receive wages by the day or month but received large rewards when they had finished any article ordered if the master was pleased with the work. If otherwise their reward was small. Orders are said to have been very frequent. In those days, besides curtains and hangings were made robes for the king (*Asin-taza*) for the chief Queen and two next senior Queens (*Mahalata*) for other Queens and senior Princesses (*Gana Mataka*) for lesser royalty (*Gana yaung and Maitka*) for Ministers (*Thoyin-wuttun* and headdresses for Ministers (*Baung*). In olden times discs or sequins of mica were used for commoners. The use of such robes has entirely ceased now except at Shin-byu ceremonies and *zat-pwès*. Curtains and hangings too are very seldom used, and are never made now-a-days except to order. So the present day wage earners have very little chance of working those old fashioned articles. In their place are made things used by Europeans such as table covers, teapot covers, and the like, and gorgeous ceremonial robes for Indians.

Embroidery is now often done on silk longyis with peacock figures, or a broad belt of floral design along the side and lower edge of the silk longyi with coils of imitation silver wire (*bunwe*).

Formerly average earnings were 12 annas to Re. 1 a day but have doubled since 1914. The worker now receives Rs. 2 for a longyi and it takes him a day and half a night to finish it.

Bunwes are of two kinds (zati) and (pavatti). Zati is real gold and silver, and cost Re. 1 a tola (now Rs. 2). Pavatti is imitation silver and imitation gold (*bunwe*), bought at Rs. 1/8 and Rs. 3/8 (now Rs. 3/8 and Rs. 7/8 per 10 tolas).

Imitation sequins were formerly bought at Rs. 20 per viss and now cost Rs. 80.

Burmese Shwe-gyi-do work includes appliqué work made by cutting figures (minister's horses, etc.) out of cloth of various colours and attaching them to black velvet cloth hangings. The figures form pictures. The hangings are usually wide enough to form a curtain wall to an open room (with no sides), but are sometimes made about 3 feet wide for a fresco along the top edge of the wall of a room. The figures are backed with red or green or black cotton cloth or flannel to show them up.

Trappings for horses for members of the royal family or ministers were also made of Shwe-gyi-do work. They are still made for horses on which Shin-laungs (prospective Novices) are to parade their neighbourhood according to Buddhist custom.

The prosperity of this industry depends now-a-days on the prosperity of the peasantry—it is they and not people in towns who buy Shwe-gyi-do cloth and trappings.

10. Oil Pressing.

Sesamum is grown in every dry zone district of Upper Burma, though in some districts the amount grown is not large, and the pressing of sesamum oil is a very ancient Burmese industry practised from time immemorial. The area under sesamum is small in Mandalay District and the total number of families engaged in this occupation in Mandalay City is 116 while the District total is 223. The press consists of a roller revolving inside a bowl. The latter is made of a large heavy block of wood hollowed out in the shape of an inverted cone leading into a curved bowl. The roller presses the sesamum seed against the straight sides of the cone and the oil runs into the bowl below. Some of the seed or cake falls into the bowl too and the pressing is completed there between the end of the roller and the sides of the bowl. The *son* or bowl is usually made of Koko (Albizzia Lebbek) a particularly hard wood, but Htanaung (Acacia leucophloea) and Bonmeza (Albizzia stipulata) are occasionally used. The roller is generally made of Thanatkha wood (Rimonia acidissima). The present cost of a *son* or bowl is from Rs. 45 to Rs. 55 while a roller costs from 4 to 6 rupees. Before the war the cost was the same. About half a basket (9-gallon basket) of seed is placed in the mortar for one pressing. Before this is done about a pint of hot water is poured into the bowl and about the same quantity is poured in again after the seed has been put in. The hot water helps to draw the oil.

One basket (9-gallon) of seed will produce from 5 to 6½ viss of oil according to the quality of the seed. The oil-cake remaining from one basket of seed is about 6 viss.

An ox costing now-a-days from Rs. 85 to Rs. 100, can manage 3 to 5 pressings a day. The food, etc., of an ox for a day costs from 8 to 10 annas. In the villages that ox would be used to plough as well during the cultivating season, but in Mandalay the oxen are not used for ploughing as there is no land closeby to plough. The price of 100 baskets of sesamum seed was from Rs. 325 to Rs. 350 in 1914. It is now from Rs. 750 to Rs. 800. One tin (kerosene oil tin containing 4 gallons) of oil (10 viss) cost from Rs. 9 to Rs. 10 before the war. Its cost now is Rs. 16 per tin. The man who looks after the extraction of the oil and also drives the ox is paid 4 annas per pressing of half a basket. In some cases the men are paid monthly and get about Rs. 20. Besides these home made ox presses there are steam mills for pressing sesamum oil in Mandalay. Since the cultivation of groundnut was introduced, oil is pressed from that too, and cotton seed also is pressed in order to get oil, the refuse oil-cake being used for feeding cattle. But neither groundnut nor cotton seed pressing is done in Mandalay District.

11. Work in Marble.

The worshipping of pagodas and images of Buddha has been in vogue in Burma since the introduction there of Buddhism. The tradition of Mandalay Marble Carvers is that the carving of marble images and statues has existed in India since the time of King Asoka, and that marble carving was introduced into Burma only 200 years ago during the reign of Thalun Mindayagyi who was the builder of the Kaungmudaw pagoda at Sagaing. The industry was well developed in the time of the Konbaung (Alaungpaya's) dynasty.

The most venerated of all images in Burma is a marble image carved under the orders of King Bagyidaw soon after he ascended his grandfather's (Bodawpaya's) throne at Amarapura. It is at Taungdaman just outside Amarapura and is known as the Taungdaman Kyauktawgyi. The huge marble image of Buddha at the foot of Mandalay Hill was carved under orders from King Mindon in imitation of Bagyidaw's image at Amarapura, and was given the same name Kyauktawgyi (great royal stone). Although much larger it is not so well proportionated as that of King Bagyidaw.

Marble of very good quality is quarried from Sagyin Hill about a mile from Sagyin village (in Singu Township) about 12 miles from Madaya Town, and 21 miles north of Mandalay. The quarries have been worked for several generations. Now-a-days those who wish to quarry marble have to take out permits from Government. Hereditary marble

workers pay Rs. 5 for their permits and quarry within their hereditary (bobabaing) area. Quarrying is attended with much difficulty and danger, the workers having to excavate sometimes from the face of a steep cliff, sometimes in a deep cave, sometimes on the edge of a precipice. Marble is usually extracted in cubes a yard each way. The block is cut out by chisel and hammer, and one man cannot extract more than 2 blocks a month, working all day and every day. When the block is almost ready to be broken out it has to be carefully tied with creepers and kept up, otherwise from many of the quarrying places it would fall out and be chipped and cracked. When broken out the block has to be taken laboriously to the top of the hill, and when a number of blocks are ready they are rolled down to the foot of the hill. Many blocks get chipped during this roll. Thence they are taken by boat, or by cart and light railway, to Mandalay. In some cases purchasers from Mandalay go and buy blocks at Sagyin, in other cases the blocks are brought to Mandalay and sold there. The price varies according to the size and quality of the stone. The usual pre-war price was from Rs. 5 to Rs. 10 for a cubic cubit, but now the prices are double of what they used to be.

This marble, which is said to be of very good quality is carved into images of Buddha. A few images of Yahandas were carved too in olden times, and are still made. The marble was used also for stone slabs for inscriptions, such as those in the Maha-lawkha-mayazein pagoda enclosure, and for dedicatory inscriptions at pagodas. Now-a-days figures of horses, thamin (deer), tortoises, elephants, are made of this marble and also small plain rectangles as paper weights. But these are few in number; the great bulk of the marble always has been and still is utilised for images of Gautama.

Some of the Buddhas are carved at Sagyin, but the Mandalay carvers are much more skilful and most of the images are made there, the locality south of the Arakan pagoda where the majority of the carvers live and work being called Kyauk-sit-tan (carver street). The same name is given to another locality in the west of Mandalay where there are marble carvers. A great many Buddhas are made without special order, but if a man wants a really good image he will give an order for it. The Mandalay carvers are very skilful and can carve an 18" image to be worth Rs. 50, or Rs. 100 or Rs. 150. There is no fixed or even usual rate for images of given sizes. The price varies according to the quality of marble which is by no means constant, and according to the excellence of workmanship. The demand for images has increased of late.

The wages of carvers depends on their skill, and ranged from Rs. 9 for a beginner to Rs. 30 for a skilled worker per mensem before the war. Now wages have risen, like wages in other industries, to from 30 to 60 rupees per mensem. Like other workmen marble carvers say, and apparently with truth, that they are worse off now than when they got only half their present wages, for the prices of all commodities have risen. The workers are almost all too poor to set up for themselves and merely work for wages for a capitalist who buys the marble and the tools and other requisites.

The carving tools are few and very simple. They consist of chisels and punches of various sizes made by the carvers from old files bought from saw mills. The metal of old files is found to be specially hard and suitable for carving with. Marble carvers never use hammers (with iron heads) but wooden mallets made by themselves of the heartwood of cutch, or tamarind. After carving is done the figure has to be filed (with new files) which used to cost from 12 annas to Rs. 3-8 and now cost from Rs. 1-4 to Rs. 4-8. Then it has to be rubbed smooth with three different kinds of stone in succession. First with coarse stone, which takes a day for an image about a cubit high, next with a medium stone for another day, and finally with a smooth stone which takes about half a day. Stones of the first two kinds come from Katha. The third smooth stone is the jeweller's touchstone. Finally the figure is rubbed over with sandpaper for a day and is then finished. Figures other than Buddhas are not so carefully finished; they are merely filed and then rubbed with a coarse stone.

12. Copper and Brass.

Work in copper and brass is an important industry in Mandalay. The making of brass images of Gautama, brass bells (big and small for pagodas and monasteries), small round brass bells for hanging on the necks of cattle, flat brass gongs (*kyesi*) and gongs of the hollow circular pattern has been conducted in Tampawadi Quarter of Mandalay (just outside Amarapura fosse) longer than the residents can remember or tradition takes them. In fact the quarter has probably derived its name from tamba the Hindustani for copper. The Wetmasut Wundauk Min (a minister of King Thibaw) tells me that this industry was started in 1144 B.C. (about 140 years ago) in the reign of Bodawpaya who built his palace at Amarapura. The Wundauk Min goes on to say that when the Burmese were ruling at Ava before their last defeat by the Talaings, and before Alaungpaya arose, brass work was done at Ywataung (near Sagaing). To this day Ywataung is famous for its brass work.

At present there are 319 families occupied with copper and brass work in Mandalay City of whom 249 families live and work in Tampawadi Quarter. There are four distinct sets of workers: (*a*) image workers, (*b*) gong makers, (*c*) makers of big and small bells with open mouths (*kaunglaung* and *swèlè*) for use in pagodas and monasteries and flat gongs (*kyesi*) and (*d*) makers of round almost closed cattle bells (*chyu*) often hung on collars on the necks of cattle.

Copper is the basic metal used, only it is not used in its pure state, but as brass. For images of Gautama it is alloyed with zinc (8 viss of zinc to 10 of copper) in order to get a sufficiently hard surface to file and polish; but for gongs it is alloyed with lead (30 ticals

of lead to 70 ticals of copper) as the gongs are hammered out and softness is required. For big and small pagoda and kyaung bells and flat brass gongs lead alloy is used as for gongs, but in different proportion, 27 ticals of lead being added to 1 viss of copper. For small open mouthed bells (*swèlè*) and round cattle bells (*chyu*), the workers buy old scraps shavings of brass and brass filings from the Rangoon foundries which is sold in packets in the Zegyo Bazaar (they would buy scraps and filings of copper if they could get them but they cannot). This brass refuse they melt down with lead and get a metal softer and paler in colour than the brass used for images, though not as soft as the brass used for gongs.

All the various aricles made are cast to start with, though images are filed and polished by a series of processes which cover a period of over 3 months for images 2 cubits high, and gongs are laboriously beaten out from the disc in which they are primarily cast. The moulds of gongs (both flat and hollow) are made of wood and are used over and over again. All the articles made have a central hollow and must have a core inside the mould. The moulds and cores are made of fine clay. For the core of images fine alluvial clay is powdered and mixed with an equal quantity of dry powdered horse dung and sifted to remove all coarse particles. This fine powder is made into a stiff paste with water and an outline of the required image built up, layer upon layer, each layer being put on only when the one below has fully dried, for which purpose it is put in the sun. The core is carefully moulded by hand before it is dry, the nose, ears and such like delicate portions being specially watched as the work proceeds. For larger images (from about 2 cubits in height upwards) the core is strengthened with thin flat bands of iron inserted beneath the surface of the clay. When the core is ready a layer of beeswax [mixed with *indwe* (resin) and earthoil] of the required thickness is laid on. This layer is to be subsequently replaced by the brass. The proportion is ten parts of *indwe*, four of wax, and enough earthoil to keep the layer soft and easy to mould. When it is raining the quantity of earthoil is increased, when the weather is dry and hot the quantity of earthoil is reduced because the heat keeps the wax soft. Upon this layer the sculptor exerts his skill as the brass will replace this wax statue as it leaves his hands. Over this the mould is formed, of fine red clay (not alluvial) mixed with paddy husk. No horse dung is mixed with this. The greatest care is taken to fill in every minute detail of the wax image with the clay mixture, without the slightest disturbance or abrasion of the finished wax surface. The mould again is put on layer by layer, as each gradually dries. The outermost layers are made thicker in order to sustain the weight of the metal. Finally several thin iron rods are pushed through the outer mould and wax image well into the inner core, so as to keep all in place. Two rods are put in through the points of the shoulders, two through the thighs, one through the top of the head. All this takes about a month in the case of an image 2 cubits high.

When the mould is thoroughly dry the requisite amount of copper and zinc is melted and kept hot while the image is placed carefully over a hollow in the ground and heated until every particle of the wax mixture runs out at the base through 7 holes previously left in the mould. The image is then cautiously turned upside down in the same hollow, propped with planks at the sides, and the molten brass is poured in, with care so that no air is left in bubbles, through three of the seven holes from which the wax has issued. The other four holes are left for the air to come out as the molten brass gets into place. The melting out of the wax image, and pouring in of the liquid brass, is done very early in the morning before dawn so that no cart or animal passing along the road in front of the enclosure may cause the earth to shake and thereby produce cracks in the brass. When cool the mould is carefully broken away and the fixing rods removed. The core is left in, and the upper part of the core remains in the image even when delivered to the purchaser, though the lower parts of it get broken off as the image is moved about for filing and polishing.

The brass image is now complete, but the laborious finishing has still to be done. If the weather is warm and dry this takes over three months in the case of an image 2 cubits high, four months for an image 3 cubits high, seven months for an image 4 cubits high. If the weather is wet the finishing takes decidedly longer. The time taken for the various operations in the case of a two cubit image is as follows: First the roughness and excess metal are cut out with a cold chisel. That takes 20 days. Next the entire image is smoothed over with a file which takes another 25 days. Then the correct shape of the image being clear, the holes left by the fixing rods are filled in with brass plugs, hammered level, and filed smooth. Other hollows or holes are filled in, welded into the image, and smoothed off. That takes another 15 days. Next all the re-entrant joints and angles are cleaned out and perfected, with two kinds of cold chisel, and any defects that there may be elsewhere are corrected. This work takes ten days with the broader chisel, and ten days more with the narrower chisel. After that the image is rubbed over with three different kinds of stone, of a special kind, from the Chindwin or the Shan States, a rough stone for ten days, a medium stone for another ten days, and lastly a smooth stone—goldsmith's touchstone—for another ten days. Then the image is rubbed over for two days with the ash obtained by burning fine earth, and finally it is polished with sesamum oil for a day. Then it is ready for the purchaser.

The materials are bought in the Zegyo Bazaar. Copper, which is exported from England, Japan, Calcutta, and Bombay, but chiefly from England, cost Rs. 12-8-0 for 10 viss in 1914, and now costs Rs. 22. Zinc used to be exported from England, but since the war began zinc ingots ceased to be obtainable in Mandalay, and the casing of big boxes of matches has been melted down by residents of Hlèdan Quarter and sold to brass workers for alloy with copper. The customs returns indicate that "zinc" continued to come during the war though the quantity imported was much reduced, but this probably refers

to "zinc" roofing. At any rate the brass workers were unable to get ingot zinc in Mandalay and cannot get it yet. For pre-war zinc they paid Rs. 35 per 100 viss and now have to pay Rs. 85 per 100 viss for inferior stuff. Lead for bells and gongs comes from Mergui and Tavoy. It cost Rs. 2-4-0 before the war, Rs. 7 in 1920, and Rs. 5 in 1921. Brass scrap shavings and filings (for small cow bells) cost for 10 viss Rs. 7-8-0 in 1914 and Rs. 15 in 1921. The price has since fallen a trifle.

In Tampawadi Quarter there are two capitalists who do not work themselves but engage men to perform all the different stages of the work, and merely provide the materials, wages and instruments, and sell the articles when made. These two capitalists get made not only images of Buddha but also large and small bells and *kyesi* (flat gongs). There are four classes of workers (*a* Sculptors who make the mould, (*b*) Firemen who heat the images, draw off the wax mixture, and keep the image hot while brass is poured in, (*c*) Founders who melt and mix the copper, and its alloy and pour the brass into the mould, (*d*) Finishers who do chiselling, filing, and polishing. A good many of the sculptors have enough money to buy materials and hire men to make images. They make the moulds themselves of course. There are however some sculptors who have not enough money to meet all expenses and merely work for hire. These earned Rs. 7 for a finished mould in 1914 and Rs. 15 in 1921. The materials are all provided by the person who hires. That was for a 2 cubit image that took a month to make the mould. Smaller and larger moulds are paid for according to size. None of the other classes of workers have enough money to make images on their own account, but merely work for hire. The Firemen (class b) got Re. 1 in 1914 and now get Rs. 1-8-0. Their work takes only a single morning. The Founders (class c) got 12 annas in 1914 and Rs. 1-2-0 in 1921. Their work takes up less time than that of the Firemen but they can only do one image a morning. Both they and the Firemen know how to finish and file and polish images, and earn their living by that when not engaged for melting out wax or melting in brass. Finishers (class d) received Rs. 12 in 1914 for a two cubit image and Rs. 35 in 1921. The rate has not fallen yet. Larger or smaller images are paid for according to size. The person who engages the workmen provides the tools.

In 1914 a 2 cubit Buddha was purchased for Rs. 125 and in 1921 for Rs. 170. Other sized Buddhas were in proportion.

Large and small bells of the European shape (*kaunglaung* and *swèlè*) and small round cattle bells (*chyu*) are made in the same way except that horse dung is not mixed with the fine alluvial clay for the core of the bells, but only paddy bran, as is mixed with the fine red clay for the outer mould of an image. Flat gongs (*kyesi*) in the shape of a circle are sometimes made but do not find a ready sale. As noted above the moulds for them and for triangular curved sided gongs (the usual *kyesi*) and for hollow gongs are made of wood, not of clay, and are used many times over.

Most of the bell (*kyesi and chyu*) makers are sufficiently well off to make their own bells, buying all requisite materials, and tools, and hiring firemen, founders and finishers. A few moulders have not the needed capital and work only for hire. They received in 1914 Re. 1 for a big bell (absorbing 10 viss of copper alloyed with 2·70 viss of lead) that takes about three days to make the mould of, and in 1921 Rs. 2. They do other work as well such as firing, founding, or finishing, concurrently Firemen got 8 annas in 1914 and 12 annas in 1921 for the same sized bell. Founders got 12 annas in 1914 and Rs. 1-2-0 in 1921 for the same sized bell. Finishers got 8 annas in 1914 and one rupee in 1921. If he worked diligently and steadily a man could finish such a bell in one day. Larger bells are paid for in proportion. For small bells the following rates are paid. Sculptors get now Rs. 3-8-0 for making 100 moulds of which they complete 20 to 25 in a day. For these small bells the founders do the firing as well. They got Rs. 1-2-0 in 1914 and Rs. 2-8-0 in 1921 per 100 bells, of which they get through about 50 in a day. Finishers got 12 annas in 1914 and Rs. 1-8-0 in 1921 per 100 bells of which they can finish 50 in a day. Big bells (*kaunglaung*) are sold by weight and are of three qualites. The best are made of copper and lead, the medium are made out of old trays and old pieces of brass bought in the town with a small admixture of copper and lead to improve the appearance and sound, while the third quality are made of odds and ends of brass bought up in the town without the addition of any copper, though lead is added.

A 10 viss bell realised :—

	1914.			1921.		
	Rs.	A.	P.	Rs.	A.	P.
Inferior quality ...	22	8	0	35	0	0
Medium quality ...	35	0	0	40	0	0
Best quality ...	40	0	0	50	0	0

Small bells sell by the 100 and are all of the same quality. They realized per 100 Rs. 22-8-0 in 1914 and Rs. 20 in 1921. The demand has fallen off since the war begun. The making of flat gongs (*kyesi*) is paid for by weight. Each workman is given 5 viss of alloy and does all the required operations to produce *kyesi* large or small, round or triangular, as may be required. For turning out *kyesi* from that 5 viss of alloy the man is paid Rs. 1-4-0 ; the rate has not changed since the war begun. He works up the 5 viss in about a day.

Kyesi, round or triangular, large or small, used to be sold before the war at Rs. 2-8-0 per viss, and now are sold at Rs. 4 per viss.

The practice with round cattle bells (*chyu*) is different. The maker engages a man to make moulds, cores, and wax medium, all complete, for Rs. 3-8-0 per 100 *chyu* 3 inches or

4 inches or 5 inches in circumference which take him about four days. For *chyu* 6 inches in circumference the maker pays Rs. 4, as it takes the sculptor about eight days to make the 100 moulds. The firing and the founding is done by the maker himself, who is the owner of the house where the work is done. Then he engages a man to do the finishing at one anna a *chyu* 3, 4 or 5 inches in circumference of which he finishes 10 a day. For finishing 6 inch *chyu* of which the workman finishes 8 a day, the maker pays 1½ annas a *chyu*.

Chyu are now sold at Rs. 5-8-0 for 10 of 3 inch circumference, Rs. 7-8-0 for 10 of 4 inch circumference, Rs. 9 for 10 of 5 inch circumference and Rs. 12-8-0 for 10 of 6 inch circumference.

Gongs of the well known hollow type are made differently. First a round flat disc of the required size and thickness is cast in a wooden mould. The disc is then brought to a red heat and beaten out into the required shape with a heavy hammer. Each forge is occupied by three men including the master. The most popular size of gong, of which the largest number is made, takes 12½ ticals of metal. Numbers of these are sold at pagoda festivals. It is about 10 inches in diameter and the three men can make 20 of them in a day. The deep toned gong about 20 inches in diameter requires more than three men to make, and takes a deal of time and labour. One gong, about 22 inches in diameter, one of a number ordered by the King of Siam, of which I watched the making for some time, was being hammered by three men, each of whom struck one blow in turn, while a fourth held and slightly turned at each blow the red hot mass with a long pair of pincers, and a fifth worked the bellows. The heat of the red hot gong is so intense, and they have to go so near it when hammering that the men have to run water over their shins and knees every time the gong is about to be lifted off the fire to save themselves from being scorched. Only nine blows were struck, one by each man in turn three times round the group, when the gong was considered to have cooled too much, and was put back into the furnace again. In a minute or two it was again red hot and again brought down to be hammered. Progress seemed to be extremely slow, only a slight impression being made on some 8 inches or so of the surface at each hammering. When the work is nearing completion the gong is not brought to a red heat, but is hammered nearly cold, and is hung up and struck from time to time to test its sound. When it gives out a good tone the hammering ceases, and the gong is complete. No finishing is needed.

In the gong industry the master worker is never the owner of the business. In all cases the owner provides material and wages and any other expenses there may be. The master and two workmen hammer, lift, blow bellows, and so forth in turn. They turn out 20 small gongs a day between them, but divide up the wages they receive on the completion of 60 gongs for which they received Rs. 7-8-0 in 1914, and now receive Rs. 10. Of this sum the master no doubt gets a somewhat larger share than the workmen although they say that they share alike. Larger gongs are only made to order for special occasions, like exhibitions, and for them special rates are paid.

Small gongs weighing 12½ ticals used to be sold for 10 annas each, and are now sold for one rupee. Large gongs have increased in price too, but there are no regular rates.

GOLD LEAF INDUSTRY.

This is a very old Burmese industry. Its centres are Hemamala or Myetpayat quarter and Kemmendine, Rangoon. During the days of the Burmese kings it was a source of great income, Myetpayat alone contributing over Rs. 80,000 annually to the royal treasury, by a tax of Rs. 7-8-0 on each "packet" of gold leaf. In return for this the king had the whole quarter fenced off by a wooden palisade from other less fortunate quarters. The price of gold has risen a good deal during the last twenty years. While it used to cost Rs. 27 to Rs. 30 per tical twenty years ago, and Rs. 30 to Rs. 35 ten years ago, it costs from Rs. 35 to Rs. 50 per tical in 1921. The highest price paid per tical in that year was Rs. 49-8-0. The rise in price seems to have stopped now. A packet of beaten out gold leaf takes ·75 tical of gold. But as it is impossible to beat out properly so small a quantity, the least that a saya or Tazathè requires to start with is one and a half ticals. This the Tazathè hands over to the stretcher (ရွှေဆန့်သမား) who melts the gold and makes a little stick a quarter of an inch wide one-tenth of an inch thick and 6 inches long. This is heated and put into a stretching machine and the process repeated, until it becomes about 4½ feet long. It is then beaten and stretched by hand until its length is 12 feet and its width 60 inches. After this is done the Tazathè cuts it into small pieces and places 400 of them between 400 sheets of 3" × 3" paper called ဆရာဖွဲ့, a strip of gold and a piece of paper alternately, and hands the packet over to the beater. This packet the latter places in two wrappers of deer-skin, one skin wrapping the packet at right angles to the other so that the two cover the packet of gold and paper completely, with two thicknesses of deer-skin on the flat sides where the blows of the hammer will fall and one thickness over the edges. The packet thus protected and wrapped he beats with a hammer weighing 2½ viss for about half an hour when the pieces of gold spread to six times their former superficial area. These are cut into six small bits and placed in a set of paper (1,200 sheets) called (ဆယ်ဖွဲ့). Before this is hammered again about ten more sheets of paper (ဆန့်ဝတ်ရွေး) are placed on each side of the packet and it is replaced in the deer-skin wrappings. It is then hammered for two hours. After this the gold leaves are placed in a set of 900 sheets of 6" × 6" paper two or two and a half gold leaves each on every leaf of paper according to the size of the gold leaves. About 30 sheets of paper (ဆန့်ဝတ်ရွေး) are placed on the

top and bottom and a deer-skin wrapped round the packet. The whole is then covered with two deer-skin wrappers as before, but these wrappers are larger than the earlier ones.

This set is hammered by a new pair of men for about three hours. After this the gold leaves are cut and placed between sheets of a kind of paper called (ထားဝတ်သို့) thus one sheet (ထားဝတ်သား) one gold leaf and then one sheet (ရွှေထောင်ဝတ်သို့) and put away. When they are to be sold the gold leaves are put on (ရွှေထောင်ဝတ်သို့) cut in the size required. This is done by women called "preparers" engaged by the Master in a place fitted with glass windows to prevent the gold leaves from being blown away.

The prices of the various articles used in this industry have risen, as also have the wages of stretchers, beaters, preparers, etc. One set (900 sheets) of 6" × 6" paper costing Rs. 25 ten years ago now costs from Rs. 100 to Rs. 200. Stretching charges ten years ago were Rs. 1-8-0 per ten ticals. Now they have risen to Rs. 3. For hammering ten packets of (ထမန်း) a man then getting Rs. 3 now gets Rs. 5. A gold beater getting Rs. 9 for ten packets of 6" × 6" paper now gets Rs. 15 for the same number. In 1911 a girl or woman had to prepare (ရွှေဖြစ်သည်) 24 sets or *saings* of 2 inch square gold leaves or 16 *saings* of 3 inch square for one rupee. Now she will only prepare half the number for the same amount. The first beating or ဆရာတစ်သည် is as before done free of charge.

The following comparisons in costs of production, wages, etc., are worthy of note:—

For ten packets of Gold.

1911.					1921.			
	Rs.	A.	P.		Rs.	A.	P.	
Gold, 7½ ticals at Rs. 32-8-0	243	12	0	At 42 0 0	315	0	0	
Stretching, at Rs. 1-8-0 per ten ticals	1	2	0	„ 3 0 0	2	4	0	
Preparing for second beating ထမ်းထင်း, at annas 2 per packet	1	4	0	„ 0 4 0	2	8	0	
Second beating, ထမ်းခတ်း at annas 4 per packet ...	2	8	0	„ 0 8 0	5	0	0	
Chalking, 6" × 6" paper ခြမ်းနီတို့, at anna 1 per packet	0	10	0	„ 0 2 0	1	4	0	
Putting gold on 6" × 6" paper ရွှေထင်း, at annas 4 per packet	2	8	0	„ 0 8 0	5	0	0	
Third beating, ရွှေဝတ်း, at rupee 1 per packet ..	10	0	0	„ 1 8 0	15	0	0	
Divide gold leaves in halves, ရွှေထို့, at annas 4 per packet	2	8	0	„ 0 8 0	5	0	0	
Putting gold leaves on ရွှေထောင်း paper, at anna 1 per saing [or "book" of 99 leaves. There are 9 such "books" in each packet ရွှေထုတ်း or 90 in 7½ ticals (10 packets)].	5	10	0	„ 0 2 0	11	4	0	
				ထန်းပြား paper 500 sheets.	1	8	0	
				Shwelaung paper, 200 sheets.	2	8	0	
Formerly these charges were not included in calculations by Tazathès. About ·625 ticals of gold dust is usually obtained from the place where the gold is being beaten and the value of this just about covered the cost of these 4 items.				Cutting about at annas 8 per 100 sheets.	1	0	0	
				Miscellaneous expenses at Rs. 5 per packet.	50	0	0	
Total ...	269	14	0		417	4	0	

One set of 900 sheets of 6" × 6" paper ရွှေဝတ်ဝတ်သို့ costing from Rs. 100 to Rs. 200 only lasts for about 50 to 70 beatings. This is included in the miscellaneous expenses.

The amount of gold leaf in a "packet" ရွှေထုတ်း is ·75 of a tical. By beating out ·75 of a tical 9 "*saings*" of 99 leaves of gold 3 inches square are obtained as a rule. But whatever the number of gold leaves obtained from beating out ·75 of a tical (the results vary from about 8 to about 10 "*saings*"), that amount is called a "packet" or ရွှေထုတ်း. The price at which gold leaf is retailed to the public was Rs. 42-8-0 per ten saings before the war; it is now Rs. 50 per ten saings, so that a Tazathe's (master's) profits then were approximately Rs. 100 on 90 saings or about Rs. 50 more than he is getting now, thus.

1911.					1921.			
	Rs.	A.	P.		Rs.	A.	P.	
Ninety saings at Rs. 42-8-0 per ten ...	382	8	0	At 50 0 0 p. ten	450	0	0	
Cost of production	269	14	0	„ ... „	417	4	0	
Profit ...	112	10	0		32	12	0	
				Add value of ·625 gold dust.	26	4	0	
				Total ...	59	0	0	

There are *sayas* in the gold beating branch of the industry. The "saya" supplies the deer-skin wrappings, hammers, and other accessories and superintends the beatings. The wages earned are divided equally between him and his pupils. In addition to this he deducts about one anna in the rupee for the use of his properties. The wages, with the exception of the cutting of Shwelaung paper which remains the same, and beating of 6" × 6" paper which has risen by 50 per cent., have risen by 100 per cent. in every other branch of this industry during the last ten years. In spite of these rises the people are not as well off as they were before. The causes to which this may be attributed are (1) rise in cost of living; (2) general slump in trade with consequent lack of work for men and women. About 50 per cent. of the wage-earners are in debt. Owing to the general slackness in trade most of the Tazathes were unable to give work to the various people connected with this industry for the last five months of 1921. Things are now looking up again. At present there is no combination among the people engaged in this industry and there are no unions or guilds. Among the gold beaters however there is a certain amount of co-operation. A couple of years ago a Tazathe took proceedings against a gold beater for not producing enough gold leaves and he lost the case. The outcome of this was that the gold beaters called together a meeting and issued notices to Tazathes to the effect that they cannot be held responsible for failing to produce a given quantity of gold leaf from the gold beaten.

14. Eventurine Manufacture.

Beads, etc., of eventurine are made almost entirely of ordinary broken glass. The glass is chipped into small pieces and is placed in an oven in open crucibles made of small broken pieces of earthenware. It is heated for about thirty minutes and then stretched into small sticks about ¼ the diameter of an ordinary lead pencil. These sticks are broken up again to make buttons, beads, or the like, and are placed as before in the oven together with other pieces of chipped glass of various colours according to the colour and design that is finally wanted. Sometimes small chips of mahuya (chalcedony) are added for colour effect. The whole is heated until the chips in each crucible coalesce. Each mass is then moulded into the required shape, being taken out of the oven for a few seconds to be moulded and put back till it softens again, and so on. When it has assumed its final shape, it is taken out and allowed to cool. The beads, or whatever they are, are then polished like precious stones on a polishing wheel.

At present only medallions, beads, buttons, small crosses, and small chunam (lime) boxes, are made. The medallions are mounted in gold rims to hang as a charm on a watch chain, or on a chain round a child's neck; so are the small crosses. The beads have a hole drilled through them (with a diamond drill) after they are cold and hard, and are threaded to form necklaces. Some have facets cut on them on the polishing stone, while others are polished as spheres; in fact they can be cut into any shape just as a precious stone can. The buttons have a small gold loop attached to them by means of a curved hole drilled through. With this loop they are fastened to the garment later on by an ordinary catch.

By using moulds other articles such as powder boxes, ink stands and the like could be made.

15. Shoe Making.

There are four main kinds of Burmese footwear.

(1) The "*peindan*," so called because they were made only in the Peindan quarter of Mandalay in Burmese times. They are made of a raw hide sole covered with velvet, with straps for the toes of good coarse canvas covered with velvet. Strips of palm leaf are often stitched between the raw hide sole and the velvet cover to soften the tread. *Peindan* sandals for the royalty were often made in bygone days of a foundation of palm leaves stitched together (no raw hide sole) to form a sole about ½ of an inch thick, covered all over (below as well as above) with velvet. These gave a still softer tread.

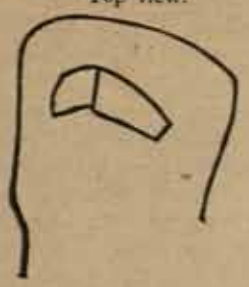
Velvet-covered Straps.

The price of velvet before the war was Rs. 12 for five yards and a pair of *peindan* sandals could be made for Rs. 1 to Rs. 1-8-0 and sold for Rs. 1-2-0 to Rs. 2, according to size and quality. During the last four or five years the price of velvet has risen to Rs. 19 to Rs. 25 for five yards according to quality. So a pair of *peindan* sandals have lately cost Rs. 1-8-0 to Rs. 1-12-0 to make and have been sold at Rs. 2 to Rs. 2-4-0. A workman can make five pairs of peindan sandals a day and earn Rs. 1-12-0, or if the demand is brisk may sometimes finish six of them in a day and earn Rs. 2. He makes other kinds of shoes and sandals also in their seasons and earns about the same when making those other kinds.

Now-a-days the covering is often made of serge, and the cost is about the same as when velvet is used. Since the national movement commenced and the coarse reddish yellow homespun cotton cloth known as '*pinni*' became a symbol of nationalism '*pinni*' has often been used instead of velvet as a covering for *peindan* sandals. These cost less to make and are sold at cheaper rates.

(ii) "*Bombaing-ye*" (literally "Bombay leather") sandals are made of Indian tanned leather, with a velvet or serge cover only on the outer side of the leather toe straps. They are usually somewhat broader than "*peindan*." Before the war leather was cheap and a pair could be sold for Rs. 1-8-0 or less. The present cost of leather and velvet has raised the price of these to not less than Rs. 2. The *bombaing-ye* sandal can be used at any time of year.

Top view.

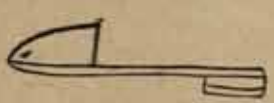


Toe straps.

Top view of Shedo Slipper.

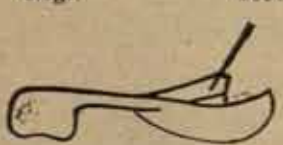
(iii) The "*Shedo*" ('thrust forward') slipper is made of a tanned leather sole with a velvet toe cap. Different kinds are sold at different rates varying from Rs. 1-12-0 to Rs. 2-8-0 a pair. A man can finish about three pairs a day, earning eight annas per pair, while a woman can finish five pairs in two days.

'Shedo' side view.



(iv) Wooden clogs (*khon phanat*), are used only in the rains. There are many kinds but prices do not differ much, except that those of which the toe straps are covered with velvet cost more.

Clogs. Toe strap.



English pattern boots and shoes were unknown in Burma before the advent of Europeans, but are now frequently used in large up-to-date towns by men (not by women).

16. Goldsmiths and Silversmiths.

Most people like to adorn themselves with jewellery and in every town there is at least one goldsmith. Many villages have one. Some goldsmiths (and silversmiths) tour round from village to village. The industry is not seasonal or subsidiary, but takes a man's whole time. The instruments are mostly obtained from Europe. The workshop is usually the ground-floor of the goldsmith's residence. Scraps and particles of gold fall on the ground which is sold at the end of a year to a gold dredger or collector who pays, according to the amount of work done in the year, a price rising to Rs. 200 or at times to even Rs. 500. The Master Goldsmith usually employs assistants whose wages vary considerably according to their skill. The average is about Rs. 2 a day of 11 hours from 6 a.m. to 5 p.m. Wages are only paid for finished articles. The master supplies materials, instruments and other requisites and takes a commission from his assistants. When the demand is brisk the more assistants he has the larger his turnover and profits. The master himself works also. The price of the gold strewn ground is his alone. Apprentices often earn nothing but their board. They take about a year to learn, by which time they acquire moderate skill and can earn about a rupee a day.

Burmese goldsmiths seldom keep ready-made jewellery in stock, but make articles to order, for which the charges vary according to the workmanship. The charges for gold rings vary from one rupee for making a plain one to Rs. 30 for one set with diamonds or other precious stones. A pair of plain gold bangles may cost from Rs. 5 to Rs. 20 to make according to size and complexity of design. A pair of bangles set with diamonds or other precious stones may cost from Rs. 30 to Rs. 125 to make. Modern European designs are now often imitated. The wages for making gold chains, necklaces or watch chains range from Rs. 7 to Rs. 100 according to size, design, and number of precious stones.

The number and importance of silversmiths grew with the spread of civilisation and the growth of the desire to possess ornaments, cups and vessels of silver. Their earnings varied with their skill. The making of a set of silver cups or bowls weighing from 10 to 30 ticals cost from eight annas a tical for a simple design to one rupee for an elaborate design. Similar rates were earned for various designs of trays and other articles. Few silversmiths keep articles in stock, but make to order. Most of the above description of the work and earnings of goldsmiths applies to silversmiths. But with the increasing use of gold ornaments, instead of silver anklets and ornaments, and the growing use of European bowls, instead of silver bowls, the number of silversmiths has declined. Goldsmiths sometimes work in silver also but silversmiths cannot work in gold. Silver work is rougher and gold work is too delicate for silversmiths to do successfully.

S.B.C.P.O.—No. 1, Supdt. of Census, 2-7-1923—1,456.

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