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ANNUAL REPORT

OF THE

SANITARY COMMISSIONER WITH THE GOVERNMENT OF INDIA,

1898,

WITH

APPENDICES AND RETURNS OF SICKNESS AND MORTALITY AMONG EUROPEAN TROOPS, NATIVE TROOPS, AND PRISONERS, IN INDIA, FOR THE YEAR.

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ROYAL COLLEGE OF SURGEONS OF ENGLAND
1 OCT

Map of
INDIA
TO ILLUSTRATE
THE ANNUAL REPORT OF THE SANITARY COMMISSIONER
WITH THE GOVERNMENT OF INDIA,
showing
MORTALITY FROM CHOLERA DURING THE
YEAR 1893.
BAY
OF
BENGAL
REFERENCES.
Define Groups
,, Sub-Groups
Civil Provinces
,, Districts
Main Roads
Railways
NOTE.
Group XII = Hill Stations throughout India.
,, Extra-India = Aden, Persian Gulf, &c.
Indicates areas not under registration or places for which no information is given.
Indicates a death-rate from Cholera of less than 1 per 1,000.
Do. do. 1 to 1 per 1,000
Do. do. 1 to 3 per 1,000
Do. do. 3 per 1,000 and above.

ANNUAL SANITARY REPORT FOR 1898.

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SECTION I.

METEOROLOGY OF THE YEAR.

1. The following report on the meteorology of India during the year has been kindly furnished by the Meteorological Department of the Government of India :—

Summary of the meteorological phenomena of the year, month by month.

January.—The month of January 1898, like the corresponding month in 1897, was finer and less disturbed than usual in Northern India. The rainfall of the month was in general defect. In consequence the mean temperature of the month was in moderate to large excess in North-West India, where both the day and night temperatures were above the average. On the other hand the mean temperature was generally below the normal over Bengal and the Peninsula, the deficiency over the latter region being largely due to the lowness of the night temperatures. A well-marked cold wave crossed Northern India between the 4th and 8th, and a second but more feeble and faintly marked wave between the 24th and 28th.

The mean pressure of the whole Indian land area for January was 0·017″ above the normal. The area of greatest excess of pressure included Berar, the western states of Central India, and the western districts of the Central Provinces. The pressure was, relatively to the normal, higher at the hill than at the plains stations.

The air was drier than usual over the whole of India, with the exception of the small areas represented by the stations of Akyab, Narayanganj and Madras. The area of most diminished moisture agreed closely with the area of greatest excess of pressure over the central parts of the country. Over Burma and the Bay Islands also the air was drier than usual. There was less cloud than usual over the whole of India and Burma.

There were three storms or periods of disturbance and rainfall over India during the month. The first lasted from the 3rd to the 5th, the second from the 14th to the 16th and the third from the 24th to the 28th. The first storm gave light rain to the North and East Punjab and Kashmir. The second period of rainfall was due to an intensification of the north-east monsoon winds, and the rainfall accompanying this change occurred over the southern districts of Madras. The third storm passed across Northern India from west to east between the 24th and 28th, when moderate to light rain was received over Kashmir, the Punjab, the North-Western Provinces, Bengal, Assam and Upper Burma. Practically no rain fell during the month over the greater part of India, and the rainfall was more or less in defect over the whole of India except East and South Bengal, South Madras and Lower and Central Burma.

February.—The rainfall of the month of February was largely above the normal over the greater part of India, while on the contrary there was practically no rain over Burma. The mean temperature exceeded the normal over Northern India (except the North-Western Provinces), Burma and the South of the Peninsula, and was below the normal over the central parts of India and the north of the Peninsula. The excess ranged between 2° and 3° in Sind and West Punjab, and the deficiency between 2° and 3° over the Deccan. The variations of the mean temperature were generally small, as the day and night temperatures at the majority of stations departed in opposite directions from the normal, but in the Indus Valley both the day and night temperatures were above the average, while over the Peninsula (except the south) both the day and night temperatures were below the normal. A cold wave set in about the 20th and lasted till the 24th, when temperature rose.

The mean pressure of the month was as much as 0·077″ below the normal.

The air was drier than usual over the Bay Islands, Lower Burma, the greater part of Bengal, the west and south of the Peninsula, the central parts of India, the Deccan and Lower Sind, and was damper than usual over the remainder of India. The excess was most marked over West Bengal and the Gangetic Plain. At the hill stations also the air was damper than usual. Cloud was generally below the average over North-West India and above elsewhere. Central Madras, Mysore and Coorg had much more cloud than the average.

The rainfall of the month occurred during the passage of depressions across Northern India. These depressions originated almost without exception in India and did not enter India from Persia. As a consequence Baluchistan had very light rain, while Burma, which was beyond the reach of the storms, had practically no rain. The chief periods of rainfall were the 1st when the Punjab and Kashmir had light rain, the 5th to the 7th when Northern India received general moderate rain, and the 9th to the 18th when under the influence of a series of three depressions nearly the whole of India received general rain. The rainfall of the month was in excess over nearly the whole of India. The excess was slight to moderate in Madras and the Deccan, moderate in Bihar and Chota Nagpur, and large in the Central Provinces, Central India, Rajputana, the North-Western Provinces and the Punjab, averaging about four times the normal fall over the whole of that large area.

March.—The weather was finer and quieter than usual during this month, except in Baluchistan and the North Punjab. The mean temperature of the month was normal or in slight excess in Assam, Upper Burma, the Konkan, the West Deccan, Berar, Khandesh, the greater part of the Central Provinces and of Central India and East Rajputana, but was below the normal over the remainder of India and over Baluchistan. A cold wave of unusual severity crossed Northern India and Burma from west to east between the 2nd and the 6th, and the minimum or night temperatures of the month were below the normal over the whole of India except the Punjab and the West of the Peninsula. The lowest minima were recorded on the 3rd, 4th and 5th. The day temperatures were above the normal except in Sind, the Punjab, the North-Western Provinces, Bihar and Lower Burma, but the excess was generally small. The heat was considerably greater than usual at the hill stations in the Western Himalayas.

The mean pressure of the Indian land area was 0·013″ below the normal. The deficiency was greatest in South-East Bengal, Arakan, Lower Burma, Tenasserim and the Andamans. The pressure was in slight excess at the majority of the hill stations.

The air was much drier than usual over the greater part of the country, the deficiency in the amount of vapour having been pronounced in four areas, *viz.*, Cachar and the central and south divisions of Bengal, the hill districts of Upper India, Rajputana, the South-West Punjab and Sind, and the Deccan and Mysore. Periods of intense dryness occurred at different times during the month. The air was, however, somewhat damper than usual over the North Punjab and Kashmir. The mean amount of cloud was in slight excess in Baluchistan, Upper Sind and the West Punjab, but was below the normal over the whole of the remainder of India.

The rainfall of the month was less than usual almost everywhere, and was actually or practically *nil* in North Bombay, the Punjab (except the most northern districts), the North-Western Provinces, the greater part of Bengal, Burma, the Central Provinces, Berar, Rajputana, Central India, the Konkan, Mysore, Hyderabad and Madras (except the south division, Malabar and Travancore). Baluchistan received more rain than the average, due to a series of depressions which advanced from Persia into Baluchistan. March was an unusually dry month in Assam, and the total rainfall in the Surma Valley was only ⅛ of the normal.

April.—April 1898 was unusually dry over the Indian area, but relatively to the normal the rainfall was slightly less, generally in defect, than during the preceding month. Nevertheless temperature was more or less above the normal over nearly the whole of India. The day temperatures were generally above the normal, except in the South Deccan and in the coast districts from Saugar Island to Negapatam. The excess was large over North-West and Central India and over Upper Burma and Cachar, and the maxima recorded over Berar, the west of the Central Provinces and West Bengal were in some cases higher than any yet recorded. Abnormally high temperatures were registered in the Punjab between the 12th and 15th. The mean minimum temperature of the month was above the normal over nearly the whole of India both on the hills and plains. A faint cool wave crossed the country between the 7th and 9th, but the reduction of temperature was not remarkable.

The mean pressure of the Indian area was 0·017″ below the normal, probably a direct result of the high temperature of the month.

The air was remarkably dry in Cachar and very dry over Upper Burma, a large part of Bengal, and the whole of North-Western and Central India and the North Deccan. The humidity was about normal in Orissa and Bihar and somewhat higher than usual in Chota Nagpur, the Deccan and the Coromandel and Circars coasts. The cloud amount was in excess over part of the Peninsula, but was in defect elsewhere. The skies were clearest of cloud over the North-Western Provinces and Oudh.

The rainfall of the month was above the normal over the south and west of the Peninsula, but elsewhere the weather was unusually dry, and the rainfall was more or less below the normal over the whole of extra-Tropical India. The deficiency was very large in Assam, and in Cachar the month's rainfall was only $\frac{1}{5}$th of the average. The chief periods of rainfall during the month were :—the 5th to the 7th, when showers were received in Kashmir, the Punjab Hills and the North Punjab, the 12th and 13th, when thundershowers fell in Bengal, Assam and Burma, the 17th to 19th, when thunderstorms gave moderate to heavy rain to Bengal, Assam, Burma and Southern India, and the 25th to the 28th, when the greater part of the Peninsula obtained frequent showers. Hardly any rain fell in Arakan and practically none over the Punjab plains and the central parts of the country.

May.—The weather during May was generally drier and finer than usual, but a cyclone which passed from the Bay into Arakan between the 4th and 11th gave very unsettled weather to Tenasserim and Lower Burma. The month was consequently characterised by higher temperature than usual over the whole of India, with the exception of Lower and Central Burma, Upper Assam, the west of the North-Western Provinces and of the Punjab and Lower Sind. The excess was large over the western desert, Berar and the west of the Central Provinces, West Bengal and the Surma Valley of Assam. The day temperatures were above the normal except in Upper Assam, Lower and Central Burma, Lower Sind and the greater part of the Punjab, in which regions the day temperature was depressed by frequent showers. The highest maxima of the month were generally recorded in the North-West and between the 1st and the 10th, when readings of between 115° and 123° were registered. At the same time also very high temperatures were recorded at the Madras coast stations. The mean minimum temperature of the month was generally lower than usual over Northern India and higher than usual over the remainder of India. A cool period prevailed from the 12th to the 22nd over a large part of North-West and Central India.

The mean pressure of the Indian area was 0·009″ below the normal.

In consequence of the high temperature prevailing the humidity was low except in Upper Assam, Burma, the Circars and the Indus Valley where, as mentioned above, the temperature was low and there were frequent showers. The sky was more cloudy than usual over the Bay Islands, Lower Burma, and in parts of the Punjab, Rajputana, the Central Provinces, Mysore and the North-West Hill districts. Elsewhere the sky was unusually clear, more especially so in South Madras and parts of Bengal.

There was considerable delay in the establishment of the monsoon, so that with the exception of the heavy rainfall which fell in Burma during the cyclonic storm of the first week of the month, most of the rainfall occurred during dust and thunderstorms. The chief periods of rainfall were the 1st to the 5th, when Southern India obtained light to moderate rain ; the 6th to the 12th, when Burma had heavy and Bengal light to moderate rain from the cyclone ; the 12th to the 20th, when Upper India and Kashmir received thundershowers, and the 25th to the 31st, when Burma, North-East India and Southern India received showers. The returns for the whole month showed that the greater part of Burma obtained more rain than usual, and that the Punjab, North Bombay, Baluchistan, Central India and Eastern Rajputana had somewhat more rain than the usual small normal of the month, but over the remainder of India the rainfall was short. This was especially the case in the Surma division of Assam, where the rainfall relatively to the average was very scanty, and in Malabar, where the setting in of the monsoon was delayed.

June.—The temperature conditions of this month were largely determined by irregularity in the distribution of rainfall caused by the delay in the establishment of the monsoon, the relative weakness of the Bombay current, the unusually rapid advance of both currents towards Upper India, and by the break in the rains, which commenced in the North-West on the 19th, extended over the whole of India by the 25th, and lasted until the 27th. As a consequence of these abnormal conditions of rainfall the mean temperature of the month was in excess except in South and Central Bengal, Orissa, the Circars, Chota Nagpur, Bihar and the greater part of the North-Western Provinces. The excess was large and more than 2° in amount over the Deccan, but was greatest and between 3° and 7° in amount over Sind, Rajputana and the Punjab. The mean maximum temperature was above the normal over the whole of Burma and India with the exception of West and Central Bengal, Chota Nagpur, Bihar, the North-Western Provinces, Kathiawar, the South Deccan and Mysore. The hottest period was between the 1st and 12th, when Jacobabad reported a maximum of 122° and Mooltan of 117°·5. The mean minimum temperatures were also above the normal over Burma and India, with the exception of South-

West and Central Bengal, Orissa, the Circars and the east of the North-Western Provinces. The nights were very hot in Upper India from the 9th to the 13th.

The mean pressure of the Indian area averaged 0·025″ below the normal.

In Upper Assam, West Bengal, Chota Nagpur, the North-Western Provinces, Bundelkhand and Baghelkhand the air was slightly damper than usual. Over the remainder of India the humidity was below the normal, more particularly in the Punjab and the Deccan. There were two very dry periods in North-West India during the month, *viz.*, the 1st to the 8th and the 18th to the 26th. There was a large deficiency of cloud over parts of the Punjab, Rajputana and the North-Western Provinces.

There was some delay in the establishment of the monsoon on the West Coast. Moderate rain fell from the 6th to the 8th and heavy daily rain from the 9th to the 18th. The monsoon current advanced quickly from the West Coast across the Deccan and the central parts of the country to Rajputana and the North-Western Provinces. At the same time an advance of monsoon winds was taking place from the Bay, and a slight cyclonic storm which advanced from the Bay to North Bengal between the 12th and the 20th gave heavy and prolonged rain to Bengal, Chota Nagpur and Bihar between the 16th and 20th. Subsequently a break in the rains set in. It commenced in North-West India on the 19th, extended to nearly all parts of India by the 25th and lasted till the 27th. On the 28th rain recommenced in Northern India and was fairly general by the 30th. The month's rainfall was in defect over Burma, Assam, the Bengal Hills, the central parts of the country, Rajputana, Sind and Madras, about normal in Bengal and the East Punjab, and heavier than usual in the North-Western Provinces, Bombay and Gujarat. On the 17th, 18th and 19th of June falls of between 8 and 17 inches were received in 24 hours in West Bengal, while on the 14th, 15th and 16th heavy downpours were recorded in the Ratnagiri district of Bombay as well as very heavy rain on the summit of the West Ghats.

July.—The rainfall during the month was unevenly distributed, but taking the whole country into account was only slightly below the normal. The variations of the mean temperature conditions of the month were mainly determined by this uneven distribution of rainfall. The mean temperature of the month was below the normal over Upper Burma, the Assam Valley, South Bengal, Orissa, North Madras, the Central Provinces, the North-Western Provinces and the Punjab (except the south-west), and was in excess over the remainder of India. The variations were generally small in amount. The mean maximum temperatures were below the normal over nearly the whole of the Punjab, the North-Western Provinces, the east of the Central Provinces, Orissa, North Madras, Hyderabad, parts of Bengal, Upper Assam and parts of Burma. The variations were considerable over the Punjab, Rajputana and South Madras, and amounted to —5°·3 at Ludhiana, +5°·0 at Sambhar and +4°·6 at Negapatam. High day temperatures were recorded between the 4th and 8th and between the 25th and 27th. The mean minimum or night temperature was below the normal over the Punjab, Upper Assam, South-West Bengal, Orissa, North Madras and the East and Central districts of the Central Provinces, and above the normal over the remainder of India. The variations were largish in Rajputana and South Madras and amounted to +4°·1 at Bikaner and +2°·5 at Salem.

The mean pressure of the whole Indian land area was 0·018″ below the normal.

The variations of the mean humidity conditions of the month were small, but the air was slightly drier than usual in West Bengal, North Bengal, Rajputana and South India. The cloud amount was less than usual over Southern India, but was normal or in slight excess elsewhere.

The monsoon currents were fairly steady during the month, and there were three periods of general heavy rain determined by three storms which were developed during the month. The first period lasted from the 2nd to the 13th, when general rain accompanied or followed a storm which passed from the head of the Bay to Sind. The second period lasted from the 14th to the 24th, and accompanied and followed a storm which appeared over Central Bihar and disappeared over Sind. The third period lasted from the 23rd to the end of the month. A cyclonic storm formed off the North Madras coast on the 23rd and broke up in the Deccan on the 26th, after which monsoon winds extended all over the country giving moderate to heavy rain. The total rainfall of the month exhibited an uneven distribution. There was a deficiency of more than 25 per cent. in Upper Burma, Central Bengal, the west of the North-Western Provinces, the south and central divisions of Madras and Mysore, and an excess of more than 20 per cent. in the east of the North-Western Provinces, North Oudh, the south, central, submontane, north and west

divisions of the Punjab, Khandesh, Sind, Baluchistan, the north of the East Coast and the north of Hyderabad.

August.—During August the Arabian Sea current was weak and the rainfall deficient over the Punjab, Rajputana, North Bombay, Berar and the Peninsula, while on the contrary the Bengal current was of the normal strength and the rainfall of Burma, Bengal, Assam and the North-Western Provinces was heavier than usual. In consequence of this distribution of rainfall the mean temperature of the month was above the normal over the Punjab, Rajputana, North Bombay and the whole of the Peninsula, and below the normal over the remainder of India except Tenasserim, North Bengal and North Bihar, where it was very slightly above the normal. The excess was considerable over the Punjab and Rajputana. The mean maximum temperature of the month was higher than usual over Baluchistan, the Punjab, Upper Sind, Rajputana, Kathiawar, Gujarat and the Peninsula south of Lat. 18°N. The variation amounted to +7°·3 at Rawalpindi, +5°·6 at Sambhar and +4°·6 at Cuddapah. The mean maximum temperatures were below the normal over the remainder of India. The mean minimum temperatures of the month were slightly below the normal over Sind, the Central Provinces, Berar, Orissa, South Bihar, Bundelkhand and the east of the North-Western Provinces, and were generally above the normal elsewhere. Very excessive night temperatures were reported over parts of the Punjab during the month.

The mean pressure of the whole Indian land area was below the normal.

The air was damper than usual over the Bay Islands, Burma, Bengal, Assam, Orissa, Chota Nagpur and the Gangetic Plain, but was drier elsewhere, most so in South India. The sky was generally more cloudy than usual except in the extreme north-west of India, where the cloud amount was low.

The Bengal current was of about the normal strength, and the rainfall brought up by it generally heavier than usual, while on the contrary the Bombay current was weak and its rainfall considerably below the normal. The Bay current was diverted more than usual to the north-east and east, and the Bombay current more directly across the Peninsula, so that Upper India had little or no rain. The most general rain fell between the 1st and 12th, when Bengal, Bihar, the North-Western Provinces and the central parts of India received moderate to heavy rain and the West Coast, the Deccan and Berar light to moderate rain; between the 13th to the 17th, when North-East India and the Central Provinces received moderate to heavy rain, and between the 21st to the 31st, when a series of three cyclonic storms gave rain to Burma, North-East India, the North-Western Provinces, the central parts of the country and the south-east of the Punjab. The total rainfall at the close of the month exhibited an excess over the greater part of Burma, Assam and Bengal, the whole of the North-Western Provinces and Oudh, the hill division of the Punjab, the Central Provinces and the Eastern portion of Central India, and a deficiency over the remainder of India.

September.—In September there occurred excessive rainfall in Bihar, general and favourable rain in the Deccan and Southern India, and scanty rain in North-Western and Central India. As a result of this distribution of rainfall the mean temperature of the month was below the normal over Bihar and above over Rajputana and the South Punjab, but elsewhere the variations from the normal were small. The mean maximum temperature of the month was generally below the normal over Upper Burma, Assam, Bengal, Bihar, the North-Western Provinces, the North Punjab and the southern half of the Peninsula, and was above the normal over the remainder of India. The mean minimum or night temperature of the month differed, as is usual during the rains, little from the normal. It was slightly above the average except in the submontane districts of Northern India, in Upper Burma, in North Bombay and in part of Madras. A very cool period was shown over West Bengal between the 14th and 18th, but the deficiency was greatest in the day temperatures.

The mean pressure of the whole Indian land area was practically normal.

The air was damper than usual, except in the Andamans, Lower Burma, Orissa, South-West Bengal, Berar, the Central Deccan and Central Rajputana. The excess of humidity was greatest in Bihar and the East of the North-Western Provinces and in Mysore and part of Madras. The amount of cloud was in slight excess particularly in Mysore and Malabar.

The Bombay monsoon current was weak during September, and its rainfall generally light; while on the contrary the Bay current was of about normal strength and its rainfall normal or in excess. The Bombay current gave rain to the West Coast districts, the Deccan and Southern India from the 1st to the 9th, to the West Coast districts, the Deccan

and North-Western and Central India from the 10th to 16th, and to the west and south of the Peninsula from the 19th to the end of the month. The Bay current gave rain to Bengal and the Gangetic Plain from the 3rd to the 10th, to Burma, Assam, Bengal and the east of the North-Western Provinces from the 11th to the 17th, and to Burma, Bengal and the North-Western Provinces from the 19th to the 23rd. The total rainfall was in defect over the Bengal Hills, the greater part of the Punjab, the central districts of India and North Bombay, normal in Assam and in excess elsewhere. Excessive rain fell in Bihar between the 4th and 10th, and in Bihar and West and North Bengal on the 15th and 16th and again on the 18th and 19th.

October.—The rainfall of the month was mainly directed to Burma and the east and south of the Peninsula, but the temperature changes during the month were only in part determined by the distribution of rainfall. The mean temperature of the month was in slight defect over the greater part of the Central Provinces, North-East India and Upper Burma and locally at Madras and Madura, and in excess over the remainder of India. The excess was greatest and exceeded 2° over part of Rajputana and North Bombay and over part of the west and centre of the Peninsula. The mean maximum temperature of the month was above the normal except over Upper Burma and part of North-East India and over South Madras, where it was in slight defect. The day temperatures were very low over Bengal and Assam between the 11th and 16th, and in Madras between the 23rd and 29th. The mean minimum temperature of the month was above the normal over the Peninsula and below over Northern and Central India. A cool wave crossed Northern India between the 1st and the 6th and between the 23rd and the 30th.

The mean pressure of the whole country was 0·006″ below the normal.

The air was damper than usual over Southern India and also over parts of Burma and of North-East India, but was drier than usual over the remainder of India. The mean humidity was largely below the normal in the South-West Punjab, Rajputana, Berar and the Bombay Deccan. The Burma Coast, the Bay Islands and South India had more and the remainder of India less cloud than usual.

The rainfall of October occurred chiefly during the three periods. During the first, which lasted from the 1st to the 8th, Madras, Mysore, Malabar and the Deccan received light to moderate rain, during the second which ran from the 10th to the 16th, cyclonic rainfall occurred over North Madras, Orissa, Bihar, Bengal and Assam, and during the third which lasted from the 22nd to the 31st, Southern India obtained moderate to heavy rain. The total rainfall was heavier than usual over Lower Bengal, the Bengal Hills, Assam and the South of the Peninsula, but was scanty elsewhere, and over the Punjab, part of the North-Western Provinces, North Bombay, Rajputana and Central India the rainfall was actually or practically *nil.*

November.—The rainfall was mainly confined to the Peninsula, where it was heavy, but showers also occurred over Assam, North Bengal and the North-Western Provinces. Elsewhere the weather was dry and the mean temperature of the month was in excess, except over Burma, where it was normal, and Assam, South Bengal and part of Southern India, where the mean was below the normal to a slight extent. The excess was large over Cutch, Kathiawar, Gujarat, Central India, Rajputana, the west of the Central Provinces and Berar. The mean maximum temperature was below the normal in Southern India and the North Madras coast districts and above elsewhere, largely so in the districts quoted above. Exceptionally high day temperatures were recorded over Burma, the Central districts of India, North Bombay and Rajputana during the first week. The mean night temperatures of the month were low over Burma, Assam, South Bengal, Orissa and the West Punjab, and in excess over the remainder of India. The area of greatest excess of night temperature practically coincided with the area of greatest excess of day temperature.

The mean pressure of the Indian land area during the month averaged 0·026″ below the normal.

The air was slightly damper than usual over the east and south of the Peninsula, and drier than usual over the remainder of India. The cloud amount was normal over the Deccan, in excess over the West Coast and South India, and in defect elsewhere.

Between the 1st and the 15th moderate to heavy rain due to a cyclonic storm was received over the Peninsula to the south of Lat. 20° N., and from the 26th to the 30th moderate rain fell over South India. With the exception of showers in Assam, North Bengal and the North-Western Provinces the above was the total rainfall of India. The total rainfall of the month was in slight excess over the North-Western Provinces and in slight to large excess over the east and south of the Peninsula. Elsewhere it was scanty, and over the greater part of Bengal, of the Punjab and of the central parts of the country

no rain whatever was received. The rainfall was exceedingly heavy in parts of Madras between the 6th and the 8th.

December.—There were marked contrasts in the weather during December, for while Burma and North-Eastern India had finer weather than usual, North-West India and South Madras had slightly to considerably more rain than the average. As a consequence the temperature conditions of December differed from the normal to a large extent. The mean temperature of the month was more than 2° in excess over Upper Burma, the whole of West Bengal, Central India, the Central Provinces, the Konkan, Khandesh, Berar and the greater part of the Deccan, and was more than 4° in excess at several stations in the central parts of the country and in the Deccan. On the other hand, the mean temperature was in slight defect in Sind, West Rajputana, the greater part of the Punjab, as well as in East Bengal, Arakan and Tenasserim, and in considerable defect in Baluchistan and at the hill stations. The mean maximum or day temperature of the month was above the normal over the whole of India except Baluchistan and North-West India. The deficiency was large at the hill stations, while the excess was large over Central Burma and the central parts of India. The heat was very great relatively to the normal over Berar and the Central Provinces from the 10th to the 16th. The mean minimum or night temperature of the month was in slight defect in Sind, the South Punjab, East Bengal, Arakan and Tenasserim, and in moderate defect at the north of India hill stations, and was above the normal over the remainder of the country. The greatest excess was over Upper Burma and Upper Assam and over the central districts of India. Between the 10th and 16th (at which time the day temperatures were also excessive) the nights over the central parts of the country were excessively warm, the variations of the night temperatures ranging between 10°·5 and 17°·5.

The mean pressure of the Indian land area was 0·028″ below the normal on the mean of the month.

There was more vapour than usual in the air over the greater part of the country, except over Burma, Assam and the extreme north-west of India, but the temperature being high, the mean relative humidity was generally low. The cloud amount was more or less in excess over North-West India and the Peninsula, and in defect in Burma, North-East India and the Gangetic Plain.

Except over Tenasserim, Lower and Central Burma, North Bihar, Berar and part of the east of the Peninsula rain was received in all parts of India during the month. The total fall was however less than usual over Burma, Assam, Bengal, the east of the Gangetic Plain, the west of the Peninsula and the central parts of India and the north-east of the Peninsula, and more than usual over the remainder of India. The excess was large over the south of the East Coast and on the hills of North-West India. The chief periods of rain were the 1st to 3rd, when moderate to heavy rain fell over Southern India; the 7th to 9th, when showers were received in Kashmir, Gujarat, Rajputana and Central India; the 11th to 13th, when showers again fell in Kashmir, the North-West Himalayas and the North-Western Provinces, the 26th and 27th when light rain fell on the Upper India plains and hills and Baluchistan, and the 29th to 31st when rain fell both in South India and North-West India and heavy snow on the North-West Himalayas.

Year.—The weather was quieter and more settled than usual throughout the whole year, and in most months was drier than the average. In the cold weather period, which includes the months of January and February, there were fewer storms than usual, more especially in the former month. In consequence there were fewer well-marked warm and cold waves in Northern India than is customary, but between the 3rd and 7th of January and the 17th and 23rd of February fairly well defined waves passed across during which the range of temperature variation varied between 10° and 25°. During the cold period the day temperatures were generally high in January and low in February, but in Baluchistan, Sind and the West Punjab the excess was steady throughout both months. The night temperatures were in defect over the greater part of India in January and in the Deccan and Madras in February. The lowest night temperatures during the year were recorded in Northern and Central India during the cold wave in the first week in January. The hot weather period lasting from March to May was hotter and drier than usual in most parts of the country. The mean temperature of March varied but little from the average, but was generally in defect, but in April and May the mean temperature was generally above the normal in the former month considerably and in the latter slightly so. The day temperatures were in slight to considerable excess for the whole hot period in all parts of India, and a very hot period was reported between the 6th and 11th of May in Northern India and between the 9th and 11th in Madras. The variations of

the night temperatures from the normal were smaller but were similar in character to those of the day temperature. At the hill stations the mean temperature was generally above the normal in March and April, and below in May. During the monsoon months the mean temperature was generally excessive except over Burma, Assam, Bengal, Bihar, the North-Western Provinces and the Central Provinces, where it was normal or in trifling defect. The excess was considerable over North-Western India during June and August when the Bombay monsoon current was weak. During October, November and December fine and unusual dry weather held steadily in North-Western and Central India until the last week of December, when a cold weather storm gave some snow and rain, and the mean temperature was generally above the normal. This was particularly the case during the first-half of December over the region defined by the stations of Malegaon, Akola, Khandwa, Jubbulpur and Saugor, where the mean temperature was between 10° and 15° and the night temperature between 10° and 22° above the average. In North-East India the mean temperature was normal or in very slight excess, while in Burma and Southern India it was practically normal.

The pressure variations show that barometric pressure on the mean of the year was lower than usual in all parts of the country. The deficiency was greater in Northern India than in the centre and south, and was greatest in the Punjab.

The mean humidity of the whole of India for the year was slightly below the normal. This was partly a result of the generally high temperature prevailing, and in part to a deficiency in the amount of aqueous vapour which was in defect over by far the greater part of India. Very hot dry weather prevailed over the interior of Northern and Central India and the Deccan during the first ten days of May and again during the first ten days of June, when very low humidities were registered. The mean cloud amount of the year in India was 0·2 below the normal. All periods of the year except the monsoon period had less cloud than the average.

The rainfall of the whole year for the whole of India showed a variation from the normal +0°·43 inch, compared with —0·15 inch in 1897,—4·83 inches in 1896 and —·2·19 inches in 1895. The rainfall was generally deficient over Burma and parts of North-Eastern India, over nearly the whole of North-West India, over several central districts, over Malabar and over Central and North Madras. The deficiency was greatest and between 25% and 50 % in Assam (Surma), the South-East Punjab, Bihar, Baluchistan, Rajputana and the west of Central India. In all other parts of India except those given above the year's rainfall was in excess. This excess was greatest and between 25 % and 40 % in the east and east submontane divisions of the North-Western Provinces, North Oudh, the south central and south divisions of Madras and the south division of the East Coast. In the cold weather period the rainfall was abnormal in its occurrence and distribution. It was scanty and in defect in January and was general and widespread in February. Rain was very general between the 9th and 18th of the latter month, and the total rainfall of the whole period was generally in excess. During the hot weather period the rainfall distribution was also abnormal. March, April and May were all abnormally dry months over India, but in Burma a heavy burst of rain occurred in the second week of May, and the total rainfall of the period was above the normal in Tenasserim, and Lower and Central Burma. In almost all other parts of the Indian region the rainfall of the period was more or less below the normal. This deficiency was large and important in those regions which ordinarily receive moderately heavy rain from thunderstorms in April and May, *viz.*, Assam, North and East Bengal and Sikkim. The monsoon commenced slightly later than usual along the West Coast, but the humid currents extended rapidly into the interior. A break lasted from the 18th to the 27th of June over Northern and Central India, but after the 27th rain recommenced in the Deccan, Berar and Central Provinces, extended quickly northward and continued fairly steadily till the end of July. In August the Bombay current was weak and the rainfall scanty, but in September and October conditions were fairly normal. The monsoon currents withdrew from Upper India and the Gangetic Plain in the third week of September and from Bengal, Burma and the Deccan in the third or fourth week of October. The total rainfall of the period was in excess in the coast districts of Burma, over nearly the whole of the Gangetic Plain, Chota Nagpur, Bengal, the Assam Valley, the central divisions of the Central Provinces, South Hyderabad and nearly the whole of the centre and south of the Peninsula. The rainfall of the period was below the normal elsewhere, but the deficiency was small in amount, except in parts of the Punjab, Rajputana and Berar. The rainfall of the last period of the year, November and December, was light and scanty, except in Madras, where it was generally excessive and in some cases very heavy.

Appendix to Section I.

TABLE I.—*Showing the monthly* BAROMETRIC PRESSURE *and its variation from the average in thirty-four stations of India during 1898.*

STATION.	JANUARY.		FEBRUARY.		MARCH.		APRIL.		MAY.		JUNE.		JULY.		AUGUST.		SEPTEMBER.		OCTOBER.		NOVEMBER.		DECEMBER.	
	Mean.	Variation.	Mean.	Variation.	Mean.	Variation.	Mean.	Variation.	Mean.	Variation.	Mean.	Variation.	Mean.	Variation.	Mean.	Variation.	Mean.	Variation.	Mean.	Variation.	Mean.	Variation.	Mean.	Variation.
	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
Calcutta (Alipore).	30·031	+·017	29·895	—·058	29·834	—·019	29·743	—·005	29·650	—·008	29·529	—·018	29·523	—·014	29·548	—·048	29·700	+·015	29·842	+·006	29·928	—·033	29·992	—·032
Narayanganj .	30·005	+·005	29·886	—·064	29·824	—·025	29·754	—·001	29·677	—·009	29·557	—·021	29·555	—·010	29·571	—·047	29·724	+·019	29·836	—·001	29·913	—·031	29·982	—·025
Chittagong	29·940	—·002	29·827	—·076	29·787	—·037	29·734	—·011	29·647	—·022	29·524	—·043	29·535	—·031	29·546	—·058	29·651	+·004	29·776	—·011	29·835	—·042	29·908	—·031
Sibsagar .	29·725	+·006	29·593	—·069	29·538	—·037	29·481	—·008	29·402	—·014	29·257	—·046	29·270	—·007	29·284	—·043	29·128	+·005	29·559	—·003	29·640	—·034	29·685	—·048
Silchar .	29·945	+·015	29·819	—·067	29·767	—·033	29·689	—·031	29·619	—·027	29·509	—·031	29·535	—·014	29·535	—·039	29·672	+·019	29·774	—·001	29·844	—·030	29·907	—·028
Cuttack .	29·970	+·016	29·841	—·056	29·785	—·014	29·683	—·008	29·597	—·005	29·473	—·028	29·471	—·027	29·522	—·025	29·630	+·001	29·783	0	29·878	—·028	29·932	—·036
Hazaribagh .	27·982	+·004	27·871	—·068	27·849	—·013	27·750	—·020	27·660	—·023	27·555	—·023	27·537	—·031	27·566	—·053	27·702	—·008	27·861	—·007	27·927	—·039	27·952	—·047
Patna .	29·872	+·011	29·732	—·068	29·658	—·014	29·520	—·030	29·443	—·018	29·336	—·015	29·329	—·023	29·366	—·049	29·511	—·003	29·682	0	29·782	—·034	29·834	—·049
Darjeeling .	23·031	+·066	22·952	+·008	22·990	+·036	22·992	+·045	22·915	—·007	22·847	—·022	22·862	—·006	22·869	—·039	22·944	—·024	23·008	—·020	22·930	—·053	22·964	—·054
Allahabad .	29·742	+·013	29·604	—·073	29·553	+·003	29·393	—·026	29·306	—·011	29·181	—·023	29·187	—·020	29·233	—·035	29·382	+·006	29·552	—·003	29·650	—·035	29·711	—·042
Lucknow .	29·676	+·009	29·544	—·070	29·491	—·003	29·339	—·023	29·251	—·012	29·122	—·029	29·140	—·011	29·171	—·047	29·320	—·003	29·490	—·006	29·557	—·043	29·640	—·050
Meerut .	29·284	+·001	29·156	—·076	29·119	+·004	28·967	—·024	28·876	—·002	28·730	—·034	28·767	+·002	28·798	—·035	28·941	+·004	29·103	—·009	29·200	—·047	29·258	—·047
Delhi* .	29·333	?	29·189	—·094	29·176	—·007	29·032	—·027	28·945	—·007	28·796	—·038	28·816	—·007	28·849	—·037	29·001	—·004	29·165	—·010	29·268	—·030	29·316	—·040
Agra .	29·489	+·008	29·346	—·090	29·311	—·005	29·147	—·040	29·056	—·018	28·904	—·053	28·938	—·019	28·993	—·033	29·127	—·011	29·285	—·025	29·386	—·058	29·454	—·054
Jhansi* .	29·234	+·021	29·077	—·091	29·085	+·005	28·932	—·029	28·844	—·007	28·700	—·038	28·701	—·013	28·752	—·022	28·897	+·008	29·062	+·008	29·145	—·029	29·199	—·027
Ajmer .	28·428	+·023	28·271	—·100	28·289	+·008	28·158	—·023	28·085	+·002	27·943	—·038	27·918	—·031	27·999	—·021	28·117	—·007	28·269	—·022	28·336	—·060	28·383	—·056
Saugor .	28·220	+·032	28·068	—·073	28·077	+·006	27·952	—·017	27·890	+·011	27·775	—·010	27·760	—·003	27·827	+·010	27·933	+·009	28·089	—·004	28·157	—·029	28·191	—·040
Jubbulpore	28·697	+·034	28·555	—·073	28·520	?	28·382	?	28·326	—·012	28·230	—·014	28·213	—·020	28·277	—·015	28·386	+·009	28·538	0	28·603	—·043	28·649	—·042
Mooltan .	29·633	+·005	29·474	—·110	29·474	+·011	29·290	—·038	29·184	+·003	28·990	—·048	29·025	+·002	29·053	—·044	29·210	—·014	29·413	—·019	29·554	—·032	29·620	—·032
Lahore .	29·327	—·001	29·181	—·103	29·166	—·002	28·998	—·040	28·899	—·008	28·717	—·056	28·786	+·015	28·792	—·051	28·955	—·012	29·131	—·019	29·252	—·043	29·308	—·047
Peshawar .	28·948	+·004	28·796	—·116	28·814	+·002	28·648	—·040	28·543	0	28·318	—·069	28·360	—·001	28·362	—·070	28·569	—·013	28·746	—·033	28·864	—·041	28·921	—·047
Ranikhet .	24·150	+·039	24·037	—·050	24·099	+·016	24·083	+·020	24·015	+·001	23·913	—·024	23·920	—·002	23·934	—·021	24·030	0	24·132	+·013	24·142	—·016	24·123	—·020
Chakrata .	23·324	+·033	23·202	—·062	23·294	+·016	23·295	+·024	23·224	—·002	23·124	—·032	23·139	+·011	23·159	—·010	23·238	—·008	23·329	+·002	23·326	—·017	23·298	—·037
Indore* .	28·251	+·051	28·098	—·070	28·124	+·012	28·018	?	27·965	+·016	27·845	—·006	27·809	—·009	27·889	+·010	27·978	+·011	28·112	+·003	28·167	—·020	28·918	—·026
Deesa .	29·573	+·037	29·422	—·084	29·432	+·010	29·310	—·013	29·244	+·010	29·098	—·025	29·068	—·028	29·136	+·004	29·275	—·006	29·396	—·019	29·455	—·046	29·533	—·023
Karachi .	30·048	+·017	29·902	—·097	29·910	—·004	29·754	—·038	29·688	+·012	29·513	—·023	29·493	—·011	29·594	+·004	29·705	—·014	29·754	—·018	29·937	—·047	30·029	—·023
Bombay .	29·974	+·023	29·878	—·047	29·851	—·023	29·792	—·018	29·772	+·003	29·660	—·009	29·638	—·031	29·758	+·031	29·769	—·017	29·820	—·022	29·867	—·043	29·925	—·025
Belgaum .	27·443	+·026	27·339	—·061	27·350	—·010	27·292	—·025	27·281	—·012	27·222	—·023	27·209	—·040	27·287	+·012	27·283	—·017	27·374	—·016	27·351	—·033	27·399	—·023
Nagpur .	29·002	+·046	28·857	—·054	28·838	+·016	28·708	—·013	28·628	—·004	28·556	—·007	28·541	—·020	28·628	+·016	28·705	+·027	28·835	—·025	28·913	—·024	28·955	—·029
Bellary .	28·525	+·024	28·409	—·058	28·391	—·011	28·313	—·022	28·284	—·009	28·252	—·017	28·245	—·037	28·314	+·010	28·323	—·017	28·374	—·022	28·421	—·040	28·486	—·021
Bangalore	26·099	+·011	26·013	—·062	26·023	—·015	26·867	—·013	26·838	—·007	26·815	—·007	26·800	—·034	26·858	+·014	26·855	—·020	26·889	—·017	26·910	—·037	26·966	—·016
Madras .	30·017	+·026	29·908	—·060	29·893	—·011	29·805	—·017	29·725	—·010	29·688	—·012	29·680	—·042	29·754	+·008	29·774	0	29·838	—·003	29·882	—·039	29·965	—·012
Rangoon .	29·954	+·011	29·823	—·086	29·812	—·046	29·730	—·007	29·732	—·023	29·697	—·038	29·710	—·023	29·743	—·011	29·790	+·009	29·830	—·017	29·860	—·038	29·923	—·020
Akyab .	29·994	0	29·876	—·078	29·857	—·041	29·820	—·010	29·728	—·030	29·640	—·037	29·652	—·017	29·680	—·027	29·777	+·016	29·852	—·002	29·908	—·031	29·970	—·023

* The barometric means of these stations are the means of 8 hours only.

Appendix to

TABLE II.—*Showing the Highest, Lowest and Mean TEMPERATURE in shade and its*

Stations.	January.				February.				March.				April.				May.				June.			
	Highest.	Lowest.	Mean.	Variation.	Highest.	Lowest.	Mean.	Variation.	Highest.	Lowest.	Mean.	Variation.	Highest.	Lowest.	Mean.	Variation.	Highest.	Lowest.	Mean.	Variation.	Highest.	Lowest.	Mean.	Variation.
	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°
Calcutta (Alipore)	83·9	48·4	64·1	−1·1	89·1	50·2	70·3	+0·3	100·1	59·2	78·8	−0·4	103·4	67·8	84·8	−0·2	103·2	70·8	86·5	+1·1	97·3	71·7	84·3	−0·2
Narayangaaj .	81·4	49·3	66·2	0	85·6	50·6	70·0	+0·1	97·4	53·2	77·9	−0·5	97·6	65·5	84·2	+1·9	99·3	69·2	83·9	+1·3	93·6	71·3	82·8	−0·3
Chittagong .	?	?	?	?	89·0	49·9	70·7	+0·6	94·2	51·1	75·3	−1·5	95·2	65·1	81·4	+0·9	95·4	68·5	82·8	+1·8	94·4	72·3	81·0	+0·5
Sibsagar .	75·7	40·0	58·5	+0·5	79·9	46·0	60·6	−0·8	92·1	49·3	68·8	+1·2	92·3	62·8	73·9	+0·7	94·3	67·6	77·2	−0·3	94·1	68·7	81·2	−0·4
Silchar . .	84·4	44·5	64·0	+0·6	86·5	48·5	67·5	+0·5	97·6	47·4	74·8	+1·4	99·1	64·3	82·9	+5·3	100·1	69·3	83·0	+3·5	96·5	72·5	82·8	+1·2
Cuttack . .	91·2	50·3	68·3	−2·5	95·4	54·1	74·3	−1·4	105·4	60·1	82·3	+0·3	110·7	72·0	87·1	+0·5	108·5	72·6	88·7	+0·8	103·5	75·3	86·3	+0·6
Hazaribagh .	81·2	40·4	60·0	−0·9	86·0	45·6	64·8	−0·8	98·8	4 ·2	76·5	+1·1	107·1	66·3	87·2	+3·0	103·6	67·7	88·5	+2·9	98·0	68·8	82·7	+0·8
Patna . .	78·5	45·2	61·5	+0·8	85·1	47·9	65·4	+0·2	101·4	46·4	77·2	+0·1	110·0	68·5	88·4	+1·9	109·0	69·2	87·8	+0·3	102·8	73·2	86·7	−0·2
Darjeeling .	59·5	32·8	41·3	+2·0	?	?	?	?	69·0	?	?	?	68·7	?	?	?	73·4	48·2	57·0	+0·7	73·6	50·2	60·6	+0·8
Allahabad .	87·2	38·7	60·4	−0·2	87·6	44·2	64·8	−0·5	102·8	45·6	75·9	−1·9	112·6	66·5	90·5	+2·8	113·7	74·3	93·5	+1·2	109·8	75·5	90·3	−0·3
Lucknow . .	86·8	37·7	62·9	+2·0	87·5	43·3	63·9	−1·3	105·3	45·6	76·5	+0·3	113·7	66·3	90·9	+3·6	113·8	68·9	92·2	+1·1	109·1	75·3	89·6	−1·7
Meerut . .	82·5	34·4	58·6	+2·4	83·7	43·3	59·7	−1·1	97·6	41·1	70·8	−0·5	107·6	62·5	85·7	+3·2	109·5	66·0	87·8	−0·7	108·5	76·1	91·4	+0·8
Delhi* . .	81·7	37·9	60·8	+1·3	83·7	43·4	61·8	−1·6	99·7	42·9	74·7	−0·5	108·7	64·4	89·2	+3·4	109·7	68·4	91·6	−0·2	112·2	73·9	93·4	+1·5
Agra . .	86·3	41·3	62·3	+3·3	88·2	43·9	64·1	−0·2	102·9	45·6	75·3	+0·4	110·7	66·9	90·3	+3·4	112·3	71·9	93·0	0	112·1	81·4	93·8	+1·6
Jhansi* . .	92·1	44·4	66·5	?	89·6	49·4	68·2	+0·9	105·6	49·4	80·1	+0·8	113·2	73·4	94·3	+4·4	114·7	73·9	96·9	+2·0	114·2	74·4	95·5	+1·9
Ajmere . .	87·4	34·0	61·0	+3·1	91·0	38·4	63·5	+1·3	99·7	35·9	74·6	+1·2	108·0	58·7	89·5	+4·9	110·4	69·6	91·4	+1·3	107·9	77·6	91·7	+3·2
Saugor C. P. .	87·6	46·4	64·8	+1·1	93·7	47·8	67·7	+0·2	102·1	45·1	79·7	+2·5	110·8	72·7	89·7	+2·8	109·9	73·3	92·2	+2·2	110·4	69·4	86·2	+0·3
Jubbulpore. .	87·2	34·6	58·9	−2·8	93·3	42·3	66·0	−0·3	102·0	38·5	75·9	−0·7	110·1	60·8	89·0	+2·7	113·0	70·2	92·4	+1·3	111·3	70·8	87·1	+0·5
Mooltan . .	79·8	38·0	59·0	+4·8	85·3	41·0	60·6	+2·0	102·4	42·9	71·7	0·5	113·4	58·9	88·4	+6·1	117·0	70·0	92·4	+1·5	117·5	82·1	99·0	+4·4
Lahore . .	75·7	35·2	56·4	+4·4	78·6	40·2	58·0	+1·3	98·5	40·2	69·4	+1·6	108·7	61·3	85·9	+6·3	111·8	63·1	88·3	+0·9	114·8	74·3	93·8	+4·6
Peshawar . .	74·1	32·4	52·6	+3·1	74·1	33·9	54·5	+2·0	90·0	37·9	61·8	−1·2	105·0	54·2	77·3	+4·2	110·0	57·4	81·8	−1·6	117·5	71·9	93·1	+3·2
Ranikhet . .	65·1	32·6	49·3	+3·3	66·2	32·7	44·6	−2·5	77·6	33·0	59·4	+2·9	88·3	49·6	69·8	+4·9	87·1	50·0	69·0	+0·8	84·1	56·0	70·5	0
Chakrata . .	64·5	30·6	46·1	+4·5	64·2	25·3	39·6	−2·7	74·8	32·9	54·8	+3·5	81·2	48·4	64·2	+4·5	80·8	45·7	63·2	−1·6	81·5	52·7	65·2	−1·9
Indore* . .	88·2	39·1	64·1	+0·5	92·7	43·6	67·4	+0·3	101·6	40·6	77·2	+0·6	109·0	62·6	88·7	+4·1	109·0	71·6	90·5	+1·6	107·5	78·1	86·0	+1·4
Deesa . .	94·0	43·6	69·5	+1·9	98·0	44·9	69·4	−1·1	105·6	48·2	80·5	−0·2	112·8	64·0	91·0	+3·0	114·4	68·0	92·0	+0·8	110·2	75·3	91·0	+1·2
Karachi . .	88·4	46·5	68·5	+3·5	88·6	50·2	69·7	+1·5	97·8	47·2	74·5	−1·0	102·5	63·2	81·0	+1·3	95·2	76·9	84·5	+0·5	98·3	81·0	87·3	+0·5
Bombay . .	90·8	63·3	75·0	+1·8	88·4	63·9	75·6	+0·5	88·9	68·3	79·3	+0·5	92·2	75·0	83·2	+0·6	94·9	79·4	85·5	+0·8	92·8	75·2	83·2	0
Belgaum . .	89·9	49·9	70·7	+0·8	93·1	50·8	70·2	−2·6	99·2	60·4	78·0	+0·9	101·8	63·5	79·4	+0·2	100·1	64·8	77·7	0	92·7	64·8	72·3	−0·3
Nagpur . .	90·1	46·6	66·8	−1·4	95·1	51·0	71·9	−1·8	104·1	46·6	83·0	−0·3	112·2	65·2	92·6	+2·1	114·2	74·1	95·3	+0·7	114·1	73·6	85·8	−0·2
Bellary . .	92·7	53·7	73·4	−0·8	96·8	59·1	78·9	−0·8	106·6	63·2	85·0	−0·6	108·2	71·6	89·1	−0·1	105·5	71·2	88·8	+0·2	106·2	72·9	83·2	+0·3
Bangalore . .	85·9	51·9	68·7	+1·1	89·7	54·8	72·9	+1·0	96·2	53·8	77·0	+0·1	97·7	65·7	81·4	+1·3	97·3	66·5	80·5	+1·9	92·6	64·5	74·6	+0·4
Madras . .	86·3	59·9	74·1	−1·4	90·0	59·8	76·2	−0·9	96·5	62·9	78·9	−1·9	97·8	72·3	84·3	−0·4	99·8	72·4	88·3	+0·9	104·2	71·3	87·6	+0·3
Rangoon . .	90·9	59·8	73·8	−0·2	97·9	60·8	78·3	+1·9	101·8	60·8	80·8	+0·3	102·7	71·5	85·2	+0·5	96·9	73·5	80·1	−2·4	93·1	73·7	79·7	+0·3
Akyab . .	84·0	53·2	69·4	−0·6	92·3	55·2	72·7	+0·4	92·9	53·8	76·5	−1·5	94·9	72·3	83·7	+0·9	97·8	70·6	84·8	+1·6	93·7	74·1	81·6	+0·4

* The mean temperature for these stations is

Section I.

ariation from the average of each month in thirty-four stations of India during 1898.

July.				August.				September.				October.				November.				December.				Station.
Highest.	Lowest.	Mean.	Variation.	Highest.	Lowest.	Mean.	Variation.	Highest.	Lowest.	Mean.	Variation.	Highest.	Lowest.	Mean.	Variation.	Highest.	Lowest.	Mean.	Variation.	Highest.	Lowest.	Mean.	Variation.	
°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	
92·1	75·4	83·4	−0·7	90·4	75·1	82·4	−0·1	90·9	75·5	82·2	−0·3	91·2	63·1	79·0	−1·0	83·7	57·7	72·4	0	81·6	51·4	66·5	+1·2	Calcutta (Alipore).
94·4	76·9	83·0	−0·2	91·1	75·3	82·2	−0·6	90·1	75·6	82·6	−0·4	91·1	69·2	81·0	+0·6	88·2	61·7	75·2	+0·7	80·9	51·5	65·5	0	Narayanganj.
93·7	73·7	80·2	+0·2	88·8	74·1	79·7	0	90·0	73·6	80·0	−0·6	90·6	65·1	78·6	−0·4	87·6	56·9	73·1	−0·9	81·6	50·1	65·0	−0·4	Chittagong.
95·8	74·5	82·3	−0·9	94·5	71·0	81·6	−0·7	91·2	73·1	79·5	−1·2	92·3	64·3	76·0	−0·1	81·8	53·7	66·8	−0·7	76·3	46·4	61·1	+2·3	Sibsagar.
101·6	75·3	83·7	+1·5	95·6	74·2	83·0	+0·6	96·8	73·2	81·0	−0·6	94·0	63·4	79·8	+0·8	91·3	56·4	73·2	+0·5	83·6	46·5	65·2	+0·4	Silchar.
94·2	73·3	81·6	−0·9	93·4	75·0	81·8	−0·7	95·3	74·1	83·5	+0·9	95·2	63·8	81·0	+0·2	90·3	61·4	75·0	+0·3	89·2	55·3	72·5	+3·1	Cuttack.
90·7	72·0	78·5	+0·4	88·2	71·1	76·8	−0·5	87·2	70·0	76·4	−0·6	87·9	57·8	73·4	−0·1	82·7	53·7	67·6	+0·8	79·7	46·9	62·2	+1·7	Hazaribagh.
97·0	75·2	83·9	−0·1	93·0	75·7	82·6	−0·9	92·0	73·0	81·0	−2·5	90·0	60·8	78·5	−0·7	87·8	55·6	70·8	+0·4	78·0	46·4	63·5	+1·0	Patna.
71·4	55·3	61·2	+0·1	75·6	55·0	66·9	+0·3	68·1	53·2	58·8	+0·1	64·2	51·5	56·7	+2·3	61·2	?	?	?	50·8	31·8	40·9	−1·0	Darjeeling.
97·3	74·6	83·8	−0·9	92·8	74·7	81·2	−2·0	95·0	71·5	82·3	−0·9	95·0	52·8	77·9	−0·7	89·1	48·5	68·6	−0·4	81·9	42·6	62·2	+1·5	Allahabad.
98·0	73·8	83·7	−1·8	95·6	74·7	82·8	−1·7	95·4	70·3	82·3	−1·5	94·1	54·2	77·4	−0·3	88·0	47·7	68·1	+0·3	82·6	42·6	61·2	+1·6	Lucknow.
101·6	74·1	85·3	−0·2	99·6	73·7	85·3	+1·5	95·1	67·0	82·0	−0·8	94·6	50·1	75·4	+0·2	85·2	44·3	64·3	−0·5	78·7	41·1	58·0	+0·8	Meerut.
102·2	75·4	87·3	+0·1	99·7	74·9	87·1	+1·8	99·2	73·4	85·7	+1·1	97·7	54·4	80·7	+0·7	89·2	49·9	69·6	+0·4	81·2	45·4	61·2	−0·3	Delhi.*
102·8	75·2	87·6	+0·6	99·0	74·9	85·5	+0·6	101·6	70·9	84·5	+1·0	100·2	58·4	80·4	+2·4	92·0	51·9	70·5	+2·5	84·0	45·9	63·2	+2·2	Agra.
98·6	73·4	84·3	−0·2	91·1	73·9	81·4	−1·2	95·6	71·4	82·6	−0·5	96·1	61·4	81·5	?	95·1	50·9	74·3	+3·9	86·1	47·9	66·1	+2·3	Jhansi.*
100·6	72·8	84·7	+2·6	96·4	74·6	83·9	+4·0	97·4	71·8	82·9	+1·4	99·2	50·8	78·1	+2·8	93·5	46·8	69·1	+3·3	82·5	38·4	61·1	+1·9	Ajmere.
92·3	70·5	77·6	−0·4	85·5	70·4	75·2	−1·4	91·5	69·1	77·5	+0·2	92·3	59·1	76·9	+1·6	89·3	56·1	72·7	+3·1	87·3	47·9	66·6	+3·2	Sanger.
92·6	71·6	77·9	−1·3	85·9	70·0	75·3	−2·6	90·3	68·5	78·1	−0·4	91·7	59·7	74·0	0	88·7	45·7	69·0	+2·3	88·1	41·4	64·9	+4·2	Jubbulpore.
115·0	78·0	94·7	?	108·8	80·5	92·9	+3·0	111·2	71·8	89·4	+2·0	102·9	54·1	79·9	+2·3	89·3	47·1	65·8	+0·2	82·3	37·5	56·8	+0·3	Mooltan.
106·6	72·1	86·3	−2·0	104·1	78·1	90·9	+4·3	100·6	70·0	86·2	+2·3	99·4	50·2	77·1	+2·6	85·6	43·4	63·8	+1·4	76·1	37·2	54·6	+1·4	Lahore.
111·0	67·4	87·9	−1·7	107·5	75·5	90·4	+3·2	100·8	61·5	81·9	−0·1	95·0	47·0	71·6	+0·7	81·1	38·3	57·6	−1·0	73·2	29·9	50·5	−0·4	Peshawar.
79·0	59·2	67·4	−0·8	77·0	59·0	66·9	+0·1	74·7	54·4	64·6	−0·9	76·0	49·9	61·0	+0·3	66·3	37·2	53·3	−0·7	65·0	31·8	46·3	−3·0	Ranikhet.
73·7	54·8	62·9	−1·7	73·7	56·6	63·1	−0·3	71·8	51·7	60·3	−1·4	72·1	45·2	57·1	+0·3	68·8	33·8	50·0	−0·5	63·9	25·5	43·2	−2·3	Chakrata.
95·2	70·1	79·3	+1·2	85·2	68·1	75·1	−1·9	91·7	64·1	77·8	+0·3	94·2	56·1	76·7	+1·3	90·2	49·6	72·1	+4·3	87·2	45·6	67·3	+3·6	Indore.*
103·1	73·9	84·1	+0·3	95·2	73·3	82·9	+1·4	100·4	64·1	82·5	+0·6	105·3	60·2	83·7	+3·0	98·8	56·1	78·5	+4·5	91·3	47·7	68·5	+0·3	Deesa.
101·8	74·9	84·9	+0·9	90·9	76·8	82·3	+0·2	90·6	72·9	81·9	+0·3	105·3	63·4	81·2	+1·5	94·5	58·6	75·2	+1·2	86·3	46·2	66·2	−0·8	Karachi.
86·7	73·7	80·9	0	86·5	75·0	80·5	+0·6	87·4	73·9	80·1	+0·4	94·2	76·0	83·4	+2·3	92·4	70·3	81·1	+2·0	89·3	64·0	77·6	+1·6	Bombay.
79·5	65·1	70·1	0	81·6	63·8	69·9	+0·4	84·3	63·0	70·8	+0·5	88·3	60·8	73·8	+1·5	85·2	53·9	70·3	−0·5	85·3	57·3	71·2	+1·8	Belgaum.
91·6	72·3	79·9	−0·3	91·3	71·1	78·4	−1·8	93·1	70·1	80·0	−0·3	96·7	58·9	79·8	+1·0	91·9	53·4	75·1	+2·4	89·8	51·4	70·9	+4·1	Nagpur.
97·2	72·6	80·8	+0·3	98·2	72·0	81·9	+1·1	94·9	70·2	79·5	−0·6	94·2	66·0	79·0	+0·2	91·0	57·9	75·0	−0·2	90·2	59·9	74·2	+1·9	Bellary.
89·0	64·6	73·9	+1·6	89·5	64·1	74·5	+2·2	84·2	63·8	72·8	+0·5	86·4	64·0	73·4	+1·4	81·7	54·9	69·2	−0·6	80·6	53·5	68·1	+0·7	Bangalore.
104·2	72·3	86·0	+0·8	100·8	72·0	84·3	+0·3	96·1	73·0	83·2	−1·6	95·2	70·4	80·4	−0·7	87·1	60·6	77·7	−0·4	85·6	67·1	76·7	+0·7	Madras.
88·0	73·1	77·8	−0·5	88·7	73·7	77·9	−0·6	90·2	73·6	78·9	+0·2	92·4	72·9	80·9	+1·1	91·3	64·2	78·0	+0·1	90·7	61·6	74·7	−0·7	Rangoon.
89·6	75·3	79·9	−0·1	88·6	76·1	79·8	−0·4	89·4	76,2	81·3	−0·1	90·3	75·3	82·2	+0·9	90·5	63·8	77·8	−0·1	83·9	54·8	71·5	−0·7	Akyab.

the mean of the maximum and minimum temperatures.

Appendix to Secttion I.

TABLE III.—*Showing the mean monthly* HUMIDITY *and its variation from the average in thirty-four stations of India during 1898.*

STATIONS.	JANUARY.		FEBRUARY.		MARCH.		APRIL.		MAY.		JUNE.		JULY.		AUGUST.		SEPTEMBER.		OCTOBER.		NOVEMBER.		DECEMBER.	
	Mean.	Variation.	Mean.	Variation.	Mean.	Variation.	Mean.	Variation.	Mean.	Variation.	Mean.	Variation.	Mean.	Variation.	Mean.	Variation.	Mean.	Variation.	Mean.	Variation.	Mean.	Variation.	Mean.	Variation.
	%		%		%		%		%		%		%		%		%		%		%		%	
Calcutta (Alipore)	63	−6	59	−6	49	−17	68	0	66	−8	81	−2	88	+1	88	0	84	−2	77	−4	70	−3	67	−3
Narayanganj	69	+1	?	?	55	−11	70	−3	74	−6	86	0	86	−1	87	0	85	0	78	−1	70	−2	68	−2
Chittagong	?	?	74	+4	74	0	80	+6	80	0	86	0	87	0	88	+1	86	0	86	+3	75	−4	73	−3
Sibsagar	86	0	85	+4	75	−4	85	+4	84	+1	87	+3	88	+4	88	+3	88	+2	87	+2	85	+1	?	?
Silchar	71	−3	66	−4	55	−17	63	−13	68	−12	80	−5	81	−4	82	−3	85	+1	78	−2	69	−	72	−3
Cuttack	58	−6	56	−5	53	−8	64	+3	60	−4	73	0	84	+4	82	+1	79	−1	73	−1	63	−4	64	0
Hazaribagh	49	−2	48	+6	25	−9	31	+3	34	−6	67	+1	82	−3	86	+1	81	−3	59	−5	50	−4	50	−2
Patna	65	−2	62	+5	37	−8	41	0	51	−4	67	−2	82	0	86	+3	84	+4	68	−1	61	−1	62	−3
Darjeeling	74	−7	?	?	?	?	?	?	85	−2	93	−1	95	0	95	0	93	−1	82	−1	?	?	88	+12
Allahabad	51	−15	63	+7	34	−8	29	−2	42	+5	62	+6	83	+2	87	+4	78	−1	55	−11	55	−7	57	−9
Lucknow	55	−6	70	+18	39	−4	35	+1	38	−2	62	+6	?	?	84	+4	80	+7	61	−1	57	+1	61	+2
Meerut	50	−15	64	+0	41	−8	32	−5	36	−4	54	+2	73	−1	71	−6	72	+2	50	−7	52	−4	58	−4
Delhi*	55	?	69	?	40	?	30	?	39	?	52	?	76	?	72	?	68	?	43	?	46	?	60	?
Agra	48	−10	57	+8	33	−6	25	−3	43	+12	50	+4	75	+1	77	0	71	+3	43	−6	43	−3	55	+1
Jhansi*	45	?	57	?	32	?	33	?	34	?	57	?	83	?	84	?	79	?	54	?	49		58	?
Ajmer	46	−7	51	+5	33	−8	29	−6	39	+1	51	−1	71	−1	66	−10	67	0	39	−10	42	−5	57	+4
Saugor	30	−19	40	−1	23	−9	28	+3	?	?	63	+10	84	+4	87	+2	77	0	?	?	?	?	41	−6
Jubbulpore	56	−4	56	+4	38	−1	32	+2	27	−3	58	−2	84	+2	88	+4	81	+3	61	−4	54	−4	57	−2
Mooltan	55	−4	61	+7	41	−11	28	−16	30	−12	41	−5	55	−3	54	−8	59	−1	38	−15	45	−8	51	−5
Lahore	57	−6	67	+9	49	−1	33	−4	35	+2	43	+3	73	+12	60	−5	57	0	42	−5	45	−2	56	−2
Peshawar	55	−7	58	0	60	+3	42	−10	40	+1	33	−5	58	+5	57	−4	62	+8	45	−2	45	−8	52	−8
Ranikhet	56	−7	65	+3	39	−14	36	−8	41	−9	76	+10	88	+2	90	+2	78	−3	57	−4	52	−7	67	+9
Chakrata	45	−17	71	+8	35	−18	30	−13	38	−10	79	+12	?	?	94	+2	82	−2	57	−3	47	−8	60	+9
Indore*	53	?	55	?	48	?	44	?	49	?	74	?	87	?	91	?	90	?	59	3	57	?	63	?
Deesa	30	−7	40	+10	19	−10	23	−5	38	−2	54	0	77	+3	69	−6	66	0	33	−9	31	−3	44	+8
Karachi	56	0	49	−9	51	−14	69	−1	73	0	72	−3	76	−2	75	−4	72	−5	57	−6	42	−12	40	−13
Bombay	63	−6	65	−3	66	−6	72	−2	70	−4	81	−1	85	−2	82	−5	83	−2	73	−7	66	−4	65	−4
Belgaum	35	−12	46	+7	40	−1	59	+8	65	+4	85	+3	92	+2	89	0	87	+2	72	0	61	+2	55	+5
Nagpur	30	−16	46	+4	28	−6	27	−1	27	−2	62	+2	82	+2	82	+3	78	+3	52	−8	47	−8	50	−2
Bellary	40	−12	44	+4	39	+3	42	+3	40	−4	47	−11	53	−10	52	−11	58	−6	59	−4	57	−5	56	−2
Bangalore	56	−5	53	+1	39	−11	53	0	59	−3	73	0	74	−3	71	−7	80	+4	75	0	78	+5	72	+4
Madras	81	+6	77	+3	78	+4	79	+5	68	0	62	−3	67	0	71	−1	80	+7	87	+7	85	+4	83	+4
Rangoon	63	−1	59	−4	63	−1	69	+3	86	+8	88	−1	92	+2	93	+3	90	+1	80	−4	71	−7	67	−5
Akyab	75	+5	70	+2	73	+2	74	+1	79	+1	89	+2	92	+3	93	+5	89	+3	86	+3	81	+1	78	+3

* Mean of 8 hours only.

Appendix to Section I.

TABLE IV.—*Showing the monthly and annual RAINFALL and its variation from the average in thirty-four stations of India during 1898.*

STATIONS.	JANUARY.		FEBRUARY.		MARCH.		APRIL.		MAY.		JUNE.		JULY.		AUGUST.		SEPTEMBER.		OCTOBER.		NOVEMBER.		DECEMBER.		TOTAL.	
	Actual.	Variation.	Actual.	Variation.	Actual.	Variation.	Actual.	Variation.	Actual.	Variation.	Actual.	Variation.	Actual.	Variation.	Actual.	Variation.	Actual.	Variation.	Actual.	Variation.	Actual.	Variation.	Actual.	Variation.	Actual.	Variation.
	Inches	Inches.	Inches	Inches.	Inches	Inches.	Inches	Inches.	Inches.	Inches.	Inches	Inches.	Inches	Inches.	Inches	Inches.	Inches	Inches.	Inches	Inches.	Inches	Inches.	Inches.	Inches.	Inches.	Inches.
Calcutta (Alipore)	0·36	+0·04	...	−1·11	...	−1·30	1·04	−0·44	4·06	−1·57	9·15	−1·74	12·75	+0·80	17·68	+5·18	8·00	−1·06	6·48	+2·78	...	−0·74	...	−0·37	59·52	+0·47
Narayanganj	1·82	+1·58	...	−1·26	...	−2·67	1·45	−3·72	6·55	−3·73	12·23	−0·83	13·91	+0·13	21·16	+8·84	10·54	+2·03	6·00	+1·58	...	−1·74	0·03	−0·22	73·69	−0·01
Chittagong	0·26	−0·18	0·13	−1·10	2·67	+0·48	1·00	−3·67	5·27	−4·61	30·60	+8·31	22·55	−0·35	33·52	+13·04	7·67	−5·67	6·46	+0·48	...	−1 57	...	−0·62	110·13	+5·14
Sibsagar	0·42	−0·80	2·33	+0·15	0·42	−4·34	10·34	+0·42	11·09	−0·31	12·01	−2·19	17·41	+1·51	17·04	+0·86	11·32	−0·47	5·30	+0·30	0·30	−0·82	1·22	+0·64	89·20	−5·05
Silchar	0·28	−0·37	1·24	−1·20	1·02	6·96	1·78	−12·04	6·02	−10·24	16·06	−3·98	11·26	−8·85	20·52	+1·72	14·52	+0·48	3·54	−2·99	0·05	−1·32	0·05	−0·53	77·34	−46·28
Cuttack	...	−0·36	...	−0·52	...	−1·27	1·80	+0·58	2·57	−1·06	3·55	−4·70	5·90	−6·49	14·86	+2·70	6·24	−4·22	7·50	+2·04	...	−1·44	...	−0·38	45·43	−15·12
Hazaribagh	...	−0·52	1·00	+0·21	0·18	−0·53	0·54	+0·17	0·12	−1·66	12·09	+4 55	9·87	−3·99	12·25	−0·67	15·83	+7·71	2·04	−1·12	...	−0·34	0·14	−0·06	54·96	+3·55
Patna	...	−0·68	1·31	+0·79	0·08	−0·28	...	−0·28	1·39	−0·32	3·60	−3·69	14·38	+3·24	21·52	+11·01	17·39	+9·61	2·26	−0·61	...	−0·22	0·04	−0·11	61·97	+18·46
Darjeeling	0·72	+0·01	2·52	+1·42	0·45	−1·57	3·28	−0·84	6·36	−1 52	12·01	−12·52	43·57	+12·25	29·61	−5·71	38·55	+20·86	1·78	−3·70	0·75	+0·52	0·55	−0·35	131·15	+9·53
Allahabad	...	−0·76	2·39	+1·93	...	−0·41	...	−0·12	0·09	−0·22	4·91	−0 20	14·09	+2·45	27·35	+17·09	4·84	−1·67	...	−2·49	0·23	−0·03	0·10	−0·12	54·60	+15·48
Lucknow	...	−0·88	4·06	+3·70	0·01	−0·33	0·05	−0·07	1·54	+0·09	7·77	+2·34	8·86	−2·42	13·98	+2·44	5·42	−1·41	3·71	+2·32	0·01	−0·08	0·21	−0·24	45·62	+6·04
Meerut	...	−1·12	5·64	+4·87	...	−0·67	0·10	−0·24	0·33	−0·40	2·03	−1·52	3·97	−5·44	4·11	−3 71	·24	+4·92	...	−0·46	0·04	−0·05	0·50	+0·11	25·96	−3·71
Delhi	...	−1·09	2·91	+2·31	...	−0·70	0·03	−0·32	0·60	−0·13	0·50	−2·78	5·96	−2·67	5·78	−1·87	1·04	−3·23	...	−0·42	0·31	+0·21	0·89	+0·46	18·02	−10·23
Agra	...	−0·57	2·69	+2·40	0·02	−0·24	...	−0·15	0·43	−0·20	0·24	−2·53	7·46	−2·23	10·09	+3·02	4·03	−0·37	...	−0·41	...	−0·06	0·71	+0·44	25·67	−0·90
Jhansi	...	−0·59	1·92	+1·64	...	−0·37	0·08	−0·05	0·39	+0·08	2·97	−1·90	17·45	+4·60	,10·22	−0·83	3·69	−2·20	...	−0·72	0·23	+0·16	0·75	+0·51	37·70	+0·33
Ajmer	...	−0·35	0·22	+0·09	...	−0·35	...	−0·09	0·40	−0·23	0·70	−1·87	6·80	−0·13	1·57	−5·89	2·86	−0·25	0·05	−0·24	...	−0·21	0·37	+0·08	12·97	−9·62
Saugor	...	−0·68	1·39	+0·87	0·04	−0 20	0·05	−0·12	...	−0·36	12·52	+5·10	25·43	+8·92	17·52	+5·16	5·59	−2·51	...	−1·27	...	−0·36	0 37	−0·20	62·82	+14·15
Jubbulpore	...	−0·68	3·35	+2·86	...	−0·52	0·10	−0·11	0·18	−0·39	4·83	−4·01	27·31	+8·39	21·28	+6·39	12·51	+4·16	0·16	−1·48	...	−0·40	...	−0·26	69·72	+14·06
Mooltan	0·16	−0·26	1·26	+0·01	...	−0·46	...	−0·27	...	−0·42	0·17	−0·26	1·07	−1·26	...	−1·54	0·35	−0·30	...	−0·03	...	−0·07	...	−0·27	3·01	−4·28
Lahore	0·06	−0·84	3·25	+2·12	...	−0·96	...	−0·55	1·06	+0·23	2·28	+0·40	10·69	+3·74	0·28	−4·67	0·65	−1·45	...	−0·46	...	−0·13	0·37	−1·09	18·44	−2·66
Peshawar	0·05	−1·52	2·60	+1·37	2·35	+0·45	0·42	−1·56	1·37	+0·77	0·05	−0·23	4·22	+2·52	0·40	−1·81	1·41	+0·74	...	−0·20	...	−0·64	0·40	−0·14	13·27	−0·02
Ranikhet	0·25	−2 38	6·16	+4·03	0·04	−1·91	0·49	−0·68	1·83	−0·74	5·64	−0·70	17 24	+4·00	15·63	+2·08	4·23	−2·76	...	−1·46	0·90	+0·62	2·51	+1·66	54·89	+1·82
Chakrata	1·15	−1·85	8·32	+4·95	0·17	−2·59	0·11	−1·33	1·79	−0·76	12·83	+4·50	21·08	+2·24	20·09	+2·35	3·94	−2·37	0·09	−0·76	0·24	−0·14	4·32	+3·21	74·13	+7·46
Indore	...	−0·28	0·55	+0·29	0·06	+0·01	0·01	−0·17	0·12	−0·39	5·63	−1·02	16·46	+6·79	12·86	+5·27	4·18	−3·45	0·18	−1·03	...	−0·28	0·19	− 0·01	40·24	+5·73
Deesa	...	−0·16	0·16	+0·01	...	−0·09	...	−0·04	0·87	+0·70	0·31	−2·15	12·72	+3·11	0·16	−7·70	2·38	−1·22	...	−0·62	...	−0·15	0·48	+0·44	17·08	−7·86
Karachi	...	−0·73	0·43	+0·11	...	−0·16	...	−0·14	0·16	−0·04	...	−0·51	2·17	−1·05	0·07	−1 63	0·57	−0·08	..	−0·05	...	−0·18	..	−0·19	3·24	−4·65
Bombay	...	−0·13	0·17	+0·15	...	−0·01	...	−0·03	...	−0·43	25·47	+4·85	22·20	−2·61	5·27	−9·79	20·21	+0·19	0·48	−1·33	0·13	−0·37	...	−0·05	74·09	−0·36
Belgaum	...	−0·07	0·05	+0·02	1·74	+1·26	3·52	+1·53	4·34	+1·59	10·23	+0·92	17·17	+1· 5	3·12	−5·92	0·26	+5·51	4·47	−0·79	1·18	−0·22	0·29	+0·03	55·37	+5·61
Nagpur	...	−0·61	2·64	+2·25	...	−0·61	1·16	+0·91	0·38	−0·36	6·47	−2·27	19·92	+6·36	12·83	+3·24	9·64	+1·45	0·15	−2·14	...	−0·55	0·08	−0·38	53·44	+7·29
Bellary	...	−0·11	...	−0·03	...	−0·46	1·73	+0·97	2·08	+0·12	1·31	−0·54	0·87	−0·56	0·88	−1·41	5·47	+1·69	3·70	−0·43	1·80	+0·54	...	−0·22	17·84	−0·44
Bangalore	...	−0·19	...	−0·13	...	−0·56	0·57	−0·76	2·41	−2·31	2·10	−1·19	2·57	−1·45	2·16	−3·61	11·93	+5·79	3·65	−2·65	5·69	+3·54	0·45	−0·18	31·53	−3·73
Madras	...	−0·86	0·49	+0·21	...	−0 39	...	−0·61	0·65	−1·38	2·09	+0·02	3·38	−0 46	7·15	+2·50	8·20	+3·50	16·31	+5·47	19·79	+6·24	10·06	+4·74	68·12	+18·98
Rangoon	0·05	−0·07	...	−0·27	...	−0·18	3·62	+1·81	21·69	+10·93	15·69	−2·93	21·89	+0·29	30·83	+12·15	12·00	−4·13	3·23	−4·05	0·01	−2·75	...	−0·07	10·02	+10·70
Akyab	...	−0·14	0·05	−0·14	...	−0·46	0·09	−1·51	4·71	−7·95	53·08	+3·65	62·47	+11·07	49·63	+10·38	17·06	−5·88	6·83	−4·50	...	−3·38	...	−0·48	193·92	+0·60

SECTION II.

EUROPEAN ARMY OF INDIA.

India.

2. The health of the European army of India was much better in 1898 than in the preceding year, though the constantly sick and death rates were still high as compared with the ratios of the decennium. The improvement is apparently connected with the fact that the progression of the seasons had become more normal. That the dry parts of the year were somewhat quieter, hotter, and drier than usual, and that over the greater part of India the monsoon rain was above rather than below the normal, may be read on pages 7 and 8 of Section I. That the invaliding ratio was high, mostly from ague, and that sickness and mortality did not fall to the mean of recent years, were probably due to the sequelæ of the malaria of the previous year and to the after-effects of field service.

Year.	Strength.	Ratio per mille of Strength.				
		Admissions into hospital.	Constantly sick.	Deaths.	Invaliding.	Total loss.
1886—95 . .	677,877	1,457	83	15·16	24	39
1897 . . .	68,395	1,557	101	22·93	33	56
1898 . . .	67,741	1,437	90	20·05	38	58

The chief causes of admission were ague and venereal diseases. Among the diseases with increased admission rates were influenza, remittent fever, enteric fever, and hepatic abscess. On the other hand, the admission rates from cholera, small-pox, venereal diseases, dysentery, and diarrhœa were lessened. Ague caused 27 per cent. of the total sickness, and venereal diseases 25 per cent.

The chief causes of death were enteric fever, hepatic abscess, and heat-stroke. Among the diseases with increased mortality were simple continued fever, heatstroke, respiratory diseases, tubercle of the lungs, enteric fever, and hepatic abscess. On the other hand, the mortality from cholera, small-pox, dysentery, diarrhœa, and malarial fevers was lessened. Enteric fever caused 51 per cent. of the total deaths, hepatic abscess 8 per cent., heatstroke 6 per cent., and dysentery 4 per cent.

The chief causes of invaliding (Table LIII) were, in order, syphilis and gonorrhœa, malarial fevers, debility, dysentery, disordered action of the heart, and tubercle of the lungs; syphilis and gonorrhœa, and malarial fevers, being far ahead of the others.

Commands.

3. In Table I the ratios of the four commands are placed side by side for comparison. Bengal had the highest mortality from tubercle of the lungs and from hepatic

abscess, and the lowest from remittent fever and from pneumonia; the Punjab the highest from cholera, enteric fever, malarial fevers, heatstroke, pneumonia, other respiratory diseases, and dysentery; Madras the lowest from enteric fever, ague, tubercle of the lungs, respiratory diseases, dysentery, and hepatic abscess. The percentage of enteric fever in total deaths was highest in Bombay; of pneumonia in the Punjab; of dysentery and hepatic abscess in Madras. The total death rate of Madras, which was the lowest, only reached 31 per cent. of the height of that of the Punjab, which was the highest. Bengal had the highest constantly sick rate, the Punjab the highest admission and death rates; and the Punjab was the only command less healthy than in 1897, the others being more healthy.

Burma.

4. The following table gives the vital statistics of the European troops in Burma as a whole, whereas Table II contrasts Burma Coast with Burma Inland.

The ratios of 1898 are the lowest in the table. Burma in 1898 was distinguished by the prevalence of simple continued fever and venereal diseases.

Period.	Strength.	Ratio per 1,000 of strength.				
		Admissions into hospital.	Constantly sick.	Deaths from		
				Cholera.	Other causes.	Total.
1890 . .	4,712	1,743	102	...	20·80	20·80
1891 . .	4,623	1,589	92	2·38	17·74	20·12
1892 . .	4,316	1,491	91	...	14·83	14·83
1893 . .	3,928	1,461	96	·25	12·73	12·98
1894 . .	3,940	1,465	93	·25	9·39	9·64
1895 . .	4,045	1,410	96	·99	8·41	9·39
1896 . .	4,174	1,514	109	·48	6·71	7·19
1897 . .	4,060	1,467	107	...	10·84	10·84
1898 . .	4,069	1,167	79	...	6·39	6·39

Field Forces.

5. Towards the end of Tables III, IV, and LIII will be found the statistics of the forces which were on field service in 1898. The Malakand Field Force was broken up on the 22nd January 1898, and out of it was formed the Malakand Force; the Tirah Field Force was broken up on the 9th April, and out of it was formed what was called at one time the Khyber Force and at another the Khyber Brigade. The health of the Tirah Field Force was better than in the preceding year. Adding together for 1898 the Field Forces and the forces by which they were succeeded, it is found that health in 1898 was better than in 1897. The Tirah Field Force, the Khyber Force, and the Malakand Force suffered heavily from enteric fever.

Geographical groups.

6. The following table shows that, judging by the constantly-sick rate, Burma Inland and Gangetic Plain were the most unhealthy groups for the decennium, and Hills and Deccan the most healthy. It also shews that the 1898 constantly-sick rate of every group, except the first three, was higher than its corresponding decennial ratio, and that the rise was greatest in the case of the Deccan, Central India, and Indus Valley groups. As compared with the decennial ratios, there was increase of cholera mortality only in Bengal-Orissa, absence of cholera mortality, as usual, in Western Coast, and reduction in all the other groups; while there was

decrease of enteric fever mortality in Groups I, II, IV, X, and XII*b*, and increase in all the others, the increase being greatest in Groups XII*a*, VII, V, and VIII :—

		Ratio per 1,000 of Strength.												
		I	II	IV	V	VI	VII	VIII	IX	X	XI	XII*a*	XII*b*	
		Burma Coast and Bay Islands.	Burma Inland.	Bengal and Orissa.	Gangetic Plain and Chutia Nagpur.	Upper Sub-Himalaya.	North-Western Frontier, Indus Valley, and North-Western Rajputana.	South-Eastern Rajputana, Central India, and Gujarat.	Deccan.	Western Coast.	Southern India.	Hill Stations.	Hill Convalescent Depôts and Sanitaria	India.
1886—95	Constantly sick	89·0	99·4	92·9	96·0	88·9	83·9	88·0	79·1	81·7	82·2	70·9	88·0	82·6
	Death—Cholera	·21	1·71	·78	4·31	1·14	1·13	1·65	·74	...	·30	·61	·78	1·33
	Death—Enteric fever	3·02	2·47	3·13	5·98	7·03	5·30	7·00	4·69	2·14	2·79	5·56	4·98	5·28
1897	Constantly sick	117·2	105·8	95·4	107·9	99·8	103·8	127·7	100·5	76·9	93·9	98·4	88·4	101·4
	Death—Cholera	...	...	·88	6·59	·15	·20	2·60	·56	...	...	...	...	1·17
	Death—Enteric fever	6·66	1·12	·44	10·24	9·77	12·64	20·10	6·43	3·40	5·67	8·36	3·17	9·01
1898	Constantly sick	86·4	78·6	80·8	102·4	95·3	95·2	99·1	97·7	82·7	86·8	77·9	95·6	90·9
	Death—Cholera	...	...	·84	·15	·78	...	...	...	...	·28	...	...	·21
	Death—Enteric fever	·82	·75	2·94	13·61	11·21	13·93	14·31	5·45	·66	3·12	14·30	3·48	10·17

In Table II the vital statistics of the groups for 1898 will be found placed side by side to facilitate comparison. Gangetic Plain had the highest constantly-sick rate, and Indus Valley the highest admission and death-rates; Hills the lowest constantly-sick rate, Western Coast the lowest admission rate, and Burma Coast the lowest death-rate. Burma Coast had the highest admission rate from simple continued fever and small-pox, and the lowest from ague; Burma Inland the lowest from tubercle of the lungs and from respiratory diseases other than pneumonia; Bengal-Orissa the highest from dysentery and hepatic abscess; Gangetic Plain the highest from tubercle of the lungs and venereal diseases; Upper Sub-Himalaya the highest from cholera; Indus Valley the highest from ague, remittent fever, pneumonia, and other respiratory diseases, and the lowest from simple continued fever and venereal diseases; Deccan the highest from influenza; Western Coast the lowest from enteric fever and hepatic affections, and nearly the lowest from ague; Southern India the highest from congestion and inflammation of the liver, and the lowest from diarrhœa; Hill Stations the highest from enteric fever and rheumatic fever, and the lowest from dysentery.

The percentage of enteric fever to total admissions in 1898 was greatest in Hill Stations; of ague in Bengal-Orissa and Indus Valley; of remittent fever in Indus Valley; of simple continued fever and venereal diseases in Burma Coast; of dysentery and hepatic abscess in Bengal-Orissa; of enteric fever, pneumonia, and diarrhœa in Hill Stations; and of other respiratory diseases in Western Coast.

Stations.

7. The death ratios of all stations will be found in Table III, and the actuals in Table IV. The highest ratios among the large garrisons with a strength of over 1,000 were those of Peshawar and Quetta (over 40), Lucknow (over 30), Umballa, Agra, and Rawalpindi (over 20); and all, except that of Agra, which was much reduced, were higher than the corresponding ratios of 1897. The greatest

increase was in the case of Quetta, and was due especially to enteric fever, and in a less degree to malarial fevers, respiratory diseases, hepatic abscess, and dysentery. Lucknow also had a great increase of mortality from enteric fever; and Rawalpindi a great increase from abscess of the liver. Though the death ratio of Peshawar was highest of all, it showed the least increase over the ratio of 1897. Agra, Umballa, and Peshawar were also in this black list in last report. In Table V will be found some explanation regarding the unhealthiness of four of these six stations. The remaining two, Umballa and Agra, had not constantly-sick and admission ratios so high as, in conjunction with the death ratios, to entitle them to the bad pre-eminence of a place in Table V. The health statistics of Umballa, Rawalpindi, and Peshawar are said by the medical officers to have been unfavourably affected by the return or reception of broken-down men from frontier field service; and at eight other stations the same complaint was made.

Regiments.

8. The statistics of individual regiments and of the different arms of the service may be studied in Table XIV. The infantry had, as in the preceding three years, the highest admission and constantly-sick rates; and the cavalry the highest death and invaliding rates. The highest constantly-sick rate was in the 80th Battery, Field Artillery, at Jhansi; the highest among cavalry in the 5th Dragoon Guards at Meerut; and the highest among infantry in the 1st Battalion of the Bedfordshire Regiment at Meean Meer. The highest death-rate was in the 2nd Battalion of the Yorkshire Regiment at Peshawar, and was due to enteric fever and heatstroke. The 2nd Battalion of the Oxford Light Infantry at Lundi Kotal and the 1st Battalion of the Wiltshire Regiment at Quetta had also high ratios due to enteric fever. The 9th Lancers at Muttra and the 25th Battery, Western Division, had the highest ratios (due to enteric fever) in their respective arms of the service.

Principal diseases.

9. Sickness and mortality having been studied in their relation to India, to commands, to geographical groups, to stations, and to regiments, it will be convenient now to discuss the statistics of some of the chief diseases.

Influenza.

10. At the end of 1897 and the beginning of 1898 influenza was falling. It began to rise again in February 1898, and reached its maximum for the year in April. There was very little in the second half of the year (Table VI). The following table shows the increase of total in 1898. It also shows the monthly progress and the annual fluctuations of the disease since 1890, the first epidemic year:—

Period.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.	Per mille of strength.
1890 . . .	...	3	473	1,451	248	69	13	2	3	...	...	1	2,263	33·4
1891 . . .	1	...	1	16	77	91	112	29	20	2	2	21	372	5·5
1892 . . .	113	53	354	241	57	4	32	8	...	...	...	...	862	12·7
1893 . . .	1	...	...	15	4	...	...	...	...	...	...	1	21	·3
1894 . . .	7	9	12	70	101	30	7	7	...	2	...	...	245	3·4
1895 . . .	14	7	52	156	66	35	17	1	5	13	23	165	554	7·8
1896 . . .	262	65	140	30	12	7	3	3	88	128	50	20	808	11·5
1897 . . .	12	10	31	9	11	30	8	8	...	54	87	12	272	4·0
1898 . . .	7	19	82	213	162	57	6	...	1	...	9	8	564	8·3
Total .	417	166	1,145	2,201	738	323	198	58	117	199	171	228	5,961	...

The actual maximum of the individual years of the nine occurred in various different months, but over the nine-year period as a whole the greatest numbers of cases occurred in April and March, and the smallest numbers in August and September: 84 per cent. of the whole in the first six months of the year, and only 16 per cent. in the last six months. Geographical Groups I, II, V, VI, VIII, IX, XI, XII*a*, and XII*b* were attacked both in 1897 and in 1898; Group IV, which had escaped in 1897, was affected in 1898; Group VII escaped in both years; while Group X was spared in both years, as well as in 1896, 1895, and 1894. It is not known why this last group, which contains the European garrison of Bombay, has been so long free from influenza. Twenty-five stations were attacked in 1898, against twelve, nineteen of them suffering only in 1898, and six in both years; while six escaped that had been affected in 1897. In Table VI it may be seen that Belgam, Ahmednagar, Sitapur, Wellington, and Secunderabad had the greatest numbers of cases. At some stations the beginning and end of the outbreak were abrupt, at others more gradual; but nowhere did two distinct outbreaks occur in the year. As may be seen in Table IV, the average number of men constantly sick with influenza was 25, against 10 in 1897, and the average duration of a case 16 days against 13. The returns deal, of course, only with those cases which were admitted into hospital. The only death returned as directly due to influenza occurred, as may be seen in Table IV, at Belgam. It is mentioned that at Belgam there were other cases besides those admitted to hospital. In Section III, paragraph 51, is given a table showing the relation, year by year, of influenza to pneumonia, and of the influenza of the European troops to that of the native troops and to that of the prisoners. The influenza admission ratio of the first was the same as that of the second, much less than half that of the third. The likeness of some of the cases to dengue was noted at Barrackpore.

Cholera.

11. General questions regarding the etiology, spread, and prevention of cholera, and the circumstances, so far as they are of importance, attending the occurrence of cases in 1898, will be discussed in Sections VI and X of this report.

The amount and proportion of cholera were much less than in the previous year, and the ratios were much below those of the decennium, as may be seen in the following table :—

Period.	Admissions.		Deaths.	
	Number.	Per mille of strength.	Number.	Per mille of strength.
1886—95	1,280	1·9	901	1·33
1897	117	1·7	80	1·17
1898	17	·3	14	·21

The distribution of the cholera of 1898 by stations and seasons is shown in Table VII. The monthly maximum was only 11, and was reached in May; and in no less than eight months of the year cholera was absent. Umballa with 10 cases suffered most, 7 of the cases occurring in the 3rd Battalion of the Rifle Brigade (Table XIV).

12. Information regarding small-pox in 1898 will be found in Tables I—IV and LIII, and information about vaccination in Section VII, Appendix A, Statement VII.

Small-pox.

The admission-rate was reduced from 0·4 to 0·03, and the death-rate from 0·06 to 0·00. There were only 2 cases with no death, against 24 cases with 4 deaths. The ratios were, of course, much below the decennial ratios of 1886-95. Rangoon and Sialkot had each one case, the former station belonging to Burma Coast and the latter to Upper Sub-Himalaya.

13. Ague gave rise to over 27 per cent. of the admissions from all causes. That the admission ratio did not fall more, seems to have been largely due to relapses among those who had contracted the disease in the preceding year:—

Ague, Remittent Fever, Simple Continued Fever, Malta Fever (1)

Period.	Intermittent Fever.		Remittent Fever.		Simple Continued Fever.	
	Admissions per 1,000.	Deaths per 1,000.	Admissions per 1,000.	Deaths per 1,000.	Admissions per 1,000.	Deaths per 1,000.
1886—95 . .	353	·18	9	·54	57	·04
1897 . . .	395	·41	25	·60	43	·01
1898 . . .	394	·30	33	·37	43	·06

The ratios were above those for the decennium. A reference to Tables II and X shows that in 1898 ague ratios were high in Indus Valley, Bengal-Orissa, and Upper Sub-Himalaya, and low in Burma Coast, Western Coast, and Burma Inland. And that this is a usual state of things as regards the first, third, fourth, and fifth of those groups, may be seen from the following:—

Period.	Ratio per 1,000 of strength.												
	I	II	IV	V	VI	VII	VIII	IX	X	XI	XIIa	XIIb	
	Burma Coast and Bay Islands.	Burma Inland.	Bengal and Orissa.	Gangetic Plain and Chutia-Nagpur.	Upper Sub Himalaya.	N.-W. Frontier, Indus Valley, and North-Western Rajputana.	South-Eastern Rajputana, Central India, and Gujarat.	Deccan.	Western Coast.	Southern India.	Hill Stations.	Hill Convalescent Depôts and Sanitaria.	India.
1886—95	194·5	531·2	381·8	216·9	465·5	632·4	496·9	228·0	164·3	119·0	291·0	320·4	352·9
1897	47·4	132·6	383·9	246·7	422·6	761·8	584·2	333·3	182·2	139·4	128·1	158·7	394·7
1898	56·3	171·4	603·5	314·8	550·3	766·3	499·1	320·6	115·0	278·1	224·8	443·0	394·0

It will be observed that the high ratio of Bengal-Orissa is unusual. All the stations in the group participated in the increase. The medical officer of Barrackpore explains that a large proportion of the cases were relapses in men infected the previous year, and that the type of disease was milder than in 1897. The fever at Dum Dum is said to have been largely due to the receipt of infected men from Barrackpore; and with regard to Calcutta it is stated that there had been practically no cold weather, and that the damp fogs had been a prolific source of the disease in men weakened by the long-continued hot weather. At ten stations the original infection of men suffering in 1898 is said to have been contracted on field service. Proximity of irrigation canals was blamed at Kirkee. On the other hand, reduction of ague was at Kurrachee ascribed to the Indus having overflowed less than usual,

and at Meiktila to the water having been boiled. Those officers who mention the prophylactic issue of quinine speak of it as having been beneficial.

In Table X it may be seen that the most malarious month of 1898 was November, and the least malarious February. A comparison of Table X of 1898 with Table X of 1897 supports the view that the malarial fever of 1898 was largely a product of the malaria of 1897, because the numbers of cases in the earlier months of 1898 were high, while those in the usually malarious months were low.

Morbidity from remittent fever increased in 1898, while mortality diminished. The disease was most prevalent at Peshawar and in the Khyber Force and Brigade. The geographical groups which showed the greatest increases were VII and XI. The medical officer at Peshawar remarks that the remittent fever was mild, there being only 7 deaths in 1,116 cases, or a little over 0·6 per cent. The case-mortality for India was also only just over 1 per cent. The incidence of the disease in stations may be studied in Tables III, IV, and XI. Remittent fever in 1898 was most prevalent in May, and least prevalent in February. This distribution is not the same as in 1897, probably on account of the continuity of malarial action from 1897 into 1898; and this difference of distribution, therefore, supports the diagnosis of these remittents as malarial. The records of the *post-mortem* examinations also on the whole support the diagnosis, though in one case ulceration of the large intestine with abscess of the liver was found, and in two others ulceration of the intestine unlike that of enteric fever.

The admission ratio from simple continued fever was slightly reduced, while the death ratio increased. It was most prevalent in Burma Coast, Southern India, and Western Coast. Four deaths were returned, and in the three *post-mortem* records which have reached this office no definite lesions are described. The medical officer of Barrackpore complains that danger to the community is often caused by wrongly diagnosing mild cases of enteric fever as simple continued fever or ague. In the Cherat, Madras, Bellary, and Mandalay reports it is noticed that the relative numbers of cases of simple continued fever, ague, remittent fever, and, it might have been added, enteric fever, vary with a change of medical officer; and the medical officer of Bellary illustrates this by indicating his opinion that simple continued fever is no doubt of malarial origin.

Two cases of Malta fever were returned, one from Deolali and one from Nowshera. The patient at Deolali had come from Gibraltar. With regard to the case at Nowshera the medical officer says:—

> The patient, of the 1st Battalion of the Dorsetshire Regiment, was admitted on December 2, 1898, complaining of acute pain in the left hip and knee. He arrived in India on November 18, 1898, from Malta, where he had been 92 days in hospital with Mediterranean fever. Since then he had had slight recurrence of pain in his joints from time to time. The present illness started at Deolali, and he gradually got worse till admission.....In view of the previous history the disease was diagnosed as Mediterranean fever.

Enteric fever.

14. Since last report was written there has been no striking discovery in the domain of enteric fever etiology. Perhaps the points that have come most to the front are the results of the continued researches as to the infectivity of the fæces and urine, especially of the latter, and the insistence upon the reality and not altogether inconsiderable frequency of sick-room infection.

Fæces. (2)

The general conclusions arrived at by Horton Smith from his examination of fæces are as follows :—

The stools of a typhoid patient separated from the urine contain typhoid bacilli in fair quantities, demonstrable by our present methods up to about the beginning of the third week. After this date the number begins rapidly to diminish, so that our methods no longer avail as a rule to find them. If, however, a relapse occurs, it may be preceded by a recrudescence of the typhoid bacilli, which can then be found again in the fæces; but during the greater part of the relapse itself and throughout convalescence the typhoid bacilli cannot be found in the stools. It follows from the above that the stools of a typhoid patient must always be regarded as highly infectious during the early stages of the disease, and may again become so in connexion with the commencement of a relapse. This highly infectious character, however, soon becomes greatly diminished, though how soon the stools become absolutely harmless cannot as yet be settled by bacteriology. Finally, when typhoid bacilli have been described in the fæces long after defervescence—*e.g.*, in Lazarus's case, 41 days after—we are dealing almost certainly with fæces contaminated with urine, and not with pure fæces.

The results were obtained from the examination of 29 stools, 3 before the 18th day and 26 after, by a fully controlled Elsner method; and the results of Pollak, Jemma, and Richardson, are also quoted; all going to show that during the first two weeks of enteric fever, but, apparently, more often towards the end of the second week than earlier, the enteric bacillus can be demonstrated in the stools if sufficient care and trouble be taken. Of the 29, the only stool belonging to a later day of the disease than the 17th in which a positive result was obtained was one voided just before a relapse occurred. Some of the older findings of enteric bacilli at late periods of the disease or in convalescents were vitiated by the fact that no care was taken to obtain the fæces without admixture of urine, an excretion which, as will be seen hereafter, is apt to contain the bacillus at late periods. It is a fact that, *post-mortem*, enteric bacilli can often be found in the gall-bladder, even in pure culture, at a time when they can no longer be found in the fæces. Why in such cases they have not continued to appear in the fæces is not at present explicable.

Urine. (3)

With regard to the urine, Horton Smith's general conclusions are :—

(1) It can no longer be doubted that typhoid bacilli occur in the urine of typhoid patients, probably in about 25 per cent. of all cases. (2) For the most part, though present in such numbers as to be demonstrated bacteriologically with the greatest ease, they are not present in sufficient quantity to alter the naked-eye appearance of the urine. In a smaller proportion of cases, however,—probably about 5 per cent. of all typhoid cases—the urine is rendered turbid by their presence. They are nearly always in pure culture. (3) They occur first late in the disease, rarely, if ever, before the third week, and may make their first appearance during convalescence. (4) They generally remain present for some considerable time, for some weeks or even months. (5) The character of the urine does not assist in diagnosing the condition (unless of course it be rendered turbid by the bacilli). It may contain no albumin, often contains but a trace, sometimes has a good deal, and sometimes has pus; all of which conditions occur quite apart from the presence of typhoid bacilli in the urine. (6) The prognosis of a case is not rendered more grave by the occurrence of this condition.

"The urine," continues Horton Smith, "must be regarded as highly infectious, and the same precautions should be taken with regard to it both during the disease and also during convalescence as have now for some years past been adopted in the case of the fæces." He then makes a strong appeal for the routine employment of urotropine after the method of Richardson. In the course of his paper he refers to his own previous work, and to that of

Petruschky and of Richardson, papers by all of whom were referred to in last report. He agrees with Petruschky that the enormous excretion of enteric bacilli in the urine that occurs in some cases may be intermittent, and points out that it must therefore be due to some local change in the urinary tract, and not to a filtration of bacilli from the blood. As Opitz says, there is no physiological elimination of bacteria by the kidneys, and bacteria appear in the urine only when the vessel walls and the renal epithelium have been injured. The appearance of the bacilli in the urine has not been observed earlier than the 15th day; but it is said that the urine may continue to contain bacilli for months or even years.

Richardson has published several papers on the subject. In one series he obtained a positive result in 9 patients out of 38 and in 44 specimens out of 172. When the bacilli were present at all, they were in large numbers and almost in pure culture. They did not appear until a late stage of the disease, and usually continued to be excreted up to late in convalescence; so that both during the disease and during convalescence the urine should be carefully disinfected. The presence of enteric bacilli was always accompanied by that of albumen and casts, although all urines with albumen and casts did not contain enteric bacilli. The earliest dates at which bacilli were found were the 15th and the 24th days of the disease, and in 5 out of the 7 patients who survived, the bacilli were still present on discharge from hospital. In another series he had positive results in 7 out of 24 cases and in 26 out of 96 specimens, and the accompanying circumstances were the same as in the other series. The enormous numbers of bacilli present often caused cloudiness of the urine, and perhaps the bacilli may have multiplied in the bladder. In a third series of 66 cases he found the bacillus in the urine in 14, sometimes in enormous numbers. The bacilli can persist for weeks and months, and in one case they were found in the urine of a man who since an attack of enteric fever five years before had suffered from urinary trouble (probably specific enteric nephritis). As those who suffer or have suffered from enteric fever may remain so long dangerous, every patient should receive 30 grains of urotropine daily for 10 days as convalescence approaches, beginning with the third or fourth week.

Renal enteric fever is also spoken of; by which appears to be meant ambulant cases of enteric fever with renal symptoms, the diagnosis being made by the finding of the enteric bacillus in the urine.

Infectivity of fæces and of urine compared. (4)

Horton Smith notices that whereas the fæces contain the bacilli in apparently every case, the urine is infective probably only in about 25 per cent. of cases; that typhoid stools are most dangerous within the first three weeks, while typhoid urine only becomes dangerous towards the end; that typhoid stools may contain considerable quantities of typhoid bacilli, but rarely, if ever, such myriads as may be present in the urine. He continues:—

> In conclusion, we may ask which excretion must be regarded as the more dangerous and chiefly responsible for spreading the disease. It would seem on the whole that the palm must be given to the urine, and this partly on account of the enormous number of bacilli which may occur in it, and partly on account of the nature of the excretion itself. Thus, the stools by their colour and odour at once attract attention, so that the slightest soiling of the linen is at once noticed, and the damage rectified. But the same cannot be said of the urine. A minute drop from a suitable case may contain some 6,000 bacilli adhering to the end of the penis or to the vulva after micturition. It would infect the linen, and could not but escape detection. It is

probable, indeed, that in such cases we have the explanation of the fact that even after all precautions have been taken, those attending on typhoid patients not so very rarely catch the disease. It would seem in fact at the present moment that this occurrence must be sometimes unavoidable. Indeed, when we come to think of the matter, it is really astonishing, considering the opportunities of infection which undoubtedly exist, that these cases do not occur more often. It is a strong argument in support of the view that some other conditions must pre-exist, possibly in connexion with the bacterial flora of the alimentary canal, without which typhoid fever will not occur, even should the typhoid bacillus be introduced.

The danger to water-supplies of such infective urine has been pointed out by Petruschky and others. Kübler and Neufeld from the circumstance that no colon bacilli accompanied the enteric bacillus in the water of a certain well, concluded that the contamination had more probably been effected by urine than by fæces. The presence of the colon bacillus in the water would not, however, have proved that the water had been infected by fæces and not by urine, because the presence of the colon bacillus has been reported in urines, as mentioned in reports of former years.

Sick-room infection (5)

In a careful paper read before the British Medical Association, Dr. Peck gave the following table to illustrate his experience as Medical Officer of Health of the Chesterfield Rural District :—

Soil infection	9 cases	equal to	4·37 of the whole.
Drain effluvia	21 „	„	10·20 „ „
Pollution of water-course	9 „	„	4·37 „ „
Manure	6 „	„	2·91 „ „
Water	1 case	„	0 50 „ „
Importation	25 cases	„	12·13 „ „
Sick-room infection	28 „	„	13·50 „ „
Several possible causes	69 „	„	33 50 „ „
No ascertainable cause	38 „	„	18·44 „ „
TOTAL	206 cases		

His conclusions are. (1) That sick-room infection is more common than is supposed, and that the danger of it does not receive the amount of attention it deserves. (2) That sick-room infection is much commoner in the small and often crowded houses of the poor than in the larger houses of the well-to-do. He also quotes Dr. Boobbyer's experience at Nottingham as to the greater frequency of enteric fever in houses of small accommodation. Boobbyer considers that the disease is communicable by personal intercourse even in well regulated hospitals, and more so in the confined dwellings of the poor; and Parsons that harm is done by underrating its communicability. Seaton and Bulstrode share in the same views, and Blake supports it by a record of cases. Drs. Barrs, Pearson, and Willoughby maintain the usual view, that when a person contracts enteric fever directly from the sick, it is due to his own disregard of precautions of cleanliness; but S. Cameron and Evans allow in addition a certain amount of aërial convection, much less of course than in the case of small-pox. From Italy it is reported that in a certain institution the passing of an imperfectly cleansed clinical thermometer from anus to anus was a means of spread. In investigating an outbreak of 13 cases in Germany, Kübler and Neufeld came to the conclusion that while the second case arose from pollution of the well by the dejecta of the first case, the remaining 11 cases were due to direct or sick-room infection.

Flies. (6)

It has been found that the virus of enteric fever is not weakened by passing through the alimentary canal of flies. It is believed therefore that flies may convey infection not merely by carrying it adhering to the outside of their bodies, but also by ingesting it from fæces, urine, etc., and subsequently dejecting it on to articles of food or drink destined for consumption by man. The large part that flies were, as the result of investigation, thought to have taken in the spread of enteric fever in the American army camps at the time of the Cuban War, was mentioned in a former report. Nuttall agrees with Veeder that flies are not sufficiently thought of, while water is always blamed. V. Poore, on the other hand, says—

> We hear much about flies conveying fever, which may be true; but we must always bear in mind what I feel inclined to call the excessive specialism of Nature.
>
> Insects which feed on dung and carrion are seldom attracted by the food of human beings, and I confess to being somewhat sceptical as to the accidental conveyance of infection by "flies" which heedlessly buzz first into the fæces and then into the milk.

Medical officers in India frequently refer to the danger from flies that come from the latrines and alight on food or drink in the cook-rooms or barracks.

Dust. (7)

Kenwood speaks of the danger of the enteric bacillus getting into the dust of the room, and thus into food and drink; Nollet describes the finding of the bacillus in the interstices of the woodwork of a barrack in France; Sanglé-Ferrière and Remlinger assert that during an epidemic in Tunis they found the enteric bacillus, and in a second epidemic there the colon bacillus and an enteric-like bacillus, in the dust of the air, though not in the water, cases of the fever having previously occurred among the inhabitants of the ground that was defiled with excrement; and Newman in a description (characterized by *Nature* as a little difficult of comprehension) of an experiment of his own, seems to indicate that in the perfectly still atmosphere of a bell-jar the enteric bacillus, once it had become dry enough, was able to ascend into the air, and contaminate sterilized milk, and also water, contained in small vessels under the bell-jar. On the other hand, Neisser, as has been noticed in former reports, considers the conveyance of enteric fever by room dust as impossible, because the degree of drying necessary before it can be carried about in dust is fatal to the bacillus. The mode of infection by the spray of coughing, proved for some diseases, can, as far as present knowledge allows judgment, have little bearing on the conveyance of enteric fever; unless, perhaps when pneumonia is present. (*See* under "The Bacillus in Sputum".)

Soil. (8)

S. Martin, continuing his well-known investigations, found that in sterilized samples of earth from cultivated districts and preserved from drying, the enteric bacillus not only retained its vitality for 456 days, but spread through and over the whole soil. Even in dust-dry similar samples it lived for 49 days. The experiments were successful not only at incubation temperature, but also at average outside temperatures. In sandy or turfy virgin soil the bacillus quickly perished. From inoculated unsterilized samples of such soils as are after sterilization good for growing it, the enteric bacillus could be recovered after 50 days, though, owing to the presence of the colon bacillus, the process was very long and difficult.

It has been said on the one hand that a water-logged soil rich in organic matter, on the other that a soil at a temperature over 60° F. and with moisture under saturation, ought to be favourable to the enteric bacillus; but in India the disease seems most prevalent in the drier parts of the country, and is very commonly at its maximun in the driest time of the year. As indicating a connexion of enteric fever with the soil, it has been pointed out by Haffkine that the enteric virus may stick to the infected locality for years, and may, in spite of improvement in the water-supply, cause a continuous incidence of the disease for which occasionally nothing short of complete evacuation of the locality is an effective remedy. It does not seem to be suggested that there is anything mysterious in the connection between enteric fever and soil, or that any deep geological problems are involved. The whole danger lies in the defilement; though that may perhaps be influenced in extent or duration by local geological formation, as contended by Sir Charles Cameron in the case of Dublin. At any rate, till more is really known on the subject, most sanitarians will be inclined to share in and act on the belief of Sir Charles Cameron that "the cleaner the soil we live on, the longer we are likely to live on it."

Water, filters, and allied topics. (9)

As Houston says, when the bacteriology of soil is better known, it will be possible to prophesy the bacteriology of a water, provided its origin is known. Many of the bacteria found in surface soils do not commonly occur as water organisms: hence the discovery of these particular organisms would indicate contamination with flood water. He found that the colon bacillus and the bacillus of Gaertner were more easily isolated from recently manured soil, and Klein agrees with him that "in the *bacillus enteritidis sporogenes* (Gaertner) we have a new test for contamination of soils, and therefore of waters derived from them." In investigating the recent outbreak at Belfast, Lorrain Smith found in the spleen of those who died the enteric bacillus and the colon bacillus, but in the water only colon bacilli and not the enteric bacillus. But because some of these colon bacilli occurring in the water were pathogenic to animals and reacted by the clumping test to enteric serum, he concluded that they were directly concerned in the infection. His general conclusions were—

> 1. In the presence in the water of typical bacilli of the coli communis group we find evidence of contamination with intestinal excreta. 2. Certain of these bacilli exhibit their relationship to the process of infection in typhoid fever: (*a*) by their lethal effect on small animals, (*b*) by showing the reaction of infection when exposed to the blood of typhoid patients ..... Short of discovering in the water the typhoid bacillus also, and thereby giving absolute proof regarding the primary cause of the epidemic, I know of no stronger bacteriological evidence than that which I have adduced in favour of the conclusion that this contamination of the water is one of the causes of the outbreak of the disease in Belfast.

On the other hand a reviewer of Lorrain Smith's report, on the ground that the incidence of the disease was unequal in the city, and that the City Gaol and the asylum escaped, considers that the outbreak was more probably due to soil pollution. In criticizing the report on the Maidstone epidemic Sims Woodhead stated that the presence of the *bacillus coli communis* should be regarded as evidence of contamination, provided that the bacillus found had certain biological characters and was pathogenic to animals. Kübler and Neufeld, investigating an outbreak in Germany, isolated from the well the enteric bacillus, and four weeks later a bacillus which, though not pathogenic to animals, agreed with genuine enteric bacilli in appearance, in motility,

and in behaviour to the chemical tests, and was also agglutinated by enteric serum. It was apparently an enteric bacillus of diminished virulence. They point out that for the positive identification of enteric-like bacilli found in water, the serum test is absolutely indispensable. Their claim to be the first to have proved the presence of the enteric bacillus in water by a faultless method of diagnosis will probably be disputed by Hankin in India and by others in Europe. The success of the bacteriological examination a month or more after the supposed time of pollution of the water was supposed to point to original infection by large numbers of bacilli, and this together with the absence of the colon bacillus seemed to indicate pollution by urine (see under "Urine"). The well was supposed to have been infected by the washing near it of the sick-room utensils used by the first case; but after the occurrence of the second case it was put out of use, boiled water was issued, and the stools were treated with milk of lime. Nevertheless 11 more cases occurred, which were attributed to sick-room infection. During the time the well was out of use a stranger, ignorant of the circumstances, drank of it, and got enteric fever. As a rule, water is not examined till too late—after the incubation and outbreak, or even after the subsidence of the disease; at least, that is the reason usually given for failure to find the microbe. Constant examination, or a lucky investigation after a copious pollution, would seem the circumstances under which success is most likely. If the chances against the success of bacteriological examination be so great, still less can chemical examination, though it may indicate danger, ever tell with certainty that a water is free from specific infection. Klein and Houston infected sterile distilled water with sewage in varying degrees representing dilutions of sewage ranging between 1 in 100 and 1 in 20,000. Chemically they found that the majority of these waters would have been classed as at least organically safe drinking-water, but in each and all of them the *bacillus coli* and the *bacillus enteritidis sporogenes* were detected. The presence in water of the *bacillus pyogenes cloacinus*, isolated by Klein from sewage, would also be condemnatory. Blaxall in noticing the rarity with which the enteric bacillus is found in suspected water, and offering the usual explanation, contends that such water rarely fails to show the presence of the colon bacillus and other bacteria that point to excremental pollution. An opinion to somewhat the same effect was quoted in the report for 1895* from McWeeney. Abel, on the other hand, remarks that as the *bacillus coli* is everywhere, its presence in water does not necessarily mean anything serious. The truth seems to be that, while the mere presence of the colon bacillus in water is insignificant, its constant presence or its presence in large numbers, especially in a form that is pathogenic to animals or re-acts with enteric serum, is a sign of danger past or present or possible.

Both the enteric bacillus and the colon bacillus are distinguished from the natural water-microbes by their inability to live in distilled water for long periods. The enteric bacillus, if shaken in sterilized water, soon perishes; and, according to Frankland, Ackermann explains this by supposing that the flagella are nutrient rootlets, and get broken off in the shaking, so that the bacillus can no longer absorb food. This, however, is a mere speculation.

In contradiction of the results of other observers, Malfitano reports that no permanent biological modification in the bacteria employed was observed to result from exposure to compressed carbonic acid gas, though the pressure

* Paragraph 15, pages 25 and 29.

was raised to 55 atmospheres. Nor was he more successful when he exposed the bacteria to the interrupted action of the gas; and he concludes therefore that the purity of aërated water depends on the care taken by the manufacturers to sterilize the original fluid. The enteric bacillus is said to have been isolated from impure ice.

M. Treelle reports that in 1893 a violent epidemic broke out in Tiemcen. One of the barracks was supplied with water filtered through Pasteur filters, and yet only in that one did an epidemic of enteric fever break out. The other barracks were not provided with filters. In an epidemic at Castres in 1897 the barracks outside the city, provided with water filtered through Pasteur filters, were severely tried, whereas the scholastic establishments in the centre of the city entirely escaped. Again, Dr. Nollet says:—

> After a period of infatuation the Chamberland filter no longer commands the confidence of hygienists. The *bougie Chamberland* may be useful in a laboratory, but it is by far too fragile for a barrack-room. A filter with a fissure through it, or one badly looked after, is worse than none at all. If, however, it should be decided to retain the Chamberland *bougie* in spite of its many defects, then each one in use should be tested daily by the regimental medical officer.

On the other hand, Defries endeavours to prove by statistics that the Pasteur-Chamberland filter has really been of use in the French army. The Berkefeld filter, Lunt states, after a few days' use, lets through water-bacteria, but not the colon bacillus, the enteric bacillus, or the cholera vibrio, at least not for some weeks. So too, van't Hoff found that with sand-filtration too slow passage of the water was as bad as too quick, probably because the delay allows the bacteria to multiply in the stagnated water and in the filter. Delépine is quoted as showing that it is very difficult to purify by sand-filtration water that has once been polluted, and that non-polluted water does not need filtration. When the water is polluted, filtration does not give absolute security, and when the water is unpolluted, it is unnecessary. Instead of filtering the water after it has been polluted, it is better to protect it from pollution at the source.

It has been said that "water polluted with sewage at its source produces enteric fever at its distribution," some understanding this to mean sewage as sewage,* others considering it to be true only of sewage containing the enteric bacillus; but, while that is the history of explosive outbreaks, it seems to be equally a fact that "endemic and annually recurrent prevalence of enteric fever depends on local and permanent insanitary conditions". As Haffkine says, while cholera infection seems to be almost exclusively confined to the water-supply, in the case of enteric fever improvement of the water seems to leave intact a large number of other sources of danger which have as yet escaped recognition. In fact, it is coming to be more and more clearly perceived that enteric fever is not simply and solely a water-borne disease. However, on the other hand, S. Cameron suggests (and this seems to have been the belief also of the late E. Hart) that polluted water containing bacilli in too small numbers to produce an explosive outbreak may yet cause cases, attacking those who drink much of it, or those who are very susceptible.

Various experiments have been made by the use of the *bacillus prodigiosus*, aniline dyes, kerosene oil, or easily recognizable chemical substances, as to the filtering power of the ground, and as to the possibility of the contamination of well water by the way of the surrounding soil. The result of such experiments

* See under "Sewer gas"

seems to be on the whole that the danger is greater than had been suspected. The actual or possible existence of faults, sun-cracks, rat-holes, or worm-burrows, has to be reckoned with.

With reference to a remark made on page 28 of the report for 1897 Mr. Hankin has pointed out that while Abba's experiments were made with Pasteur-Chamberland bougies, his own were done with the ordinary coarse country earthenware. A note by Mr. Hankin on the detection of the enteric bacillus in water, etc., is printed as an appendix to this section (Section II).

Milk and butter. (10)

Bolley and Field found that after the enteric bacillus had been introduced into butter, 10 days was the longest time it could be detected. When, however, the cream was infected with enteric germs before churning, they could be discovered in the butter even after three months. They report that the enteric bacillus does not grow in butter if the buttermilk has been thoroughly worked out of it, but that if it is left, they increase; that in sterilized milk the bacillus can exist for upwards of 4 months; that inoculated into freshly-drawn milk the bacillus can be demonstrated as long as three months afterwards; that no types of bacteria were met with in milk which proved capable of overcoming the enteric bacillus; that the same bacillus when inoculated even in comparatively small quantities into sour milk, took wellnigh complete possession of the liquid, becoming almost a pure culture. As in the case of water, it is not usual to succeed in finding the bacillus in suspected milk, even when the chain of evidence seems otherwise complete, and when the disease appears to be stopped by measures directed to the milk-supply. An outbreak affecting 42 out of 45 inmates of a pauper asylum was traced by Naegeli to the man who milked the cows, and who, though he had never knocked off work, was shown by Widal's test to have been an example of ambulant enteric fever. A similar chain of events was observed in Glasgow.

Sewer gas, foul air, insanitation, geology. (11)

The enteric bacillus has never been discovered, and according to present knowledge is not likely to be discovered, in sewer air. But cases still continue to be reported in which medical men are convinced of the causal relation of sewer gas to the fever. Thus, Wyatt Smith, stimulated by the publication by Nash of several series of cases of different diseases supposed to have been produced by sewer air, places on record an instance in which three cases seem to have so originated. The record is not quite convincing, owing to the absence of stringent proof that the disease could not have been contracted otherwise than by inhalation. There seems to be spreading abroad a revived opinion that sewer air inhaled or sewage-polluted water drunk, even if the enteric bacillus be absent from them,* can produce or induce enteric fever. But, so far as is known, there is no enteric fever without the Eberth's bacillus. In such cases the bacillus must, therefore, come in somewhere. The explanation, accordingly, may be that the bacillus, perhaps in an attenuated condition, is already present in the bodies of the patients; and that the chemical products of putrefaction, inhaled in the sewer air or ingested in the sewage-polluted water, depressed the human organism, or exalted the microbe, or both; thus giving an advantage to the microbe, and enabling it to overcome the somatic resistance. Towards the action of filth-products, however, it seems that the human organism is capable of acquiring tolerance; and thereby it becomes less liable to enteric fever. It is

* See under "Water."

possible, therefore, that modern sanitation, while diminishing the chances of exposure to the bacillus and to the filth-products that favour its action, increases the susceptibility of man. Thus, the English soldier is tolerably safe in England without the aid of filth-tolerance; but when he is transferred to a land of insanitation like India, his want of filth-tolerance tells against him. It may even be feared that the comparative purity of cantonments in India, like the comparative purity of the land he has come from, may make the British soldier more prone to infection in the dirty bazaars. It has been said that enteric fever is the disease which shows most the influence of sanitary improvements; and no doubt it may be so when the improvement is widespread over the country; but in India the Europeans who live in clean cantonments and civil lines cannot, or do not, keep themselves quite unspotted from the primitive filth of the great mass of the country. This surrounding filth is ever ready to encroach on any cantonment where there is the slightest laxity of sanitary supervision, and is a standing danger to individuals. Since efforts to banish enteric fever by purifying the water-supply have met with so much less success than was expected, medical officers, aided by the visits of special sanitary officers, have been forced to turn their attention to the details of the sanitary condition of their stations. Some sanitary transgressions and omissions are found in the lines, but more in the bazaars; and it may here be noticed that in France the measure which in India is called "putting the bazaar out of bounds" is said to have met with some success in checking the disease.

Boobbyer of Nottingham's experience is that the disease is endemic in poor overcrowded localities, irrespective of geological formation, provided that soil-pollution and like favourable conditions are present, and that under equally unfavourable circumstances the better class of houses has fewer cases than the poorer. This latter point is explained by some as the result of sick-room infection in small overcrowded houses. Sir Charles Cameron's observations on the greater incidence in Dublin of enteric fever on the gravel soil than on the clay, and the supposed explanation, are noticed in the Army Medical Report for 1897. His views have been disputed.

Auto-Infection. (12)

In the narration of their investigations into the Belfast epidemic, Lorrain Smith and Tennant have occasion to refer to the experimental results obtained by Sanarelli, some account of which will be found in the report for 1894, paragraphs 14 and 52, pages 25 and 69. The two results of Sanarelli's work, they say, which have a direct bearing on their own investigations are (1) the effect of coli products in increasing the virulence of the typhoid bacillus, and (2) the effect of the injection of typhoid toxin in bringing about an invasion by the colon-bacillus; Sanarelli thinking it probable that auto-intoxication with products of intestinal fermentation is a factor in the causation of typhoid fever,—a suggestion which brings the theory of the disease into line with his experimental results. Their object in the investigation was to show that in patients there can be obtained from the serum indications of colon-bacillus invasion during the process of typhoid fever; and there is a large body of evidence to prove that Sanarelli's experimental results are directly applicable to typhoid disease in the human subject. The supposed danger seems to be that a poisoning from the intestine or a change in the condition of the intestinal flora may make a man fall an easier victim to the enteric bacillus, if the latter enters at the proper moment. Another view is that the *bacillus coli* under certain unknown conditions becomes

changed into the enteric bacillus. A third is that enteric fever is not a unity, but a congeries of symptoms which may be caused now by the enteric bacillus, now by the *bacillus coli*, now by the bacillus of Gaertner, etc. D. B. Spencer wishes to distinguish between true enteric fever due to the ingestion of sewage matter from outside the body, and fermentation fever, of which "tropical enteric fever" is a form, due to sewage matter belonging to the body.

Origin-tracing. (13)

It is not only in India that difficulty is found in tracing the actual channel of infection in a given outbreak. Both Peck of Chesterfield and Mair of Gainsborough learned by experience that, while it is frequently easy to find a number of possible causes, it is hardly ever easy to fix upon one undoubted cause, and sometimes impossible even to guess one; and Mair was able to trace origin from a previous case only in 31 per cent. of attacks.

Weather and season. (14)

Berger for a locality in Germany found that enteric fever was most prevalent in August and least so in November-February; that it was at its height when temperature, humidity, and dew-point rose; taking only pressure and temperature, that it rose when pressure fell and temperature rose; taking pressure, temperature, and humidity, that it was at its highest when pressure temperature, and humidity rose, and at its lowest when pressure rose with temperature and humidity falling, or when humidity rose with barometer and temperature falling. Similar detailed observations are wanting for India. In England it is said that a high (over, 55° F.) sustained summer temperature is followed by a high autumnal prevalence, and a cool summer by a low autumnal prevalence, and that enteric fever and diarrhœa are therefore parallel in their relations to temperature.

Hardiness. (15)

It has already been mentioned that the enteric bacillus has been recovered from unsterilized soil 50 days after inoculation into it. Klein found that in the period between 15 and 20 days the enteric bacillus had died out in buried bodies of guinea-pigs; Pfuhl that the enteric bacillus can flourish on boiled potato and grow into its substance even in the presence of the colon bacillus or the bacilli of garden earth; Sitsen that drying produces first increased resistance against carbolic acid, and ultimately diminished resistance. A very general statement of Ficker's results is that thin layers of old, not very virulent, cultures are more easily killed by drying than cultures of opposite characters, and the higher the temperature the more easily; that alternations of dryness and moisture are very fatal; and that moist heat kills more quickly young cultures than old. It has already been mentioned that the enteric bacillus can be killed in water by shaking.

Friends and enemies. Mixed infection. (16)

Both Lorrain Smith and Houston agree with Sanarelli that symbiosis with the enteric bacillus increases the virulence of the colon bacillus, and that, on the other hand, the *bacillus coli* may be directly concerned in the production of a virulent enteric infection. In his experiments Sanarelli had found that the bacillus of Escherich produces increase of virulence of the bacillus of Eberth, and that the injection of enteric toxin favours invasion by the *bacillus coli*. It is said also that the staphylococcus is inimical to the enteric bacillus, while the streptococcus is helpful to it. Attempts have been made by means of the Gruber-Widal re-action to diagnose mixed infections, and it has been suggested that not only the colon bacillus but also the bacillus of Gaertner, and perhaps other bacilli may occur in mixed infection with the enteric. Thus, Biberstein found

that in 15 out of 18 cases enteric patients' serum agglutinated the colon bacillus more than normal serum did, and sometimes agglutinated the colon bacillus more than the enteric; the inference being that in these cases the patient was invaded both by the bacillus of Eberth and by that of Escherich. Evidence of the existence of mixed infection by the same two bacilli was obtained in Belfast, as already noted, by Lorrain Smith.

Susceptibility. (17)

It is supposed that "enteric families" exist, families that are more liable than others to be attacked by enteric fever, either from a general susceptibility of body or from an idiosyncratic constitution of the intestinal flora. So, too, there is some evidence of the existence of "enteric houses", houses which have been repeatedly invaded in different years; but it is to be presumed that it is only change of tenants which directs attention to such houses, because, as a rule, constant dwellers in insanitary surroundings seem to acquire a certain amount of tolerance of the enteric virus, though new comers are very apt to suffer. Whitelegge has noticed that such acclimatized persons are apt to get enteric fever after they have been away on a visit to the sea-side, having lost their immunity by the change of residence. But in the short report of his remarks the proof is not given that the infection was not contracted at the sea-side. The opinion of the medical officer of Ahmednagar, quoted in paragraph 16, page 29 of the report for 1897 may be referred to. It is probable that the enteric bacillus, like other pathogenic microbes, can only attack the enfeebled; but it is not quite clear whether general enfeeblement is enough, or whether a particular kind of enfeeblement is necessary. Children also are liable to the disease, but the younger the child the less the march of the attack is like that seen in the adult. The evidence regarding a possible greater liability of total abstainers is very imperfect; but even if the greater liability were proved, it would be an argument not against total abstention but for the purification of water-supplies. The question is chiefly interesting in that some look to a greater liability of abstainers as a proof of water-conveyance.

Cycles and Change of type. (18)

If there is any truth in the idea mooted in England that the lessened prevalence and mortality from enteric fever, said to be attended by some change of type in symptoms and lesions, is at least partly due, not to sanitary improvement, but to a cyclical diminution of infectivity, India may be in a cycle of increase.

Enteric-like fevers. Typho-malarial fevers. (19) Diagnosis.

It is well known that there are some who hold that the so-called enteric fever met with in India, or at least the bulk of it, is not the same as the enteric fever of Europe, and D. B. Spencer has lately asserted that true enteric fever is rare in India. The great body of opinion, and the results of bacteriological investigation, so far as they have gone, are, however, in favour of the view, that the enteric fever of India is the same as that of Europe, though there may in India, as in Europe, occur cases of enteric-like fever caused by other and related bacilli. The colon-bacillus which has a bad record as a cause or accomplice in many diseased conditions, is most frequently blamed for these enteric-like fevers, though the *bacillus enteritidis sporogenes* (Gaertner) has also been accused in such cases. Gwyn in a case which was clinically typical found a paracolon bacillus which had characters of both the enteric bacillus and the colon-bacillus. It is possible that in such cases the bacillus met with was the *bacillus faecalis alkaligenes*, which is said to be nearer the enteric bacillus than the colon-bacillus is. The evidence available goes to show that there is no separate fever to be called "typho-malarial,"

cases so designated being mixed infections by the malarial animalcule and the enteric bacillus. At least 31 cases have been published (29 by Lyon, 1 by Wilson, 1 by Goltmann), in which both parasites were found to be present by bacteriological and microscopical methods. Cases have been published of sudden influenza passing ultimately into enteric fever, of the outbreak of enteric fever immediately after an epidemic of influenza, and of confusion of diagnosis between the two at the beginning of an outbreak (Clifton). Difficulty of diagnosis also arises with tubercle, simple continued fever, plague, etc.

Enteric fever a blood disease. The bacillus in the blood The bacillus in sputum and sweat. (20)

In reporting a case of cystitis caused by the enteric bacillus, which remained localized in the bladder though it communicated to the blood the power of agglutination Houston concludes that the fact that the enteric bacillus can grow in the tissues without any symptoms of enteric fever resulting, and produce there a local lesion, is in favour of the view that this fever is a true general infection, and not merely of local origin in the Peyer's patches of the intestine. Experiment seems to show that the intestinal bacteria cannot get through the healthy intestinal wall. Sudakoff found the enteric bacillus in the blood in one case, in the blood and sweat in one case, and in the sweat in one case. The blood from the roseola from 14 cases was examined by Neufeld by a new method, of which rapid work so as to avoid the bactericidal action of the blood, and the use of a fluid medium, were the chief features; and from only one did he fail to cultivate the bacillus, and that case was also refractory to the Widal and other bacteriological tests. Richardson found the bacillus in the sputum of a case with pneumonia on three successive days; but he failed to find it in 15 cases where there was no pneumonia.

Enteric fever without intestinal lesions. (21)

Cases of enteric fever without intestinal lesions continue to be reported; but a certain amount of doubt rests upon many of them on account of the insufficient proof offered that the bacillus found in the organs was really the enteric bacillus. However, some cases have been properly authenticated. It has been suggested that enteric fever without lesions is more frequent now than formerly, on account of a change of type in the disease, the brunt of which tends to fall on other systems or parts of the body rather than on the intestinal. If this be the case, enteric fever must, as Sanarelli contends, be a blood disease with a secondary intestinal infection, and not an intestinal disease with a secondary blood-infection. It was mentioned in last report that some of these cases are supposed to be caused by the bacillus of Gaertner.

The bacillus in the organs, and its presence for long periods. (22)

The enteric bacillus can often be found in the gall-bladder when it is no longer present in the stools, and it may there be in pure culture. The gall-bladder itself may be affected with inflammation, ulceration, or perforation, and the presence therein of attenuated enteric or colon-bacilli sometimes leads to the formation of gall-stones. It is stated that the enteric bacillus has been found in pure culture in suppurative lesions in the ribs, clavicle, radius, ulna, femur, tibia, and the bones of the fingers and toes; in the blood, the heart muscle, the endocardium, the arteries and veins of the legs; in the muscles of the neck, shoulder, abdominal wall, and legs; in the peritoneal cavity, the spleen, the liver, the bile, the kidney, the urine, and the mesenteric glands; in the brain, the parotid gland, the thyroid gland; in the lungs and the pleura, in the ovary; in the testicle. The cases of mixed infection are equally numerous and widespread. It has sometimes been found in the bone marrow, even in cases that gave no Widal re-action, also in cases of abscess

of the connective tissue, periostitis, osteomyelitis, empyema, pleurisy, in typhoid lesions of the larynx, in otitis media, in diseases of the testicle and thyroid gland; in ulcers of the vulva and vagina, and in abscesses of the glands of Bartholin. Cases in which the enteric bacillus has been found in pure culture in the body up to 8 or even 15 years are quoted from von Dungern, Buschke, Bruni, Sultan, Chantemesse, Houston, and others. References on this subject were also given in the report for 1897.

Experiments on animals. (23)

Chantemesse reports having given a monkey enteric fever by feeding it with small quantities of bacilli for three or four days. It died on the 12th day, and there were found ulcers in the large intestine and caecum and swelling of the mesenteric glands and spleen. In sections of the spleen there were numerous enteric bacilli. Row successfully exalted the virulence of cultures by passage, the animals used being guinea-pigs.

Prevention. Inoculation. (24)

To kill or intercept the microbe and to increase the resisting power of men are the two methods of prevention; and general measures of sanitation are believed to act in both ways, because the purer the surroundings the more healthy the human individual will be, and the less likely to meet with noxious germs. But there is some suspicion, as has already been mentioned, that purity of surroundings may actually make men more susceptible to corporeal depression by a subsequently experienced impurity of environment, and therefore more apt to fall victims to the virus of enteric fever. Sanitary purity would be effectual if it were general, but in India at present it can only be partial. It is known that the soldier in his clean lines and barracks is closely surrounded by the pollutions of the bazaar, and the enteric bacillus is widely distributed. Therefore recourse to the inoculation method of Wright is by many strongly advocated.* Haffkine thus concludes a lecture of argument delivered before the Royal Society:—

> From the point of view of preventive measures, in diseases like rabies, or syphilis, or small-pox, or leprosy, where infection can be found in the patient alone, precautions of isolation taken with regard to the sick and their closest surroundings, must affect directly the prevalence and propagation of the disease; whereas in typhoid fever, or cholera, or plague, where the patient is only one, and proportionately a limited source of danger, his isolation, and the destruction of his belongings, leave unaffected the vast cultivations of infection which are going on in nature besides; and measures taken for circumscribing the prevalence of the epidemic by isolating and destroying the foci of infection are less likely to succeed in this category of diseases. Attempts to eradicate an epidemic or to protect individuals by means which succeed in merely contagious diseases, will in this case easily be eluded, and the necessity of personal protection by means of prophylactic treatment will be soon urgently felt and acknowledged.

Opinions of Medical Officers.

15. In but few cases is it stated that particular regiments or barracks were especially attacked, and mention of some of those will be made in the two next paragraphs. As usual, the most salient factor in such cases was recent arrival in India of the regiment, or of drafts, coupled with youthfulness of the men; greater nearness to bazaars, or greater exposure to infection-laden wind, being among the contributary causes adduced. In some cases no explanation is attempted. At least two men, and perhaps three, appear to have already contracted the infection before they landed in India, while two or three are said to have been

* A certain amount of inoculation work has actually been carried out, but no reports on the subject have yet been received.

infected at Bombay, or *en route* therefrom. Medical officers frequently noted, especially in the case of hill stations, that the disease must have been contracted before arrival, either from impurities encountered on the march, or from a cause existing in the previous station; so that the station where the disease was treated was not always the station in which it was contracted. Into Shahjahanpur two cases were imported, it is said, and the disease then quickly spread. The danger of ambulant cases is also noticed in some reports. The evil effect upon individuals or upon regiments of active service on or beyond the North-West Frontier was observed in several stations. One medical officer expresses the opinion that the so-called enteric fever of India is climatic in origin, and that ague is a principal factor in its causation; while another considers that ague acts indirectly by deranging the safe-guarding function of the liver. Atypical *post-mortem* appearances were noted at Cherat and Bangalore, and the medical officer of the former station believes that the enteric fever of India is not the same as that of England. A belief is expressed by the medical officer of Nasirabad that enteric fever in India may be caused by microbes other than that of Eberth, by the *bacillus coli* for example. Some patients acknowledged having drunk foul or doubtful water in the bazaar, or when out shooting, or on the march, or on the rifle range, or when rambling about the khuds. The bazaar is, as usual, considered by many medical officers as the place where enteric fever is mostly contracted, by the partaking of aërated waters, ice-cream, fruit, cakes; suppers in shops, eatinghouses, or brothels. The medical officer of Nasirabad mentions that urine and even fæces have been found in the so-called drinking water standing ready in a brothel. At Poona seven of the attacks were among men who were constantly about the bazaars on plague duty. In the experience of Umballa and Poona placing the bazaar out of bounds had a good effect. At Calcutta a milkman was detected washing his cans with dirty water; at Jutogh a bhisti was seen filling his mussack from a dirty pond, and it was discovered that the galvanized iron tanks were being cleaned with the aid of mud; and at Peshawar it was found that the water-pipes in their course sometimes passed through foul irrigation channels. With regard to Shahjahanpur it is stated that mussacks were used, that the wells were not protected with permanganate of potassium, that the latrine arrangements were bad, that there were no chicks to the kitchens, and that when these defects were remedied the epidemic ceased. It is said that after the wells of Roorkee were put in good order and the water-barrels cleaned, there were no more cases of enteric fever. At some other stations mussacks, pakhals, and motes were still in use, with unprotected wells. At Jullundur the distribution of the drinking water, and at Aden the distribution and storage of the same and the disposal of the waste water, were reported to be faulty; and liability to contamination is asserted with regard to the water-supply of Umballa, Bellary, Meiktila, Mandalay, Poona, Nasirabad, and Deolali. At Poona variation of water-head pressure was supposed to induce suction of external, and perhaps foul, moisture into faultily joined or damaged pipes. A multiple water-supply, always a dangerous arrangement, was reported as existing at Calcutta, Ranikhet, Fort Lahore, Fort Attock, Thobba, Murree, Madras, Secunderabad, Rangoon, Shwebo, Purandhar, Nasirabad, Neemuch, Taragarh and Aden. The municipal water was suspected in the case of Cawnpore and Agra, though the civil population did not suffer to the same extent as the military. At Agra the enteric bacillus was reported present in the water of No. 4 well, and on

three occasions in the municipal water; and at Mhow a bacillus resembling that of Eberth was found in the lake-water. The enteric bacillus having been found in the water of a camp well at Meerut, the regiment moved away, with good effect. At Bangalore the medical officer noticed that most cases were occuring in bungalows on low ground and near the horse-lines, but this incidence was, in his opinion, afterwards explained by the finding of the enteric bacillus in some drinking water placed near the horse-lines for the use of the men. The result of bacteriological examination in the case of Jubbulpore, Sitapur, Fatehgarh, Ranikhet, Bellary, Nasirabad, and Mount Abu was negative. At some stations the water was regarded as excluded from the possible vehicles of infection, because the outbreak was not widespread; while the medical officer of Chakrata points out that enteric fever was less prevalent there at a time when the *bacillus typhi abdominalis* was reported present in the water than it is now when the water is reported pure. At Quetta the water-supply was insufficient. The arrangements for the manufacture and supply of aërated waters was here and there unsatisfactory, but no cases of enteric fever were traced to this condition of things. The combined result of five stations was that 116 cases occurred among total abstainers, and 396 in non-abstainers, or 23 and 77 per cent. respectively. But, as their average annual strengths cannot be obtained, no conclusion can be drawn as to the relative liability of those two classes. That there was no observable difference of liability was the belief of the medical officers of Rawalpindi and Bangalore. At Kasauli and Poona the medical officers were not satisfied with the dairy arrangements. In certain stations the immunity, or comparative immunity, of women and children was used as in previous years, as an argument against the probability of the spread of the disease by means of milk, whereas in others the fact that women and children suffered was held to throw suspicion upon the milk or upon something effecting women and children as well as men, such as air-borne fæcal dust. The fact that attention to dairies and milk-supply had produced no effect on the annual amount of enteric fever was also advanced as a proof that milk had not been a vehicle. There was an impression at Jubbulpore that the subsoil water had risen of late years owing to the new water-supply and the disuse of the wells; and the medical officer of Ranikhet says that there has been more enteric fever at Lucknow since wells were disused and the Gumti water taken into use, the circulation of the ground water having been choked. At Jhansi, on the other hand, the prevalence of enteric fever was attributed to the very low level of the subsoil water and the considerable drying up of the wells, the result of a three years' drought. Unlike Jubbulpore and Lucknow, however, Jhansi had a lower enteric fever admission ratio in 1898 than in 1897. The question of the conveyance of the infection in dust-laden wind has again attained some prominence in 1898, as may be seen in the next two paragraphs under the heads of Chakrata, Rawalpindi, and Quetta. The infective dust is supposed to enter into the mouths of the men, to fall into the water, and to settle upon the food. Along with dust, flies are mentioned as likely carriers of infection from fæces to food. Some medical officers, therefore, dwell on the importance of protecting the kitchens from dust and flies, of excluding from them all natives except the actual cooks, and of closely supervising the cleanliness and personal habits of the cooks, who are often sweepers, or little better. For some regiments stringent detailed rules as to the management of the cook-houses were issued under the authority of the officer commanding. One reform suggested from various sides is that the men should be made to cook for themselves without the

aid of natives, and this has actually been carried out by the Gordon Highlanders. The conveyance of infection by means of air-borne dust, if a reality, must be confined to the dry seasons, and dust-storms are most frequent in the dry hot season; but a second maximum of the disease in the damp months of August and September is very usual; and the medical officer at Rangoon remarks that cases generally begin to come in after the first rain. Exposure to the sun and fatigue from work at the rifle range, from military training, from football training, or from other exertion are mentioned in some reports as contributory causes. The danger in badly managed mortuaries from the careless spreading abroad of undisinfected intestinal contents, a danger brought to notice by V. Poore, is again this year referred to. The medical officer at Cherat stated that some of the bungalow-sites and tent-sites were unhealthy, the lower on the hill the more unhealthy, that there was a want of personal cleanliness, that there was a difficulty in ventilating tents, and that no cases could be traced to dirty native cooks or dirty tanks. Bernardmyo, which was first occupied in 1888, is said never to have *originated* a case of enteric fever. Fatehgarh had none during the year. The disease is said to be rare at Calcutta, Pachmarhi, Roorkee, Mandalay, and Colaba. As to Roorkee, the reason given is that it is a small clean station, to which young drafts do not come. The immunity of Mandalay is said to be in spite of a water-supply very liable to contamination. The Dagshai Military Prison was always free from enteric fever, even before resort was had to boiling and permanganating the water; in 1896 the water contained the enteric bacillus, but no men got the disease; and in 1897 the medical officer's family partook of lemonade containing the bacillus, but all escaped. Meiktila is said to have had no enteric fever since 1895, the water having been boiled since April 1896; and it is stated that Neemuch has had no cases that could be attributed to the station since the new water-supply was introduced. The reduction in Kurrachee was supposed to be due to attention to all points of sanitation. At Meerut removal from the neighbourhood of a well containing the enteric bacillus was apparently successful in staying an outbreak; and good results were reported to have been obtained at Umballa and Poona by placing the bazaars out of bounds. On account of the persistent occurrence of enteric fever there, Dagshai was totally evacuated early in 1898, and remained unoccupied until April 1899. A great deal of attention seems to have been devoted to the purification of the drinking water, a good deal to that of the aërated waters, and some to that of the milk. In some stations the wells were cleaned out once or twice a year, and were treated once a week with potassium permanganate. Boiling and the addition of potassium permanganate were very extensively used for the purification of the drinking water, the boiling being carried out in at least seven stations in Larymore patent boilers. In half a dozen stations alum was used. The men at Calicut are said to have drunk only aërated waters, because they did not like the permanganated water. In next paragraph under the headings of Barackpore, Meiktila, and Poona will be found some remarks as to the danger of contamination of the water owing to the amount of handling it is subjected to in the process of purification, and as to the danger of allowing the men convenient access to non-purified water. A good deal appears to have been done in the matter of substituting galvanized iron vessels for leather ones. At Agra the water of a well in which the enteric microbe had been detected was treated with hydrochloric acid and potassium permanganate, and was examined bacteriologically once a week. The officer commanding at Sitapur issued detailed instructions regarding the care and purification of the wells and drink-

ing water. At some of the stations in the Murree hills the water was so pure that sterilization was not required, and that process was only resorted to when drought necessitated recourse to a second source of supply. Some regiments introduced filtration, permanganation, or boiling, as purificatory processes, into their aërated water factories, and used only permanganated water for washing the bottles. At Amritsar there are said to be no aërated waters sold in the bazaar except those of barrack manufacture. Precautions as to milk are usually mentioned, if at all, in general terms. The special measures noticed are milking in presence of a European, sending the milk out in locked cans, and boiling. At some stations incineration was resorted to for the destruction of infectious stools only; while in others an attempt was made to dispose of all nightsoil and rubbish by that method. The efficiency of the different incinerators employed was variously estimated. Reviewing the reports received on this point, His Excellency the Commander-in Chief in India states that no thoroughly satisfactory incinerator has yet come under notice; that the incineration-method must still be considered as being in the experimental stage; that experiments will be continued; and that a trial is being given at Cawnpore to an apparatus intended by its designer to consume both liquids and solids. The clothing worn by men suffering from enteric fever, venereal disease, and other infectious maladies, was boiled before being handed over to the washermen. Out of the 2,498 cases of enteric fever which occurred throughout the army of India in 1898, 37 are noticed as having declared themselves among patients in hospital or among attendants. Out of these about 11 were in hospital for early venereal disease, and about 8 for other diseases; and 18 were attendants on enteric fever cases. The number of attendants attacked was, as in the previous year, high. A second attack was the lot of a man at St. Thomas' Mount, whose first attack had been at Secunderabad in the previous year. Cases in which enteric fever and dysentery were more or less closely connected were observed at Calcutta, Barrackpore, and Quetta; but at Quetta this connexion was not so frequent as in the preceding year. A case each of enteric fever at Fyzabad, Cawnpore, and Umballa was complicated with multiple abscess of the liver, that lesion in the Fyzabad case being part of a general pyaemia; while in three cases of abscess of the liver, which occurred respectively at Lucknow, Agra, and Shwebo, the origin of the abscesses was stated to have been the intestinal ulceration of enteric fever. In a case of single abscess of the liver occurring at Lundi Kotal, the length of time that had elapsed since the close of the attack of enteric fever, rendered the reality of the connexion somewhat doubtful.

The following is an account, shortened from the reports of medical officers, of the outbreaks, the causation of which was believed to have been discovered, or in the case of which the drinking water was suspected, or was said to contain the enteric bacillus; of the measures considered to have been effectual in preventing or checking the disease; and especially of the results obtained by boiling the drinking water, or by adding to it potassium permanganate or other chemicals. Though 1898 was the third year in which those methods of water purification were officially in force, it will be seen from the following table that the amount of enteric fever in India still continued to increase. It is scarcely to be believed that the measures in question were everywhere so carelessly carried out as to be worse than useless; and the suspicion arises that in applying them to the water-supply, the authorities were not applying them to the real origin of the disease. This point was more fully dwelt upon in the report for 1897. In-

stances of sanitary defects other than those connected with the water-supply are given in paragraph 16 or in the reports from which that paragraph is compiled.

Commands.	Year.	Enteric Fever.		
		Admissions.	Ratio per 1,000 of strength.	Difference.
Bengal	1897	786	39·1	+2·0
	1898	824	41·1	
Punjab	1897	724	42.1	+6·6
	1898	895	48·7	
Madras	1897	237	19·2	—7·6
	1898	143	11·6	
Bombay	1897	303	20·4	+14·7
	1898	513	35·1	
India	1897	2,214	32·4	+4·5
	1898	2,108	36·9	

No explanation can be offered as to the reduction in Madras and the rise in Bombay. The chief reductions in the Madras Command were at Rangoon, Secunderabad, Calicut, Mallapuram, and Pallavaram, though eight other stations had also lowered ratios. The chief rises in the Bombay Command were at Quetta, Kirkee, and Taragarh, though six other stations shared in the rise. Of the 7 stations which *reported* the use of Larymore boilers for the sterilization of drinking water, Dinapore, Nasirabad, Neemuch, Indore, and Mhow had admission ratios lower than those of their geographical groups, and Dinapore, Meerut, Indore, and Neemuch, admission ratios lower than those of their commands; while Meerut and Muttra had ratios higher than those of their geographical groups, and Muttra, Nasirabad, and Mhow, ratios higher than those of their commands.

Barrackpore.—In accordance with prevailing scientific opinion, it has been accepted that the poison has been in all cases swallowed with food or drink; and hence in previous years the food and water supply have been dealt with in various manners. All methods proved so useless that in 1898 I resolved to abandon all attempts to "purify" the ingesta of the soldier. . . . . It is a curious coincidence (if coincidence it be) that during the period when Macnamara filters were in use in barracks, no enteric fever occurred, and that on their abolition (by me), and the substitution of boiling or permanganating the water, enteric fever occurred. It would be no very difficult matter to establish a connexion between these processes and the contamination of the water supply. At all events, they proved so unsatisfactory, that they were abandoned, and, up to a certain point, with very good results. . . . These results compared so favourably with the previous year's that it was with great reluctance I initiated a change at the commencement of the second half of the year. . . . . I resolved to use the alum method of precipitation, and on the 1st July the process was begun. In considering the subsequent events, it would be erroneous to presume that there is a connexion between storage and enteric. . . . . But it is none the less curious to note that the occurrence of enteric fever coincides precisely with periods during which the water is treated in some form or other, with a view to render it more fit for drinking purposes. . . . . I do not desire to state that boiling and storage of drinking water can be otherwise than good, if a connexion between water and enteric can be shown to exist; but I do insist that, failing direct (*i.e.*, bacteriological) evidence of contamination of drinking water, it should not be presumed that the disease is so conveyed to our soldiers; and the more especially as I feel convinced that the mode of carrying out these processes is so imperfectly performed in barracks, that the dangers of contamination are manifold. . . . . For years I have been endeavouring to minimize the manifest dangers to the living which arise from the care-

less disposal of the washings of intestines, etc., in our *post-mortem* rooms, and I know how impossible it is to cope with the question, especially in India. The disposal of the fæces (and urine) of the sick is difficult, and requires constant supervision, but the *post-mortem* room difficulties are stupendous.

Jubbulpore.—There were two outbreaks during the year, the first during the months of March, April, and May, and the second in November and December. . . . . The drinking water previous to the first outbreak had not been boiled. Boiling was commenced from the 18th April, after which there was a gradual subsidence of the disease till the following November. . . . . The head quarters and four companies of the 2nd South Lancashire Regiment arrived from Kamptee on the 16th October, and, as the disease was confined to this party, it would appear therefore that the men admitted in the second outbreak of enteric fever may have contracted the disease before coming to Jubbulpore. . . . . The subsoil water in the vicinity of cantonments is from two to sixteen feet below the surface; but there is a general impression, though there are not sufficient data to rely on, that the subsoil water has greatly risen of late years, since the introduction of the municipal water supply, and the consequent disuse of the wells. . . . . Four samples of water taken from different stand-pipes in barracks were sent to the Government Analyser on the 23rd April 1898 for bacteriological analysis, and he reported that no microbe resembling that of enteric fever or cholera was detected in any of them.

Sitapur.—A sample of water was sent for analysis to Mr. Hankin at the time of the occurrence of a few cases of enteric fever in February. It was pronounced by him to be of good quality and free from the enteric microbe.

Fatehgarh.—A chemical examination of the water from the well used for drinking and cooking purposes was made twice during the year, and gave satisfactory results. A bacteriological examination of the same water made on 1st November showed 4,053 colonies per c. c., but no organisms resembling the cholera or enteric microbes. . . . . The cook-houses are all supplied with water-tanks, which are kept carefully locked. These tanks are twice weekly thoroughly cleaned with boiling water, and the insides are exposed to the sun for several hours. The water is always kept slightly tinged with Condy's fluid. An ample supply of clean dusters has been insisted upon, so that clean ones are issued daily to the cooks. Each kitchen is supplied with a broom, which is used by the cooks only, for sweeping up the floor, and is never used for any other purpose outside the cook-house. The chopping-blocks for meat are well raised off the ground, and are kept clean. The cooks are prohibited from chopping meat on boards on the ground. Each kitchen is also supplied with a large meat safe. The groceries are carefully kept in locked boxes. The meat baskets are frequently scrubbed with soap and boiling water, and are often renewed. Chicks are supplied to all doorways. Sweepers are not allowed in the kitchens under any circumstances. An orderly is told off to each kitchen, and has written orders to the above effect. A man who has served for some years in the country is, if possible, chosen for this duty.

Cawnpore.—The last case on the list was a gunner employed in the Harness and Saddle Factory, where the men have access to the municipal water supply. Mr. Hankin in his evidence before the committee on the Agra water supply stated that he had found the enteric bacillus in the Cawnpore water supply derived from the river Ganges, and I view with suspicion all water derived from the municipal mains, which supply the whole of Cawnpore outside cantonments with water. This is a possible source of infection in the case of men employed in the civil lines, or frequenting the bazaars outside cantonment limits.

Bareilly.—My experience and observation have led me to conclude that the disease is entirely climatic in India, and the constitutions of some are more liable to the effect than of others. I also consider that malarial influence has to some extent a part in the production of the disease, a disease which, if not unknown among Eurasians and natives, is at any rate very uncommon. . . . . With these views on the subject of enteric fever, I am of opinion that the endeavour to trace its origin in milk and water supplies in India will not meet with success. . . . . .

Shahjahanpur.—The Wing of the Argyll and Sutherland Highlanders arrived on the 9th April. The first two cases occurred on the 11th, and eleven other cases in quick succession up to the 2nd May. . . . . At the next sanitary inspection, the following defects were found, and subsequently remedied. The bhisties were using mussacks indifferently for drinking and cooking and washing water; and the wells had not been

treated with permanganate. The mehtars in the latrines were carrying out their work carelessly, the lids did not fit the iron receptacles, and there was a foul smell in the latrines. There were no chicks in the cook-houses: consequently flies abounded, and settled on the meat. . . . . When these measures had been taken, the epidemic ceased. It does not of course follow that increased care was the cause of the cessation of the disease. In fact, all the evidence goes to prove that the epidemic was entirely imported. Still, had these insanitary conditions been allowed to continue, it is probable the disease would not have been stamped out, but would have become endemic in the station. The condition of affairs in the cook-houses by which flies frequenting latrines in use by men already infected with the disease could gain access to meat, milk, etc., would in itself, in my opinion, be quite enough to keep enteric going.....One suggestive point in the history of the last case of the three that occurred in the autumn is that previous to his attack he had been employed on the range, and much exposed to the heat of the sun. A paper written about a year ago by Major Fayrer, R. A. M. C., deals with this subject, and shows the intimate connexion which subsists between excessive exposure to hot sun on the range and attacks of enteric fever in the young soldier. No doubt, this is a predisposing cause only, but it is one of great importance, which occurs in a large number of cases.

Lucknow.—The East Lancashire Regiment from Lucknow contributed 44 out of the 58 admissions.....The immediate and exciting cause may be put down to residence in Lucknow, where the disease had assumed almost epidemic proportions. Without departing from the subject-matter, I hope I may be permitted to bring forward a theory which may possibly have something to say to the great increase of late in enteric fever in Lucknow. Formerly the water-supply for all troops in garrison was obtained from wells in and about the barracks. Of late years the water supply has been obtained from the River Goomtee, and the wells disused; and it is only of late years that enteric fever has made such gigantic strides. With the continuance of the wells the sub-soil water was kept in circulation; but when their use was discontinued, the sub-soil circulation must have become more or less choked.

Meerut.—During the month of January 1898 there were 17 admissions, 14 of these being amongst men of the 1st South Wales Borderers at the time the regiment was encamped on the ground between the station hospital and the railway. The well water was suspected, and a specimen sent to Mr. Hankin at Agra, who reported that "a microbe resembling the enteric microbe, was present." The camp was moved, and with beneficial results, as only three cases occurred in February. No special cause could be discovered for the other 64 cases that occurred in 1898, but in my opinion the bazaars are in many cases to blame.

Roorkee.—Two of the three cases occurred among men living in the same barrack-room. Investigation into the origin of the infection showed that the well in connexion with this barrack-room was out of order, and that the water-barrels were not kept properly clean. Suspicion at once fell on these causes, and subsequently to their being attended to no fresh cases occurred .....Past records show Roorkee to have always been comparatively free from enteric fever. This would be a matter of special interest were it not that it can probably be satisfactorily accounted for by the small size and probably, therefore, greater cleanliness of the station, and by the greater average of age and length of service in India of the men, and the absence of large drafts of young recruits who are so liable to contract this disease.....A case of enteric fever in a child was attributed to drinking unboiled water in the soldiers' bath-room.

Chakrata.—Accounting for the prevalence of enteric fever in various stations has hitherto not been a profitable job. Various officers, when dealing with this question, set themselves to answer a long string of queries, somewhat after the manner of the postal service when a letter has gone astray, the replies in the one case being just as futile as in the other. For example, the officer in charge in 1896 proved to his own satisfaction that it was due in that year to contaminated water. He says,—"The Bacteriologist for the North-Western Provinces found the enteric bacillus in the water at its source, in the filters, pakhals, mussacks, and tanks." Under such circumstances, one would naturally expect to find that enteric that year had assumed the proportions of an epidemic. It comes as a surprise to find that only four cases originated in the station during that year. Since then the water has been reported pure and free from bacteria, and it is as well protected as water can ever hope to be, but none the less enteric has increased by leaps and bounds. The officer in charge last year devoted twenty-two pages to enteric fever, and

seems to have examined every thing on the earth above and in the waters beneath without throwing any new light on the subject. After many years' observation three points in my opinion, stand out clearly: (I) Its seasonal character. It assumes its greatest virulence in most plains stations at the onset of the hot weather, when dust and flies most abound. Consequently, troops leaving their stations at that period for the hills bring the disease with them. (II) It declines here, and, as far as my experiences go, also in other stations with the onset of the monsoon, when dust and flies disappear to a great extent. (III) There is the personal factor. So long as men keep well, so long will they be more or less immune to the disease; but let them, from overwork or other causes, become lowered in health, then their chance of contracting the disease is enormously increased. A good illustration of this was found among the special orderlies employed here during the epidemic of enteric fever. The regiment arrived in Chakrata without a single trained orderly. When some twenty-five were trained, they were kept constantly employed, from the natural desire that each severe case should have trustworthy and experienced men to nurse it. Consequently, the orderlies were very much tried by their exhausting duties, their general health suffered, and no less than five of them contracted the disease in its worst form, a number out of all proportion to the rest of the troops. It is pleasant to record that none of them lost their lives through their devotion to their sick comrades .....It is to be hoped that the time is at hand when sanitary authorities will give their attention to some fresh points of the enteric problem, and leave the unfortunate water in peace for a time. They seem to forget that nearly all the circumstances connected with the water-supply are totally different from what prevails in Europe. I allude to the absence for the most part of deeply manured fields, which in Europe serve as a catchment area, the streams running through farm-yards, the villages and manufacturing towns which line the river banks, and throw their sewage into it. In India, during the greater part of the year the water comes from the melting snow high up on the Himalayas. This is notable in the Punjab. The rivers have sandy banks and sides, and are generally free from manufacturing towns. From the rivers the water reaches the wells through miles of natural filtration, as at Multan, for instance.

Agra.—The water for drinking and cooking purposes for the troops in garrison has, during the whole year, been obtained from two wells in the British infantry lines, namely, Nos. 4 and 5. This water was taken into use on 2nd December 1897, and was the outcome of a committee assembled at Agra on 24th November 1897 to inquire into the outbreak of enteric fever amongst the European troops during that year. The committee was of opinion that the disease was waterborne, and that the consumption of the municipal supply, in which the bacillus of Eberth had repeatedly been found, was the cause of the complaint among the troops. The municipal water was, however, not entirely cut off from barracks until 7th May 1898, it being used up to then for ablution purpose, etc.; and the cause of its being cut off then was due no doubt to the increased number of attacks in April. Since the 7th May no municipal water whatever has been used in the British infantry lines and field artillery barracks, but this has not been the case with regard to the fort, where its use has been continued for ablution purposes. Representation has now been made on the subject with a view to having it entirely cut off, and well water (No. 2 well) substituted.....The two wells referred to above in the British infantry lines are covered in, and provided with pumps, also covered in, and worked by bullocks. Notwithstanding every precaution taken to prevent contamination, the enteric bacillus was on 18th May 1898 detected in a sample of water from No. 4 well submitted for bacteriological examination. This was no doubt the result of surface leakage. The well was immediately closed and No. 5 taken into use, until No. 4 had been repaired, cleaned and disinfected, and its water declared free from the bacillus by the bacteriological examiner. Well No. 4 was on the 24th June again taken into use. Twice a week each well is treated of an evening with 4oz. of hydrochloric acid and 4 oz. of permanganate of potash, and once a week a sample of the water is submitted to the Government Analyst for bacteriological examination.....After the water is drawn, it is boiled in degchies in the company cook-houses, cooled in chatties, and then placed in the Macnamara cisterns for consumption. The Principal Medical Officer of the district has clearly shown in his letter No. $\frac{331}{D}$ of 21st October 1897, to the Deputy Assistant Adjutant General, Agra, and so have the committee assembled to investigate the outbreak of 1897, that the manner of boiling the water is most faulty, and does not give the boiling-of-water theory a fair trial. If the water is to be boiled, it should be done properly by boilers on the constant system, cooled, and conducted direct into the drinking cisterns without any handling; but

I see no reason why, when the water is of known purity and free from the enteric bacillus, it should not be conducted to each barrack by pipes, and drunk direct from the tap. In November and December this year the enteric bacillus was found three times in municipal water, namely, in two samples from the inlet wells submitted by the municipal engineer for bacteriological examination, and once in a sample from the standposts submitted by the Executive Engineer. The contamination of the municipal water is no doubt due to the pollution of the River Jumna by the villages of Jaswant Singh and Rajwara situated above the intake. As this water is distributed in the bazaars in cantonments and also in the city, places which the soldier frequents, it is more than probable that some of the cases of enteric fever were due to drinking of this water ; but it is only fair to add that the civil population, who use the water supply, have been particularly exempt from enteric during the year. The Civil Surgeon informs me that he has had only three cases of enteric fever under his care during the year, and that they were all in cantonments.

Jhansi.—During the early part of the year the subsoil water was at a very low level, and most of the wells in the station were nearly dry. To this fact the medical officer in charge attributed the prevalence of enteric fever. Such scarcity of water in the station is without precedent, so far as I can ascertain. The rainfall of the previous three years was scanty ; and, although the rainfall has been considerably in excess of the normal average during the past monsoon months, the subsoil water even now has hardly reached its normal level.

Dagshai Military Prison.—I have pointed out in my reports for 1896 and 1897 that: "The Dagshai Military Prison admission and discharge book from 1st January 1889 to December 31st, 1897, only records one admission for enteric fever, which occurred in August 1893. The same *water*, *milk*, and *food* in every detail are supplied to the prisoners as are given to the troops." The Dagshai Military Prison during 1898 fully maintained its remarkable reputation for health and freedom from one of the soldier's most dangerous enemies, which it enjoyed years before water was boiled and treated with permanganate of potassium. I cannot help referring again to the significant fact that, although the water in 1896 supplied to the military prisoners contained the enteric bacillus, no prisoner contracted the disease. In 1897 the lemonade supplied to my family, who are practically teetotallers, contained the enteric bacillus, but, again, nobody in the house contracted the disease.

Dagshai.—The station was closed, owing to its unhealthiness, early in 1898, and re-opened in April 1899. During the interval extensive works, which are not yet completed, were being carried out to remedy its sanitary defects. Many of the local conditions present at the time of re-occupation are likely, failing special measures, to become a source of danger from a sanitary point of view. Their existence has been pointed out, as well as the remedial measures which I could suggest in each case.

Subathu.—On the 18th July the new permanent water supply was introduced...It is abundant in quantity and of excellent quality, and the springs are not liable to contamination. The benefits of this supply of pure water have already been manifested. The number of cases of enteric fever (eleven) arising in the station is the lowest for many years, and no cases of dysentery originated in the station. The eighteen cases of diarrhœa were not due to the water.

Rawalpindi.—The high admission rate from this, as from other diseases, was in great part the effect of field service. The troops returned to Rawalpindi during April, May, and June, and in these three months there were no less than 72 admissions.* Towards the close of the year the corps marching down from the hills and moving in relief again sent their cases to hospital. Thus we have 22 admissions for November and December.....The proportion of teetotallers and of others attacked was about the same....In diagnosis Widal's test was latterly applied to several cases, and in all the typical re-action was obtained.....The water has again been analysed with satisfactory results. I think it is now impossible for the soldier to contract any disease from this supply as long as the existent conditions continue undisturbed....The soldier probably contracts enteric principally in the bazaars, and, in a lesser proportion, from the dirty natives who do the work of company cooks, and from germs brought in dust storms from villages and other insanitary areas....The Gordon Highlanders, lately stationed in this district, abolished native cooks

* 73 in Table VIII.

altogether, and substituted European soldiers, as at home. The Queen's, when on service in Tirah, carried with them only one native cook per company.....At present, however, the cooking in this station is carried out in the usual way.

Peshawar.—Against enteric fever the following preventive measures are earnestly suggested :—1stly,—That no supplies of any kind, whether of food or drink, should be obtained from the sadar bazaar.....2ndly,—It is in the highest degree desirable to prevent soldiers entering bazaars or native shops, especially when enteric fever and bowel complaints prevail. 3rdly,—The troops should cook their own food, and natives should be rigidly excluded from barrack kitchens. 4thly,—As young men recently out from England are most susceptible, all drafts should be medically inspected twice a week for a certain period after arrival, so that the disease may be detected, and brought under treatment, as early as possible.....The water-supply is drawn from the river Bara ¾ of a mile above Bara fort, from whence it runs through a ventilated masonry tunnel to settling tanks, and from thence through an aqueduct, partly over and partly under ground, to the filter beds half a mile distant from the cavalry lines. It is there passed through 3 feet of sand and 1 foot of shingle, and is then received into storage reservoirs enclosed by a wall, from which it is distributed through iron pipes to the various parts of cantonments, etc. In their course these pipes often pass through foul irrigation streams ; which is objectionable.

Bangalore.—Milk-drinkers and non-milk-drinkers, teetotallers and moderate drinkers, haunters of the bazaar and men who said they never went near the bazaar at all, suffered alike ..... Should it be merely a coincidence that in two of the mounted corps the majority of cases of enteric come from the bungalow nearest the horse-lines, it is certainly an interesting accompaniment to that coincidence that in the other mounted corps, the Royal Horse Artillery, where the bungalows are equidistant from the horse-lines, the numbers of cases from the two bungalows are equal over a term of years. ... Since the above was written, a bacteriological examination has been made of the various drinking waters to which the men have access, and in one the enteric bacillus was found. That one was from a chatty which stands in the forge, within a few yards of the horse-lines, open to contamination by dust, etc., and stated to be used freely by the men working in the forge and horse-lines.....Though no cases were traced to the water-supply, a fresh water-supply has quite lately been introduced, and it is to be hoped the number will become still lower....It comes from Hesserghata, a large artificial tank about 25 miles from Bangalore, which also supplies the city water-works. The water is muddy, but appears to be of good quality, and will improve as the filtering beds get older and into better working order.

Meiktila.—The water has been boiled continuously since April 1896.... .....No case of enteric fever has occurred in the station since 1895. The lake is very subject to contamination, though care is taken to prevent it in cantonments. Specimens of the water are submitted to the Government Chemical Examiner twice a year. In 1898 the unboiled water was reported as "good", the boiled water as "moderate." The water is treated by boiling and the addition of permanganate of potassium....The above process has certain grave objections, for the water is thereby (by the too frequent handling) exposed to contamination. There is no criterion also that the water really does boil, or is even sterilized, in the degchies : though it certainly is fouled by a large quantity of dust from the maidan, and flavoured by the smoke from the open fires ; and, lastly, during the rains these fires could not be lighted at all occasionally, or were extinguished by the heavy downpour. I have therefore strongly recommended the erection of two Larymore boilers. .....Even when boiled and passed through a Berkeleld filter, the water from Meiktila lake, especially in the dry season, is most unpalatable : it has a mawkishly sweet taste, and a flavour as if musty hay had been infused in it. This taste can be recognized in the mineral waters, notwithstanding the addition of whisky, in tea, and in soups and gravies. .....As far as I am aware, no diseases have occurred among the British troops which can in any way be attributed to the water-supply. This may be due to the precautions which has been taken to sterilize the water ; for the medical officer of the native infantry states his belief that the greater prevalence of ague, fevers, and dysentery among the native troops and Burmans, is due to the fact that they drink unboiled water taken from the margin of the lake unfiltered and unstrained.

Mandalay.—The water is liable to all kinds of contamination.....Notwithstanding the unsatisfactory nature of the water-supply, the station is singularly free from cholera and enteric fever, and other diseases which may be water-borne....The consumption of

beer and mineral waters among the men is very great, no doubt partly owing to the disagreeable appearance and taste of the water, even after it has been prepared for drinking.

Poona.—The outbreak was investigated during December 1898 by Major Davies, R.A.M.C., specially deputed for the purpose; and in October 1898 a special committee was appointed under the orders of the Lieutenant-General Commanding the Bombay Army. [The report is a long and detailed one; but the following are, shortly, some of the conclusions.] Your committee respectfully submit that they have shown that the water-supply is liable to contamination, though they hesitate to ascribe the majority of the cases to this cause....The processes employed in the purification of the water are not without danger, and there are also numerous taps in the bath-rooms and elsewhere where the men can get untreated water....It is impossible to think that the cases or even any small number of them, are due to milk supplied in barracks, when it is remembered that the women and children escape the disease entirely....No sanitary defect of any great importance in this inquiry exists in the barracks.....We hold that we are justified in concluding that a number, probably a considerable number, of cases of the enteric fever in Poona are contracted in the soldiers' bazaar haunts. We beg to reinforce this opinion by a recapitulation of the remarkable facts that while 300 or 400 soldiers employed in the early part of this year on plague duty in the bazaars gave 7 admissions for enteric fever, an unusually large number for the whole garrison in these months, their 1,500 comrades, living under similar conditions, except that to them the bazaars were out of bounds, produced not a single case.....If any weight is given to our suggestion that some of the cases are due to leakage and siphonage, this cause has a much more favourable site for action in Wanowrie and the Military Prison, the highest inhabited portions of the cantonment, where the water pressure is liable to more sudden alterations than in the lower lying and more level Ghorpuri lines.

Mhow.—Surgeon-Major Davies, who came to Mhow to make a special investigation of the constantly recurring outbreaks of enteric fever, found that the microbes were five times as numerous in the reservoir as in the lake at Baircha; and, in consequence of this, a recommendation was made to cover in the reservoir in cantonments at a cost of R40,000. In my opinion the money would be much better spent in the construction of filter beds out at Baircha.....The service reservoir is a sedimentation tank to a certain degree, for a week at a time, about.....Both compartments contained the sediment of about ten weeks, and it would have been a strange thing, had the number of microbes per c.c. been only double what it was at Baircha.....The water during the rains is muddy, and the natives will not drink it, preferring to go back to the wells, which are clear and fairly good, though of the surface kind.....When the outbreak occurred, I recommended that they should go back to the wells in the different regimental lines, but, as some expense for pumping would have been entailed, it was not done. The average number of admissions for enteric fever before the Baircha water was introduced was 7 per annum, and since then it has been 49, with double the mortality.....The water has been recently analysed, and pronounced unfit for potable purposes by the Chemical Examiner, Bombay. Samples of water, 8 in all, from various parts of the station were, by orders of the Principal Medical Officer in India, sent for analysis to Major Forrest at Lucknow, but as yet the results are not known here.....A bacillus somewhat similar to the enteric one was detected, but it did not answer to all the tests, and was probably due to the presence of fish and otters, which are rapidly increasing in the lake.....Last year a special board was ordered to investigate the cause of the outbreak, and they came to the conclusion that butter was to blame. In my opinion the case was unproven; and, in spite of the extra precautions, it prevailed to exactly the same extent in this year as during 1897.....I explain the small number of cases among the Royal Irish, not by anything connected with their lines, but by their having come from the Punjab and the North-Western Frontier, where the most susceptible of their men had been found out.....All the recommendations made by Surgeon-Major Davies are being carefully attended to; but the enteric microbe has now been laid on to the whole place for eight years, and the damage done. This could have been avoided to a great extent, had the suggestions I made when the lake was constructed been attended to, *viz.*, not to utilize the earth removed from the site of the village of Baircha for building the bund, and to allow the water collected during the first monsoon to run off without being used for supply..Had these precautions been taken, I feel satisfied that the big epidemic of enteric fever the following year would have been avoided, and we should not have raised the death-rate from enteric fever to

double what it was prior to the introduction of the Baircha supply by means of pipes. We had the same difficulty then with the gwalas regarding the milk and butter supply, but our death-rate from enteric fever was only half what it is now in spite of all our precautions recently adopted.

Nasirabad.—It is well known that a large number of men resort to the brothels in the bazaar, and, as a rule,these houses are very insanitary. The drinking water is usually in a large *ghurra* at the door, which is probably contaminated, and the water has most likely been taken from the nearest well or tank. During a previous tour in India, while I was serving in Lucknow,an inspection of the vessels containing the drinking water in the brothels in the sadar bazaar was ordered, and it was found that some contained urine, and in one case fæcal matter was discovered. Another point that would tend to support the theory that the disease is frequently contracted in the bazaar is that it is not at all uncommon for a man to report sick suffering from venereal disease, and after admission to hospital to develop enteric fever.....I am inclined to believe that what is known as enteric fever in India can be caused by the *bacillus coli.* If this be proved, we shall then have to adopt means for the prevention of a disease which can be produced by a micro-organism which under ordinary conditions is a normal inhabitant of the intestine, and which in certain functional derangements of the bowel takes on a pathogenic action. Inclining as I do towards the above view, I consider that the personal hygiene of the young soldier during his first year in India is a matter of the greatest concern.....Nothing is more common than the ambulant type of the disease; and, when cases of this class occur, the latrines and urine receptacles are infected. These are often placed close to the cook-houses, and bacilli are carried by flies.....The last examination of the Dilwara water and of the Danta water showed them to be free from the enteric microbe.

Colaba.—The continued immunity of the station from enteric fever deserves notice. Of the five cases recorded, three were admitted directly from troopships, one had recently returned from a nursing class at Poona, and one was on his way home to England time-expired in October from another station. No case of the five, therefore, can be directly traced to Colaba or Bombay.

Aden.—There were eleven admissions for enteric fever as compared with none in the preceding year. The medium of infection was probably the water-supply, the distribution and storing of which was most defective, wooden water carts, hose pipes, and wooden barrels without taps, being used, and mussacks for conveyance of water for distribution. Representations have been made of these insanitary conditions, and their abolition recommended.

Quetta.—In a report, with recommendations, which I sent to the Principal Medical Officer in September for the information of the General Officer Commanding, I pointed out (1) that, with the exception of two cases in January, there had been an absolute immunity from the disease until the month of May, when the usual dust-storms commenced; (2) that the meteorological records in this hospital show that these dust-storms were very prevalent between the 2nd and 13th May, both dates inclusive; (3) that the outbreak was preceded by an epidemic of sore-throat and tonsillitis, possibly caused by the inhalation of contaminated dust; (4) that several cases of enteric fever had commenced with sore-throat.....I pointed out that the position of the filth-pits to the windward of the barracks, more especially their proximity to the left infantry and royal artillery barracks, with the clouds of dust and swarms of flies therefrom, was the probable cause of this epidemic, and of its special severity in the lines nearest to these filth-pits, and I made the following recommendations:—(1) That the present filth-pits be closed forthwith. (2) That steps be taken for the immediate and thorough cultivation of the surface. (3) That, as this ground may be a source of danger for some years to come, a belt of trees be planted between this ground and the barracks. (4) That, if the filth-pits are used at all, they should be transferred to leeward of cantonments. (5) That the nightsoil be either cremated, or, better still, removed by rail to some distance. Recommendations 2 and 3 would require an increased water-supply, but as the Government have only $\frac{4}{26}$ of two-thirds of the Hanna stream, I suggested that they be approached with the view to purchasing a larger share of the stream, and thus materially improve the climate of the cantonments by planting more trees; as the climate of the civil lines, where water is abundant, and where trees thrive, is vastly superior to that of the cantonments, where both are scarce. And I ventured to suggest whether it would not be far cheaper in the end to lay out even a considerable sum of money with the view to improving the sanitary condition of the station, than to allow the distressing loss of life

which has occurred during 1898, and which will most certainly recur in the near future, unless speedy action is taken.....On receipt of the above mentioned letter, the General Officer Commanding immediately ordered a committee to make a full and exhaustive inquiry; and their recommendations, which agree in the main with my own (*plus* some additional suggestions), have been sent on to the General Officer Commanding the Forces in Bombay. Meanwhile, Major Davies, R.A.M.C., was sent here from Simla to make his own inquiries and recommendations, the results of which I believe coincide very nearly with those quoted above.....The water-works were completed in 1891, since which time no other water has been used for domestic purposes in Quetta. The source of supply is at Urak, thirteen miles from Quetta, a deserted spot enclosed by high hills on each side, and enclosed where necessary by wire fencing to keep out cattle. Here a perennial stream flows down a narrow gorge, the rocky nature of which makes the site a favourable one for the head-works. The catchment area is an ideal one, and the water is beyond suspicion. The water is brought into the station by a 7-inch cast iron pipe into four masonry tanks, which are capable of holding two days' supply for the whole of Quetta.

Results of special sanitary investigations.

16. The officers on special duty for sanitary investigations have submitted full reports on different points, and on various stations, the following being their conclusions in brief:—

Proposed water-supply for Dharmsala Cantonment, by Surgeon-Major A. M. Davies, dated 4th July 1898.—The opinion I have formed on inspection of the various sources is very decidedly in favour of the Glenmore spring: I consider this to be free from all danger of pollution (the small fields immediately above being, of course, put out of cultivation, and the drainage of Glenmore house being diverted). The Temple spring I consider liable to dangerous pollution: though the sample now examined was pure, previous chemical examinations have given unsatisfactory results, corroborating this opinion. Both Gaj and Kul waters are also extremely liable to pollution. On the whole, therefore, I beg to recommend the Glenmore spring as a source furnishing a sufficient quantity of pure water for the requirements of Dharmsala Cantonment, and free from all danger of pollution. It is, moreover, the most convenient, the least expensive, and the most practicable from an engineering point of view; and will allow of water being laid on to standpipes for all barracks and houses, thereby doing away with the necessity for mussacks or pakhals.

Sanitary condition of Bannu, by Surgeon-Major R.H. Firth, dated 10th July 1898.—Whilst fully admitting that the peculiar geographical, geological, and climatic conditions prevailing, as well as the general insanitary conditions existing in and around Bannu, have some bearing upon the general unhealthiness of the station, I cannot but infer, as the result of my visit to this cantonment, that the chief cause of the sickness prevalent there is the inadequate provision of a good and pure water-supply for drinking and domestic purposes; and, until a good and potable water is available at a minimum amount of trouble to every inhabitant of the cantonment, so long will the place have an unenviable and insanitary reputation. The provision of a plentiful and good water-supply I look upon as an urgent need. It is true that there is good water available in cantonments now; but the quantity is insufficient, and the circumstances attendant on its attainment are such, that the greater number of sepoys and other native inhabitants prefer to use filthy irrigation water brought to their very doors with prodigality. A sufficient supply of good drinking water might be obtained either by sinking more wells in cantonments, or by tapping the Kurram, some four or five miles above Bannu, constructing settling tanks or filter beds for removal of excessive suspended matter, and then delivering it into cantonments by pipes and distributing standards. This proposal, of course, involves expense; but, if a remedy is asked for the existing state of affairs, this is the one and only answer that is likely to solve the present difficulty. Concurrent with the introduction or provision of a more adequate supply of good drinking water to Bannu, must be the reduction of the amount of dirty irrigation water delivered into and passing through the cantonment. Even if a good water is supplied, so long as the foul irrigation water is allowed to pass through the station and sepoys' lines in the reckless way in which it now flows, so long will there be a temptation for the ignorant and indolent to use it in preference to a better, but less easily attained, water-supply.....In concluding this report, I desire once more to repeat my firm belief that nearly all the prevalent unhealthiness of Bannu is due to the want of a pure water-supply, and to the reckless distribution of foul irrigation water

which in the absence of a full and better supply is extensively used for all domestic purposes. Until these changes are carried out, Bannu must always be an unhealthy cantonment.

Sanitary condition of Dera Ismail Khan, by Surgeon-Major R. H. Firth, dated 14th July 1898. Looking, therefore, at all the facts and conditions, I am unable to report that there are any very grave sanitary defects existing at Dera Ismail Khan, which either call for drastic remedies, or which can be said to be unfavourably affecting the health of the community. So long as nature remains what she is in that district, so long will Dera Ismail Khan be a malarious and unhealthy station. The natural physical conditions and forces at work there are so vast and far-reaching, that it is questionable whether it will ever materially lose its present characteristics.

Proposed water-supply for Fort Attock, by Surgeon-Major A. M. Davies, dated 5th September 1898. It is proposed to provide a new water-supply for Fort Attock by running a pipe into the river Indus from the bastion below the Clyde battery..... The results of the examination—bacterial, chemical, and microscopical, as well as the naked-eye appearance of the Indus water, show, that, if this is a fair average sample of the low level, ordinary level water, it will require mechanical filtration or sedimentation before it is fit to drink. Beyond the sand particles, which in flood time would no doubt make it still more turbid, and a rather larger *number* of germs than would be expected, considering the velocity of the flow (and consequent aëration of the water), there is nothing to be said against this as a drinking water. If simple filtration is carried out, and care taken with regard to the sanitary condition of Attock village, I am of opinion that this will furnish a very good source of supply for Attock fort, and one much to be preferred to the wells now in use. The quantity is, of course, unlimited.

Pasteur-Mallie filters (*porcelaine d'amiante*), by Surgeon-Major A. M. Davies, dated 12th October 1898.—From these experiments it is clear that neither the filters of the pattern first submitted, nor those of the "new army pattern" can be properly described as furnishing a germ-free water. Whether this is due to a defect in the filtering medium, to imperfection in the joints and fittings, or (in the case of the pump filters) to the high pressure used, I am unable to say definitely. My opinion is that the imperfection of the fittings is the principal fault.....I think it probable that eventually a filter equal to the Pasteur-Chamberland filter will be available in the Mallie porcelain. The patterns examined were very portable and convenient, but as the results do not justify their being recommended, it is not thought necessary to describe the fittings in detail.

Sanitation and enteric fever at Quetta,—by Major A. M. Davies, R.A.M.C., dated 4th February 1899.—The drinking-water-supply for Quetta is derived from the head waters of the river Hanna, a small stream that drains the rocky slopes of the Zargun mountain, 11,738 feet in height, situate about 16 miles to the north-east of the station .....The water is delivered unfiltered, being usually quite clear..... The amount of water available at Uruk is practically unlimited, and it is proposed to lay down another main, 6 inches in diameter, at a cost of R1,50,000. There would then be an ample supply, and two of the existing service reservoirs might be used as filter beds during flood time, being converted into such at a cost of R12,000. This would be a great improvement, and, combined with an extension of the pipe service into every barrack, cook-house, and bungalow would render the system of supply apparently a perfect one.....The principal point which struck me with regard to the treatment of drinking water was the general belief or impression that the water was very good, and did not need to be boiled or meddled with at all. This opinion was a very natural one, and probably well-founded; and it will account for a certain slackness in carrying out the details of the treatment. There are many reasons for supposing that the water-supply has not been to blame for the recent severe epidemics of enteric fever at this station. .....My opinion is that any insufficiency in the treatment of the water has not (probably) been the cause of the sickness. The only point I would urge is that water which has been boiled, if subsequently exposed to contamination by dust, is liable to become a very impure and possibly dangerous water. Therefore, unless great care is taken in the storage, boiling may do more harm than good. I am also extremely doubtful if the "boiling" has really resulted in raising the temperature of the water to anything like 212°F. throughout its bulk, especially when attempted in the open air..... .....I consider that the following are unquestionable facts:—(1) specific typhoid stools, containing the specific poison, have been (along with the nightsoil generally) deposited in the trenches to the north-west of cantonments: (2) matters

deposited there have been dried and turned into dust, on account of the dryness of the climate and the absence of cultivation: (3) on being turned into dust these matters have been lifted into the air by "devils" (of almost daily occurrence) and blown towards and into parts of the station by wind (as testified by meteorological records): (4) the air from this quarter has been found to contain large numbers of germs which, though not exclusively belonging to putrefying or fæcal matters, are invariably present in them, and are not present in pure air. From these facts I consider it justifiable to draw two inferences:—(*a*) that the germs just mentioned *were* derived from the nightsoil, and (*b*) that if these sewage-derived germs were present in the air, *other* sewage-derived germs (*bacillus typhi* for instance) would be, and have been, present in the air, though not detected. If this reasoning be admitted, there can be no hesitation in believing that the epidemic prevalence of enteric fever at Quetta has been to a great extent of aërial origin, due to the situation of the filth trenches to windward (contrary to paragraph 644, Bengal Barrack Regulations), and the omission to cultivate the ground (as directed in paragraph 647). The most marked feature in the epidemic distribution of the disease, hardly explicable on any other theory, and amounting almost to evidence in favour of this view, will be detailed below.....The net result of the bacterial examinations is to show (1) that the drinking water is derived from a pure source, and, on the whole, is of pure quality when delivered from the service reservoir: (2) the air over the filth trenches contains large numbers of an organism, *Proteus vulgaris*, universally associated with putrefaction, and in this case, in all probability, derived from the night soil there deposited; and, as the prevailing wind is from this direction, it follows that the air in cantonments generally also contains this organism: (3) this explains its presence, as found on cultivation, in all the samples of sola water examined and in the reservoir water: (4) the important bearing of the observation lies in the deduction drawn from it that, as this microbe is almost certainly derived from the nightsoil, there is every probability that the specific germ of enteric fever has also been present in the air; as it is certain that enteric excreta have been deposited in the trenches, and if one sewage-derived organism has been present in the air, the probability is that another sewage-derived germ has also been present though not detected.....The frequent occurrence of throat symptoms at the commencement of the illness points strongly to the enteric infection having been (in these cases) air-borne, rather than water-borne or ingested in food.....It supports the opinion previously advanced that the chief or original cause of the epidemic has been infection carried by the air from the filth trenches .....As to the causation of the epidemic of 1898, an inquiry into the distribution of the cases shows that the battalion in the left British infantry lines suffered more than that in the right lines. The former battalion (1st Wiltshire Regiment) had only recently arrived in India (1895): the latter (2nd Border Regiment) had served in India since 1890. One garrison company, Royal Artillery (No. 25, Western Division), also suffered more than either the other garrison company (No. 23, Southern Division) or the mountain battery. The garrison company that suffered most had only recently arrived in India (January 1898). Neither in the case of the infantry nor of the artillery, however, can comparatively recent arrival in India be held to account for so great a difference in the incidence of the disease. On closer examination it is found that certain bungalows suffered very much more than others: Nos. 2, 3, 4, and 13 in the left infantry lines, and Nos. 10 and 11 in the artillery lines (No. 25 Company, Western Division) suffered most. In the case of the infantry bungalows no local insanitary condition appears to exist (except the stabling of the filth carts and two native latrines near): the most probable explanation lies in the fact of their comparative nearness to the filth trenches, and in their full exposure to the prevailing wind that blows from that direction. The quarter-guard being also in this situation, where men from the rest of the battalion take their turn in passing many hours, and so breathing the presumed infected air, would account in part for the diffusion of the disease through the whole population of these lines, though not living in bungalows so directly exposed. In contrast to the three adjacent bungalows in these left infantry lines, Nos. 2, 3, and 4, in which 36 cases of enteric fever occurred, may be instanced three bungalows, also adjacent to each other, in the right infantry lines, Nos. 5, 6, and 13, in which only 6 cases occurred: the same number of men occupied these bungalows as occupied the ones first mentioned. No local insanitary condition existed in either case: the only difference is that the bungalows which suffered severely are about 800 yards nearer to the filth trenches, and freely exposed to the wind blowing from them, while the other bungalows are, to a considerable extent, shielded from this wind. In the case of

the Royal Artillery bungalows there is in addition a local insanitary condition in the extreme nearness of a latrine to windward (which, when once infected, may have conveyed infection to the men in the bungalows), also in the presence of several native latrines to windward and at no great distance. Specially localized outbreaks such as these can hardly be explained by supposing the water-supply to have been polluted; neither is there any ground for suspecting this to have been the case. The mineral water and dairy supplies do not appear to have been at fault. Certain local defects in regard to the surface drainage, leading to stagnation of foul water from cook houses, and so attracting swarms of flies (which may have carried infection), have perhaps caused cases in the married quarters or elsewhere. If the supposition that the infection has been contained in the air be correct, it would follow that water, milk, and all articles of food exposed to air and dust would be likely to become infected. I am not suggesting that the infection was *only* breathed in or swallowed in the air, but I feel convinced that this has been the principal channel of its conveyance, and that the *main* source of the poison was the filth trenches, though latrines, native and European, may have been concerned as well..... Under any circumstances I consider that nightsoil should not be deposited anywhere in the area to the north-west, from which quarter the wind frequently blows. The site should be removed, say, to the north. Considering the difficulty in obtaining water for cultivation (without which the trench system is indefensible), I would recommend as alternatives either incineration or a trial of the septic tank system of disposal of sewage. .....Experiments are now being made by Major Melville, R.A.M.C., as to the efficacy of the septic tank and biological filter.....I would recommend that (if the preliminary experiments prove satisfactory) a further trial should be made on a more extended scale, and at a greater distance (about two miles) to the north, where the permanent site for filth disposal will probably be selected.....If it does not succeed, an incinerator is the only alternative, and however great the expense, I do not see how it can be avoided. The immediate necessity, however, I consider to be construction of a tramway and the necessary adjuncts for *rapidly removing* filth to a site far removed from the station. Before finally deciding on the method of *disposal*, it would be well (on the ground of economy) to await the results of the experiments now in progress. If economy were no object, incineration is a perfect system.....In the order of importance I would place the chief recommendations as follows:—(1) Reformation of the method of filth disposal, with accompanying recommendations in matters of detail, disinfection by burning of the old trench site, etc. (2) Provision of water-supply connexions to all bungalows, etc. (3) Improvement in the management of native latrines.

Sanitary condition of Poona, by Major A. M. Davies, R. A. M. C., dated 15th February 1899.—The water supply for Poona cantonment is derived from an artificial lake, known as the Kharakwásla Lake, or Lake Fife, situated at about 10 miles distance to the south-west. This lake, formed by throwing a dam across the valley of the Mutha river at Kharakwásla, receives the drainage of about 200 square miles of country, is rather more than 13 miles in length, of very varying breadth (about ¾ mile at its widest part), is a little over 5¼ square miles in area, with an average depth of 22 feet, and contains rather more than three thousand million cubic feet of water; or, if the weir be raised to prevent too rapid outflow, it can hold more than five thousand million cubic feet. The overflow water passes by the Mutha river to join the Mula river between Poona and Kirkee. The main body of water is led by the Mutha Right Bank Canal to Poona, and thence proceeds for many miles to the east and south-east, irrigating a large tract of country.....The samples submitted to examination were——(*a*) the drinking water supply, taken both at its origin in the Kharakwásla lake, and from a tap in the Wanowrie lines; (*b*) soda water from the Durham regimental factory; (*c*) milk from the regimental dairy at Wanowrie; (*d*) a sample of ice-cream procured in the sadar bazaar; (*e*) soil from the compound of a bungalow where enteric fever had occurred in Wanowrie lines. Neither the bacillus of enteric fever nor any of the nearly related forms of the coliform group were detected. The Kharakwásla water is fit for drinking, though not absolutely pure, being a surface water somewhat exposed to contamination, as shown by its bacterial contents: the number of bacteria present is very small. In the Wanowrie tap water, which had been filtered at the water-works, the number of germs was larger, but not excessive. Some *proteus* organisms were present, and chemical examination showed an appreciable amount of nitrous acid. These are indications (though not very precise) of the occurrence of some contamination. The sample is not satisfactory, and yet not to be condemned as unfit from these results. The regimental soda water contains many more germs than the tap-water, though it had been passed

through a Berkefeld filter, thus showing that this was not acting properly; as indeed was evident when it was examined. The milk from the regimental dairy contained nothing hurtful as shown by this examination. The sample of ice-cream from the sadar bazaar contained large numbers of putrefactive germs, as might be expected. It did not however, contain anything indicating specific pollution with excremental matter. Nor did the sample of soil examined contain any germs, except ordinary saprophytes. The net result of the bacterial examinations is, I regret to say, almost negative. There was, however, no special prevalence of enteric fever: at the time (the last week in November) there had been only two admissions in November and three admissions during October. Some indications are given that the Wanowrie tap-water is liable to pollution but they are not so decided as would have been expected, considering the obvious danger that exists of this occurrence (at any rate in certain places) as seen on actual inspection. In such a case, as has been pointed out by the late Sir George Buchanan and other authorities, negative evidence, chemical or bacteriological, cannot be held to outweigh the positive evidence of danger obtained by inspection of a source or method of distribution .....As to the causation of the undue prevalence of enteric fever in the Wanowrie lines (including the military prison) during the last four years, and especially in 1898, I have been unable to find any insanitary condition specially affecting these lines, except that, on account of the greater elevation of this part of the cantonment, its water supply is subject to less head, that is, delivered under less pressure; owing to which the pipes are sometimes much less charged than at other times, which causes *variation* in the pressure within the pipes, and consequent liability to insuction of infective material, supposing a leak in the pipe exists in a spot of ground exposed to pollution. The way in which the small distribution pipes are laid exposes them to injury in some places, and renders this explanation, in my opinion, a most likely one. One example of a leaking pipe near a latrine and foul soil was detected, forming a probable explanation of two cases of enteric fever in a neighbouring bungalow, the drinking of fæcally polluted water being sufficient, under certain circumstances, to produce an attack of enteric fever. I suggest that what happened in this case has happened elsewhere in this neighbourhood. Any such occasional and temporary contamination might affect the mineral water supply either in the lines or in the bazaar, in spite of the use of germ-proof filters, if these are worked in a defective condition. And as, although the drinking water for the troops is boiled, raw water is accessible in every bungalow, occasional infection in this manner is not at all unlikely.....I would recommend that a careful and exhaustive inspection be made of the whole system of distribution, with a view to ascertain if any faulty junctions or any leaks exist; also, whether from the position of the pipes, there is any special danger of a leak occurring, even if it does not actually exist; also, if the pipes run near any tracts of soil liable to pollution from the neighbourhood of latrines, etc. I would also recommend that the tunnel under the Sholapur bazaar be inspected, in order to see if it is impervious to any soakage from without. In my opinion there is at present need for carrying out all precautions, such as boiling, the use of permanganate and the careful storage of the boiled water. This boiled water should be in covered and locked receptacles, such as the Macnamara tubs; not in open chatties. The use of Berkefield, Chamberland, or Mallie filters requires to be supervised by persons who understand the principles on which they work.

Cawnpore water, by Major D. O'Sullivan, R.A.M.C., dated 23rd February 1899. I am of opinion that the results of a quantitative analysis of samples of water taken from five wells in Cawnpore cantonment show the waters to be, normally, of good quality, and fit for drinking purposes, their source and the surroundings of the wells being taken into consideration.....In all there were present bacilli, motile and non-motile, and micrococci of different varieties. I was unable to detect any micro-organism that gave the culture appearances characteristic of the typhoid bacillus, the *bacillus coli communis*, or the comma bacillus of cholera. It is generally believed that waters of the character of those under consideration, when taken from deep wells, are normally free from micro-organisms. The presence of such organisms must, therefore, be regarded as accidental, and is simply an indication of faulty protection of the wells from external sources of defilement; and the results of the microscopic examination of the sediment clearly shows that such defilement has occurred.....A sample of water taken from a stand pipe of the municipal water-works was perfectly clear, lustrous, palatable, and quite free from smell or taste .....It contained several varieties of cocci and bacilli. I was unable to detect any bacillus giving the characteristic culture appearances of the

typhoid bacillus, the *bacillus coli communis*, or the cholera bacillus ..... As to the liability to contamination of the Ganges from surroundings ..... I am decidedly of opinion that the water is always exposed to contamination, and that sometimes for long periods the risk of contamination is very great ..... It is of importance to note that the greatest risk of pollution of the water from coolies working in the artificial channel corresponds in time with the spring prevalence of enteric fever; and that the time of greatest risk of contamination from the flow of water by old Cawnpore coincides largely with the period of the autumnal prevalence of the disease.

Proposed water-supply for Bellary, by Major A. M. Davies, R.A.M.C., dated 16th March 1899. The artesian well is, in my opinion, by far the best source of supply, provided only the quantity available be sufficient, of which there seems to be some doubt. The present system of drawing the water in leather bags by bullocks would require to be discontinued, and the water preserved from contamination by covering in the reservoir and fitting up pumps. Neither the Hagari river nor the Alipuram tank furnish a water that is, in my opinion, fit for drinking or domestic purposes; though it might be made so, if regular filter beds were constructed. Even then, it would not, in all probability, be equal in purity to the artesian well water.

Disposal of sewage in deep pits at Quetta, by Major C. N. Melville, R.A.M.C., dated 8th February 1899. The pits are 30 feet long, 7 feet broad, and 10½ feet deep, and a pit lasts six days, one foot being left unfilled ..... It is simply a question of digging pits, tipping sewage into them, and waiting till the contents disappear ..... This system is both safe and efficacious; but it is not very scientific in its procedure, and a certain recurring expense is incurred.

Disposal of sewage by septic tanks and filtration at Quetta, by Major C. N. Melville, R.A.M.C., dated 8th February 1899. Such a system is decidedly applicable to the treatment of the Quetta sewage. The difficulties consist (*a*) in the concentrated nature of the sewage we have to deal with: (*b*) in the fact that the solid matter of the sewage is not broken up, as is the case to a large extent at home, by having to pass through perhaps miles of drain pipes, and being churned up in the conveying fluid. The micro-organisms cannot attack these solid masses so readily as they can smaller particles. These difficulties can be easily met, the first either by dilution or by allowing the sewage to remain a longer time in the filters. The former of these two remedies is the preferable one: the latter would necessitate the construction of a large number of filters, and would complicate management. Taking the entire sewage and slop water at 4,000 gallons per diem, an addition of 16,000 gallons of fresh water would be sufficient. This would give us a fluid holding about 35 grains of oxidizable matter per gallon. Karez water would be sufficiently fine for this purpose. The second difficulty could be remedied by purely mechanical means, and would in fact lose much of its importance in a diluted sewage. I offer suggestions as to the institution of a temporary and of a permanent scheme on the above lines.

Sanitary condition of Kirkee, by Major A. M. Davies, R. A. M. C., dated 12th April 1899. The water-supply for Kirkee cantonment is derived from an artificial lake, called the Pashán tank, about 5 miles to the south of the barracks. This receives the drainage from a catchment area of about 16 square miles; is about 120 acres in extent at the lowest level for drawing off the water, and about 164 acres at the highest level. The average depth is 10 feet, and the available contents about fifty-five million cubic feet .....The samples submitted to examination were (*a*) the drinking water as taken from the Pashán tank direct; (*b*) after filtration; (*c*) from a tap in Kirkee; and (*d*) soda water from the royal artillery regimental factory. Neither the bacillus of enteric fever nor any of the nearly related forms of the coliform group were detected. The Pashán tank water is of the same general character as the Kharakwásla water, not absolutely pure, but fairly fit for drinking. After filtration it contains fewer germs than the Poona water. The water is partly derived from surface drainage, as shown by the bacterial contents, but no serious contamination appears to be likely nor was any detected by the bacterial examination. The water as delivered is of good quality. The regimental soda water contains many more germs than the tap water, though none of any injurious nature were detected. The increase in number is probably due to the use of a Berkefeld filter not properly looked after (as at Poona). The net result of the bacterial examination is, I regret to say, negative. There was, however, no prevalence of enteric fever at the time of my visit (December), and no particular reason for expecting to find the bacillus of enteric fever widely distributed.....During the year 1898, when 28 cases

occurred (from which 3 should be deducted, as having been probably contracted elsewhere) the larger proportion were contributed by 29th Field Battery, occupying bungalows Nos. 5, 8, and 9; ten cases in all. This battery had been four years in India, but had only arrived in Kirkee at the end of 1897. I do not feel able to offer any explanation of this. The manner of entrance into the body of the enteric poison is very varied, and however excellent the sanitary surroundings of the soldier are in barracks, so long as there is a large native city like Poona, or its sadar bazaar, near at hand and accessible, there can never be absence of a possible source of infection, though it may not be practicable to obtain actual proof in any particular case. [Here follow certain recommendations regarding bungalows, latrines, surface-drainage, etc.]

Water-supply of Secunderabad, by Major A. M. Davies, R.A.M.C., dated 20th April 1899. There are two entirely distinct water supplies for Secunderabad cantonment. Until a few years back the British troops and hospitals were supplied from three deep wells, known as the Quarter Guard, the Main, and the South wells, the water being distributed by pipes. This supply being found to be insufficient, and it being considered advisable to extend the supply to native troops and followers, sanction was given to extend the municipal water scheme from Jeddimutla tank, so that it might embrace the cantonment as well as the town of Secunderabad, the existing system of pipes being used for distribution. During the past year the medical authorities made repeated representations as to the unsatisfactory character of this Jeddimutla tank water and eventually reported that it was unfit for drinking. This supply was in consequence cut off and the wells again brought into use; but as the yield from these is known to be insufficient, a further examination of the Jeddimutla water was applied for, that the question of its fitness or unfitness might be again considered.....No germs resembling the bacillus of enteric fever or the coliform group of bacteria, and none indicating contamination with excremental matter, were found in any of the samples. The physical, chemical, and bacterial characters of the three well waters are much superior to those of the Jeddimutla tank water. The samples from the Main and the South wells are in every way excellent. The sample from the Quarter Guard well contains a large number of germs and more oxidizable matter than the other wells, and more than should be the case in a well of this description: no germs of a hurtful nature were detected, and the water may be regarded as fit for use: the well may require cleaning, or may be exposed to dust. The Jeddimutla tank water is not a satisfactory drinking water either in its physical, chemical, or bacterial aspects; neither is the microscopic examination of the sediment satisfactory. No germs indicating excremental contamination were detected; but the number present (135 per c.c.) indicates that the water is not from a pure source. This is also evident from the large amount of oxidizable matter and the persistent turbidity. It cannot be recommended as fit for drinking purposes in its present condition: efficient filtration would be required to render it a good drinking water. A sample taken from a standpost in cantonments showed an improvement in the physical characters, but the oxidizable matter and number of germs present were still excessive. It is possible that on account of the scanty rainfall during the last few years, the Jeddimutla tank water in February last was not of such good quality as might be expected to be the case as a rule. Bearing this in mind, I am still decidedly of opinion that it is not a water to be recommended for drinking purposes without efficient filtration.....As the result of an inspection of the Jeddimutla tank and its surroundings, and of as much of the catchment area as I was able to see, I am most decidedly of opinion that this water is not such as could safely be recommended for drinking purposes. There can be no doubt that it is in constant danger of serious contamination in the cultivated and inhabited area from which it is collected. I do not think that any measures of conservancy could be relied on, nor any supervision be satisfactory or sufficient, to make this catchment area a suitable one for yielding a drinking water supply. I am aware that this is contrary to opinions expressed by the medical authorities in 1885 and (about) 1891. The scheme was approved of, from the sanitary point of view, on those occasions, on the understanding either that the ground should be "taken up and conserved," or that strict conservancy should be carried out in the villages concerned. From what I was informed in February 1899, practically no conservancy measures are at present undertaken; neither do I see how any effective supervision is possible. The land is situated in an independent state, and not directly under the control of any authority, civil or military, of the Government of India. This opinion formed from inspection of the site of the reservoir is corroborated by the results of the physical, chemical, microscopical, and bacterial examinations. In no one of these respects was the water

found to be satisfactory No evidences of excremental contamination were found, but the persistent turbidity, the large amount of oxidizable matter, the bacterial growth in the sediment, and the large number of germs found, all combine to class the water as "suspicious." The same water appears to clear itself in passing along the mains, but this does not materially improve its quality. I consider that to render this a safe drinking water (it could never be a water of the first class), efficient filtration is absolutely necessary. Even if this is provided, I consider that it would be most advisable to remove the villages from the catchment area, and to put a stop to cultivation. The three wells that supply the British troops and hospitals are "deep wells" of good construction. The water they yield must come from a considerable, possibly a great, distance; no infiltration from surface or subsoil water takes place; and these sources of supply appear to be excellent. I would recommend, however, that measures be taken to protect the water from dust and casual impurities that may be blown in. Cementing the interior of these wells does not in this instance appear to be necessary, as no filtration takes place through the walls. The physical and chemical characters of these well-waters are very good: no sediment could be obtained for microscopical examination, the samples being perfectly clear. The Quarter Guard well contained a larger number of germs and more oxidizable matter than the Main and South wells: the well may require cleaning. The water from this well is, however, fit for use: the water from the Main and South wells is of first-rate quality in every respect.....On account of the necessity for a larger quantity of water during the present hot weather than can be supplied from these wells, I beg to recommend that the Jeddimutla tank water be taken into use, boiling being carefully carried out, and the use of permanganate of potash, and all precautions being taken for preserving the water that has been boiled from subsequent contamination. Although not to be recommended in its present state, I consider that it would, in this way, be rendered quite suitable for drinking purposes. (This recommendation was made to the District Principal Medical Officer on 26th February 1889 in answer to his Inquiry, the matter being of urgent importance.) The well-water, if its use be continued, is not in my opinion in any need of being boiled; but inasmuch as the tank water must be distributed through the same service of pipes, it will not be prudent to boil the one and not the other.

Sanitary condition of Ahmednagar, by Major A. M. Davies, R.A.M.C. (3rd May 1899). The drinking water-supply for Ahmednagar cantonment, as regards European troops and residents and the sadar bazaar, is derived from the Bhingar aqueduct; the detachment in the fort draw their supply from a well situated within the fort; while the native troops and Ahmednagar city are supplied chiefly, if not entirely, from the Nagabai aqueduct and the Kaparwadi aqueduct.....Neither the bacillus of enteric fever nor any of the allied forms of the coliform group, nor any bacteria indicating excremental contamination, were found in any of the samples examined. A sample of water from the British infantry dip-well contained some large infusoria, such as are never found in pure water, but which constantly occur in polluted waters. The water of the Bhingar aqueduct, taken as near to its head as was possible, was found to be bacteriologically of considerable purity, containing only 14 germs per cubic centimetre, with a very scanty growth in carbolized broth. When taken from the British infantry dip-well after exposure to the risk of considerable contamination, the number of germs was found to be very large, in one case 230 per c.c., in another more than 1,000 per c.c.; and there was also more growth in the carbolized broth. The oxidizable matter in this sample was more than double the amount found in the first sample. A large amount of sediment was deposited, in which large infusoria and bacteria were present, in contrast to the water from the head of the aqueduct, which contained no sediment. The water obtained from the Royal Artillery dip-well contained 160 germs per c.c.; fewer than in the infantry well, but many more than in the sample taken from the head of the duct. The oxidizable matter was also less than in the first-named, but nearly double the quantity found at the head of the duct; while there was an increase in the chlorine. These examinations show that in its passage along the duct the water becomes contaminated, though they do not prove that any direct excremental pollution has taken place. The water from the fort well contained a very large number of organisms, at least 1,000 per c.c. This alone would class the water as suspicious. None of these water-samples can be recommended as fit for drinking, except the sample, first-named, from the head of Bhingar aqueduct. The soda-water from the regimental factory contained far too many germs; this being naturally the case, as the Bhingar water was used neither boiled nor filtered. The *number* of germs (375 per c.c.) contrasts very markedly with the small numbers found in DeSouza's and Cursetji's soda waters, which contained

only 16 and 10 colonies per c.c., respectively. These firms use germ filters. In the *quasi*-regimental dairy milk a non-liquefying organism was found, not, however, resembling the coliform group. The milk itself curdled completely in 3½ hours, which is a strong testimony against the purity of the sample. The chief point in these results is that the fact of contamination of the duct water (which an inspection of the duct shows to be inevitable) is proved to a certainty, the number of germs present in the water being so largely increased. The fort well is also found to be contaminated, the number of germs per c. c. being 1,000 or more. But no sign of actual excremental pollution was to be found in either case.....A water-supply much exposed to pollution, and bad conservancy, as they would be sufficient to account for the origin and spread of enteric fever, in my opinion have actually been the causes in the present instance .....I recommend that the catchment area in the hilly country to the east be reserved; that, either by constructing a tank, or by spreading out the system of ducts, a larger quantity of this upland water be collected, and that all washings from cultivated ground be kept out of the distribution system. This would necessitate the provision of a pipe-supply and the abolition of the present pervious duct.†† I consider that in all probability an excellent and sufficient supply of pure water is available from the hilly country, and that *only* this pure water should be supplied. The method of distribution in cantonments by the present pervious duct†† is absolutely insanitary: a piped supply is urgently needed. The dipping wells referred to are, I understand, to be closed, the water being pumped up into tanks and delivered by taps. This is a great improvement; but it is still not sufficient, as it does not take away the risk of pollution inherent in a pervious duct.†† Pending the provision of a piped supply, I recommend that boiling and the use of permanganate of potash be carefully carried out. I beg to recommend that Larymore boilers be provided at this station as soon as possible. I consider this a matter of urgency. I also recommend the supply of an increased number of Macnamara receptacles for storing the boiled water. If the fort well continues to be used, as from military considerations may be advisable, I recommend that it be cleaned out, cemented, and well covered in..... I beg to recommend that cook-houses be provided with cisterns, meat-safes, and wire gauze or zinc protections to all windows and openings; swingdoors (as in the Royal Artillery lines at Kirkee) being, I think, the best arrangement, and preferable to chicks. I beg to recommend also that the regulations as to the dry earth conservancy system be strictly carried out, and the allotment of duties to latrine sweepers, barrack sweepers, and *bildars* carefully considered.....

Enteric Fever in 1898.

17. There was again an increase of both morbidity and mortality from enteric fever in 1898. The admission ratio (Table I) rose from 32·4 to 36·9 and the death ratio from 9·01 to 10·17, a difference of 4·5 and 1·16, respectively. There were (Table IV) 2,498 admissions and 689 deaths, against 2,214 and 616 in 1897. The average number of men constantly sick** from enteric fever was 321, and the average duration of a case** was 56 days. The total loss of service** due to the disease was about 117,023 days. At Rawalpindi, Bangalore, Ahmednagar, and Quetta, Widal's test was employed as a means of diagnosis, 82 times at Quetta.

Fever mortality.

18. The following table shows an increase in total fever mortality, which may with some reason be ascribed to the greater youthfulness and less average length of service of the soldiers of to-day :—

	1870-79.			1881-90.†			1897.			1898.		
	Enteric fever.	Other fevers.*	Total of both.	Enteric fever.	Other fevers.*	Total of both.	Enteric fever.	Other fevers.*	Total of both.	Enteric fever.	Other fevers.*	Total of both.
Army of India	2·03	1·42	3·45	3·79	·70	4·49	9·01	1·02	10·03	10·17	·73	10·90

* Intermittent, remittent, and simple continued fevers.
† Excluding troops on active service in Burma during 1885 to 1887.
** Excluding field forces, Malakand Force, and Khyber Force and Brigade.
†† The word pervious here applies to the walls not to the lumen of the duct.

It is a well-known fact, and it may be seen in various tables of this report, that malarial is much less fatal than enteric fever. Table XVI of 1898 and of 1897 shows that the liability to die of malarial fever is greatest after 30 years of age, while the liability to die of enteric fever is greatest before 25. Now, Table XV of the same two years shows that the British army in India is at present a youthful army with 90 per cent. of the men under 30 years of age, whereas the corresponding percentage in 1871—79 was only 67.* By the use of the same tables similar results are arrived at with regard to length of residence in India. Therefore, the explanation offered above of the facts displayed in the table just given appears to be correct.

Enteric Fever in the Geographical Groups.

19. The following table shows enteric fever in the geographical groups in the decennium 1886—95, and in the last two years:—

Admissions per thousand.

Period.	Burma Coast and Bay Islands.	Burma Inland.	Bengal and Orissa.	Gangetic Plain and Chutia Nagpur.	Upper Sub-Himalaya.	North-Western Frontier, Indus Valley, and North-western Rajputana.	South-Eastern Rajputana, Central India, and Gujarat.	Deccan.	Western Coast.	Southern India.	Hill Stations.	Hill Convalescent Depôts and Sanitaria.
	I.	II.	IV.	V.	VI.	VII.	VIII.	IX.	X.	XI.	XIIa.	XIIb.
1886—95	5·7	5·5	7·7	27·7	25·4	15·6	23·9	17·0	5·8	12·1	25·1	13·9
1897	20·8	1·1	11·0	36·9	33·5	22·3	63·7	24·3	10·2	26·8	49·7	14·9
1898	7·3	4·5	19·3	44·1	36·6	29·6	47·1	25·7	2·6	19·3	59·7	20·3

It shows that Groups V, VI, VIII, and XII*a*, especially, are apt to have high ratios of admission from enteric fever; and Groups II and X, and to a less extent, I and IV, low ratios. It also shows at a glance how the groups compare with each other in 1898, and how 1898 compares with 1897, or with the decennium. Group XII*a*, Hill Stations, had the highest ratio of 1898, and Group VIII, followed by Group V, the next highest; and in the same three groups also, but in the order XII*a*, V, VIII, the percentage of enteric fever in total admissions was greatest. The table also shows that, whereas in ten groups the ratios of both 1897 and 1898 were higher than the corresponding ratios of the decennium, only in Burma Inland were the ratios of both years lower than the decennial ratios. Moreover, in seven groups the 1898 ratios were greater than the corresponding ratios of both the preceding year and the decennium; while only in Western Coast was the 1898 ratio less than both. Further particulars regarding groups may be obtained in Tables II, III, IV, and VIII.

Enteric Fever in Stations.

20. The distribution of enteric fever throughout the year by stations and months may be studied in Table VIII. But the following shows those garrisons which had

* Bryden and Stephen, Tables for 1870—79.

an average strength of over 1,000 in 1898, with the decennial ratios for reference :—

Stations.	1898.		Decennium, 1886–95.	
	Admission-rate.	Death-rate.	Admission-rate.	Death-rate.
Quetta	108·5	35·08	15·0	3·15
Lucknow	74·1	22·57	37·3	7·07
Agra	73·5	16·71	24·0	7·66
Peshawar	52·0	24·48	18·7	7·88
Rawalpindi	51·8	10·95	24·5	6·85
Mhow	45·6	12·01	27·5	6·78
Allahabad*	43·6	16·03	24·2	4·84
Meerut	40·0	9·74	26·8	7·83
Umballa	35·3	13·19	21·7	5·41
Bangalore	30·3	4·26	16·0	3·47
Poona	24·2	4·73	15·4	5·06
Bareilly	20·9	5·44	39·8	9·41
Sialkot	17·7	8·45	38·8	8·89
Secunderabad	17·4	4·70	23·7	6·04
Fort William (Calcutta)	13·3	·89	4·3	2·13
Wellington	12·4	2·85	7·5	2·46
Aden	10·8	4·93	3·5	1·81
Rangoon	8·3	·92	5·4	2·55
Kurrachee	6·8	3·89	13·8	3·07
Colaba (Bombay)	2·5	·83	4·9	1·83
Belgam	1·9	·97	2·2	·49

* Including Fort Allahabad.

The high position occupied by the decennial admission ratios of Bareilly, Sialkot, and Lucknow will be observed, and the low position of the ratios of Belgam, Aden, Calcutta, Bombay, and Rangoon. The enormously high 1898 ratio of Quetta is also striking, and the contrast which it presents to the ratios of Belgam, Colaba, etc., at the bottom of the 1898 list, as well as to its own corresponding decennial ratio. The enteric fever of stations may be studied with the aid of Tables III, IV, and VIII. In paragraphs 15 and 16 have been quoted the reasons given by medical officers for the prevalence of enteric fever in, or the absence of enteric fever from, certain stations, including Quetta; but in addition, the names of most of the stations of the above table that had high ratios in 1898, including Quetta, will be found in Table V.

Enteric Fever in Regiments.

21. The enteric fever of regiments and of the different arms of the service may be studied in Table XIV. The admission and death-rates were highest in the cavalry; there was no enteric fever among the engineers, who are men of greater average age and service, and mostly married; and, next to them, the artillery suffered least. These results are the same as in 1897. The table shows that the regiments which had an admission-rate over 100 per 1,000 and a death-rate over 40 per 1,000 were the 2nd Battalion of the Oxfordshire Light Infantry at Lundi Kotal, and the 1st Battalion of the Wiltshire Regiment at Quetta. The former returned from field service on the 9th April, and the latter was at Kurrachee the first three months of the year; and the former received 249 and the latter 200 men from England during the year. Particulars regarding the seven other bodies of men that had admission ratios over 100 per mille and the thirty-seven that had ratios over 50 per mille may be found in the table.

Enteric fever and age. Enteric fever and length of residence in India.

22. The relation of mortality from enteric fever to age and length of residence in India may be studied in Table XVI. The general results confirm those of former years. The construction of the table was explained in Section II of the report for 1896, paragraphs 22 and 37; but a few sentences may here be given to show how the table is to be read. The ratio of mortality from enteric fever per 1,000 of strength (*a*) was greatest in the age period 20—25, and the relative liability of the same period was (*b*) 44 per cent. In the same age-period the total number of deaths from enteric fever (*c*) was 428, and out of 100 deaths from all causes (*d*) 61 were from enteric fever. Lastly, out of the total number that died at all ages from enteric fever (*f*) 74 per cent. were between 20 and 25 years of age. Again, the ratio of mortality from enteric fever per 1,000 of strength (*g*) was highest in the first year of residence, and the liability (*h*) in the same year was 38 per cent. In the first year the total number of deaths from enteric fever (*i*) was 236, and 70 out of every hundred deaths from all causes (*j*) were from enteric fever. Lastly, out of the total number that died at all periods (*l*) of residence from enteric fever, 41 per cent. were in the first year of Indian residence.

Table XV gives some information regarding the relation of *admission* from enteric fever to age and length of residence in India. The age-period 20—25 included 51 per cent. of the total strength of the army, and in the same period the liability to fall sick of enteric fever was greatest, 46 per cent. In the succeeding periods the liability rapidly declined. Again, though 18 per cent. of the men of the army were of less than one year's service in India, 18 per cent. of more than 1 and less than 2, and 18 per cent. of more than 2 and less than 3, yet the liabilities of the men of these three equal percentages to contract enteric fever were respectively 43, 18, and 12. The lower part of the table, marked "B", shows that the greater has become the supply of susceptible material, the more enteric fever has prevailed.

Enteric fever and season.

23. The monthly incidence of enteric fever may be studied in Table VIII. In the period 1886-95 as a whole the chief enteric fever season, though the disease occurred in all months, was the six months April—September, with one maximum in May and another in August; and in 1898 the distribution was the same:—

Years*	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.	Ratio per 1,000.
1886-95 . .	518	418	689	1,427	1,795	1,365	1,441	1,718	1,400	923	745	879	13,318	19·6
1898 . . .	201	165	164	332	400	219	197	238	163	124	171	124	2,498	36·9

* The warning given at the end of the table of contents of the Annual Returns as to the months not being calendar months, applies here also.

In 1898 the greatest prevalence of enteric fever was in April and May, and again in August; of simple continued fever in May and June, and again in August; of remittent fever in May, and again in July and August, an abnormal distribution which is noticed in paragraph 13 above. Of the larger groups Gangetic Plain had maxima in January, March, April, August, and November; Indus Valley in January, April, and November; Deccan in April,

August, and November; Central India in April and September; Hill Stations in May and August; and Upper Sub-Himalaya in May and December.

24. In the European army of India there occurred 9 cases of plague with 2 deaths, against 5 without death in the previous year :—

Plague.

	Admissions.	Deaths.
Bombay (Colaba)	3	1*
Poona	2	0
Bangalore	2	1
Nasirabad	1	0
	8	2

All the men attacked at Colaba had been on plague duty. The fourth man affected died before arrival at the hospital. "It is believed that the virus obtained entrance to his system through a small chafe near the ankle. This became intensely painful, and, high fever with delirium occurring at the same time, death took place within a few hours of the invasion of the disease." At Poona two men of the 2nd Battalion of the Royal Irish Rifles were admitted, the bacillus being recognized in one. One of these men had been inoculated against plague in April, and contracted it in January. Fifty men of the garrison had been inoculated at the same time. Both the men had been employed in the city on plague duty, where they contracted venereal, and were both in hospital when their symptoms of plague appeared. The case at Nasirabad was in the person of a soldier of the 27th Field Battery, Royal Artillery, who had just arrived from England. He was detained in Bombay for some time before proceeding up-country, and when he arrived at Nasirabad, it was found that he was suffering from plague. The patient recovered, and the disease did not spread. The following are remarks of the medical officers in charge of the station hospitals of Colaba and Bangalore :—

Colaba.—The history of plague during 1898 furnishes an almost exact parallel to that of the previous year. Sporadic cases occurred, as formerly, among the native followers in Upper Colaba, and two at a later period of the year in November in the compounds of officers..... .. To continue this parallel, four cases, as compared with three in 1897, occurred among the British troops. Two admitted from Kennedy sea face where the men affected were employed on plague duty, and one from barracks, who had also been recently on plague duty in connexion with the riots of March 9th. One death from plague occurred at Kennedy sea face. It was of an acute kind, traceable to contact of the virus with an abrasion on the foot, and running a fatal course in 12 hours. On the occurrence of the case in barracks, the room in C block occupied by the man was vacated for disinfection and white-washing, and the occupants encamped on the parade ground for 10 days. No second case occurred in barracks.

On January 12th the whole of Bombay was parcelled out into sections, 8 in all, each in charge of a section-officer (military) with a subordinate staff for the purpose of detecting cases without delay, removing them to the plague hospital, segregating families, and carrying out prompt measures for disinfection in communication with the plague authority. A staff of medical officers and subordinates was also detailed for the several sections with a view to the immediate identification of cases.

The number of sections allotted to the medical staff of the station hospital was 4, extending from Upper Colaba to the arsenal and fort in Bombay.

Early in April the plague committee ceased to exist, and a new plague authority was created under the presidency of the Municipal Commissioner. This change ushered in less stringent rules for search parties, and called in the aid of responsible natives in the detection and removal of plague cases, with the result of restoring confidence, and diminishing the feelings of repugnance generally entertained, by the city population especially, to the plague measures previously in force.

* Out of hospital: 8 *plus* 1 = 9 *cases.*

Bangalore.—This year plague made its appearance amongst the native population, and rapidly assumed most serious dimensions. The first case was reported on the 12th August, and the disease spread rapidly over the *pettah* or native city. The death-rate went up steadily, approaching 100 deaths per diem at the worst period of the epidemic, (*i.e.*) the end of November and beginning of December. The usual exodus of people took place. Somewhere about 5,000 people are supposed to have left the city during October and November. Cases began to appear in the civil and military station, and the death-rate assumed proportions there even larger than in the *pettah*.....The followers of the British regiments suffered at about the same rate as, or at a rather lower rate than, the native regiments, the first case appearing on the 25th October. The same steps were employed in their case, but the most marked results came from their complete removal from the infected lines to the open or Agram plain. In the case of the 4th Hussars and 25th F. B, R. A., the date of their removal saw the last of their plague cases, while in the case of the 21st F. B., R. A., only three cases occurred immediately after the removal, when they ceased entirely.

Among the British troops two cases occurred, while a child of a non-commissioned officer also suffered, all about the same time, late in December. One man died, while the other man and the child both recovered.

In both the adult cases there appears little doubt that the men picked up the disease in the bazaar. Both were in positions where they were allowed to live by themselves, and therefore under less supervision than usual; and there appears to be no doubt that they both took advantage of this to frequent the bazaar more freely than other men could or did.

Arrangements had been made in advance for such cases, and a small plague hospital and a contact camp were established near the station hospital in readiness for any emergency.

The two cases among the men had both been admitted to hospital when the disease was diagnosed, both coming in with symptoms resembling enteric fever.

The disease was recognized early, and they were removed to the plague camp, the patients next them in the ward, and the men who had slept near them in barracks, being at the same time removed to the contact camp, where they were kept under close observation for 10 or 12 days. The wards in which the cases occurred were vacated, disinfected, and lime-washed, and were taken into use again after 10 days. Inoculation and re-inoculation were performed in the case of the native followers of all British corps. To my mind this step appears to have had little practical effect, as the cases continued to be reported as regularly and at about the same rate after inoculation as before. The step that really appears to have had most effect was the evacuation of the lines occupied by the followers of the various corps.

Typhus, Dengue, Scarlatina, Rubella, Mumps, Erysipelas(30).

25. No cases of typhus were reported in 1898; and only two cases of dengue were diagnosed, one at Lucknow and one at Jubbulpore. Scarlatina gave 12 cases without a death, three at Dalhousie, and two each at Chaubuttia and Poona. In the four reports in which the subject is noticed it is stated that the origin of the disease could not be traced. Interesting papers have appeared from time to time on cases occurring in India, and there has lately been initiated a practical inquiry as to whether scarlatina is indigenous to India, and as to whether it is connected with disease in cows. Seven cases of rubella were registered, three at Thayetmyo and two at Jullundur. There were only 8 cases of mumps, and not more than one case at any one station. Erysipelas caused 95 admissions and 1 death; 14 admissions at Rawalpindi, 12 at Quetta, and smaller numbers at 28 other stations, in the Tirah Field Force, and in the Malakand Force.

Tubercle of the lungs (7).

26. The admission-rate from tubercle of the lungs fell, while the death-rate was slightly raised. Tables I and II show, contrary to the experience of the past two years,

that the Bombay Command and the Gangetic Plain group had the highest admission ratios. The medical officer at Dinapore notes the share of syphilis in predisposing to vulnerability, and the medical officer at St. Thomas' Mount the influence of exposure during field service. Several officers mention the fact that a case of tubercle of the lungs is apt to yield more than one admission. In the reports from the stations where ratios were highest there are no further remarks of interest or importance. Ten cases, without death, of non-tubercular phthisis were returned.

Only for the two years 1897-98 can European and native troops be compared with exactness in the matter of tubercle of the lungs, and the following table shows the comparison for India and for each group :—

1897–98.

Groups.	Tubercle of the Lungs. Admissions. European Troops.	Native Troops.	Ratio per 1,000. European Troops.	Native Troops.
Group I.—Burma Coast and Bay Islands	4	10	1·6	2·8
„ II.—Burma Inland	15	22	2·8	2·3
„ III.—Assam	*	16	*	4·8
„ IV.—Bengal and Orissa	16	21	3·4	3·5
„ V.—Gangetic Plain and Chutia Nagpur	45	50	3·3	4·2
„ VI.—Upper Sub-Himalaya	76	150	2·9	5·3
„ VII.—North-Western Frontier, Indus Valley, and North-Western Rajputana	30	118	3·1	3·8
„ VIII.—South-Eastern Rajputana, Central India, and Gujarat	35	46	2·9	2·0
„ IX.—Deccan	69	61	4·0	1·6
„ X.—Western Coast	9	14	3·0	2·5
„ XI.—Southern India	18	27	2·7	1·7
„ XIIa.—Hill Stations	46	203	3·1	5·2
„ XIIb.—Hill Convalescent Depôts and Sanitaria	21	*	3·3	*
India	486	771	3·6	3·0

All Tubercular Diseases. Troops and Prisoners.	Admissions.	Ratio per 1,000.
European Army. Men	587	4·3
European Army. Women	34	5·4
European Army. Children	27	2·4
Native Army	829	3·2
Prisoners	1,347	8·0

* No Troops.

Much of the tubercle of the European troops is no doubt contracted in England. Accordingly, it appears from Tables XVI and XVII that death from tubercle of the lungs is proportionately highest at the beginning and end of service, and at the earlier and later ages ; while invaliding from it is most common in the intermediate period. With regard to native troops, it must be remembered that Gurkhas, and perhaps Dogras, have high ratios ; so that race as well as location has to be considered. For example, Gurkhas preponderate in the garrisons of the Hills and Assam. Table XXXIX may be consulted for further details regarding native troops.* High ratios have prevailed among the European troops of the Deccan for some years past, and the explanations offered were not satisfactory. However, there is a great improvement in 1898. Speaking generally, it may be said that in the more northerly parts of India the native troops, in the more southerly the European troops, suffered more. The ratios from all forms of tubercular disease taken together were highest in prisoners, and next in European women ; and the same had the highest and next highest ratios from tubercle of the lungs. The highest ratios for tubercle of

* See also Section X and the note by A. Crombie, printed as an appendix to this report.

the brain and its membranes, for tubercle in the abdomen, for tubercle of the lymph glands, and for tubercle of the bones and joints, were those of the children, prisoners coming second in the case of abdominal tubercle.

Flügge and his pupils have shown by experiment that the fine spray ejected from the mouth of a tuberculous patient in coughing may contain the tubercle bacillus, and is therefore a source of danger to others, a danger which may be averted by the polite habit of putting the hand before the mouth when coughing.

27. Respiratory diseases caused more sickness and mortality than in the preceding year :—

Respiratory Diseases (7).

Period.	Respiratory Diseases.		Pneumonia.	
	Admissions per 1,000.	Deaths per 1,000.	Admissions per 1,000.	Deaths per 1,000.
1886—95	30	·17	3	·60
1897	26	·70	3	·60
1898	29	·77	3	·61

Of the commands, the Punjab had, as usual, the highest death-rate. As to groups, the greatest prevalence was, as usual, in the Indus Valley. Only for a few stations of the most affected groups VI, VII, and XII*b* are explanations given in the reports. At Sialkot and Ferozepore the cases were mostly catarrhal; at Mooltan cold in the early morning and at night was blamed; while the medical officer of Rawalpindi says :—

> A large number were, as usual, simple catarrhs: 7* only were cases of pneumonia. This satisfactory return is considered to be due to réveillé being sounded at 7 a.m. instead of 6, which had been the hour in the earlier part of the winter of 1895-96. The decrease in the number of cases of ague in the weekly returns of January 1896 after the change was made was very noticeable. It will be remembered that the altitude of Rawalpindi is over 1,700 feet, and that very cold winds prevail. The alteration of the hour of réveillé had unquestionably a wholesome effect on the health of the troops.

The admission-rate from pneumonia, though slightly lowered, was practically unchanged, while mortality rose a little. Of the commands, the Punjab had the highest death-rate, as usual. The Indus Valley was, as usual, the group in which pneumonia was most prevalent, the Hills and Upper Sub-Himalaya coming next. Nowshera and Peshawar had the highest ratios in the Indus Valley. At Peshawar the pneumonia is said to have been of a low type, attacking men reduced by malaria; and in four of the cases both lungs were affected. The Tirah Field Force lost only three men in 1898 from pneumonia.

In Table IV it is stated that the number of European soldiers constantly sick from pneumonia was nearly 14, against 18 in 1897, and the average duration of a case 27 days, against 31.

28. The admission and death-rates from dysentery and from diarrhœa fell very much, fell in fact to normal after the unusual elevation of the preceding year :—

Dysentery and Diarrhœa (25).

Period.	Dysentery.		Diarrhœa.	
	Admissions per 1,000.	Deaths per 1,000.	Admissions per 1,000.	Deaths per 1,000.
1886—95	30	·73	32	·06
1897	46	2·53	33	·23
1898	30	·78	27	·04

* Excluding a case of broncho-pneumonia.

Dysentery was most prevalent in the Bengal Command and in the Bengal-Orissa Group. The same group, but the Madras Command, had the highest percentage of dysentery in total cases, as may be seen in Tables I and II. It is usual for Bengal-Orissa to have a high dysentery ratio. In Table XIII it may be seen that dysentery was distributed with some degree of evenness throughout the months of the year, the maximum month being August and the minimum December; and in Table III that Barrackpore, Dum-Dum (both in Bengal-Orissa), Shwebo, Jubbulpore, as well as the plains depôts, had very high ratios. At Shwebo the cases were mild, at Jubbulpore the disease was "not traceable to any particular cause," at Dum-Dum it was ascribed to wet and damp. The medical officer at Barrackpore considers that even the imperfect measures hitherto carried out against the turbidity of the water and the water-logging of the soil have been productive of some good, and places his hopes for the amelioration of the disease on the completion of the drainage scheme.

Legge states that a virulent form of the *bacillus enteritidis sporogenes* (Gaertner) was the cause of an outbreak of "colitis" in the Derby County Asylum, and that a non-virulent form of the same bacillus was present in the sweepings from the wards. Others have found the *bacillus coli*, the *amoeba coli*, etc.

But notwithstanding all that has been done, investigations into the causation of dysentery have not yet got beyond the grouping stage.

Hepatitis (26).

29. The admission-rate from hepatitis and the death-rate from abscess of the liver rose:—

Period.	Hepatitis.*		Abscess of the Liver.	
	Admissions per 1,000.	Deaths per 1,000.	Admissions per 1,000.	Deaths per 1,000.
1886—95	21	1·29	2**	1·13**
1897	20	1·32	2	1·29
1898	21	1·59	2	1·52

* Including abscess of the liver.
** 1888-95.

The Bengal Command had the highest admission and death ratios from abscess of the liver, and the Madras Command the highest admission ratio from hepatitis. Of the groups, Southern India recorded the highest admission-rate from hepatitis, and Bengal-Orissa the highest from hepatic abscess. The percentage of hepatitis to total admissions was also highest in Southern India; but the percentage of abscess of the liver to total deaths was higher in Burma Coast than in Bengal-Orissa. From a study of Table II it may be learned that, though Bengal-Orissa had the highest, and Gangetic Plain the next highest, admission ratios from both dysentery and hepatic abscess, and though in ten cases out of the twelve a high admission-rate from desentery went with a high admission-rate from abscess of the liver, and a low rate with a low rate, yet the

order of the groups in hepatic abscess corresponded exactly with the order of the groups for dysentery only in five out of the twelve cases. This agrees with the results shown in former reports.

The following calculations can only be accepted with certain reservations. A large single abscess may really have resulted from the coalescence of several small abscesses. Again, in cases where more or less time has elapsed between the attack of dysentery and the beginning of the hepatic suppuration, or where scars but not ulcers are present in the intestines, medical officers cannot be expected to agree as to the fact of association. In such cases theoretical prejudice influences opinion on the facts.

There were 103 deaths from abscess of the liver, but for 4 of them *post-mortem* records are not available. In the remaining 99 cases the hepatic lesions appear from the history and *post-mortem* records to have been associated with intestinal lesions in 48, or 48 per cent., and to have been not so associated in 51, or 52 per cent. Among the 48 fatal cases of hepatic abscess associated with dysentery or ulceration of the intestine there was a single abscess in 15, or 31 per cent., while there were multiple abscesses in 33, or 69 per cent. On the other hand, where the suppurative hepatitis was unassociated with dysentery or ulceration of the intestine there were 20 cases, or 39 per cent., in which the abscess was single, and 31 or 61 per cent. in which the abscesses were multiple. Again, out of the total 99 fatal cases 35 or 35 per cent. had a single abscess; 64 or 65 per cent. multiple abscesses. Of the cases of single abcess 15, or 43 per cent., were associated with dysentery or ulceration, while 20 or 57 per cent. were associated with neither. In contrast to this, among the cases with multiple abscesses, 33, or 52 per cent., were associated, 31, or 48 per cent., unassociated with intestinal symptoms or lesions. Dysentery was not invariably, and it was not always possible to say what was, the cause of the intestinal lesions, but in three cases it seemed to be enteric fever, and in another it was possibly the same. These abscesses occurred at Lucknow, Agra, Shwebo, and Lundi Kotal, and were respectively multiple, single, multiple, single. In addition, multiple abscess complicated three cases which were returned as having died from enteric fever at Fyzabad, Cawnpore, and Umballa. The Lundi Kotal case being left out, this would give one occurrence of abscess of the liver in about 476 cases of enteric fever. The reason for this high proportion in India is discussed on page 56 of the Report for 1897. The cases in 1898, in which enteric fever and dysentery and enteric fever and abscess of the liver were connected are also noticed in paragraph 15 of this report. Some points of interest as to the combination of enteric fever with dysentery and as to the frequency of ulceration of the large intestine in enteric fever have been noted by Buchanan. Others also have recorded cases in which the large intestine was specially or solely affected, and in Foxwell's case the liver was riddled with pylephlebitic abscesses. Elsewhere appendicitis has been found to be a cause of abscess of the liver.

Table IV records 103 deaths in 184 cases treated, 24 remaining from the preceding year and 160 admitted; a case-mortality of 56 per cent., against 53 per cent. in 1897. The same table shows that the average number constantly sick from hepatic abscess among 67,741 men constantly present was about 16, and the average duration of a case nearly 38 days.

The following table shows that the mortality from abscess of the liver in 1898 was 25 times greater among European than among native soldiers,

while it had been 21½ times greater in 1897, 17 times greater in 1896, and 70½ times greater in 1895 :—

Cause of death.	Died per 1,000 of average strength.		Relative liability in percentages.			Percentage in deaths from all causes.	
	European troops.	Native troops.	European troops.	Native troops.	Total 100.	European troops.	Native troops.
Abscess of liver .	1·52	·06	96	4	100	7·5	·5

On the other hand, the admission ratio from dysentery among European soldiers was to the ratio of the native soldiers as 1 : 1·5, the relation being the same as in the two years preceding. This matter was gone into at length in the report for 1894.

Particulars regarding the relation of mortality from hepatic abscess, and of invaliding from hepatitis, to age and length of residence in India, are given in Tables XVI and XVII, respectively. The liability to death and to invaliding increased both with age and with service.

The actuals and ratios for hepatic abscess and for hepatic congestion and inflammation will be found in Tables IV and III.

The ultimate cause or causes of abscess of the liver are still matter of dispute. In different cases have been found amoebae, pyococci, *bacillus coli*, especially in a virulent form known as *bacillus coli dysentericus* or *bacterium coli dysentericum*, alone or in varying combinations one with another ; and these are supposed to be aided in their work by the action on the human body of chill, high atmospheric temperature, habits and ingesta (especially alcoholic*) unsuited to the tropics, or syphilis ; though the existence of some as yet undiscovered factor is suggested by the frequency of abscess of the liver in the East Indies, and its infrequency in the West Indies. It has been stated that the liver is always affected in severe cases of dysentery ; that abscess is found in 1 in 4 of the fatal cases ; that the abscesses are generally at first multiple, and then, unless too widely separated, may run together to form a single abscess. On the other hand, cases of amoebic abscess without any dysenteric symptoms or lesions have been reported ; and it has also been urged that too much has been made of the previous occurrence of dysentery in men subsequently suffering from abscess of the liver. Attention has recently been specially called to the frequency of suprahepatic abscess ; and cases answering to the description have often been mentioned in the medical transactions of station hospitals. The following has been put forward as a list of the antecedents of abscess of the liver :—1. Dysentery ; 2. extension of inflammation from adjacent structures ; 3. pylephlebitis ; 4. phlebitis of the umbilical vein ; 5. suppurating hydatids ; 6. actinomycosis ; 7. trauma ; 8. suppuration of the gall-bladder ; 9. typhoid ulceration ; 10. tuberculosis.

Ross and Anderson have called attention once more to the rarity of abscess of the liver in the West Indies, while it has been shown by official statistics that it is common among the Dutch soldiers in Java.

Venereal Diseases (27).

30. Details regarding venereal disease will be found in Tables III and IV. The admission-rate for India was 362·9, against 485·7 in the previous year, and 511·6 in 1896. In

* Medical officers often mention excessive beer-drinking.

other words, in 1898 for every 1,000 men there were nearly 123 fewer admissions to hospital for venereal disease than in 1897. From the reports of medical officers, it appears that this decrease was partly unreal, and due to the widespread adoption of the system of treating venereally-affected men as out-patients; and partly real, and due to the introduction of continuous and more prolonged treatment of the sick, to measures adopted under the new cantonment rules, to the placing of certain bazaars and cities out of bounds on account of the plague, and to the employment of a certain number of men on field service.

In 1898 there were 2,201·81 (against 2,991·59) men constantly sick in hospital from venereal disease—equivalent to over two regiments. Some medical officers specially notice the influence of the out-patient system in reducing the number constantly sick in hospital.

Excluding from the calculation (because data for them are not available) men on field service, and men of the Malakand Force and of the Khyber Force and Brigade, the average stay of a case of venereal disease in hospital was 33·31 days (against 33·32); and the total loss of service was about 803,661 days (against 1,091,930).

There were 17 deaths (0·25 per mille of strength) and 569 invalidings (8·40 per mille)—against 23, or 0·34 per mille of strength, and 662 or 9·68 per mille—*directly* attributed to venereal disease.

The ratio of venereal disease to strength increased in 17 stations, and decreased in 87. The only ratio over 900 per 1,000 of strength was that of Shahjahanpur, a station which had the highest ratio in 1897 also. Next came the ratios of Fatehgarh, Pachmarhi, Dinapore, Saugor, Calicut, Benares, Amritsar, and Cawnpore. The medical officer at Shahjahanpur says :—

> The disease is unfortunately extremely prevalent in the station, and is often, in the case of syphilis, of a severe type. Under present regulations there is no means whatever of preventing it. Even were former cantonment regulations in force, which acted as a preventive in other stations, they would not be of much use here. No prostitutes live in the regimental bazaar, but all in the native city, which is out of cantonments. If the city is placed out of bound for the troops, these women flock into cantonments and elsewhere where they can meet the men. Under existing arrangements there is no means of stopping it. The treatment of syphilis by mercurial injections has not been in use during the year. But men have been treated out of hospital in the ordinary manner, attending for medicine twice daily. While doing this they were available for guards, but not for other duties. Thus they prevented a too frequent recurrence of general duties for other men, without any undue fatigue to themselves.

The greatest increases of ratio (increases of more than 150 per 1,000) were at Pachmarhi in the Bengal Command, Lower Topa in the Punjab Command, Calicut in the Madras Command, and Ahmednagar in the Bombay Command. But the strength of some of these stations was low, as may be seen in the tables. The greatest decreases of ratio (decreases of more than 400 per 1,000) were at Sitapur and Chakrata in the Bengal Command, Solon in the Punjab Command, Shwebo in the Madras Command, and Nasirabad in the Bombay Command.

All the commands shared in the decrease. The Madras Command had the lowest ratio, and, as usual, the Bengal Command the highest.

In 39 stations (against 49) the admission-rate for secondary syphilis was over 100 per 1,000 of strength, as may be seen in Table III; and in 47 other stations (against 21) it was over 75 per 1,000.

For India the ratio of primary syphilis *plus* soft chancre diminished by 56·7 per mille of strength, the ratio of secondary syphilis by 14·8 per mille, and the ratio of gonorrhœa by 51·2 per mille. The secondary syphilis ratio had been increasing in the preceding two years.

In 1898 the Madras Command had the highest ratios for primary syphilis *plus* soft chancre, and, as usual, for secondary syphilis; and the Bengal Command the highest ratio for gonorrhœa.

The intramuscular injection of mercurial cream, and the out-patient system are specially noticed by many medical officers.

Twelve officers report benefit from the new cantonment rules, but six are not yet satisfied.

At Belgam, Shwebo, Deesa, Kurrachee, and Hyderabad benefit was derived from the bazaars having been placed out of bounds on account of plague, or for other reasons; but at Bareilly and Hyderabad the effect of this measure was more or less neutralized by the women coming from the bazaars to meet the men.

At several stations moral influences appear to have been brought to bear on the men, with varying success. In some of these stations lectures were given, and the men were talked to.

The medical officer at Cannanore states that good character men and members of the Army Temperance Association constituted the majority of the men affected (31).

Of course, as usual, not all the cases treated in a station had been contracted there; and some of the cases treated at Calicut and Mallapuram originated in South Africa.

The medical officer at Calicut is of opinion that the new messing regulations, whereby men came to possess a lump sum of hard cash, encouraged venery, and therefore increased disease.

With regard to Quetta it is said that "during the severe outbreak of enteric fever the men were not in a mood to debauch in the bazaar." The medical officer of Port Blair reports that "the scarcity of venereal disease is due to the place being a penal settlement, and the women more or less under supervision. There are practically no women of the class on Ross Island."

As usual, some medical officers note that cases, especially of inflammation of the inguinal glands, had to be returned as non-venereal owing to the absence of proof of their venereal nature, though they were strongly suspected to be venereal. The medical officer at Bangalore says that slight strains and injuries are, in India, when health is low, apt to produce enlargements not always easy to associate with previous venereal disease. On the other hand, the medical officers of Jhansi and Nasirabad are of opinion that the peculiar vulnerability in these cases is due to syphilis; while he of Kirkee doubts whether these glandular enlargements can be attributed to anything else but venereal disease, in spite of the plausible histories so often given. Scheube has investigated the subject of "climatic buboes."

Table XV-B shows clearly how the arrival year by year, especially since 1878, of fresh batches of young unmarried men under the short service system has been accompanied by much venereal disease.

In paragraph 37 are given particulars regarding invaliding for venereal disease in relation to age and length of service.

The following table shows the admission-rate for venereal disease as far back as the records for India as a whole permit. The heading "primary syphilis" includes the soft sore throughout :—

Year.	Primary Syphilis.	Secondary Syphilis.	Total Venereal Disease.
1872	61·2	22·4	179·0
1873	53·4	20·4	166·7
1874	68·3	25·2	192·7
1875	67·1	25·1	205·1
1876	59·8	23·9	189·9
1877	65·2	22·1	208·5
1878	95·3	22·0	271·3
1879	79·2	24·5	234·8
1880	87·9	23·1	249·7
1881	92·0	23·1	260·5
1882	87·6	23·2	265·2
1883	87·?	23·5	270·3
1884	90·2	24·4	293·9
1885	122·1	28·7	342·7
1886	157·9	33·3	389·5
1887	142·1	29·4	361·2
1888	142·1	32·4	370·6
1889	225·1	51·2	481·5
1890	220·7	66·3	503·5
1891	159·2	60·0	400·7
1892	161·1	57·8	409·9
1893	213·6	61·6	466·0
1894	248·1	74·6	511·4
1895	239·0	84·9	522·3
1896	226·4	97·7	511·6
1897	201·7	101·9	485·7
1898	145·0	87·1	362·9

The decrease in the total ratio continued, and the ratio of 1898 was the lowest since 1887. The secondary syphilis ratio also fell for the first time since 1892.

Alcoholism.

31. Information with regard to the deaths from alcoholism in relation to age and service in India will be found in Table XVI; and the numbers admitted and constantly sick in Table LIII. There were 9 deaths in 1898, giving a ratio of 0·13, against 4 and 0·06 in 1897. The yearly average number of deaths in the decennium 1886—95 was 9 (0·14 per mille of strength); so that 1898 was an average year.

Heatstroke (28).

32. The heatstroke ratio for India was slightly reduced; but there was a great increase in the ratios of the Punjab Command and of the Upper Sub-Himalaya and Indus Valley Groups (Table III). The highest ratios in those groups were those of Attock, Meean Meer, Ferozepore, Nowshera, and Peshawar. The medical officer at Nowshera notes the power of ill-health as a predisposing cause, three men out of the five who died being in the hospital for other diseases. The medical officer at Peshawar says :—

Heatstroke and heat apoplexy were 8 times more frequent and nearly 1¾ times more fatal than during the preceding year. There were altogether 40 cases, with 13 deaths (3 out of hospital), against 5 cases and one death the previous year. The great majority of the deaths took place at night; and they were distributed over the hot weather as follows :— May 1, June 3, July 4, August 5. As far as can be gathered from intelligent natives, the summer of 1898 was exceptionally hot, and the humidity of the atmosphere much increased. An experienced medical officer writes :—"Nearly all the cases occurred in men who drank a large amount of beer." The same officer recommends that men on sentry-go during the day in the hot weather should wear smoked glasses to obviate the ill effects of the glare.

The *facts* with regard to the temperature and humidity of Peshawar in the months referred to may be obtained from Tables II and III of Section I of this report. There can be no doubt whatever that beer drinking in the height of the hot weather must favour the occurrence of heatstroke. The discussion as to the real nature of heatstroke, as to whether it is a microbial disease or not, continues.

Suicide.

33. In Table XVI will be found information with regard to suicide in relation to age and to Indian service. In the ten years 1886-95 there were 215, or an average of about 22 per annum. There were 25 in 1898, of which 12 were by gunshot, 6 by cut-throat, 3 by hanging, 2 by drowning, 1 by iodine poisoning, and 1 by jumping from a height. The distribution of suicides by seasons per cent. was as follows :—

Period.	January to March.	April to June.	July to September	October to December.	Total.	Total cases.
1886-95 . .	24	21	26	29	100	215
1897 . . .	17	33	17	33	100	18
1898 . . .	20	24	36	20	100	25

Invaliding.

34. In the whole army of India 2,580 men were invalided, or 38·09 per mille of strength, against 2,258 and 33·01 in the preceding year, the increase being greatly due to the large number of men invalided for ague. The ratio for the decennium 1886-95 was 24·34. The proportion of invalids to strength was lowest in the Bombay Command, and highest, as before, in the Madras Command—See Table LIII. Twenty-eight per cent. of the total number invalided were discharged as unfit for further service. The marginal table shows that this percentage was low. It should be mentioned, however, that the question in the case of each soldier as to whether the disability necessitates discharge is revised in England by a medical board‖; so that the Indian figures do not show the real final disposal of invalids.

	1894.	1895.	1896.	1897.	1898.
India .	39	33	39	34	28

Diseases causing invaliding.

35. Details regarding the causes of invaliding will be found in Table LIII ; but the following shows the diseases which accounted for not less than 1 per mille of strength .—

	Invaliding ratios per 1,000 of strength.
Syphilis and gonorrhœa	8·40
Malarial fevers	7·16
Debility	2·69
Dysentery	1·87
Disordered action of the heart	1·80
Tubercle of the lungs	1·56
Valvular disease of the heart	1·45

Invaliding from mental affections.

36. The ratio of invaliding from mental diseases decreased, and was considerably below the decennial ratio. There were 24 cases of melancholia, 12 of mania, and 24 of other forms of insanity.—See Tables XVII and LIII:—

	Ratios per 1,000 of strength.
1886—95	1·19
1897	1·39
1898	·89

Invaliding according to age and Indian service.

37. In Table XVII are to be found the statistics concerning the influence of age and length of Indian service upon invaliding.

The percentage of men who were invalided while under 25 years of age to the whole number invalided was (*f*) 62, against 63 in 1897. The percentage of men under 25 in the strength of the army was (Table XV) 54, against 55.

Of the total number of men invalided, 33 per cent. were (*l*) of less than two years' service, and 83 per cent. were of less than five years' service. With this is to be considered the fact (Table XV) that 82 per cent. of all the men in the strength of the army were of less than five years' service.

The construction of Table XVII was sufficiently explained in paragraph 37 of the report for 1896. The left half gives the relation of invaliding to age, the right half its relation to length of residence in India. With regard to individual diseases the table may be read as follows. The highest invaliding ratio per 1,000 of strength (*a*) from venereal disease was in the age-period 20-25, and the relative liability (*b*) for that period was 39 per cent.; the actual number invalided (*c*) for venereal disease in the same age-period was 353; of 100 invalided (*d*) in the same age-period 23 were due to venereal diseases, a proportion not quite so great as in the next age-period; and of the total invalided for venereal disease at all ages (*f*) 62 per cent. were in that same age-period. By reading the right half of the table in the same way it will be seen that the residence period 1-5 years, and especially 3-4, had the largest proportion of invaliding for venereal disease.

Officers (29).

38. The vital statistics of officers will be found in Table XVIII. "B" shows the deaths of *all* officers. The death-rate for the British army was 16·26, and that for the Indian army 10·18, both much lower than in the preceding year. The number of deaths from enteric fever was greater than in 1897 among British officers only, remaining the same in the case of Indian officers. Enteric fever caused, as usual, more deaths among the British than among the Indian officers, apparently because Indian officers have to serve first with British regiments, and it is known that youthful and newly arrived men are more liable to take the disease than others. Another reason suggested is that food and drink, table and kitchen arrangments, are not so well looked after in British messes as in Indian.

"A", "C", "D" and "E" show the statistics of such British officers present with their regiments in India, as were treated by medical officers in charge of station hospitals. The invaliding and death-rates were higher than for men, the admission-rate lower; and the same was the case in 1897. The admission rates from ague, tubercle of the lungs, and venereal diseases, and the death-

rates from enteric fever and hepatic abscess were lower than among the men. The chief causes of admission among officers were ague and simple continued fever; and among the diseases with raised admission-rates were congestion and inflammation of the liver, simple continued fever, enteric fever, and influenza, the ratios from small-pox, cholera, malarial fevers, tubercle of the lungs, bowel-complaints, abscess of the liver, and venereal diseases being lessened. Enteric fever was the chief cause of death; the ratios from dysentery, circulatory diseases, and enteric fever being raised, and those from hepatic abscess, heatstroke, and remittent fever reduced to zero.

There were only three cases of cholera, two at Thayetmyo and one at Lucknow. There were 11 cases of enteric fever among the officers of the Tirah Field Force. The greatest numbers of cases of enteric fever at individual stations were 8 at Quetta, 7 at Murree, and 7 at Lucknow. Some hints as to the etiology of enteric fever at these and other stations will be found in paragraphs 15 and 16, and in Table V. At Umballa one officer was admitted from the club, where the kitchen and scullery arrangements are said to have been very bad.

Women.

39. On the whole, the health of the women was somewhat worse in 1898 than in 1897, the rise in the admission and death-rates more than counterbalancing the fall in constantly-sick:—

Period.	Average annual strength.	Admission-rate per 1,000.	Constantly sick-rate per 1,000.	Death-rate per 1,000.
1886—95	31,881	815·2	32·1	17·00
1897	3,203	768·3	38·2	15·30
1898	3,118	772·9	37·9	10·04

The chief causes of admission were debility, ague, and the diseases peculiar to women. Among the diseases which caused increased admission were enteric fever, remittent fever, simple continued fever, influenza, respiratory diseases, and diarrhœa; while from cholera, small-pox, ague, tubercle of the lungs, dysentery, puerperal affections, and the diseases peculiar to women, admission was lessened. Debility caused over 34 per cent. of the total sickness, and ague nearly 19 per cent.

The chief causes of death were enteric fever and puerperal affections. Among the diseases which gave increased mortality were enteric fever, hepatic abscess, puerperal affections, and malarial fevers. Mortality from cholera, tubercle of the lungs, pneumonia, and dysentery, was diminished. Enteric fever caused 30 per cent. of the total deaths, and puerperal diseases 14 per cent.

As to both ratios and actuals the commands may be compared with each other by the use of Table XIX.

Table XX shows that there were no cases of cholera among the women and Table XXI that the stations where more than two cases of enteric fever occurred were Quetta, Lucknow, and Mhow. No special explanation of these cases is given by the medical officers; but their remarks and those of the special sanitary officers quoted in paragraphs 15 and 16 and in Table V may be consulted. The 7 admissions at Quetta contributed largely to the increase of 65 per cent. in the admissions for India, the actual having risen from 23 to 38, and the ratio from 7·2 to 12·2.

Children (30).

40 That the health of the children was better than in 1897 may be seen from the following table, the fall in the death-rate more than counterbalancing the rise in the admission and constantly sick-rates :—

Period.	Average annual strength.	Admission-rate per 1,000.	Constantly sick-rate per 1,000.	Death-rate per 1,000
1886—95	59,695	581·8	22·7	46·72
1897	5,744	572·1	26·7	50·49
1898	5,592	606·6	28·8	41·13

The chief causes of admission were ague and respiratory diseases. Among the diseases with raised admission-rates were measles, whooping cough, ague, enteric fever, respiratory diseases, simple continued fever, diarrhœa, and eye diseases ; while admission from cholera, small-pox, remittent fever, influenza, tubercular diseases, and dysentery was lessened. Ague caused over 20 per cent. of the total sickness, and respiratory diseases over 11 per cent.

The chief causes of death were diarrhœa, convulsions, respiratory diseases, debility (including immaturity at birth), and teething. Among the diseases from which there was increased mortality were diarrhœa, remittent fever, enteric fever, diphtheria, and croup. Mortality from cholera, small-pox, tubercle, teething, debility, respiratory diseases, convulsions, and dysentery was diminished. Diarrhœa caused over 22 per cent. of the total deaths, convulsions over 10 per cent., and respiratory diseases nearly 10 per cent.

Table XXIII shows that there was only one case of cholera, at Umballa. Quetta and Kasauli, Table XXIV shows, had the greatest numbers of enteric fever cases. The special circumstances of Quetta are mentioned in paragraphs 15 and 16 as well as in Table V. The medical officer at Kasauli considered the dairy, which was in charge of a native, not to be above suspicion, and had to report three times that bad milk had been brought in from outlying villages. At Roorkee a child was supposed to have contracted the disease by drinking water in the soldiers' bathroom. The tuberculous organs in the 12 cases of tubercular disease are specified in Table LIII. Five cases of scarlet fever occurred at Dalhousie, all in one family, and one case at Roorkee. All recovered, and nothing is said about causation.

Table XXV shows that the liability to death was greatest under six months of age, the height of the percentage being to a considerable degree, though not so much as in 1897, due to cases of immaturity at birth. The chief other causes of death at that age were diarrhœa, convulsions, and debility. The chief causes of mortality in the succeeding years of life were diarrhœa and teething.

Papers and Books referred to in Section II.

Abbreviations used below.

L. = Lancet.
B. M. A. = British Medical Association.
B. M. J. = British Medical Journal.
J. T. M. = Journal of Tropical Medicine.
E. M. J. = Edinburgh Medical Journal.
J. P. B. = Journal of Pathology and Bacteriology.
M. C. = Medical Chronicle.
N. = Nature.
I. M. G. = Indian Medical Gazette.
I. L. = Indian Lancet.
B. J. = Boston Medical and Surgical Journal.
J. E. M. = Journal of Experimental Medicine.
J. H. H. B. = Johns Hopkins Hospital Bulletin.
A. J. M. S = American Journal of the Medical Sciences.
M. O. L. G. B. = Report of Medical Officer, Local Government Board
A. M. D. = Army Medical Department Report.
V. J. = Virchow's Jahresbericht.
Z H. = Zeitschrift für Hygiene.
Z. F. H. = Zeitschrift für Heilkunde.
Z. K. M = Zeitschrift für Klinische Medicin.
A. H. = Archiv. für Hygiene.
C. B. = Centralblatt für Bakteriologie.
H. R = Hygienische Rundschau.
F. M. = Fortschritte der Medicin.
D. M. W. = Deutsche Medicinische Wochenschrift.
B. K. W. = Berliner Klinische Wochenschrift
W. K. R. = Wiener Klinische Rundschau.
W. M. W. = Wiener Medicinische Wochenschrift.
W. K. W. = Wiener Klinische Wochenschrift.
M. M. W. = Münchener Medicinische Wochenschrift.
C. K. M. = Centralblatt für Klinische Medicin.
C. I. M. = Centralblatt für Innere Medicin.
A. P. = Annales de l'Institut Pasteur.
R S. M. = Revue des Sciences Médicales.
S. M. = La Semaine Médicale.
M. M. = La Médicine Moderne.
G. H. = Gazette Hebdomadaire.
R. M. = La Riforma Medica.

(1) Musser and Sailer, quoted in B. M. J. of 4th March 1899, page 572; Malta Public Health Department Report, quoted in B. M. J. of 1st July 1899, page 46; Hughes in B. M. J. of 12th August 1899, page 414, and of 9th September 1899, page 657; Gordon in L. of 11th March 1899, page 688; Hughes in L. of 26th August 1899, page 610; Birt and Lamb in L. of 9th September 1899, page 701;* Durham, J. P. B., V., page 377, quoted in H. R. IX., page 243; Sichel in J. T. M. of September 1898, page 32; Hughes in J. T. M. of August 1899, page 11; Manson in B. M. J. of 7th October 1899, page 923, and in J. T. M. of October 1899, page 59.

(2) Horton Smith in L. of 20th May 1899, page 1346; Richardson in B. J. No. 7, quoted in V. J. XXXIII. 2-1, pages 9 and 17; Carver in Medical Chronicle of July 1898, quoted in L. of 20th August 1898, page 497, and by V. Poore in B. M. J. of 4th March 1899, page 525.

(3) Horton Smith in L. of 20th May 1899, page 1340, and quoted in I. M. G. of August 1899, page 302; Richardson, J. E. M. III and in B. J. quoted in V. J. pages 9, 16, and 17, also quoted by Horton Smith, also quoted in C. B. XXVI, page 149, in H. R. VIII, page 1141, in F. M. 17, page 639, and in L. of 26th

* And quoted in Braithwaite's Retrospect CXX, page 19.

November 1898, page 1410; Petruschky C. B. XXIII, quoted in H. R. IX, page 12, and in F. M 17, page 117; Opitz in Z. H. XXIX, page 549; Kübler and Neufeld Z. H XXXI, page 133, quoted in C. B. XXVI, page 149; Rostoski M. M. W. of 14th February 1899, quoted in B. M. J. of 1st April 1899 and in I. L. of 1st July 1899, page 17; Richardson quoted in B. M. J. of 27th May 1899, page 1298; Carver, as quoted under (2); Lartigau in B. J. quoted in L. of 7th October 1899, page 968.

(4) Horton Smith in L. of 20th May 1899, page 1351; Kübler and Neufeld in Z. H. XXXI, page 133, also quoted in C. B. XXVI, page 149.

(5) Peck in B. M. J. of 2nd September 1899, page 594, and in L. of 19th August 1899, page 527, with discussion;* Boobbyer in B. M. J. of 4th March 1899, page 536; and in L. of 4th March 1899, with discussion; Blake in B. M. J. of 23rd September 1899, page 813; S. Cameron in B. M. J. of 18th February 1899, page 411, with discussion; R. M. of 1898, No. 271, quoted in H. R. IX, page 208; Kübler and Neufeld in Z. H. XXXI, page 133, and quoted in C. B. XXVI, page 149; B. M. J. of 29th April 1899, page 1049; Parely in Rev. de Méd. 1898, page 605, quoted in F. M. 17, page 118.

(6) Quoting Celli, Alessi, and Veeder, Nuttall in H. R. IX, pages 288 and 400, quoted in C. B. XXVI, page 263; Veeder, N. Y. Med. News of 31st December 1898, quoted in B. M. J. of 28th January 1899, epitome-page 13; V. Poore in B. M. J. of 4th March 1899, page 525; Nuttall, as above, quoted in B. M. J. of 9th September 1899, page 642; Vaughan in A. J. M. S. of July 1899, quoted in L. of 22nd July 1899, page 235, and in J. T. M. of June 1899, page 313; Nuttall, quoted in L. of 16th September 1899, page 775, and in J. T. M. of August 1899, page 7; Amat in Bull. Génér. de Thér., Janus, of 30th April 1899, quotes Tiktiao, and is quoted in J. T. M. of September 1899; I. L. of 1st July 1899, page 26, quoting Joly, Thèse de Bordeaux, and Vaughan, etc., as above; Abel in H. R. IX, page 1069.

(7) Kenwood in B. M. J. of 12th August 1899, page 407; Nollet in Arch. de Méd. Nav. of June 1899, quoted in L. of 5th August 1899, page 363; Sanglé-Ferrière and Remlinger Rev. d'Hyg. XX, quoted in V. J. XXXIII. 2 1, page 11; Review of Newman's "Bacteria" in N. 60, page 434; Neisser, Habilitationsschrift, Leipsig, 1898, quoted in C. B. XXIV, page 704; Neisser, Z. H. XXVII, page 175, quoted in V. J. XXXIII. 1-3, page 457;† Flügge in Z. H. XXX, page 107; Laschtschenko in Z. H. XXX, page 125; Heymann in Z. H. XXX, page 139; Sticher in Z. H. XXX, page 163; Beninde in Z. H. XXX, page 193; Curry in B. J. of 13th October 1898, quoted in I. M. G. of March 1899, page 108, by Buchanan; Flügge in Z. H. XXV, page 179, quoted in C. B. XXV, page 494; Hübener in Z. H. XXVIII, quoted in C. B. XXV, page 496; Weismayr in W. K. W. 1898, No. 46, quoted in C. B. XXV, page 499; Flügge quoted in L. of 17th June 1899, page 1664; Flügge, quoted in I. L. of 1st August 1899 from Centralblatt für Chirurgie; Flügge, Laschtschenko, Heymanns, Sticher, Beninde, as above, quoted in H. R. IX, page 818.

(8) S. Martin in M O L. G. B. quoted in B. M. J. of 21st January 1899, page 161, in L. of 18th February 1899 by S. Cameron, page 450, in C. B. XXV, page 775, in I. L. of 16th March 1899 from Sprott in the Australasian Medical Gazette; V. Poore in B. M. J. of 4th March 1899, page 525; Notter in B. M. J. of 27th May 1899, page 1278; Haffkine, Lecture before the Royal Society, B. M. J. of 1st July 1899, page 11, L. of 24th June 1899, page 1694, and J. T. M. of June 1899, page 289; and in I. L. of 16th July 1899, page 57; appendix to Army Medical Report for 1897, page 367; Sir C. Cameron, B. M. J. of 3rd June 1899, page 1374; C. B. XXV, page 726.

(9) Houston in M. O. L. G. B. quoted in B. M. J. of 21st January 1899, page 161 also quoted in C. D. XXV, page 773; Lorrain Smith quoted in B. M. J. of 10th December 1898, pages 1768 and 1782, and in L. of 24th December 1898, page 1739, wherein Sims Woodhead is also quoted; Kübler and Neufeld in Z. H. XXXI, page 133, also quoted in C. B. XXVI, page 150; Petruschky in C. B. XXIII, page 577, also in a book reviewed in H. R. IX, page 346; Klein and Houston in M. O. L. G. B. quoted in B. M. J. of 21st January 1899, page 161, and in C. B. XXV, page 776; Klein in B. M. J. of 8th July 1899, page 69;

See also Priestley in B. M. J. of 6th January 1900, page 35, and in L. of 30th December 1899, page 1849.
† From here to the end of (7) the references are also for tubercle of the lung, influenza, and pneumonia.

Blaxall in B. M J. of 6th May 1899, page 1094, and in L. of 6th May 1899, page 1226; Abel in H R. IX, page 184, in a review of Mez's Mikroskopische Wasseranalyse; van de Velde in C. B. XXIII, Nos. 12 and 13, quoted in H. R. IX, page 12; Lunt in Transactions of British Institute of Preventive Medicine, 1st series, 1897, quoted in H. R. IX, page 238; P. Frankland quoted in H. R. IX, page 670; Malfitano quoted in I. M. G. of March 1899, page 101, from summary in the *Medical Press*; **** Treelle, quoted B. M. J. of 3rd Decemher 1898; Nollet in Arch. de Méd Nav. of June 1899, quoted in L. of 5th August 1899, page 363; Defries in L. of 16th September 1899 page 803; Lunt, as above; van't Hoff in C. B. XXVI, page 64; Delépine in Medical Chronicle of April 1899, quoted in F. M. 17, page 598; B. M. J. of 25th March 1899, page 746; Willoughby, quoted in L. of 4th March 1899, page 593; Haffkine, as quoted under (8); S. Cameron quoted in B. M. J. of 18th February 1899, page 411, and in L. of 18th February 1899, page 450; **** Abba, Orlandi, and Rondelli in Z. H. XXXI, page 66; B. M. J. of 25th February 1899, page 493; I. M. G. of January 1899, page 32, quoting Fulton from Maryland Medical Journal; Trillat in A. P. XIII, page 444, and quoted in H. R. X, page 6; Pfuhl in Z. H. XXXI, page 497; V. Poore in B. M. J. of 4th March 1899, page 529.

(10) Bolley and Field quoted from C. B. in N. 59, page 346;* Wilckens in Vereinsbeilage des D. M. W., page 103, quoted in V. J. XXXIII, 2-1, page 11; Caroe in Ugeskrift for Laeger, R 5, B 5, page 894, quoted in V. J. XXXIII, 2-1, page 22; Frankel and Kister in M. M. W. 1898, page 197, quoted in H. R. VIII, page 1142; Cautley in M. O. L. G. B., quoted in A. M. D. for 1897, page 354; Naegeli,† quoted in L. of 23rd September 1899, page 865; I. M. G. of February 1899, page 76.

(11) Nash in B. M. J. of 28th January 1899, page 201; Wyatt-Smith in B. M. J. of 31st March 1899, page 725; Review of Hueppe's Handb der Hyg. in C. B. XXV, page 726; L. of 16th September 1899, page 757, quoting M. O. H. of Hongkong; Deming in Med. Rec. of 1898, No. 1417, quoted in F. M. 17, page 258; Richard, quoted in A. M. D. (appendix) for 1897, page 427; Boobbyer in B. M. J. of 4th March 1899, page 536, with discussion; Boobbyer, Report to L. G. B., quoted in L. of 23rd September 1899, page 855; Mair, Report to L. G. B., quoted in L. of 23rd September 1899, page 855; Willoughby, quoted in L. of 4th March 1899, page 593; Douglas Powell, quoted in B. M. J. of 5th August 1899, page 335; see under (5); Sir C. Cameron, quoted in A. M. D. for 1897, page 367.

(12) Lorrain Smith and Tennant in B. M. J. of 28th January 1899, page 193; Houston in B. M. J. of 14th January 1899, page 78; D. B. Spencer, A Record of Indian Fevers.

(13) Peck, as quoted under (5); Mair, as quoted under (11).

(14) Berger in Therapeutische Monatshefte 1898, Nos. 3 and 4, quoted in C. B. XXV, page 79, and in H. R. IX, page 79; Boobbyer in B. M. J. of 4th March 1899, page 536; Boobbyer, Report to L. G. B., quoted in L. of 23rd September 1899, page 855; MacDowall in N. 59, page 175; V. Poore in B. M. J. of 4th March 1899, page 529; Parsons in L. of 4th March 1899, page 592.

(15) S. Martin as quoted under (8); Klein in C. B. XXV, page 737; Pfuhl in C. B. XXVI, page 49; Sitsen in C. B. XXVI, page 65; Ficker in Z. H. XXIX, quoted in H. R. IX, page 254; P. Frankland, as quoted under (9).

(16) Lorrain Smith and Tennant, and Houston, as quoted under (12); Leader in B. M. J. of 25th March 1899, page 743; Wolf in C. B. XXV, page 311; Row in I. M. G. of April 1899, page 144; Biberstein in Z. H. XXVII, page 347; quoted in H. R. IX, page 294; Lorrain Smith, as quoted under (9).

(17) Review of Hueppe's Handbuch der Hygiene in C. B. XXV, page 726; Mair, Report to L. G. B., quoted in L. of 23rd September 1899, page 855; Parsons, quoted in L. of 4th March 1899, page 592; Douglas Powell in B. M. J. of 5th August 1899, page 335; L. of 26th November 1898, page 1436; Whitelegge, quoted in L. of 4th March 1899, page 592; V. Poore in B. M. J. of 4th March 1899, page 528; Roemheld in Jahrb. f. Kinderh XLVIII, quoted in V. J. XXXIII, 2-3, page 642; I. L. of 16th July 1899, page 69; Milnes-Griffiths, quoted in I L. of 16th July 1899, page 69; I. M. G. of October 1899, page 381.

* See also H. R. IX, page 1289. † See also F. M. 17, page 967.

(18) Murphy, quoted in B. M. J. of 27th May 1899, page 1278; Parsons, the same; the same discussion in L. of 27th May 1899, page 1434; Phillips in B. M. J., of 12th November 1898, page 1485, quoted in V. J. XXXIII, 2·1, page 12; see also under (21).

(19) Spencer, A Record of Indian Fevers; Crombie, quoted in I. M. G. of April 1899, page 127; Review of Spencer's book, as above, in I. M. G. of August 1899, page 300; Fayrer quoted in J. T. M. of September 1898, page 29; Crombie, quoted in J. T. M. of December 1898, page 128, and of January 1899, page 157; as to the general pathological activity of the colon bacillus, see B. M. J. of June 1899, L. of July 1899, C. B. XXV, H. R. IX, F. M. 17; Leader in B. M. J. of 17th December 1898, page 1829, and lecture by Durham on page 1797; Durham in L. of 15th January 1898, page 154; Row in I. M. G. of April 1899, page 144; Durham in B. M. J. of 3rd September 1898, page 588; quoted in V. J. XXXIII, 2·1, page 8; Gwyn in J. H. H. B. No. 84 of 1898, quoted in V. J. XXXIII, 2·1, page 17; Fischer in C. B. XXV, page 693; Lyon, quoted in a leader in I. M. G. of April 1899, page 127; Wilson in J. T. M. of December 1898, page 120; Goltmann in New York Med. Rec. of 17th September 1898, quoted in V. J. XXXIII, 2·1, page 15; Dobie in B. M. J. of 11th March 1899, page 643; Gray in B. M. J. of 8th April 1899, page 887; B. M. J. of 18th March 1899, page 711; B. M. J. of 3rd June 1899, page 1379; Forbes-Leslie in L. of 28th October 1899, page 1153.

(20) Houston in B. M. J. of 14th January 1899, page 78; Opitz in Z. H. XXIX, page 549; Sudakoff in Wratsch of 1898, No. 25, quoted in C. B. XXV, page 575; Neufeld in Z. H. XXX, page 498, quoted in C. B. XXVI, page 149; Richardson in B. J. No. 7 of 1898, quoted in V. J. XXXIII, 2·1, page 17.

(21) Bryant in B. M. J. of 1st April 1899, page 776; Hodenpyl, Studies from the Dep. of Path. of the Col. of Phys. and Surg., Columbia University, N. S. Vol. V, Part II, quoted in C. B. XXV, page 729, and in H. R. IX, page 1081; Moore in B. M. J. of 10th December 1898, page 1747; Goodhart, quoting Phillips, in L of 28th January 1899, page 209; Phillips, as quoted under (18); Durham in B. M. J. of 17th December 1898, page 1797, and Leader on the same in page 1829.

(22) Horton Smith in L. of 20th May 1899, page 1346; V. J. XXXIII, 2·1, page 16; Richardson, quoted in V. J. XXXIII, 2·1, page 17; L. of 22nd April 1899, page 1090; Camac in A. J. M. S. of March, quoted in L. of 17th June 1899, page 1648; C. B. XXV, page 564, two references; Mignot in Arch. Gén. de Méd. of August 1898, quoted in B. M. J. of 31st December 1898, epitome-page 92; Leader in B. M. J. of 25th March 1899, page 743; Busch in Z. H. XXVIII, page 479; quoted in B. M. J. of 27th May 1899, epitome-page 84, and in H. R. IX, page 892; Klimenko in Arch. Russes de Path. Med. Chir. and Bact., quoted in L. of 5th August 1899, page 369; Preysing in C. B. XXV, page 641; Schulz in B. K. W. of 1898, No. 34, quoted in H. R. IX, page 560; Lépine and Lyonnet in S. M. of 1899, page 230; quoted in H. R. IX, page 957; Takaki and Werner in Z. H. XXVII, page 31, quoted in F. M. 17, page 416; Achard in S. M. of 1898, No. 92, quoted in F. M. 17, page 608; Houston in B. M. J. of 14th January 1899, page 78; V. Poore in B. M. J. of 4th March 1899, page 528; Richardson, quoted as above, in V. J. XXXIII, 2·1, page 16; Lartigau in B. J. quoted in L. of 7th October 1899, page 968.

(23) d'Avellar, quoting Chantemesse, in Bull. d. l. Soc. Anat. of January 1898, quoted in F. M. 17, page 238; Row in I. M. G. of April 1899, page 144; also C. B. XXV, pages 85, 828, and 936, H. R. IX, pages 264 and 957.

(24) Howship Dickinson in B. M. J. of 7th October 1899, page 914; Sprott in Australas. Med. Gaz. quoted in I. L. of 16th March 1899, page 240; Haffkine, Lecture before the Royal Society, reported in B. M. J. of 1st July 1899, page 11, etc., see under (8); B. M. J. of March, July, August, and September 1899; L. of February, April, May, June, July, August 1899; H. R. VIII, page 766; F. M. 17, page 217; I. M. G., 1899, page 293; V. J. XXXIII, 2·1, page 20; I. L. of 1899, page 148.

(25) Review of book by Petridis in L. of 26th November 1898, page 1408; Shiga in C. B. XXIV, pages 817 and 913*; Shiga, C. B. XXIII, quoted in H. R. IX, page 85; Review of book by Gemmell in B. M. J. of 25th February 1899, page

* And quoted in H. R. X, page 23.

479; and in I. M. G. of February 1899, page 53; Ciechanowski and Nowak in C. B. XXIII, pages 445 and 493, quoted in H. R. IX, page 16; Celli and Valenti in C. B. XXV, page 481, and quoted in I. M. G. of September 1899, page 342*; Borntraeger, in Hyg. Zeit., quoted from Public Health of May 1899, by J. T. M. of June 1899, page 304; Archer in D. M. W. of 1899, page 56, quoted in H. R. IX, page 715; de Azeveda Sodré in Twentieth Century Pract. of Mod. Med. Sc., quoted in L. of 27th July 1899, page 283; Legge in J. of Ment. Sc. of July 1899, quoted in L. of 23rd September 1899, page 850; Klein in M. O. L. G. B., quoted in A. M. D. for 1897, page 354; Escherich in C. B. XXVI, page 386.

(26) Petridis, as quoted under (25); Buchanan in J. T. M. of February 1899, page 173; Buxton in Pro. of the Philad. Path. Soc., quoted in L. of 15th April 1899, page 1046; Verco, Australas, Med. Gaz. of February 1899, quoted in L. of 15th April 1899, page 1061; Ross in B. M. J. of 13th May 1899, page 1151; Anderson in J. T. M. of August 1899, page 23; L. of 24th December 1898, page 1731; Marshall in B. M. J. of 10th June 1899, page 1386; Castellani in R. M. XIV, 1898, quoted in C. B. XXV, page 883; Maitland and Grant in I. M. G. of August 1899, page 290; Cantlie, quoted in B. M. J. of 12th August 1899, page 413, in J. T M. of August 1899, page 9, in B. M. J. of 9th September 1899, page 646; Nicholls in B. M. J. of 16th September 1899, page 752; Foxwell in B. M. J. of 31st December 1898, page 1930; Newland, quoted in I. M. G. of October 1899, page 386; Jackson in St. Paul Med. J. of June 1899, quoted in F. M. 17, page 822.

(27) Discussion at meeting of B. M. A., reported in B. M. J. of 21st October 1899, page 1070; and in L. of 19th August 1899, page 523; Resolution of B. M. A., quoted in B. M. J. of 5th August 1899, page 368. *Non-Venereal buboes*:—Scheube translated in J. T. M. of June 1899, page 303, of July 1899, page 328; Scheube in Deutsches Arch. f. Klin. Med., Vol. 64, 1899, quoted in F. M 17, page 786; Buchanan in J. T. M. of September 1899, page 55.

(28) Cagicol and Lapierre, quoted in I. M. G. of December 1898, page 470; Lambert, quoted in I. M. G. of May 1899, page 178; McCartie in I. M. G. of June 1899, page 191, and in J. T. M. of August 1899, page 18; Discussion by Macleod, Sambon, Manson, etc., reported in J. T. M. of August 1899, page 10, in B. M. J. of 9th September 1899, page 649, and in L. of 26th August 1899, page 608.

(29) B. M. J. of 23rd September 1899, quoting *The Englishman*; L. of 16th September 1899, page 807.

(30) Caddy and Cook in I. M. G. of August 1899, page 271, and in J. T. M. of January 1900, page 161, and quoted in I. L. of 1st September 1899, page 210, and in Braithwaite's Retrospect, CXX, page 140; Macleod in J. T. M. of August 1899, page 21; Anderson in J. T. M. of August 1899, page 21; Buchanan in J. T. M. of September 1895, page 42; I. M. G. of October 1899, page 378; Das in I. M. G. of November 1899, page 401; I. M. G. of November 1899, pages 414 and 418; B. M. J. of 6th January 1900, page 44.

(31) Notice of Report of the Army Temperance Association in I. M. G. of October 1899 page 381.

* And quoted in H. R. X, page 25.

Appendix to Section II.

ON THE DETECTION OF THE BACILLUS TYPHI ABDOMINALIS IN WATER AND OTHER SUBSTANCES.

By E. H. Hankin, M.A., Late Fellow of St. John's College, Cambridge, Fellow of Allahabad University.

(*From the Government Laboratory, Agra, India.*)

During the last five years I have developed a method of isolating typhoid microbes from water and other substances, which, though by no means infallible or easy to carry out, appears to succeed in a certain proportion of cases. I employ no new food media, and my method differs in details only from other methods long in use.

In view of the general failure of others to isolate typhoid microbes from water except in somewhat exceptional instances, I decided not to publish this method until I had independent evidence of the authenticity of the microbes I had isolated. The microbes in question agglutinate typically with antityphoid serum, given me by Professor Pfeiffer, even in a dilution of 1 in 600 or more. Professors Pfeiffer and Wright (to both of whom I owe my thanks) have examined and recognized as typical certain typhoid microbes that I have isolated from piped water supplies and subjected to them for examination. A case is known to me in which, though there were grounds for believing the water supply was infected, no typhoid microbe could be found by my method in eight specimens of the water that were subjected to examination. Hence the method does not succeed in every case, and in view of my somewhat extended experience, I feel justified in asking other workers who may repeat it, to give the method a full trial before coming to a conclusion as to its merits.

A common way of attempting to isolate the enteric microbe is to add increasing quantities of Parietti's solution to a series of bouillon tubes, and then to infect these tubes with the suspected water. The tube that contains the highest number of drops of Parietti's solution, and that has become turbid after 24 hours, is subjected to further examination, with the very usual result that the enteric microbe is not isolated. On the other hand, in my experience (and this is the essential improvement that I have to bring forward), if tubes containing smaller quantities of Parietti's solution than the maximum permitting growth are chosen, there is a far better chance of isolating the enteric microbe. It is probable that the method would give still better results if the microbes in the water were previously concentrated by means of a Pasteur filter. Owing, however, to the large number of specimens that I have to examine, and the inconvenience of sending bulky specimens of water a long distance by rail, I am obliged to employ small quantities.

For carrying out the process the food media required are neutral bouillon, ordinary nutrient agaragar, agaragar containing milk-sugar and litmus, potato, and milk.

The details are as follows :—

(1) Five tubes are taken each containing 10 c.c. of neutral bouillon. To the first tube no addition of Parietti's solution is made. It merely serves as a control of the capacity of the bouillon used to permit the growth of microbes. To the remaining tubes are added 1, 2, 3, and 4 drops of Parietti's solution, respectively. Each tube is then infected with a few drops of the water or other liquid to be tested. The tubes are covered with India rubber caps, and placed in the incubator at 37° C for 24 hours.

(2) On the following day a variable number of the above tubes will be found to be turbid. One of the series has now to be chosen for further use. The tube containing the highest number of drops of Parietti's solution that is yet turbid should be discarded. Usually the tube next below this in the series should be chosen. But the character of the growths in the different tubes should be taken into account. As a rule a tube that has a thick scum on the surface, or in which growth is only visible in the deeper layers of the bouillon, or in which bubbles are seen in the liquid, should be discarded.

A tube should be preferred in which there is a uniform turbidity, if such a tube is present in the series. Practice is required to know which tube should be chosen. Usually the tube containing 2 or 3 drops of Parietti's solution is the one chosen for further use, although with the bouillon I employ, if infected with dirty water, growths would occur in tubes containing 10 or 12 drops of Parietti's liquid. Tubes containing the larger quantity of Parietti's solution should be employed if it is required to isolate *B. coli communis*.

As a rule, if only the tube containing 1 drop of Parietti's solution is turbid after 24 hours, and the remaining tubes are transparent (as may occur if water from very pure sources is being examined), no enteric microbe will be found. In one case, however, in the examination of a specimen of pipe water sent to me from Peshawar, only the tube containing one drop of Parietti's solution was turbid. The tubes containing 2 and more drops of Parietti were still transparent after the lapse of 24 hours. The turbid tube was used to inoculate a second series of tubes, and produced a growth up to and including the tube containing 4 drops of Parietti's solution. From one tube of this series the enteric microbe was afterwards isolated.

(3) The tube of bouillon chosen as above is then used to inoculate a second series of bouillon tubes to which successively increasing quantities of Parietti's solution are added. The second series may consist of four or five tubes. The first tube of the second series has the same number of drops of Parietti added to it as were present in the tube taken for inoculation from the first series. For instance, supposing the tube taken from the first series was the one containing 3 drops of Parietti, then the first tube of the new series will also contain 3 drops, the next will contain 4 drops, the next 5 drops and so on. Two or three drops of the bouillon in the tube from the first series are used to inoculate each tube of the second series. These tubes are covered with india rubber caps and placed in the incubator as before.

(4) On the following day choice of a tube has to be made from the second series much in the same way as happened in the case of the first, that is to say, the tube containing the highest number of drops of Parietti's solution that is turbid is discarded, and one of the lower tubes is taken for further use. Practice is again necessary in choosing the tube most likely to secure a successful result.

(5) The tube now chosen may be used to inoculate a third series of bouillon tubes, and again after selection of a tube a fourth series of tubes may be inoculated. Usually, however, I use the tube of the second series for inoculation to agaragar.

(6) The tube of bouillon chosen must now be inoculated on to agaragar having a fairly dry surface in such a way as to produce isolated surface colonies. For this purpose I prefer to use agaragar in test tubes to plate cultures. A small quantity of the bouillon is taken up on the end of an inoculating needle from the surface of the liquid. The needle is introduced into the agaragar tube and rubbed on the bottom of the slanting surface of the agaragar, then it is moved in a zigzag track over the remaining portion of the surface of the agaragar. In this way isolated microbes are deposited on the last part of the track of the needle, and 20 or 30 isolated colonies may be obtained in each tube with facility. At least three agaragar tubes should be inoculated in this way. Where practice is deficient, six or more tubes should be employed. The agaragar after inoculation is kept in the incubator. I believe this method of zigzag culture is due to the ingenuity of Professor Haffkine, from whom I learnt it. I find that a glass bristle, the end of which is rounded and curved, is more convenient for the purpose than a platinum needle.

(7) On the following day the colonies that have developed must be carefully examined. Each colony whose appearance is suspicious must be inoculated on to a tube of litmus agaragar. A liberal interpretation must be given to the term suspicious. It is by no means enough to inoculate two or three tubes from suspicious colonies. After practice, 5 to 10 tubes may be sufficient, if the water under examination is comparatively pure. But, if the water has been exposed to very obvious contamination, the resulting colonies on the agaragar will be very varied in aspect, and it will be

necessary to inoculate from them 10 to 20 or an even greater number o litmus agar tubes. For instance, the smaller number of tubes will usually be sufficient if the water has been taken direct from a piped water supply that has been certified as *fit for potable purposes* as the result of chemical examination. But if the pipe water has been drawn by a native servant and poured into a soldier's waterbottle of porous earthenware, many kinds of colonies having more or less resemblance to those of enteric will develop on the agaragar, and a larger number of litmus agaragar tubes will have to be inoculated. It may not unfrequently happen that out of the large number of litmus agaragar tubes inoculated only one produces a growth of enteric.

The litmus agaragar mentioned above is made in my laboratory by the following method.

A litre of neutral nutrient agaragar is liquified by heating in the autoclave. Twenty-five grammes of litmus, and 30 grammes of milk sugar are ground up together in a little water, strained through a piece of fine cloth, and added to the hot agaragar. The mixture is well shaken and then distributed into test tubes. The test tubes are then sterilized.

On removal from the autoclave they are well shaken, and then placed to set in a slanting position. I generally use from half to one litre of this litmus agaragar in a week, and hence the tubes I employ are generally fresh.

(8) On the day after their inoculation a number of the litmus agaragar tubes (which have been kept in the incubator) will be found to have turned red. These may at once be discarded. After a further 24 hours others may turn red and may also be discarded.

(9) Of the tubes that remain blue, those in which the growth is obviously different from that of enteric may be disregarded. Of growths eliminated at this stage, the following may be noted as frequently occurring—

(*a*) Cultures resembling microscopically enteric in other characters on litmus agar, but differing in the possession of a faint yellowish metallic lustre.

(*b*) Cultures in which the growth when touched with an inoculating needle draws out into threads.

(*c*) Cultures in which a large lump of the growth attaches itself to the inoculating needle when a colony is touched.

(*d*) Cultures that have a noticeable smell.

(10) The remaining tubes that are still blue, and that have the naked eye appearance of the growth of enteric, must now be subjected to microscopical examination. Certain large thick bacilli, some spore-bearing bacilli, and some cocci, may thus be met with and discarded as obviously different from the microbe of enteric. On perfectly fresh litmus agaragar the typhoid growth has frequently a double contour. The cultures resembling typhoid should be inoculated on to potato, milk.

(11) The growths in the remaining tubes that are still blue may now be tested as to their capacity to become agglutinated by the action of antityphoid serum. In carrying out this test, it is not sufficient merely to observe the action of the serum on an emulsion of the suspected microbe. It is necessary also to make a control specimen of emulsion to which no serum has been added, as microbes may not unfrequently be met with, whose emulsions, though at first homogeneous, rapidly undergo a spontaneous agglutination without the addition of any serum whatever. Such false re-actions might easily lead to a mistake, without control observations. After a sufficient experience, it will be found that no hard and fast line can be drawn between microbes that are readily acted on by very dilute serum, and microbes that are not affected at all. A microbe isolated recently from Agra pipe water had the following characters. Its emulsion in drop culture showed loss of motion and agglutination under the influence of antityphoid serum. Some of the emulsion was placed in Wright's sedimentation tubes. After 24 hours it was found to differ from typical typhoid in that a slight sedimentation had occurred in the control tube to which no serum had been added. In each of the other tubes, to which varying quantities of serum had been added,—sedimentation was nearly complete, even in the tube in which the serum was present in a dilution of one in a thousand.

By means of the above method, I have on several occasions isolated a microbe having the characters of enteric from the water of piped supplies in which sand filtration is employed. I have in general failed to find a microbe having these characters in water from highly polluted wells in bazaars, although the method is capable of isolating typhoid from dirty water, for I have succeeded in finding the microbe in question in the washing of a dirty dishcloth. I have generally failed to find the microbe in specimens of earth, even in earth from the trenches in which fæcal matter has been buried, or in worm-castings from these trenches sent me recently by Lieutenant-Colonel Routh, R.A.M.C., Agra. But I found the microbe in earth six inches from the surface of the foreshore of a village on the banks of the Jumna, the subsoil drainage of which flows into the river about a mile above the intake of the Agra water-works.

I have been advised to publish in detail an account of these observations, but I do not think it worth while to do so, as at present it appears to be impossible to form an exact estimate of their importance. Cases in which I have isolated the enteric microbe from piped water supplies are mentioned in the published Annual Reports of the Director General, Indian Medical Service, for 1897 and 1898 (published at the office of the Superintendent of Government Printing, Calcutta, price six rupees). If we had to deal with the presence of arsenic in a piped water supply, there could be no question of its importance to the consumers of the water, as there is no form of attenuated arsenic. But there are forms of attenuated microbes. My finding typhoid microbes in a water supply gives no proof that the microbes were there present in a condition in which they could produce infection. In the case of Agra there are generally two outbreaks of enteric fever per annum, of which one usually culminates in April, and the other in September. This was the case before the piped water supply was introduced. I found the enteric microbe in the water supply at the commencement of June 1899, but there were no admissions from enteric into the Station Hospital during the whole of June and July. There were eight admissions during February, but during the whole of this and the preceding month the weekly examination of the piped water did not reveal any microbe resembling that of enteric in a single case. The relations of the facts in question are shown in the following table. I am indebted to Lieutenant-Colonel Routh, R.A.M.C., for the data relating to the attacks. At least four specimens of piped water have been examined per week, which have always been collected in sterilized bottles with suitable precautions.

Week ending on	Admissions from enteric.	Result of examination of pipe water for enteric.
1899.		
6th January	...	Not detected.
13th „	...	Do.
20th „	...	Do.
27th „	...	Do.
3rd February	4	Do.
10th „	3	Do.
17th „	1	Do.
24th „	...	Do.
3rd March	...	Do.
10th „	...	Do.
17th „	...	Detected.
24th „	...	Not detected.
31st „	2	Do.
7th April	...	Do.
14th „	...	Do.
21st „	2	Detected.
28th „	6	Do.
5th May	3	Do.
12th „	2	Do.
19th „	...	Not detected.
26th „	...	Do.
2nd June	...	Detected.
9th „	...	Not detected.
16th „	...	Do.
23rd „	...	Do.
30th „	...	Do.
7th July	...	Do.
14th „	...	Do.
21st „	...	Detected.
28th „	...	Do.
4th August	...	Not detected.
11th „	2	Do.
18th „	1	Do.
25th „	...	Detected.

In previous years (since September 1896), I have always found the enteric microbe in the Agra pipe water on several occasions during the April and September outbreaks, except during the September outbreak of 1898. But on this occasion it was only looked for once per month during September, October, and November. At other times of the year, when enteric was not severe, or non-existent, it has only been met with on isolated occasions. In interpreting the above table it must be borne in mind that strenuous efforts have been made for more than a year past to prevent the soldiers from drinking or using the pipe water, an alternative supply from a properly protected well having been provided. But it is difficult to believe that these efforts have been entirely successful. On several occasions I have found the enteric microbe in specimens of boiled water sent me from different places. This result, which illustrates the difficulty of dealing with enteric, was, I believe, dependent, not so much on excessive economy of fuel, as on the fact that the water after boiling had been poured into previously infected vessels. The vessels used by soldiers in barracks in India until recently have consisted of very porous earthenware, easily penetrated by microbes, and difficult to disinfect.

The above data, with other data in my possession, do not appear to me to warrant any very definite conclusion on the subject. It appears, however, to be probable that some at least of the cases of enteric are due to the microbes that I have found in various piped water supplies. In certain cases, however, these microbes may exist in the water in a condition in which they are not capable of producing infection. Other as yet not definitely proved sources of infection may also exist. In yet other cases it is possible that water may be the source of infection, although the presence of enteric microbes may not have been revealed by the above described test.

It is probable that with enteric, as with cholera, improved methods of testing for the microbe will show that a simple bacteriological test alone is not always capable of explaining the origin and course of an epidemic. To do so, it will be necessary to understand the conditions under which the microbe retains or loses its power of producing infection when it exists in not living media.

SECTION III.

NATIVE ARMY OF INDIA.

41. With a fairly normal year—a dry settled hot weather and monsoon rains above rather than below the standard in most parts of the country—the health of the native troops was also fairly normal, and better than in the preceding year. Though there was an increase of influenza and respiratory disease, there was a great reduction in cholera :—

India.

Year.	Average strength.	RATIO PER 1,000.							
		Admissions into hospital.	Constantly sick.	Deaths from					Mortality including absent deaths.
				Cholera.	Remittent fever.	Pneumonia.	Dysentery.	All causes.	
1886—95	123,302	976	34	1·32	1·34	3·02	·78	12·43	16·72
1897	129,802	839	31	·52	1·04	2·73	·67	13·12	14·90
1898	126,036	816	33	·33	1·08	3·77	·49	11·07	13·33

The chief cause of admission was ague. Among the diseases with raised admission rates were influenza, remittent fever, respiratory diseases, and tubercle of the lungs. Among those with lessened rates were cholera, small-pox, dysentery, diarrhœa, and ague. Ague caused 41 per cent. of the total admissions.

The chief causes of death were pneumonia and remittent fever. Among the diseases which caused increased mortality were remittent fever, pneumonia, and enteric fever. Among those from which mortality was lessened were cholera small-pox, ague, tubercle of the lungs, and debility. Pneumonia caused 34 per cent. of the total deaths, and remittent fever 10 per cent.

The total number invalided for discharge (Table XXXIX) was 1,772, and the chief causes of invaliding were debility, malarial fevers, respiratory diseases, and venereal diseases.

If Table XXVI be compared with Table I, it will be seen that the native soldier suffered less from enteric fever, ague, remittent fever, simple continued fever, diarrhœa, hepatitis, and venereal disease; equally from influenza and cholera; and more from tubercle of the lungs, respiratory diseases, especially pneumonia, dysentery, and small-pox, than his European comrade. He also suffered more from scurvy. These relations are usual, except in regard to cholera, influenza, ague, remittent fever, and tubercle of the lungs. The comparison may be carried into further detail with the aid of Table LIII. See also Section IV, paragraph 104.

Commands.

42. Of the commands the Punjab (Table XXVI) was the most unhealthy, and it was more unhealthy than in the previous year. Its death ratios from cholera, malarial fevers, and pneumonia were raised, while those from small-pox, enteric fever, tubercle of the lungs, and debility were lowered. The Punjab had the highest admission, the highest constantly sick, and the highest death-rate; and the Hyderabad Contingent the lowest. The highest ratios of mortality from ague, tubercle of the lungs, and diarrhœa were in Bengal; the highest from enteric fever, remittent fever, pneumonia, other respiratory diseases, and dysentery in the Punjab; and the highest from cholera in Madras.

Burma.

43. The following table shows the statistics of all the native troops serving in Burma and the Andamans. Of these troops in 1898 about 99 per cent. belonged to the Madras army:—

Years.	Average annual strength present.	Ratio per 1,000.						
		Admissions into hospital.	Constantly sick.	Deaths from				
				Cholera.	Remittent fever.	Pneumonia.	Dysentery.	All causes.
1891	11,401	1,676	76	1·75	2·98	1·84	4·03	36·31
1892	11,333	1,349	57	2·29	2·29	2·29	3·09	29·12
1893	10,326	1,092	48	·87	1·45	2·42	1·36	19·85
1894	10,500	809	35	1·43	·95	1·14	1·43	13·90
1895	9,952	827	37	·80	·50	·80	·80	10·55
1896	9,605	830	38	...	·94	·73	1·35	9·58
1897	8,661	802	35	·46	·46	·92	·23	6·58
1898	7,195	800	31	·14	1·11	·42	·28	8·06

The table shows that the death-rate, which had been reduced year by year, went up somewhat in 1898; though sickness was less than in the preceding year. A comparison of the health of the troops in the Burma Coast group of stations with that of the troops in the Burma Inland group may be made by the use of Table XXVII.

Trans-Frontier stations.

44. The following statistics are those of the regiments stationed beyond the North-Western Frontier and in Baluchistan. The garrisons of Gilgit, Chitral, and the Malakand are not included:—

Year.	Average annual strength present.	Ratio per 1,000.						
		Admissions into hospital.	Constantly sick.	Deaths from				
				Cholera.	Remittent fever.	Pneumonia.	Dysentery.	All causes.
1898	9,468	1,492	44	...	1·06	8·56	·63	15·31

If this table be compared with that for India in paragraph 41, it will be seen that the general ratios of the trans-frontier troops were considerably less favourable than those of India as a whole, a high death-rate from pneumonia being also a salient feature.

45. The statistics of Gilgit, Chitral and the Malakand are to be found in Tables XXVIII and XXIX. Of the four, Gilgit was the most unhealthy, followed, in order, by Kila Drosh, Chitral, and the Malakand. But the highest ratios for malarial fever were at Chitral, and the next at Kila Drosh.

Gilgit, Chitral, Kila Drosh, Malakand.

46. Of the forces in the field in 1898 the statistics will be found in Tables XXVIII, XXIX, and LIII. The most unhealthy was Mekran, followed, in order, by Mombasa, Tochi Tirah, Malakand, and Buner. Pneumonia was proportionately most prevalent in the field force of Tochi, other respiratory diseases in that of Tirah, dysentery in that of Mekran, and scurvy in that of Mombasa; and the highest proportion of wounds was received in that of Mekran.

Field Forces.

47. The table which follows shows that for the decennium the highest constantly sick ratios were those of Groups II, III, I, IV, and XII, while the highest in 1898 were those of XII, III, and IV. Both for the decennium and in 1898 the mortality from respiratory diseases was greatest in the Indus Valley. Cholera mortality was below the decennial figure in all the groups except Assam and Southern India, and was highest in Assam :—

Geographical Groups.

		Ratio per 1,000 of strength.												
		I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	
		Burma Coast and Bay Islands.	Burma Inland.	Assam.	Bengal and Orissa.	Gangetic Plain and Chotia Nagpur.	Upper Sub-Himalaya.	N.-W. Frontier, Indus Valley, and North-Western Rajputana.	South-Eastern Rajputana, Central India, and Gujarat.	Deccan.	Western Coast.	Southern India.	Hill Stations.	INDIA.
1886—95	Constantly sick-rate	48·9	65·8	62·8	48·2	28·9	31·6	37·1	27·6	28·3	23·4	26·2	42·3	33·6
	Death-rates from—													
	Cholera	...	4·47	·70	·59	1·14	·82	·80	·69	·87	·14	1·31	1·29	1·32
	Respiratory diseases	1·43	2·35	2·43	1·25	1·57	4·56	6·79	2·69	1·60	1·08	1·56	6·43	3·60
1897	Constantly sick-rate	28·6	37·0	44·7	38·1	26·9	26·7	34·6	28·3	26·2	31·7	33·0	37·1	31·5
	Death-rates from—													
	Cholera	·45	·19	...	...	·48	...	...	·66	1·67	...	2·31	·10	·52
	Respiratory diseases	·45	1·49	1·68	·98	3·18	2·99	7·86	2·46	1·72	1·07	1·82	3·09	3·23
1898	Constantly sick-rate	25·9	35·7	40·3	39·9	33·5	32·4	39·0	26·3	27·1	36·3	33·4	44·5	32·9
	Death-rates from—													
	Cholera	...	...	8·40	·34	·18	·22	...	...	...	...	1·77	·11	·36
	Respiratory diseases	·72	·92	3·23	1·37	1·78	5·06	9·62	2·83	2·01	1·44	2·15	5·65	4·13

In Table XXVII it may be seen that Burma Coast had the lowest ratios from ague and pneumonia; Burma Inland the highest from ague, and the lowest from simple continued fever; Assam the highest from cholera, enteric fever, tubercle of the lungs, dysentery, diarrhœa, and venereal disease; Bengal-Orissa the highest from influenza; Indus Valley the highest from remittent fever, pneumonia, other respiratory diseases, and, along with the Hills, from scurvy, and the lowest from venereal disease; Deccan the lowest from tubercle of the lungs and from respiratory diseases other than pneumonia; Western Coast the highest from simple continued fever and from hepatic congestion; Southern India the highest from small-pox, and the lowest from dysentery and diarrhœa; the Hills, along with Indus Valley, the highest from scurvy. The comparative prevalence of enteric fever and venereal disease in Assam is due to the number of Gurkha troops there.

48. Of the large stations throughout India with a strength of not less than 1,000, the following returned the highest death-rates :—

Stations.

Stations.	Average annual strength for 1898.	Ratio per 1,000 of strength. 1898.	1897.	Chief causes of mortality per 1,000 in 1898. Cholera.	Ague.	Remittent fever.	Dysentery.	Diarrhœa.	Pneumonia.	Tubercle of the lungs.	Anæmia and debility.	Total number of deaths in 1898.
Edwardesabad	1,305	40·61	24·78	...	...	2·50	3·07	...	29·89	1·53	...	53
Datta Khel	1,116	40·32	45·05	...	·90	1·79	·90	...	31·36	...	...	45
Dharmsala	1,151	24·31	15·60	...	·87	·87	...	...	6·08	6·95	...	28
Meerut	1,257	23·87	7·42	...	1·59	...	·80	...	19·09	1·59	...	30

All appear in Table XXX. The principal cause of death at Edwardesabad, Datta Khel, and Meerut, was pneumonia, and at Dharmsala pneumonia and tubercle of the lungs. The garrison of Dharmsala is wholly Gurkha. Edwardesabad and Dharmsala were in the same black list in last report. The mortality ratios of all stations will be found in Table XXVIII.

In answer to official iuquiries regarding the recent outbreak of malaria at Aden, Major Anderson, I.M.S., an officer of long local experience, states his opinion that the sole cause was the heavy rainfall of 1889-90, the fever extending to places 50, 60, and even 100 miles in the interior, and that it will die out provided there is no more heavy rain. He regards chills as the exciting cause of the dysentery, though malaria and scurvy may be predisposing causes; and the climate as an important factor in the causation of the scurvy.

49. Details regarding the health of individual regiments are to be found in Table XXXIX, and some explanation with regard to the most unhealthy regiments is given in Table XXX, or may be obtained by the combined use of Tables XXXIX and XXX. The 6th Madras Infantry was the most unhealthy regiment, suffering more from pneumonia than any other regiment, especially while at Edwardesabad and Meerut. The same regiment was also the most unhealthy in 1897, ague being then its chief disease. The 20th Madras Infantry, while at Miran Shah, had the most ague; the 44th Gurkha Rifles at Manipur, the most cholera; the 5th Punjab Infantry, while at Dera Ismail Khan, the most dysentery; the 44th Gurkha Rifles at Manipur, the most venereal disease. Further particulars are given under the disease headings below.

Regiments.

50. Attention having been directed to the health statistics of India, of the commands, of the geographical groups, of stations, and of regiments, it will be convenient now to consider some of the chief diseases.

Principal Diseases.

51. Influenza increased considerably, there having been 1,047 cases, 8·3 per mille of strength, against 695 cases, 5·4 per mille of strength, in the preceding year. This rise continues the alternation of fall and rise year by year which has obtained ever since the first outbreak of the disease in 1890. The geographical groups affected both in 1897 and in 1898 were II, IV, V, VI, VII, VIII, IX, XI, XII; I was newly affected in 1898; X was attacked in 1897, but not in 1898; while III escaped in both years. In proportion to strength the Bengal-Orissa group was most severely affected, and next to it Burma Coast, which had had no cases since 1892; but the greatest number of cases occurred in the Hills. The

Influenza.

relations of the disease to stations and months may be studied in Table XXXI. The following table shows the monthly progress of the disease since its beginning in 1890. The maximum month varied from year to year, but over the period as a whole most cases occurred in April and March, and fewest in October and September:—

Years.	Number of admissions into hospital in each month.												Total.	Admitted per 1,000 of strength.	Died per 1,000 of strength.
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.			
1890	1	8	2,460	5,118	492	82	55	...	...	...	1	...	8,217	64·3	·41
1891	...	...	1	...	105	259	123	106	51	22	17	215	899	7·0	·09
1892	681	371	511	149	40	5	5	7	...	1	7	18	1,795	14·1	·15
1893	8	28	65	99	95	13	9	7	...	3	53	404	784	6·2	·20
1894	159	203	232	384	143	11	5	...	1	1	5	11	1,155	9·0	·16
1895	26	28	53	76	110	25	60	57	19	17	31	408	910	7·0	·08
1896	372	196	397	35	22	11	33	57	53	39	82	72	1,369	10·7	·30
1897	97	61	100	117	84	79	22	...	42	67	23	3	695	5·4	·04
1898	110	290	280	96	180	24	1	...	1	10	32	23	1,047	8·3	·03
Total	1,454	1,185	4,099	6,074	1,271	509	313	234	167	160	251	1,154	16,871	14·6	·16

Thirty-four stations were affected against 20; 27 being newly affected, 7 affected in both years, 13 affected in 1897 but not in 1898. The greatest numbers of cases occurred at Bangalore, Alipore, and Dharmsala. At Bangalore the disease was confined to February and March, at Alipore, to January-March, and at Dharmsala to March-May. The following table shows that in 1898 the native troops, with exactly the same admission rate as the European troops, were, as usual, much less severely affected than the prisoners:—

Years.	Per 1,000 of average strength.											
	Influenza.						Pneumonia.					
	European troops.		Native troops.		Prisoners.		European troops.		Native troops.		Prisoners.	
	Admissions.	Deaths.	Admissions.	Deaths.	Admissions.	Deaths.	Admissions.	Deaths.	Admissions.	Deaths.	Admissions.	Deaths.
1890	33·4	·03	64·3	·41	78·6	·67	4·6	·90	16·7	3·96	18·5	5·71
1891	5·5	·04	7·0	·09	19·0	·29	2·6	·54	11·6	2·53	17·0	4·87
1892	12·7	·01	14·1	·15	56·7	1·26	3·5	·62	13·6	3·26	18·4	5·56
1893	·3	...	6·2	·20	6·4	·09	3·4	·70	12·3	2·75	15·9	3·95
1894	3·4	·01	9·0	·16	41·0	·43	3·7	·75	12·9	2·87	15·4	4·31
1895	7·8	·03	7·0	·08	20·3	·15	4·4	·51	17·5	4·20	16·4	4·00
1896	11·5	·11	10·7	·30	37·6	·60	5·2	·64	15·3	3·14	19·1	4·34
1897	4·0	·01	5·4	·04	8·4	·21	3·4	·60	13·0	2·73	15·6	4·24
1898	8·3	·01	8·3	·03	21·0	·33	3·3	·61	16·5	3·77	15·8	3·94

It also shows the relation of the pneumonia death rate year by year to the admission rate from influenza, though, of course, the presence or absence of influenza is not the only circumstance which influences the pneumonia death rate.

The cases were mostly of a mild type, only four deaths being returned as directly due to influenza. In Table XXXIX it may be seen that the 28th Punjab Infantry and the 5th Bengal Infantry were the regiments that suffered most.

Cholera.

52. The cholera of the native army of India may be studied in Table XXXII. There were 48 cases with 42 deaths (Table XXIX), against 112 cases with 68 deaths in the preceding year. The admission rate was 0·3 against 0·8, and the death rate 0·33 against 0·52. The only months quite free from the disease were August, September, and November; while the maximum was in June. The greatest numbers of cases occurred in Southern India and Assam, at Trichinopoly and Manipur. The regiment attacked at Manipur was the 44th Gurkha Rifles, and that chiefly affected at Trichinopoly was the 27th Madras Infantry. At the time the outbreak among the troops took place at Manipur cholera was raging in the valley, hardly a village round escaping. A committee, of which the president was the Principal Medical Officer, has insisted that the chief and most urgent want of Manipur is a pure, abundant, well-delivered, and properly protected, water-supply. At Trichinopoly, too, the disease was prevailing in the neighbourhood when the troops were attacked, and the medical officer of the 27th states that it prevails every year from January to April. The circumstances attending the chief outbreaks, so far as they are of etiological importance, will be discussed in Section VI.

Small-pox.

53. The distribution of small-pox by stations and regiments is given in Tables XXIX and XXXIX. There were 26 cases with 1 death, against 53 cases with 6 deaths in the preceding year. The admission ratio was 0·2 per mille against 0·4, and the death rate 0·01 against 0·05. In the Southern India group the cases bore the highest proportion to strength, but the maximum of cases (5) occurred in Indus Valley and Southern India. No station or regiment had more than 2 cases. The medical officer of the 7th Bengal Infantry states that the mild disease was quickly stamped out by the measures adopted, among them being special attention to vaccination, particularly among the followers.

Ague, Remittent Fever, Simple Continued Fever.

54. To ague was due over 41 per cent. of the sickness of the native army. Owing, no doubt, to the return of the seasons to the normal, the admission rate from ague fell. The reduction was from 347 in 1897 to 335 in 1898. In Table XXVII it may be seen that in 1898 Burma Inland was the most malarious group, and Burma Coast, as in the two preceding years, the least malarious; and in Table XXXV, that the most malarious months were October and November, and the least malarious April and February. The regiments that suffered most were the 20th Madras Infantry, the 33rd Madras Infantry, and the 22nd Bombay Infantry. With regard to the ill-fortune of these regiments, Table XXX gives some explanation under the heads, respectively, of Miran Shah, Keng Tung, and Peshin.

Remittent fever caused nearly 10 per cent. of the total deaths, and prevailed most in August and least in December. The admission rate rose from

15·9 to 20·0, and the death-rate from 1·04 to 1·08. The medical officer of the 32nd Pioneers at Meean Meer, the regiment that had most cases, states that the disease was of a mild type.

The proportion of cases returned as simple continued fever is much lower in the native army than in the European, but it is pretty certain that many cases which in the latter would be so returned are in the former called ague. The simple continued fever of the native army was at its maximum in June, July, and May, and at its minimum in February, October, January. This was a good deal nearer the distribution of 1896 than that of 1897 had been, the seasons in 1898 having made a return to the normal. No remarks of importance are made by the medical officers.

Some medical officers mention the prophylactic issue of quinine and other antiperiodics, and there is no doubt that this is a practice which ought to be strongly encouraged throughout the native army. There are three sets of opinions as to the results: that reduction of ague was effected, that no benefit was observed, that, while the number of cases was not reduced, the type of the disease was mildened.

Enteric Fever. (1)

55. The ratio of admission from enteric fever in the native army in 1898 was 0·3 per mille of strength, and the death rate 0·13, against 0·4 and 0·12 in the previous year. The corresponding decennial ratios of 1886—95 are 0·2 and 0·08. The following table shows that the ratios for European troops are very unlike those for native troops and prisoners :—

	1886—95.		1898.	
	Admissions.	Deaths.	Admissions.	Deaths.
European troops . . .	19·6	5·28	36·9	10·17
Native troops	·2	·08	·3	·13
Jail population . . .	·3	·12	·2	·08

The next table indicates the fact that the total fever mortality in the two armies is not the same in amount, which proves that the difference is not altogether a mere matter of diagnosis :—

Causes of Death.	Died per 1,000 of average strength.		Relative liability in percentages.			Percentage in Deaths from all causes.	
	European troops.	Native troops.	European troops.	Native troops.	Total =100.	European troops.	Native troops.
Ague . . .	·30	·58	34	66	100	1·5	5·2
Remittent fever .	·37	1·08	26	74	100	1·8	9·7
Simple continued fever	·06	·03	67	33	100	·3	·3
Enteric fever . .	10·17	·13	99	1	100	50·7	1·2
Total .	10·90	1·82	86	14	100	54·3	16·4

The total fever mortality among the native troops in 1898 was to the total fever mortality among European troops as 1 : 6·0. For the period 1886—95, the

corresponding ratio was 1 : 2·6, and for 1896 it was 1 : 4·2. Again, among the European troops 54 per cent. of all deaths in 1898 were from fevers; only 16 per cent. among native troops. See also Section IV, paragraph 104. As the death-rate of European troops from enteric fever in 1898 was nearly six times as great as that of native troops from all kinds of fever, it appears, whatever may be the nature of the remittent and continued fevers from which native soldiers died, that native soldiers and prisoners were less liable to enteric fever than European soldiers.

The question of the immunity, or apparent immunity, of natives of India as regards enteric fever has been frequently discussed in former reports. For the opinion that natives of India are apparently exempt from enteric fever only because they have already passed through the disease in infancy, has not yet been adduced the evidence of observed facts. But the medical officer of health of Hongkong, after stating his belief that the alleged immunity of the Chinese is "probably due to an attack during infancy", goes on to say that the result of a careful search among the Chinese infants brought to the mortuary shows "that several such bodies have been found to present typical typhoid ulcers of the intestine". While the medical officer of Wachow returns a case in a Chinese in February and another in July, he of Chung King is still of opinion that enteric fever, pure and simple, does not occur there, though he records a case of "typhomalarial fever" in a European. Law describes two cases which may have been enteric fever in British Guiana among natives of the East Indies; but states that the disease is rare in the colony, and had never been met with in his own district. And Browne lays it down that the disease does not exist in British Honduras. On the other hand, in the Japanese navy in 1896, there were 161 cases. A *Lancet* leader adopts the view that the immunity of the Indian is real, and suggests that, for service in India, the darker complexioned Englishman of medium stature would probably be nearer the native of India in immunity, than the big fair Englishman:—

> As compared with Europeans and the inhabitants of cold and temperate climates, the eastern and southern races, the Asiatic, African, and mixed races, exhibit a relative immunity from.....enteric fever which plays such an important rôle in the medical history of all campaigns and expeditions in hot climates. Our experience in Egypt and elsewhere, and that of the French in Algiers, Tunis, and other countries, have been to a similar effect. In the French expeditions, the Zouaves and troops with an admixture of Arab blood, and, in a less degree, the troops coming from southern France, suffered less from this and other forms of fever than did those from the north.....Other things being equal, the nearer in physical type, temperament, and complexion, the intending emigrants approach to the natives of warm latitudes in these respects, the more likely are they to stand the climate and to prove healthier than fair-skinned men of larger stature.....For service in hot climates grown men of medium stature, spare frames, dark hair and complexion, and thick skins, may be expected to retain their health and to make the more efficient and enduring soldiers.

In the whole native army of India 40 cases with 17 deaths were returned as enteric fever (Table XXIX), as against 51 cases with 15 deaths in 1897. In not a single case does a *post-mortem* seem to have been obtained. Cases occurred in every month except November and December. The greatest number of cases was 10 at Kila Drosh, and no other station had more than three. In one of the Manipur cases the disease supervened on dysentery. At Kila Drosh exposure to the sun and fatigue are mentioned as factors in the causation; while various defects in water, milk, conservancy, etc., are pointed out, and it is stated that the Garhwalis were apparently, if not really, less liable to the disease than the Gurkhas proper. At Allahabad also exposure to the sun is

mentioned; at Manipur, drinking of the prohibited water of the river Imphal; at Bakloh, impure water or milk; at Vizianagram, suspicious well water; at Madras, the drinking of impure water when at Pallavaram at musketry instruction. Two medical officers fear that, owing to the difficulty of diagnosis, they did not return all the cases of enteric fever that occurred in their regiments, having classed them as remittent fever, etc.

The following table compares the ratios from enteric fever of the Gurkha regiments with those of the commands to which they belonged. The difference in admission was less than in 1897.

Year.	Admissions.		Deaths.	
	Bengal and Punjab Commands.	Gurkha Regiments.	Bengal and Punjab Commands.	Gurkha Regiments.
1898	·5	1·6	·18	·59

Experience shows that in all cases of remitting fever occurring in Gurkhas the possibility of the presence of tuberculosis must be borne in mind.

Plague. (4)

56. In 1898 there were 94 cases of plague with 58 deaths, against 131 with 82 in 1897. The following table shows the number of admissions and of deaths for each station and for each regiment affected with the date of the first case as near as can be ascertained from the reports of the medical officers :—

Stations and Regiments.	Admissions.	Deaths.	Date of first case in each Regiment.
Kirkee—Bombay Sappers and Miners	1	1	W. E. 7th Jannary 1898.
Deesa—3rd Bombay Cavalry .	1	...	16th January 1898.
Bombay — Detachment, 8th Bombay Infantry . . .	4	4	W. E. 18th February 1898.
Bombay — 21st Bombay Infantry .	7	5	„ 4th March „
Bombay — 25th „ „ .	1	...	„ 4th November „
Bombay — Governor's Body-Guard .	1	...	4th December „
Baroda—8th Bombay Infantry . .	17	15	W. E. 11th March „
Kurrachee—1st „ „ . .	3	...	„ 6th May „
Erinpura—Erinpura Irregular Force .	1	...	„ 15th July „
Satara—3rd Bombay Infantry . .	2	...	15th November „
Belgam — 21st Madras Infantry .	10	4	W. E., 7th January „
Belgam — 26th „ „ .	7	3	„ 14th „ „
Belgam — 15th „ „ attached to 26th Madras Infantry.	1	...	„ 18th November „
Bangalore — 2nd Madras Lancers .	14	9	„ 21st October „
Bangalore — Madras Sappers and Miners . . .	10	6*	„ 28th „ „
Bangalore — 1st Madras Infantry .	3	3	„ 28th „ „
Bangalore — 17th „ „ .	9	7	„ 28th „ „
Bangalore — 8th „ „ attached to 17th Madras Infantry.	1	1	„ 18th November „
Bellary—Detachment, 9th Madras Infantry . . .	1	...	„ 21st October „ attacked while on plague duty.
India .	94	58†	

Note—W. E. = Week ending.

* One out of hospital.

† Forty-one in plague hospitals.

The dates given refer to the attacks of soldiers, but, as will be seen in the extracts given below, families or followers were sometimes affected before the soldiers. Again the chief point brought out is the benefit derived from quitting the infected lines and living in the open. The plague of 1898 is discussed in Section VI, together with more general questions concerning the disease.

The following table gives the incidence of the native army plague of 1898 by months, stations, and groups:—

Stations.	1. Admissions.						2. Deaths.						Total.
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	
C													
Kurrachee	...	...	...	...	1	1	...	1	...	...	...	...	3
	...	...	...	...	...	...	...	...	...	...	...	...	...
Group VII.—N.-W. Frontier, Indus Valley, and N.-W. Rajputana.	...	...	...	...	1	1	...	1	...	...	...	...	3
	...	...	...	...	...	...	...	...	...	...	...	...	...
A													
Deesa	1	...	...	...	...	...	...	...	...	...	...	...	1
	...	...	...	...	...	...	...	...	...	...	...	...	...
Baroda	...	...	1	...	...	...	...	...	...	5	5	6	17
	...	...	1	...	...	...	...	...	...	3	3	8	15
B													
Erinpura	...	...	...	...	...	...	1	...	...	...	...	...	1
	...	...	...	...	...	...	...	...	...	...	...	...	...
Group VIII.—South-Eastern Rajputana, Central India, and Gujarat.	1	...	1	...	...	...	1	...	...	5	5	6	19
	...	...	1	...	...	...	...	...	...	3	3	8	15
B													
Belgam	2	...	...	...	...	...	3	7	3	1	1	1	18
	1	...	...	...	...	...	2	3	1	...	...	...	7
Satara	...	...	...	...	...	...	...		...	...	1	1	2
	...	...	...	...	...	...	...	...	...	...	...	...	...
Kirkee	1	...	...	..	...	...	...	...	...	...	...	...	1
	1	...	...	...	...	...	...	...	...	...	...	...	1
Group IX.—Deccan	3	...	...	...	...	...	3	7	3	1	2	2	21
	2	...	...	...	...	...	2	3	1	...	...	...	8
Bombay	...	1	6	1	2	...	...	...	...	1	1	1	13
	...	...	6	1	1	...	...	...	...	1	...	...	9
Group X.—Western Coast.	...	1	6	1	2	...	...	...	...	1	1	1	13
	...	...	6	1	1	...	...	...	...	1	...	...	9
A													
Bellary	...	...	...	...	...	...	...	...	...	1	...	...	1
	...	...	...	...	...	...	...	...	...	...	...	...	...
Bangalore	...	...	...	...	...	...	...	...	...	6	27	4	37
	...	...	...	...	...	...	...	...	...	3	20	3	26*
Group XI.—Southern India.	...	...	...	...	...	...	...	...	...	7	27	4	38
	...	...	...	...	...	...	...	...	...	3	20	3	26
Total	4	1	7	1	3	1	4	8	3	14	35	13	94
	2	...	7	1	1	...	2	3	1	7	23	11	58†

* One out of hospital.

† Forty-one in plague hospitals.

As explained on page 2 of the tabular appendix to this report, the months shown above are not really calendar months, but 4-5 weekly periods. The plague was at its worst in November.

3rd Bombay Cavalry, Deesa.—During the last few months previous to the occurrence of this first case certain measures had been adopted in the hopes of preventing bubonic plague entering cantonments. The following is a short *précis* of these measures :—

(1) Examination of all arrivals at the railway station and quarantine of all those from infected areas for a period of 10 days, with the exception of officers' servants. (2) A system of passes, which are issued to check the departure and arrival of natives. Natives who have to work in the fields are examined twice daily at the Jubilee Dispensary. (3) All officers' servants have to attend at hospital for ten days after arrival for the purpose of examination and disinfection of person and clothes of those coming from infected areas.

In addition, the following measures have been adopted to prevent the disease breaking out in the lines :—(*a*) All those departing or arriving by train have to attend the regimental hospital for examination. No certificate is given to any one going to a plague infected area, unless he is going on duty. (*b*) Certain villages in the neighbourhood have been put out of bounds.

The source of infection is always difficult to trace, and especially when the disease is, and has been, prevalent for some time in the surrounding villages. Deesa city, 3 miles from cantonment, had quite recently had the disease in a most virulent form. The following *primâ facie* evidence however points to the small village of Tekra, close to cantonment, as having been the source of infection in this case :—(*a*) The existence of a brothel at this village which the patient use to frequent. (*b*) This house was visited 2 or 3 hours after the case was seen and was found shut up. All the inhabitants had fled. (*c*) Bazaar gossip regarding existence of plague at Tekra. The probability of an external source of infection is strengthened by the complete absence of dead rats in the cavalry lines. This seems to be against the view that the plague microbe was introduced into the lines by syces returning from the fields with grass.

The roof of the patient's hut, as well as the roofs of the five adjoining huts, was removed at once. The tiles were removed and the light woodwork burnt. The huts were swabbed with perchloride of mercury solution. Later on the huts were white-washed.

The detached building in the hospital compound, in which the patient was detained for a few hours, was similarly treated. The dooly-bearers who carried the patient to the plague huts were segregated and washed and their clothes boiled and disinfected.

The patient was placed in a grass hut, nearly half a mile from cantonment and 150 yards from any public road. A special establishment was provided by the cantonment, and a hospital assistant put in charge.

The troop to which patient belonged was at once moved into segregation camp. The women and children also went. The infected portion of the lines was put strictly out of bounds. The remaining regimental families were put in a separate camp. All were medically examined daily.

Depôt, 3rd Bombay Infantry—Satara.—The period of incubation in the case of Havildar Sheikh Adam would appear to have been 13 or 14 days. He was at once removed to the plague camp hospital, the ward evacuated, and the other occupants of the ward segregated.

The procedure laid down in paragraph 1520 Army Regulation, India, Volume VI, was then carried out; the other patients were kept segregated for 14 days, and no case of plague occurred among them.

All the members of his family were inoculated with plague prophylactic, and none of them contracted the disease ..... Havildar Malto Singh appeared to have contracted the disease in Poona, where he remained for two days on his way to Satara from Nowshera. It was stated by some of the other men who accompanied him, that he spent one night in the house of a friend in Poona, and that his friend was convalescent from plague, and had an unhealed bubo at the time.

The men who accompanied him were segregated for 14 days. None of them contracted the disease.

8th Bombay Infantry—Baroda.—There was an epidemic of plague in the regiment in March and April, and again from September to the end of the year. In the first period

there was only one case among the fighting ranks, in a Havildar who died. In the second period there were 16 cases and 14 deaths among the fighting ranks. The remaining cases, 6 in number and 4 deaths, were among men on plague duty in Bombay. Of these, 2 cases and 2 deaths occurred while employed as ward orderlies in the Modikhana plague hospital, not shown in the weekly and annual returns.

In addition to this there were in all 23 cases and 17 deaths among women and children of the regiment during both periods. This makes the total 46 cases and 35 deaths. The cases and deaths among the families are not shown in the annual return.

Of the 11 recoveries 6 were in persons who had been inoculated with M. Haffkine's prophylactic serum.

All the deaths except two were in persons not protected by inoculation. Of these two, one was a child that remained under treatment for debility in hospital for 5 months after an attack of plague, and ultimately died of exhaustion. The other was a recruit who contracted the pneumonic or worst form of the disease a fortnight after inoculation, and died very rapidly. Of these cases, there were only 6 in the pneumonic form of the disease. The remainder were bubonic in type, except 2 cases in which there were neither buboes nor pneumonic symptoms. These 2 cases were probably septicæmic in character. The pneumonic cases all died within 48 hours, with the single exception of the recruit mentioned above who had been inoculated. This man lived 4 days after being attacked, and the prolonged duration of his illness might have been due to the result of inoculation. The 2 septicæmic cases mentioned above also died within 48 hours after attack. The duration of the bubonic cases with a few exceptions was over 3 days, and all the recoveries were among these. The inguinal or femoral glands were most frequently affected, next the axillary, and least commonly the cervical. In a few cases the inguinal or femoral glands on both sides were affected. In some cases also the axillary glands on both sides were affected, or the axillary on one side and the inguinal or cervical on the other. In one case the inguinal, axillary, and cervical glands on both sides were all affected. The severity of the cases did not appear to me to be dependent on the number of buboes.

From the facts given above regarding the mortality in relation to inoculation, there appears to be no doubt that the chances of recovery are much better in persons inoculated with Haffkine's prophylactic serum, and that such persons are less liable to be attacked. The total number of inoculations performed in the regiment was 333. Among these persons only 7 cases of plague occurred, 5 of which recovered, and the other 2 died under the exceptional circumstances detailed above. I have never seen any bad results following inoculation, dependent on pathogenic agents said to be present in the prophylactic serum.

The measures employed in combating the plague were as follows:—(1) Establishment of segregation and observation camps for the isolation of all new arrivals in the station, and of persons living in the same house and neighbouring houses when plague cases occurred. (2) Vacating all such houses, with their thorough disinfection and fumigation, digging up of their floors, opening up their roofs, etc., etc., according to the systems usually employed for plague. (3) Establishment of plague hospitals with all the usual precautions in their working. (4) Inoculation by Haffkine's prophylactic serum as far as persons were willing to submit to it. The operation was not popular, and only the minor part of the regiment submitted to it. (5) The whole regiment was put into sanitary camp. (6) The usual precautions regarding fumigation and disinfection of clothing, etc., etc., were carried out throughout the outbreaks.

Erinpura Irregular Force, Erinpura.—There was one case of plague, admitted on 11th July. The patient had not lately left the cantonment, there were no cases of plague in Rajputana at the time, and the station was guarded against the entrance of unauthorized persons from infected areas by sentries. Nevertheless, the case, though mild, was a typical one . . . . . The source of infection was never known. The most likely solution of the mystery was that it was conveyed in grain or other food, of which supplies from the south reach this cantonment. Rigid precautions were taken against its spreading. No further cases occurred.

"Queen's" Own Sappers and Miners, Bangalore.—The first case of plague occurred in the corps on 24th October 1898, and the last case on 9th December 1898. Owing to a large number of dead rats having been found in the lines, the regiment (men, families and followers) moved into camp on the 16th November 1898. Six cases of plague occurred after the move, and in about three weeks the disease had disappeared. After a thorough disinfection of the huts the corps returned to the lines.

Remarks by the Principal Medical Officer, Bangalore District.—Plague was epidemic in the civil and military station from the early part of October to the end of the year.

It was epidemic in the city from the middle of August previously, but was beginning to decline there when it reached the civil and military station in October.

The preventive measures adopted were anti-plague inoculation with Haffkine's fluid, as fast as the available supply permitted, and the men were willing to have it done; immediate removal of the sick from their houses to the native military plague hospital and of all contacts to the contact camps; immediate evacuation of infected houses, partial unrooling and thorough disinfection of them and their contents, except in the case of useless articles, which were burned; disinfection of the person of the sick and contacts and all their clothing; and total prevention of communication between the sick and suspected and those in the lines.

In the case of the families of the Queen's Own Sappers and Miners, and the followers and their families of the 4th Hussars and of the two field batteries, the measures above mentioned were found inadequate to completely stop the occurrence of cases amongst them; and they had to totally evacuate their lines before the disease completely stopped.

All the native troops were inoculated, and almost all re-inoculated, and to this as well as to the other preventive measures above mentioned I attribute the comparatively small mortality which occurred amongst them; as all of them remained in their lines, except the Queen's Own Sappers and Miners, who with their families, as cases still continued to occur amongst the latter, moved out of their lines towards the close of the epidemic on to their parade ground close by,

A continuation of the remarks of the Principal Medical Officer will be found in Table XXX under Bangalore

9th Madras Infantry, Bellary.—In view of the near approach of the plague and the great probability of its appearing at the station, inoculation with M. Haffkine's prophylactic serum was lately commenced in the regiment and 458 men have been thus protected. So far no evil effects have been observed after the operation.

The men were incapacitated for their duties for from 4 to 8 days, mainly on account of painful swelling of the arm at the seat of puncture.

The men of the several detachments of the regiment at present on plague duty in the district have all been inoculated.

At the village of Chippagiri, in October last, one sepoy of the detachment there on sanitation duty was attacked with the pneumonic form of plague. This man ultimately recovered. He had been previously inoculated.

21st Madras Pioneers, Belgam.—Of the 11 cases 2 were not inoculated and 9 were inoculated. Among the inoculated there were 3 deaths, and of the 2 non-inoculated 1 died. The deaths among the inoculated occurred in 1 case in a man who was inoculated 6 months before he was attacked, and in the other two cases in men inoculated but a few days before the attack. . . . . The plague was apparently imported from the *sadar* bazaar. The first case occurred on 11th July, and the last on 16th September. Immediately on the occurrence of the first case of plague, every precautionary measure was taken to prevent the spread of the disease. The huts infected, as well as the adjoining huts, were vacated, and the men and families segregated. The huts were also thoroughly disinfected, the ground from the infected rooms being also dug up for 3 to 6 inches and burnt in kilns. I consider drying and burning of the floor one of the most important measures to be adopted for preventing the spread of the disease or reinfection of the same huts. In addition to these measures, steps were taken to inoculate the men and their families. About 1,584 inoculations with Haffkine's prophylactic fluid were performed in the regiment, the subjects varying from 3 to 4 weeks' infants to octogenarians of 85 to 87 years of age. No bad effects have followed in any single instance. As the inoculations were done by me, I can definitely state that they are harmless and produce no injurious effect on the health of those inoculated. With regard to their prophylactic effect, I have no doubt they exert a protective influence on the system within certain limits. They do not apparently possess a curative effect, not even an immediately modifying influence if the attack of plague is more or less coincident with the inoculation. It is likely therefore that a certain period is required for the system to acquire immunization after these inoculations.

26th Madras Infantry, Belgam.—All the cases were inoculated with Haffkine's prophylactic fluid except 2 which proved fatal, one being a British officer, and the other a man who had a previous admission for plague, which however was a very doubtful or mild attack, necessitating a stay in hospital of only 8 days.

Dengue, Typhus, Rubella, Cerebro-spinal Fever, Scarlatina, Measles, Erysipelas, Mumps.

57. During the year under review there were 4 cases of dengue in the 21st Bombay Infantry. The medical officer makes no remarks about them. Rubella occurred in the Bengal, Punjab, and Bombay Commands, 41 cases in all, against 33 in the previous year; 21 cases in the 1st Battalion, 3rd Gurkhas, 10 in the 29th Bombay Infantry, and 5 in the 2nd Battalion of the 3rd Gurkhas. Most of the cases in the Gurkhas occurred among new recruits, and most of those in the Bombay regiment occurred at Chaman. There was no scarlatina. One case of cerebro-spinal fever was reported from the 1st Sikhs at Dera Ismail Khan. Measles arose in all commands, but mostly in the Punjab, 115 cases in all, against 179 in the previous year, including 17 in the 26th Punjab Infantry, 13 each in the 37th Dogras and the Corps of Guides, and 10 in the 31st Punjab Infantry. In the Guides the disease showed itself in successive small groups, and its origin could not be traced, the neighbouring garrisons being free. There were 43 cases of erysipelas, mostly in the Punjab, but not more than 2 cases in any one regiment. Of mumps there occurred 688 cases, against 742 in the preceding year, mostly in the Punjab and Mauritius, the maximum number being 186 in the 1st Bengal Infantry in Mauritius. In this regiment the first cases occurred on board ship, the disease breaking out in epidemic proportions after the opening of the kit-bags.

Scurvy.

58. The ratio of scurvy admission was 2·8, as in 1897. There were in all 357 admissions, against 362 in the preceding year; 48 per cent. in the Punjab Command and 26 per cent. in the Bombay Command. Eighteen per cent. occurred in the Hills, and 15 per cent. in the Indus Valley. Again, 5 per cent. of the total occurred at Aden, and 4 per cent. at Edwardesabad. Three deaths were directly attributed to scurvy, against one in 1897. The 10th Bombay Infantry at Aden returned 16 cases, the highest number of any regiment, and the medical officer says :—

> There has been a decided and well-marked scorbutic taint in the regiment, which however, owing to its having been detected, and to immediate steps having been taken to serve a more abundant supply of vegetables, has not appreciably affected the general health of the regiment. There is no "soil". There are consequently no green vegetables except in small isolated situations in the settlement, and their supply from elsewhere is not abundant. The drinking water consists of condensed sea-water, which has been found to contain an excess of chlorides. There is no vitality about the water, a circumstance which is commented on by the sepoys themselves. Hence, without extreme care, a native regiment is prone to develop a scorbutic taint.....Prolonged residence in Aden undoubtedly causes a deterioration in health, and I believe the tendency to scurvy increases with length of residence.

Tubercle of the lungs.

59. There was a slight rise in the admission rate, but a slight fall in the death-rate, from tubercle of the lungs. The Bengal Command, as in the two preceding years, had a higher death ratio than the other corps. Among the groups the highest ratios were those of Assam, Upper Sub-Himalaya, and the Hills. The Gurkhas suffer more than other native soldiers from pulmonary tuberculosis :—

	Admission-rates.	Death-rates.
Bengal and Punjab Commands . . .	4·7	·87
Gurkha Regiments	13·1	4·45

The number of admissions and deaths from tubercle of the lungs in each Gurkha and other regiment is given in Table XXXIX; and it will be seen that the 1st Battalion of the 2nd Gurkhas at Dehra Dun, the 42nd Gurkhas at

Shillong, and the 6th Bengal Infantry at Meerut, had the most cases. The following are extracts from the reports of two of the medical officers :—

1st Battalion, 2nd Gurkhas.—The deficient ventilation of the married quarters has a great deal to do with the production of this. A large proportion of the cases were married men, who outside their quarters are under the same conditions as bachelors..... The patients are kept entirely in the open air night and day.

42nd Gurkha Rifles.—As far as possible, the tubercular cases are isolated. They are placed in a separate hut, where there is free ventilation, and where their chance of infecting other patients is reduced to a minimum.

As non-tubercular phthisis were returned 28 admissions and 2 deaths. These figures are an improvement on those of 1897, and it is to be hoped that, in future, still fewer cases of phthisis will be returned as non-tubercular.

Some remarks on the tubercle of the European and native troops in India will be found in Section II, paragraph 26; a valuable note by Lieutenant-Colonel A. Crombie, late of the Indian Medical Service, is given as an appendix to this report, and Crombie's note is summarized in the *British Medical Journal* of 28th October, 1899, page 1213.

Respiratory Diseases.

60. Both morbidity and mortality from respiratory diseases were greater than in 1897; but allowance must be made for the fact that the ratios of 1897 were unusually low. Some of the increase at least was probably connected with the recrudescence of influenza :—

Period.	Ratio per mille of strength.			
	Respiratory Diseases.		Pneumonia.	
	Admissions.	Deaths.	Admissions.	Deaths.
1886—95	50	3·75	13	3·02
1897	38	3·23	13	2·73
1898	45	4·13	16	3·77

Respiratory diseases are the chief cause of death in the native army, and in 1898 over 37 per cent. of all deaths were due to them. For respiratory diseases other than pneumonia the highest admission ratios were those of the Indus Valley and the Hills, and the lowest, as in the preceding year, that of the Deccan. Of commands, the Punjab had, as usual, the highest death rate, and Bengal the lowest, except the Hyderabad Contingent. Non-pneumonic respiratory diseases were most frequent in the 16th Bombay Infantry while at Fort Sandeman, and in the 2nd Sikh Infantry and the 3rd Punjab Cavalry while at Kohat. Cold weather, cold winds, and chills are assigned as the exciting cause.

Pneumonia (2).

61. The admission and death rates from pneumonia, as may be seen from the table given in the preceding paragraph, rose considerably, and were above the decennial ratios. In the second table in paragraph 51 is displayed the relation from year to year between pneumonia and influenza.

In Table XXVII it may be seen that the admission ratio was highest, as usual, in the Indus Valley; and the death rate was also highest there. Both in the Indus Valley and in the Hills, but especially in the former, as may be seen in Table XXXVII, pneumonia was most prevalent in the cold months;

and the same was the case for India as a whole. Table XXXIX shows the incidence of the disease by regiments. The greatest numbers of cases were in the 6th Madras Infantry at Jhansi, the 8th Bengal Infantry while at Datta Khel, the 2nd Sikhs at Kohat, the 6th Bengal Infantry at Meerut, the 12th Bombay Infantry at Saugor, and the 19th Punjab Infantry at Sialkot. The following are some extracts from the reports of the medical officers of those regiments :—

6th Madras Infantry.—The pneumonia occurred chiefly at Bannu (Edwardesabad) in the early part of the year, where the climate is extremely cold, especially after rain, and where this disease is very prevalent, and assumes a contagious form, which is very fatal.

8th Rajputs.—See under Datta Khel in Table XXX.

2nd Sikh Infantry.—Pneumonia was especially severe and virulent during the months of January, February, and March, and also occurred in a milder form in November and December.....In several cases sick attendants were attacked, necessitating their being changed weekly. The disease was epidemic.

19th Punjab Infantry.—Twelve of these cases occurred at Mardan.....There is no doubt that the majority of cases of pneumonia are due to carelessness in the matter of clothing. Even when sufficient warm clothing is supplied to the native soldier, he constantly exposes himself needlessly, in spite of orders to the contrary.

Captain Lalor, I.M.S., is quoted by the *British Medical Journal* as follows :—

Dr. Lalor records his observations on the acute lobar pneumonia which prevailed among native troops and their followers in the Tochi Valley. He believes it to be identical with the general type of the disease met with in other parts of the north-western frontier. It commences in October, and increases during November and December, attaining its greatest prevalence during the months of January, February, and March. During the first quarter of the year the disease is contagious in varying degree; and so well recognized is this fact, that the sick attendants of pneumonia patients in the Tochi are changed, as a rule, every twenty-four hours. Dr. Lalor holds that, owing to the "micrococcus pneumoniæ crouposæ" being able, as he believes, to multiply within the alimentary canal of herbivorous animals, when swallowed, without doing them harm, the disease is kept up by man breathing the dust of infected excreta of horses, mules, or other herbivorous animals with which man is closely associated. He states that, owing to the conditions of warfare in the Tochi Valley, the overcrowding of man and animals is very great, and produces special insanitary features.

Epidemics of pneumonia have also been reported from time to time in Europe, and Hamilton has lately recorded one in Ireland. Klipstein puts forward the opinion that ordinary sporadic pneumonia originates in the patient's own mouth, some state of bodily depression enabling the microbe to invade the lungs successfully, but that epidemic malignant pneumonia often comes from outside. In the tonsillar secretion of 40 healthy persons living under diverse conditions, Besançon and Griffon found the pneumococcus. Eyre and Washbourn proved experimentally that different races of the pneumococcus differ in capacity for acquiring and retaining virulence, the capacity being greater in the more strictly parasitic and less in the more saprophytic. It has been shown by Ottolenghi that the pneumococcus can live longer than 70 days in dried sputum, though its virulence gradually diminishes. Some exact knowledge of the pathogenic bacterial flora of broncho-pneumonia has been contributed by Horton Smith. Attention has been called to changes in the type of pneumonia observed in India since the arrival of epidemic influenza in the country in 1890. Finally, it has been shown that natives of Africa in their own country are very subject to the attacks of the pneumococcus.

Dysentery, Diarrhœa.

62. From dysentery the admission-rate was much, and the death-rate considerably, lower than in the preceding year. The comparative prevalence and mortality from dysentery

in the various portions of the army of India may be studied in Tables XXVI and XXVII. The highest admission ratios were, as in the previous year, in the Punjab Command and the Assam group, and the highest death-rates in the same. The death-rate of native troops from dysentery was to that of European troops as 1 : 1·6; and the percentage of dysentery in total deaths was 4·4 in the case of native troops, and 3·9 in the case of European troops. Again, the case-mortality of native troops was 1·05 per cent., while that of European troops was 2·29. The admission rate of native troops was, however, as usual much higher than that of European troops, 44·0 to 29·8. Looking only to the quinquennium in the following table, it is seen that in all groups, except Southern India, the admission ratios of native were greater, and usually much greater, than those of European soldiers :—

		Ratio per 1,000 of strength.												
		I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIIIa
		Burma Coast and Bay Islands.	Burma Inland.	Assam.	Bengal and Orissa.	Gangetic Plain and Chutia Nagpur.	Upper Sub-Himalaya.	N.-W. Frontier, Indus Valley, and North-Western Rajputana.	South-Eastern Rajputana, Central India, and Gujarat.	Deccan.	Western Coast.	Southern India.	Hill Stations.	Hill Convalescent Depots and Sanitaria.
European Troops	1891—1895	70·2	38·4	...	57·7	30·2	22·5	18·1	18·6	29·4	18·0	31·3	19·1	26·5
	1897	49·1	27·6	...	61·3	40·5	27·7	41·5	34·1	32·0	13·6	53·5	21·7	22·8
	1898	31·8	29·0	...	67·6	34·3	28·5	24·1	25·5	28·3	18·4	29·3	16·9	20·6
Native Troops	1891—1895	72·4	92·0	112·1	104·6	43·8	32·7	61·3	25·2	30·2	54·0	19·4	58·5	...
	1897	91·1	24·5	107·8	60·5	50·4	27·2	78·0	30·6	45·9	69·8	28·6	49·6	...
	1898	71·9	19·1	101·5	52·7	47·9	32·5	70·6	23·9	20·3	58·3	13·3	64·5	...

The table shows also that among both European and native troops dysentery is prevalent in Burma Coast and Bengal-Orissa, and least frequent in Central India. The ratios among native troops in the hills are much higher than among European troops in the hills. Among native troops in 1898 the greatest prevalence was in Assam, and the least in Southern India; and among European troops the greatest in Bengal-Orissa, and the least in the Hills. Table XXXVIII is devoted to the incidence of dysentery by stations and months. The maximum month was November, and the maximum four months August-November; while the minimum month was February, and the minimum three months February-April. This distribution is in strong contrast to that of pneumonia, as may be seen by comparing Tables XXXVII and XXXVIII. The ratios of individual stations will be found in XXVIII,—wherein it will be seen that, besides those at Manipur and Kohima, high ratios were most numerous among the north-west border stations, and that the Mekran Field Force ratio was high,—and the incidence of the disease by regiments in Table XXXIX. The 5th Punjab Infantry had most cases. The greater number of them occurring at Jandola and Sarwakai, where the water is not good. It is very hard and contains a large percentage of magnesium salts, producing a looseness of the bowels, which has a great tendency to develop into ordinary dysentery. The 8th Rajputs had the next greatest number of cases, and the explanation of the medical officer will be found in Table XXX under Datta Khel. The medical officer of the 4th Sikhs, which came third, says—

The disease was not of a virulent or epidemic nature...The causes, probably, were the monotonous character of the Commissariat rations, the regiment not having been in cantonments during the year; and the water, which is hard and liable to be contaminated with minute siliceous particles during rain. Another cause, probably, is the use that may have

been made at night during the hot weather of the stream flowing through the fort, there being no means of storage in the barracks for pure water.

The admission rate from diarrhœa was considerably reduced, though the death-rate was slightly increased. The 16th Bombay Infantry and the 8th Bengal Infantry were the regiments that had most cases. With regard to the latter, Table XXX, under Datta Khel, may be consulted. The medical officer of the former says that the water supplied to the Peshin fort is bad, being taken in an open *nullah* from the Surkhab river, being almost certainly polluted with vegetable and animal matter, and also containing mineral particles in suspension and salts in solution.

Hepatic Abscess.

63. Hepatic abscess is not a frequent disease of the native soldier, and all that requires to be said on the subject has already been said in Section II, paragraph 29. Details are given in Tables XXVI-XXIX and in Table XXXIX. The reports of 1898 throw no new light on the subject.

Venereal diseases.

64. Full details regarding venereal diseases in 1898 will be found in Tables XXVI-XXIX and in Table XXXIX. The following table is given to compare with the corresponding one in Section II, paragraph 30:—

Years.	Primary Syphilis.	Secondary Syphilis.	Total Venereal Diseases.	Years.	Primary Syphilis.	Secondary Syphilis.	Total Venereal Diseases.
1877 . .	11·5	5·3	26·7	1888 . .	13·5	5·4	31·5
1878 . .	16·3	5·8	37·5	1889 . .	16·6	6·4	38·9
1879 . .	16·5	7·0	37·1	1890 . .	16·0	6·9	41·1
1880 .	15·0	5·8	33·3	1891 . .	13·6	6·9	37·9
1881 . .	17·9	7·2	39·5	1892 . .	14·1	7·9	39·6
1882 . .	14·7	5·9	34·4	1893 . .	13·3	9·0	36·4
1883 . .	13·0	6·5	31·6	1894 . .	13·8	8·2	32·3
1884 . .	11·0	5·3	27·9	1895 . .	13·1	7·3	31·3
1885 . .	11·2	5·9	30·1	1896 . .	15·5	8·9	37·2
1886 . .	13·7	6·0	28·1	1897 . .	16·1	9·0	40·8
1887 .	12·6	6·1	27·4	1898 .	14·3	11·5	40·0

The figures for India are not available for the years before 1877. Primary syphilis includes the local sore throughout. All the venereal ratios of native troops run at a much lower level than those of European troops, and they have remained comparatively steady during the years of which the statistics are given.

A comparison of Tables I and XXVI will show that, leaving the Hyderabad Contingent out of account, the lowest ratios for both European and native troops were, as in 1897, those of the Punjab Command. For European troops the Madras Command had the highest ratio, and for the native troops, the Bengal Command. In all the commands the ratios of native troops were much lower than those of European troops.

Whilst among the European troops an average strength of 67,741 gave 24,585 admissions, in the case of the native troops an average strength of 126,036 gave only 5,040 admissions. In other words, there were only 40 admissions for every 1,000 men among native troops, against 363 for every 1,000 among European troops.

The admission rate was 0·8 per 1,000 less than in 1897. There were 8 deaths and 99 invalidings *directly* due to venereal disease. The actuals and ratios of individual stations for total venereal disease and for each form of venereal disease will be found in Tables XXIX and XXVIII. In 36 stations out of 198 the admission rate from secondary syphilis was over 20 per 1,000 of strength, and in 44 other stations it was over 10 per 1,000 of strength.

For India the ratio of primary syphilis *plus* soft chancre fell by 1·8 per 1,000 of strength; that of secondary syphilis rose by 2·5, and that of gonorrhœa fell 1·5, the net result being a fall of 0·8 for all forms of venereal taken together, as noticed above.

In 1898 the Bengal Command had the highest ratio for each form of venereal disease.

As usual, the Gurkhas suffered proportionately more than the other native troops. The two regiments most affected were the 44th Gurkha Rifles at Manipur and the 2nd Battalion of the 3rd Gurkhas in the Kumaon hills. In the former gonorrhœa was the prevailing form, but in the latter there was much syphilis, and the medical officer states his conviction that, though most of the infected men are doing their ordinary duties, they would be quite unfit for field service, and that many of them will never be fit for any hard work. The ratio among the troops in Mauritius was not high, and that among troops on field service was still lower.

Beri-Beri (3). Strongylus Duodenalis.

65. Of the 96 cases returned as beri-beri, 95 occurred in Madras regiments, especially the 2nd, and, to a much less degree, the 11th and the 9th Infantry regiments. The Madras Command accounted for 10 out of the 11 deaths: two in Burma and eight in the peninsular part of the command. A considerable amount of doubt still attaches to the diagnosis of these Indian cases. The medical officer of the 2nd Madras Infantry says:—

There were 73 admissions for beri-beri, 39 of them being among recruits. Previous to the 19th September, most of the admissions were among the recruits. Subsequently to that date, owing, I believe, to the substitution in the recruits' mess of "boiled"* rice from Berhampur and Cuttack for local "kutcha" rice, there were very few admisions amongst the recruits. Whatever be the origin of the disease, I believe that those who eat very sparingly of, or no, rice, and substitute better diet, render themselves immune to it. The local rice is, I believe, a particularly poor food, and the men have been advised against its use in regimental orders. The imported rice is a little dearer and harder to obtain than the local rice, and baker's bread is more than twice as dear as rice; but it seems to me that immunity from beri-beri is worth paying for, if it can be secured ..... I have some evidence of the transmission of the disease by infection in one or two cases....Removal from the endemic area is desirable, but with proper dieting the endemic area can be lived in with immunity. By proper dieting I mean plenty of animal food, meat, milk, eggs, etc., and wheaten bread.

A French medical officer has emphasized the importance as a prophylactic against beri-beri of a sufficiency of fatty matter in the dietary. But it is not known whether the vegetable fats used in India would be as potent as the animal fats used by him. Among recent papers on beri-beri two of the most valuable are those by Carpenter and by Simon.

* Pukka?

No cases of sickness or death caused by the *strongylus duodenalis* (*dochmius, ankylostomum*) were reported.

Guinea-worm.

66. In the year under review the admission-rate from guinea-worm rose from 4·9 to 5·0, but the number of cases remained 632. The distribution of cases returned by stations, groups, and commands will be found in Table XXIX. By far the largest number of cases occurred in Group IX, that is, the Deccan. Group VIII came next, the usual order of these two groups being reversed. Of the total number of cases, between 14 and 15 per cent. declared themselves at Poona, between 6 and 7 per cent. at Secunderabad, and between 4 and 5 per cent. at Jubbulpore, all in Group IX. Sirdarpore came fourth, and Kherwara, which used to have most cases, sank from the third to the fifth place. The medical officer of the 14th Bombay Infantry at Poona says :—

> The epidemic of this disease began with the rains ; and, with the exception of 2 out of the 79 cases, was confined to one wing. Doubtless this wing had drunk infected water at some place on the way to Bareilly in August 1897. Many men had more than one worm, one man having 17 taken out of him.

The medical officer of the 17th Bombay Infantry mentions that all the men affected, except three, were newly enlisted recruits from the Bikaner District, parts of which have long had the evil reputation of abounding in this parasite. There was only one case in the whole European army of India. This great contrast is probably due to the different customs of Europeans and natives as regards bathing and water-drinking.

Suicide.

67. During the ten years 1886—95 there were 212 cases of suicide, or an average of about 21 per annum. There were only 12 in 1898, of which 9 were by gunshot, 2 by hanging, and 1 by drowning. The following table shows the percentage distribution of cases of suicide in 1898 according to age :—

Period.	Cases of suicide according to age—percentages.							
	Under 20	20—24	25—29	30—34	35—39	40 and over.	Total.	Total cases.
1886—95 . . .	9	42	23	15	8	4	=100	212
1897 . . .	4	48	24	12	8	4	=100	25
1898 . . .	33	17	25	25	...	...	=100	12

the next, the percentage distribution according to service :—

Period.	According to service—percentages.						
	1st and 2nd years.	3—6	7—10	10 and over.	Total.	Total cases.	Remarks.
1886—95 . . .	25	33	16	25	=100	212	...
1897 . . .	20	36	16	28	=100	25	...
1898	25	42	8	25	=100	12	...

and the next, the percentage distribution according to season :—

Period.	According to season—percentages.					
	January to March.	April to June.	July to September.	October to December.	Total.	Total cases.
1886—95 . . .	25	26	25	23	=100	212
1897	24	16	28	32	=100	25
1898	58	...	33	8	=100	12

Papers and Books referred to in Section III.

For explanation of abbreviations see end of preceding section.

(1) M. O. H. of Hongkong, quoted in B. M. J. of 16th September 1899, page 757; China, Imperial Maritime Customs, II Special Series, No. 2, Medical Reports for the half-year ended 31st March 1898, 55th Issue, and the same for the half-year ended 30th September 1898; Law J. T. M. of May 1899, page 265; Browne in J. T. M. of September 1899, page 42; Leader in L. of 3rd June 1899, page 1501; A. Buchanan in I. M. G. of November 1899, page 403; B. M. J. of 11th November 1899, page 1376.

(2) Lalor quoted in B. M. J. of 2nd September 1899, page 633; Hamilton in B. M. J. of 20th May 1899, page 1214; Klipstein in Z. K. M. XXXIV, quoted in H. R. IX, page 548; Besançon and Griffon quoted in Philad. Med. Journal, in A. J. M. S., and in I. L. of 1st September 1899, page 198; Eyre and Washbourn in L. of 7th January 1899, page 19; Ottolenghi in C. B. XXV, page 120,* and see also Ottolenghi in Arch. pr le Scienze med. XXII, page 425, quoted in V. J. XXXIII, 2-1, page 183; Gee, quoting Horton Smith in St. Bartholomew's Hospital Reports, in B. M. J. of 18th March 1899, page 648; I.M.G. of September 1899, page 337; Buchanan in J. T. M. of November 1899, page 106; Kolle in D. M. W. of 1898, No. 27, quoted in C. B. XXV, page 361; Marchoux in A. P. XIII, page 193, and quoted in C. B. XXVI, page 153; Brodie, Rogers, and Hamilton in L. of 22nd October 1898, page 1045, and quoted in V. J. XXXIII, 2-1, page 183.

(3) I. M. G. of December 1899, page 459; see also Section III of this report, paragraph 98; L. of 15th April 1899, page 1045, of 24th June 1899, page 1731, and of 1st July 1899, page 50, all quoting Laurent from Archives de Médicine Navale; B. M. J. of 19th August 1899, page 487, quoting Laurent in Arch. de Médicine Navale et Coloniale, No. 3, March 1899, page 194; B. M. J. of 30th September 1899, page 866, quoting Laurent; Carpenter in J. T. M. of August 1899, page 12, and of July 1899, page 319; Simon in J. T. M. of September 1899, page 29.

(4) Bennett and Bannerman in I. M. G. of June 1899, page 192, and quoted in J. T. M. of 16th October 1899, page 81.

Quoted in H. R. X, page 1293.

SECTION IV.

JAILS OF INDIA.

68. The health of the prisoners of India was much better in 1898 than in 1897. There was little cholera, though more influenza, and the usual chief heads of mortality, except phthisis pulmonalis, showed a reduction. On pages 7 and 8 of Section I it may be read that the year 1898 was quiet, settled, and dry; that the hot weather was hotter and drier than usual; that the monsoon commenced slightly late, but quickly extended over the country, and gave rain in excess of the normal, or only slightly below it, to the greater part of India, the only regions of decided deficiency being parts of the Punjab, Rajputana, and Berar:—

India.

Year.	Average strength.	RATIO PER 1,000.									
		Admissions into hospital.	Constantly sick.	Deaths from—							
				Cholera.	Remittent fever.	Dysentery	Diarrhœa.	Respiratory diseases.	Phthisis Pulmonalis.	Anæmia and Debility.	Allowances.
1886-95* .	960,973	1,097	39	2·74	1·49	6·80	2·82	5·85	2·50	2·52	32·20
1897* . .	118,107	1,045	41	3·94	1·08	11·07	3·17	5·19	3·02	2·35	38·75
1898* . .	111,344	976	39	·13	·95	5·72	1·48	4·80	3·33	2·01	25·87

* Excluding subsidiary jails.

The chief causes of admission to hospital were ague, dysentery, abscess, and diarrhœa. Among the diseases with raised admission-rates were influenza, pneumonia, tubercle of the lungs, other respiratory diseases, and spleen diseases; while the rates from cholera, small-pox, debility, fevers, scurvy, and bowel complaints were lowered. Ague caused 35 per cent. of the total sickness and bowel-complaints 15 per cent.

The chief causes of death were dysentery, pneumonia, tubercle of the lungs, debility, and diarrhœa. Among the diseases with increased mortality was tubercle of the lungs. Among these with lessened mortality were cholera, small-pox, dysentery, diarrhœa, fevers, respiratory diseases, and debility. Dysentery caused 22 per cent. of the total deaths, pneumonia 15 per cent., and tubercle of the lungs 13 per cent.

69. The following statement shows for each administration, except the Andamans, the proportion of prisoners in 10,000 of the population. Some of the prisoners of each province

Proportion of prisoners in population.

have been transported to the Andamans, and these are necessarily excluded from the calculations, so that the ratios are all somewhat too low:—

Administrations.	Period.	General population according to census of 1891.	Prisoners. Average number.*	Prisoners. Proportion per 10,000 of population.	Prisoners. Deaths per mille of average strength.*
Burma	1897	7,605,560	13,435	17·7	24·12
	1898		12,674	16·7	20·59
Assam	1897	5,476,833	1,500	2·7	48·67
	1898		1,583	2·9	36·64
Bengal	1897	71,346,987	19,548	2·7	35·04
	1898		18,989	2·7	22·59
North-Western Provinces and Oudh.	1897	46,905,085	36,254	7·7	35·44
	1898		31,766	6·8	29·06
Punjab	1897	20,866,847	12,968	6·2	16·19
	1898		12,749	6·1	23·22
Bombay	1897	18,901,123	9,385	5·0	35·38
	1898		10,169	5·4	21·24
Berar and Secunderabad	1897	2,897,491	1,898	6·6	34·77
	1898		1,612	5·6	14·89
Central Provinces	1897	10,784,294	7,401	6·9	134·98
	1898		5,054	4·7	34·63
Madras	1897	35,630,440	10,312	2·9	47·32
	1898		10,938	3·1	26·24

* Including subsidiary jails. The death-rates of the free population are given in the Appendix to Section V.

70. The following table compares the ten administrations with each other, and the present of each administration with its past:—

Administrations.

	Year.	Average strength.	Ratio per mille*. Admissions.	Constantly sick.	Deaths from— Cholera.	Remittent fever.	Dysentery.	Diarrhœa.	Respiratory diseases.	Phthisis Pulmonalis.	Anæmia and Debility.	All causes.
Andamans	86-95	114,148	1,743	57	...	4·50	7·94	2·66	3·93	3·88	3·14	33·89
	1897	10,590	1,674	50	...	2·83	9·35	1·13	3·12	4·53	1·13	27·20
	1898	10,890	1,405	48	...	2·57	9·18	1·56	2·20	5·69	·83	27·09
Burma	1886-95	110,408	939	43	6·04	1·32	7·92	2·32	3·60	3·12	2·00	36·56
	1897	13,435	596	29	5·21	·52	5·21	1·71	2·23	2·46	·52	24·12
	1898	12,674	619	31	·47	·55	4·73	·71	3·47	4·18	·39	20·59
Assam	1886-95	11,550	1,758	58	5·19	1·99	14·37	7·71	5·54	1·30	4·42	52·90
	1897	1,233	1,028	52	5·68	·81	9·73	4·06	3·24	...	2·43	46·23
	1898	1,276	1,018	55	1·57	3·13	8·62	4·70	3·13	...	6.27	37·62
Bengal	1886-95	150,931	1,180	41	3·70	1·46	10·42	2·90	4·54	3·35	1·58	36·06
	1897	18,343	1,045	37	3·27	·87	10·47	1·96	4·47	3·43	·87	34·24
	1898	18,007	1,004	35	·17	·94	5·11	1·11	4·72	3·00	·67	22·77
N.-W. P. and Oudh.	1886-95	251,465	792	37	1·70	·65	5·60	2·40	6·02	1·96	2·06	27·54
	1897	35,890	1,012	50	1·28	·53	9·17	3·15	6·07	2·48	4·07	35·44
	1898	31,535	930	47	·03	·35	6·28	1·74	5·68	3·11	4·82	29·14
Punjab	1886-95	115,378	1,667	38	1·59	1·18	3·90	2·21	11·42	2·10	·61	30·23
	1897	12,785	1,336	31	...	1·02	2·66	1·17	5·00	2·11	·63	16·35
	1898	12,554	1,369	37	...	1·04	4·06	1·59	6·53	2·31	·24	23·50
Bombay	1886-95	68,265	757	28	1·48	1 74	3·56	3·56	9·10	1·74	2·12	30·18
	1897	7,767	846	29	5·28	3·22	3·22	3·60	8·75	2·96	·51	37·21
	1898	8,461	760	29	...	2·25	1·54	2·01	5·67	1·77	1·54	22·46
Berar and Secunderabad.	1886-95	11,539	756	22	·69	·95	2·08	1·13	5·46	1·13	·95	20·11
	1897	1,898	551	17	·53	·53	6·32	1·58	6·84	1·58	4·21	34·77
	1898	1,612	581	17	...	·62	·62	...	4·34	1·24	3·10	14·89
Central Provinces.	1886-95	43,798	936	31	4·73	1·21	11·39	5·23	5·75	1·94	3·36	42·65
	1897	7,401	1,233	65	4·19	1·49	64·72	18·65	10·13	4·86	9·73	134·98
	1898	5,054	1,142	52	...	·59	11·67	3·30	4·16	3·56	3·17	34·63
Madras	1886-95	78,363	723	27	5·32	·40	4·85	3·28	2·79	1·99	2·31	29·12
	1897	8,349	831	33	25·03	·36	6·47	...	2·99	4·19	·24	52·82
	1898	8,844	715	30	·23	...	5·88	...	4·30	4·41	·11	28·38

* Excluding subsidiary jails.

The prisonees of the Punjab alone were more unhealthy than in the previous year.

In 1898 the three most unhealthy administrations were, in order, Assam, the Central Provinces, and the Andamans, and the three most healthy were, in order, Berar, Burma, and Bombay.

As compared with the decennial ratios, cholera mortality was everywhere, except in the always cholera-free Andamans, greatly reduced; the amount of reduction being greatest in Burma, Madras, and the Central Provinces; dysentery mortality was somewhat increased in five administrations, and greatly reduced in five, the reduction being greatest in Assam and Bengal, administrations in which high ratios are usual; diarrhœa mortality was reduced in all administrations, but especially in Madras and Assam. Mortality from respiratory diseases was diminished in all provinces except Madras and Bengal, the diminution being greatest in the Punjab and Bombay; phthisis mortality rose in all the provinces except Assam and Bengal, the rise being greatest in Madras, the Central Provinces, and the North-Western Provinces and Oudh.

With regard to the absence of diarrhœa mortality in Madras, the explanation given in paragraph 97 may be consulted.

It will be noticed in the above table that the provinces with total death ratios most below their decennial ratio were Burma, Assam, and Bengal; and that those with ratios most below the ratio of the previous year were the Central Provinces (less by 100·35, or 74 per cent.), Madras, and Berar. Only the North-Western Provinces and Oudh had a death ratio higher than that of the decennium, and only the Punjab a death ratio higher than that of 1897.

In Table XL it is seen that the Andamans had the highest death-rate from tubercle of the lungs, and the lowest from pneumonia; Burma the lowest from respiratory diseases other than pneumonia; Assam the highest from cholera, ague, remittent fever, respiratory diseases other than pneumonia, diarrhœa, and debility, but no mortality from tubercle of the lungs; the Punjab the highest from pneumonia; Berar the lowest from dysentery; the Central Provinces the highest from dysentery; and Madras the lowest from debility.

In each hundred of the total deaths the proportion of tubercle of the lungs and of dysentery was greatest in the Andamans; of cholera and diarrhœa in Assam; of pneumonia in the Punjab; of remittent fever in Bombay.

The death-rates, or the known circumstances of the general population, and of the jail population, may sometimes be found to throw light one upon the other. If, for instance, the death-rate in a jail from dysentery and diarrhœa is strikingly higher than the rate recorded among the people in the surrounding district, the presence of a preventable cause at work inside the jail is suggested. Again, the presence of influenza in some of the jails actually gave a clue to the explanation of an extraordinarily high death-rate from "fevers" in a certain province in the early part of a recent year.

The strongly held opinion of Lieutenant-Colonel Bate, Inspector-General of Prisons, Punjab, that the sickness and mortality occurring among the jail population in his province is to a great extent preventable, but that satisfactory results can only be obtained by unremitting attention to their duties on the part of those responsible for the welfare of the prisoners from day to day, is of general application. Careful attention to detail is essential to success in jail hygiene, as it is in most other matters; but it is vain to hope that the labours of medical superintendents, however capable and devoted, will entirely make up for the evil effects of bad sites and unsuitable buildings; and time and trouble

have too often to be given to the treatment of patients, who, but for the condition of their surroundings, would never have been sick. The greatest care has been given to water-supplies for very many years, and the importance of good cooking has been recognized; but pure air is as necessary as pure water, and until it is possible to ventilate thoroughly the sleeping barracks in the cold nights of winter without chilling the occupants, there is no hope of banishing pneumonia from the jails, or of bringing respiratory diseases and tubercular affections within the limits to which they ought to be reduced. It is sometimes said that convicts are pampered, and in some few cases this may be true; but as long as jail death-rates remain as high as they now are, a general charge of this nature would be difficult to justify.

Andamans.

71. The Senior Medical Officer reports that all necessary arrangements have been made to meet the results of a possible importation of plague. It was found that hard labour in the cellular jail caused an alarming loss of weight in the convicts. He continues :—

> The vegetable supply is a weak point: it is extremely difficult to grow antiscorbutic plants in these islands, especially during the rains, and no indigenous plant of this description exists to my knowledge. The want of antiscorbutic properties in the vegetables is made up by an issue of tamarind, which is cooked in the food. Previously the tamarind was issued in a separate form; but the convicts, especially those from Northern India disliked the acid taste, and did not eat it. Now they have no option in the matter. The result is satisfactory. Great efforts are being made to grow large quantities of limes, tamarinds, and such antiscorbutics as will grow freely in the settlement. ..... The difficulties and defects in the water-supply have frequently been noticed, and have received a good deal of attention. Still the water-supply is not satisfactory. The general system of supply is from rain and surface water collected in open tanks. The catchment area is protected, but rain water is not a satisfactory source of supply. .....No waters from the open tanks have ever given a good analysis, but they are potable. The defects are counterbalanced by the use of Larymore's patent boilers, and the use in certain cases of permanganate of potash. Still, the settlement may boil the water, but it is quite a different business to make the convicts drink it, especially in the rains. The water supplied to the 350 or 400 men employed intramurally suits the men, and no disease can be traced to it; in fact, these men are the healthiest in the islands.

Burma.

72. The average number of prisoners, which has been steadily decreasing since 1896, when the maximum was reached, fell to 12,674; but in spite of the decrease in the number of the prisoners in 1898 to a figure far below that for which accommodation is provided, there was chronic overcrowding in the jails at Insein and Henzada, and occasional overcrowding elsewhere. In spite of the reduction of its population, and the care bestowed on the "water-supply, feeding, clothing, and housing" of the inmates, the prison at Moulmein retains its reputation for unhealthiness. The very high admission-rates for bowel-complaints in this jail are noteworthy. Owing to its unhealthiness it was finally reduced from the status of a central prison to that of a district jail in the first quarter of 1898. The Inspector-General of Prisons makes, from his long experience, some strongly favourable remarks as to the employment of jail gardens for the systematic disposal of the night-soil. Three of the jails, supplied with drinking water containing an unusual amount of solid matter and of chlorine per gallon, show no ill effects therefrom in the persons of their prisoners.

Assam.

73. The improvement in the health of the prisoners is attributed by the Inspector-General to the influence of the improved dietary; to the careful selection of prisoners for extramural labour; to the prophylactic administration of quinine and iron in the unhealthy season; to continued attention to the dieting and treatment of the

weakly; and to the almost complete absence of cholera, from which there was only one death during the year. The Sanitary Commissioner of Assam points out, however, that 1898 was an unusually healthy year, and that the convicts shared in the general good health. That this is, in a measure, true, is shown by the fact that the death-rate among convicts who had been for less than six months in jail, the number of whom averages more than all the rest of the convicts put together, was much the lowest. But a comparison of the mortuary statistics of the province as a whole with those of the jails during the last few years seem to indicate that much of the amelioration in 1898 was due to improved hygiene. The Inspector-General convinced himself that the increase in the death-rate of the Tezpur Jail was not due to the conditions of jail life or to want of care on the part of the officials; and that everything that could be done for the health of the prisoners had been done. Five of the deaths in that jail appear to have been due to *kala azar*.

Bengal.

74. The most noteworthy features of the year were the large decrease in the number of prisoners admitted, accompanied however, by only a moderate decline in the daily average number of convicts; a remarkable immunity from severe outbreaks of cholera or other epidemic diseases; a very moderate sick-rate; and the lowest death-rate recorded. The year was no doubt an exceptionally healthy one; but a study of the figures of recent years shows how much has been achieved by the earnest attention of the jail administration, and by the honest work of the executive officers. The jails of the province afford ample accommodation for the number confined, although the special provision for females under trial seems to be inadequate. Owing to the difficulty or impossibility of distributing short-term convicts and under-trial prisoners, the average numbers of the former were in excess of the accommodation provided in 14 jails, and of the latter in 19 jails, and it was unfortunately found necessary occasionally to utilize work-sheds as dormitories. The Inspector-General of Prisons says:—

> In all the jails which I have visited I have found the superintendents keenly alive to the importance of all the arrangements in connexion with the water-supply. . . . . The extensive works at Buxar for pumping water from the Ganges, and for filtering, boiling and distributing it, were nearly completed at the close of the year. Alipore [Larymore] boilers were supplied to Monghyr, Bhagalpur, and Purneah Jails. New Pasteur filters were put up in the Dinajpur and Jalpaiguri Jails; those at Dumka and Motihari are reported to work satisfactorily; while that at Bogra got out of order in October. All wells from which drinking water is drawn are cleared of silt during the hot weather, and are frequently disinfected with permanganate of potassium. Samples of the drinking water used in all jails were sent for analysis to the Chemical Examiner to Government.

North-Western Provinces and Oudh

75. Owing chiefly to the improvement of the material condition of the people in these provinces, there was a considerable reduction in jail population. Not only were the numbers much less than in the preceding year, but the health of the newly-admitted prisoners was much better; and, as the year was an exceptionally healthy one, the only important general factors militating against the health of the prisons as a whole in 1898 were the legacy of weakly prisoners convicted in the preceding year, and the overcrowding that took place in nearly three-fifths of the jails, including the six central prisons. Every effort was made to avoid undue crowding by transfers, but the difficulties were increased by the large

number of long-term prisoners. Regarding the Mirzapur Jail the Inspector-General reports:—

> The health of this jail has been a source of anxiety for many years past, and it is still undoubtedly the most unhealthy in the province. . . . . Some years ago the question of building a new jail in Mirzapur, and abandoning the present jail, was discussed; but it was eventually decided to largely add to the existing buildings, instead of building a new jail. About half the jail consists of new barracks, which appear to be in every way suitable and excellent buildings, but apparently they are quite as unhealthy as the old barracks which are still occupied. A new water-supply has been introduced into the jail during the past year, without, so far as can be judged, affording any improvement in the health of the jail. . . . . The site of the jail is bad. It is situated in the city, and there is a dirty tank just outside the jail wall. It cannot be doubted that a great mistake was made in not abandoning the present site, and building a new jail, when it was decided to spend a large sum of money on the jail buildings some years ago. The result of the different policy pursued in the case of Gorakhpur Jail goes a long way to prove this. . . . . When the Chunar Jail was closed in October 1898, the prisoners in hospital, who were too ill to be sent on a long journey, had to be transferred to Mirzapur, the nearest jail. Several of these men were hopelessly ill, and six died within thirty days of their arrival at Mirzapur.

Punjab.

76. There was a marked deterioration in the health of the jail population of the Punjab, with a considerable increase in the prevalance of dysentery of a severe type. The Inspector-General considers that, speaking generally, this is ascribable to the serious deterioration of health caused among the prisoners by the prevalence of malarial fevers during the autumn of 1897; and thinks it also possible that the robustness of the prisoners received in 1897 and 1898 had been more or less impaired prior to admission to jail by the scarcity that prevailed in the province during the former year. The vital statistics of the provincial general population fully confirm this theory. There was a relationship between the death-rates of the civil population and of the convicts, but the relationship was in kind rather than in degree. The same diseases and the same seasonal influences acted effectively on both, but not in the same proportion; and there seems to have been some unfavourable condition of jail life at work. Cases of pneumonia were far more numerous than in 1897, and the increase in the Delhi jail suggests special inquiry into the cause.

Bombay.

77. Difficulties caused by the presence of plague hampered transfers, and inevitable overcrowding occurred throughout the year in 10 out of the 15 jails. Some relief was afforded by the transfer early in May of 231 convicts to Sind, and, later in the same month, of 210 male life-convicts to Port Blair. Pneumonia in a bad form prevailed in the Sind gang in January; and the Shikarpur Jail, which, it is hoped, will soon disappear, and be replaced by a new prison at Sukkur, maintained its evil reputation for fatal pneumonia. On the other hand, in the Hyderabad Central Prison no prisoners died from diarrhœa, pneumonia, or other respiratory diseases, and only one, and that a man under trial, from dysentery. For the first time for 12 years there was no cholera in any of the Bombay Jails, sub-jails, or lock-ups.

Berar.

78. With the return of prosperity there was a large decrease in the amount of crime, and the number of persons imprisoned was less than half the number imprisoned in 1897, and considerably lower than in any recent year. The reduction in the number of admissions to prison was not, however, sufficient to balance the great excess in

the population with which the year opened, so that the average strength in confinement throughout the year was greater than that for which accommodation is provided. The year was a peculiarly healthy one in Berar, and the convicts shared in the general good health. There was no plague, and little cholera; and scurvy also was almost absent from the jails.

Central Provinces.

79. Several jails were overcrowded at the beginning of 1898, but, as comparatively few persons were admitted to prison during the year, the gradual release of the famine convicts soon brought the numbers in confinement to normal, and before the end of the year accommodation in every prison was more than sufficient. The famine crisis of 1897, and the consequent admission of large numbers of starved and diseased prisoners, resulted in an abnormal rise in the sickness and mortality in that year. With the return of prosperous seasons and cheap prices, the distress and hardship of the previous year abated, but the ill effects of the famine continued to be visible in the new admissions to jail during the early months of 1898, and the sick-rate was high. The comparatively low death-rate with the high average sick-rate indicates either that the diseases from which the convicts suffered were much more amenable to treatment than formerly, or that prisoners were inscribed as admissions more freely than had hitherto been the case. The short passage quoted from the Inspector-General below under "Dysentery" conveys the idea that dysentery continues to be very fatal to the people in the district of Jubbulpore. This may be so in the case of adults; but the death-rate from bowel-complaints among the people as a whole was lower than the corresponding ratio of the preceding quinquennium.

Coorg.

80. There is only one jail in Coorg, that of Mercara. The health of the prisoners was not so good as in 1897. Coorg is not shown separately in Table XL, but the statistics of Mercara will be found in Tables XLII and XLIII.

Madras.

81. The price of food-grains continued very high, and was higher during the first half of 1898 than at any time during the previous year. High prices seem to have led to an increase of crime, for the number of prisoners admitted into the jails was greater than in any of the ten years preceding. This state of matters was fortunately not accompanied by any unusual sickness and mortality; there having been an almost complete absence of cholera, and a reduction in the sick and death-rates. There were, however, extraordinary sickness and mortality in the Rajamundry Central Prison. There was some division of opinion as to the presence of beri-beri in this jail; and the medical superintendent, Captain Fearnside, I.M.S., has written an account (more fully noticed under "Beri-beri") of the investigations which he carried out into the causes of sickness and mortality among the prisoners, and ably maintains his thesis that the cases which have been considered to be beri-beri were not cases of that disease, but of severe malarial cachexia. Whatever was the cause of the unusual sickness there can be no difference of opinion that the proper measures of improvement have been undertaken, in reducing the general population, segregating the sick, sending the cachectic to other jails, and generally ameliorating the sanitary conditions of the jail, including the food-supply; and it is satisfactory to know that matters are mending.

82. The next table institutes a comparison between the geographical groups, and between the present of any group and its past :—

Geographical Groups.

		Ratio per 1,000 of average strength.												
		I. Burma Coast and Bay Islands.	II. Burma Inland.	III. Assam.	IV. Bengal and Orissa.	V. Gangetic Plain and Chotia Nagpur.	VI. Upper Sub-Himalaya.	VII. North-West Frontier, Indus Valley, and North-Western Rajputana.	VIII. South-East Rajputana, Central India, and Gujarat.	IX. Deccan.	X. Western Coast.	XI. Southern India.	XII. Hills.	India.
1886-95	Constantly Sick .	52·6	35·8	57·9	45·4	36·3	36·9	32·6	35·5	31·2	29·8	24·7	39·1	39·1
	Deaths—Cholera .	2·57	5·16	5·46	3·49	2·71	1·56	·30	1·68	3·20	1·63	5·06	1·13	2·74
	Deaths—Dysentery	8·46	5·07	14·30	10·35	7·55	4·14	2·85	4·12	7·13	6·83	3·68	11·65	6·80
1897 .	Constantly Sick .	41·8	23·2	52·8	37·2	48·9	36·0	33·2	39·3	47·4	34·1	33·5	38·2	41·2
	Deaths—Cholera .	2·27	5·64	5·87	1·18	2·90	...	...	...	2·78	16·63	27·00	4·68	3·94
	Deaths—Dysentery	7·78	3·90	10·06	9·62	10·42	4·00	2·09	8·76	39·53	6·65	6·88	3·32	11·07
1898 .	Constantly Sick .	43·6	19·6	55·3	36·0	43·1	37·9	33·9	51·9	41·5	27·3	29·9	31·8	39·3
	Deaths—Cholera	·21	·46	1·63	·17	·07	...	...	...	...	...	·26	...	·13
	Deaths—Dysentery	7·71	2·74	8·14	5·50	6·40	4·51	2·55	4·62	6·53	1·84	6·39	3·18	5·72

In agreement with the decennial average, Assam had the highest constantly sick-rate; but, as in 1897, Burma Inland, instead of Southern India, had the lowest. Cholera mortality was very low as compared with the decennial averages in all the groups, there being none at all in six of them. As compared with the decennial ratios, dysentery mortality was reduced in all the groups except Upper Sub-Himalaya, Central India, and Southern India, the greatest decrease being in the Hills and Assam. All the groups enjoyed either a continued absence of cholera mortality or a great reduction, in some cases to zero, in 1898 as compared with 1897; and in all, except Groups VI and VII, dysentery mortality was reduced, the greatest reductions being in the Deccan and Western Coast.

In Table XLI the statistics of the geographical groups as regards prisoners in 1898 have been placed side by side for comparison. Burma Inland had the lowest admission-rates from ague and from respiratory diseases other than pneumonia; Assam the highest from cholera and from debility, and the lowest from simple continued fever, tubercle of the lungs, and pneumonia; Bengal-Orissa the highest from dysentery; Upper Sub-Himalaya the highest from ague and from spleen diseases; Indus Valley the highest from pneumonia and from abcess, etc.; Central India the highest from influenza; the Deccan the highest from scurvy; Western Coast the highest from enteric fever and remittent fever, and the lowest from dysentery; Southern India the highest from simple continued fever, tubercle of the lungs, and respiratory diseases other than pneumonia, and the lowest from remittent fever and diarrhœa; and the Hills the highest from small-pox and diarrhœa, but no admission-rate from scurvy.

The percentage of fevers to total admissions was highest in Upper Sub-Himalaya; of bowel-complaints in Assam; of respiratory diseases in Southern India.

83. Some details regarding the sanitary defects in the most unhealthy jails, and regarding improvements effected or recommended, will be found in Table XLIV. The Temporary Jail at Chunar was closed on the 15th of October, this measure being rendered

Individual Jails.

possible by the fall which had taken place in the jail population of the North-Western Provinces. Owing to the great and continuous heat from the 1st of June to the 4th of July, 32 cases of heatstroke occurred in the Delhi Jail, though, owing to prompt treatment, only 3 proved fatal. Special measures were adopted to protect the prisoners. With regard to the Mirzapur Jail see paragraph 75. The sickness and mortality ratios of all jails may be studied in Table XLII.

Principal diseases.

84. The sickness and mortality in India as a whole, in the various administrations, in the geographical groups, and in individual jails, having been studied, it now remains to notice a few of the more important diseases which affected the prisoners.

Influenza.

85. The following table shows the progress of the influenza epidemic from its first outburst in 1890. There has been a decrease of the disease every alternate year :—

Years.	Number of admissions into Hospital in each month.														
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.	Admitted per 1,000 of strength.	Died per 1,000 of strength.
1890 . .	1	16	377	3,808	2,341	796	232	6	1	...	1	1	7,580	78·6	·67
1891 . .	3	152	91	19	32	119	459	285	266	72	19	387	1,904	18·9	·29
1892 . .	539	806	2,947	1,059	223	89	60	65	38	12	7	6	5,851	56·7	1·26
1893 . .	9	38	109	114	106	47	12	11	34	58	76	36	650	6·4	·09
1894 . .	733	545	758	1,415	513	28	5	1	19	42	59	63	4,181	41·0	·43
1895 . .	69	151	619	288	84	64	88	9	145	192	38	411	2,158	20·3	·15
1896 . .	853	1,357	1,232	293	32	10	5	1	270	54	15	19	4,141	37·6	·60
1897 . .	49	51	86	162	85	8	37	5	29	274	187	14	987	8·4	·21
1898 . .	91	239	572	631	338	201	41	146	48	6	20	10	2,343	21·0	·33
Total .	2,347	3,355	6,791	7,789	3,754	1,362	939	529	850	710	422	947	29,795	31·4	·44

In the year 1898 only Burma Inland, Assam, and the Hills escaped. Against 19 jails in 1897, 61 were affected in 1898; and, while 46 of those attacked in 1898 had not been attacked in 1897, only four of those affected in 1897 escaped in 1898. The incidence of the disease may be studied in Table XLV, and the ratios of sickness and mortality will be found in Table XLII. Cases occurred in every month of the year, but the greatest monthly numbers were in April and March, and the least in October and December. The greatest numbers of cases occurred at Agra (Central), Bareilly (District), Allahabad (District), Jubbulpore (Central), Rajshahi (Central), Allahabad (Central), Dacca (Central), and Insein (Central). In Table XLV it may be seen that in some jails the outbreak was short and compact, in others long drawn out or dropping, while in the case of one or two there are indications of two distinct outbreaks. "In the spring," says the Inspector-General of Prisons, North-Western Provinces and Oudh, "influenza broke out in the Agra Central Prison, and, though no direct mortality occurred, the general health of the prisoners was injuriously affected, and the disease is indirectly accountable for a considerable number of deaths which afterwards occurred from pneumonia, phthisis, and other lung diseases."

Cholera.

86. There was a great decrease of both morbidity and mortality from cholera, the admissions falling from 959 to 23, the admission ratio from 8·1 to 0·2, the deaths from 465 to 14, and the death ratio from 3·94 to 0·13 (Table XLII). In all the administrations in which cholera had been present in the previous year there was a great reduction of cholera mortality. The incidence of the disease may be studied in Table XLVI. There was no cholera in Indus Valley, in Upper Sub-Himalaya, in Central India, in the Deccan, in Western Coast, in the Hills, among groups; and none in the Punjab, in the Andamans, in the North-Western Provinces and Oudh, in Bombay, in Berar, and in the Central Provinces, among administrations. The absence of cholera in the Andamans is usual, and Indus Valley and the Punjab were free also in 1897. For the decennium 1886-95 the Indus Valley had the lowest ratio among geographical groups, and Southern India the highest; while among administrations the Andamans were, as usual, completely exempt. The months of maximum prevalence in 1898 were March and May, but five months of the year were free from cholera. The table given below shows that it is usual for the maximum to be reached in July or August, 1898 being one of the three exceptional years in the table. Four cases, at Akyab, was the greatest number in any one jail. The circumstances attending the occurrence of cases will be noted in Section VI. Cases returned by medical officers as choleraic diarrhœa are in this report, as usual, taken as cholera. The following table shows that in respect of cholera 1898 compares very favourably with all the preceding nine years. It also shows that, taking the 10 years as a whole, July was the maximum, and February the minimum, month for cholera:—

Years.	Number of admissions into Hospital in each month.												Total.	Admitted per 1,000 of strength.	Died per 1,000 of strength.
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.			
1889	26	4	24	71	118	98	300	65	18	13	3	14	754	7·9	4·48
1890	2	5	5	3	1	15	54	51	37	48	48	2	271	2·8	1·44
1891	28	4	2	23	43	20	52	185	24	17	119	42	569	5·6	3·09
1892	127	45	81	58	33	81	239	143	23	2	53	12	897	8·7	4·73
1893	6	2	15	39	22	6	14	8	2	3	10	40	167	1·6	·83
1894	16	5	6	13	35	7	118	124	26	19	2	4	375	3·7	2·29
1895	2	1	1	8	24	6	27	41	6	2	12	2	132	1·2	·80
1896	2	3	14	42	22	47	68	37	4	5	4	5	253	2·3	1·27
1897	...	10	253	289	44	50	145	96	55	4	7	6	959	8·1	3·94
1898	...	3	7	2	5	4	1	...	...	1	...	...	23	·2	·13
Total	209	82	408	548	347	344	1,018	750	195	114	258	127	4,400	4·2	2·28

The Inspector-General of Prisons, Bombay, remarks that this is the first time for 12 years that he has been able to chronicle the complete absence of cholera from the Bombay Jails, and the experience of Berar has been the same. The Central Provinces have not been free before for 10 years; while, on the other hand, the Punjab Jails have had no cholera since 1892.

Small-pox (1).

87. To small-pox in 1896 had been due a higher morbidity and mortality than in any year since 1889. In 1897 the ratios were nearly the same as in 1896. But in 1898 the admission ratio sank from 1·0 to 0·6, and the death ratio from 0·12 to 0·02. There were 64 admissions with 2 deaths against 124 with 14 in the preceding

year. The distribution of the small-pox of 1898 in geographical groups, administrations, and individual jails, is displayed in Tables XL—XLIII. Groups III and VI escaped, as III did in the two years preceding also; and by far the highest admission ratio was that of the Hills. The administrations of the Andamans, as in the previous 12 years, of Assam, as in the previous five years, and of the Central Provinces, escaped; and the highest ratio was that of Madras. The greatest actual numbers of cases were at Russellkonda, Mirzapur, and Allahabad (District); and the highest ratio at Russellkonda. In the ten-year period, 1887-96, and in most of the individual years of the period, the great majority of the cases occurred in the months of February, March, and April, March being in every year, except two, markedly the maximum month. No explanation of the occurrence of 16 cases of small-pox in the Russellkonda jail is given. A disease resembling both variola and varicella, but probably not identical with either, has been described by Anderson and by Thomson and Brownlee as occurring in natives of India and others. The existence of this disease is believed by them to explain the apparent anomalies in the relation between vaccination and small-pox which appear from time to time in Indian sanitary and medical reports.

Intermittent Fever (8).

88. Of the total number of admissions ague furnished 35 per cent. against 36 per cent. in the preceding year. Table XLIX shows that, as usual, October was the most malarious month, and February the least malarious. The ratios of sickness will be found in Table XLII. There was a decrease in the admission ratio in 1898; and in this decrease, which was greatest in Indus Valley, all the groups, except Gangetic Plain, Deccan, and Hills, participated. This change was probably connected with the return of normality in the seasons of the year.

The use of prophylactic doses of febrifuges during the malarious seasons of the year was pretty general, but the actual distribution of the drugs to the prisoners requires more careful supervision. Opinions as to results are somewhat divided, but on the whole favourable, though the benefit derived seems to have been not so much the prevention as the mollification of malarial febrile attacks. There is, however, to be remarked, just as there was in 1897, a lack of precise records, and it is difficult to prove anything from general impressions.

The confirmation of the mosquito-malaria theory has suggested new measures of prophylaxis: the introduction of small fish into tanks, the filling up of puddles, and the addition to more permanent pools of small quantities of kerosene, or other larvicidal substances which will render it impossible for the mosquito to breed in them. It may also be possible to prevent mosquitoes biting by the application to exposed portions of the body of some substance that is distasteful to them. But the prevention of mosquito bites will not remove the necessity for the use of quinine and other measures of prophylaxis. For Major Ross holds, it should be remembered, that only in the first or original infection is the agency of the mosquito necessary: after the first attack of fever the plasmodium remains in small numbers in the blood of the host until some circumstance favourable to it causes it to multiply; and few convicts in Indian jails have escaped infection before being sent to prison.

The Senior Medical Officer, Port Blair, says:—

The number of admissions from malarial fevers increased with the advent of the rains in May, spread over the settlement in June and July, and caused more than half the number of admissions during the year. The admissions are a good deal less than last

year, the mortality being about the same. Sulphates of quinine and cinchonidine were used as prophylactics in all the unhealthy stations during the rains.

The following are remarks on the same subject by the Inspectors-General of Prisons of the provinces noted :—

Assam.—The system of prophylactic treatment by quinine and iron was carried on during the unhealthy season of the year. The general opinion is that it had a decidedly beneficial effect on the health of the prisoners. This system was first introduced into seven jails, but during 1898 it was also introduced into the remaining two jails, those at Dhubri and at Shillong, and into all the lock-ups. I give here a statement prepared by Major Banerji, which shows the results of the use of prophylactics in the Sylhet Jail during the past three years as compared with 1894 and 1895, when the system was not in vogue.

The statement referred to, which here follows, has been corrected in this office, and improved by the addition of ratios :—

Name of Disease.	1894.		1895.		1896.		1897.		1898.	
	Admissions.	Ratios per 1,000 of strength.	Admissions.	Ratios per 1,000 of strength.	Admissions	Ratios per 1,000 of strength.	Admissions.	Ratios per 1,000 of strength.	Admissions.	Ratios per 1,000 of strength.
Ague	336	607·6	343	686·0	166	313·8	168	308·3	149	274·4

Bengal.—The employment of prophylactics against malarial fever was continued in nearly all jails. The drug most commonly used was the sulphate of cinchonidine in five or ten-grain doses, usually combined with one or two grains of sulphate of iron. At Burdwan quinine was given. Dr. Ashe, the Superintendent of the Mymensingh Jail, speaks highly of a combination of *indrajab* and cinchonidine (five grains of each), and believes that by the use of these he has lessened the number of cases of dysentery as well as of malarial fever. Most medical officers continue to report favourably of the continued use of cinchonidine, and are of opinion that it lessens the number of cases of fever, and mitigates the severity of the disease. Lieutenant-Colonel French Mullen, Superintendent of the Rampur Boalia Central Jail, is of opinion that the continued administration of cinchonidine to the general body of prisoners, while it does not appear to exert any marked prophylactic influence, undoubtedly tends to undermine the health. The skin frequently looks dry and unhealthy, and the prisoners in many cases seem to lose weight and become anæmic. In a former report he stated his belief that, although the number of cases of fever was not diminished by the administration of cinchonidine, the type was rendered milder. This view he sees no reason to alter ; but the benefit which may thus accrue is, in his opinion, outweighed by the undoubted deterioration of health which the continued administration of the drug produces in a healthy individual. I have issued to all jail superintendents in the form of a circular the remarks of Surgeon-General Harvey in the appendix to the Government of India resolution on jail administration for 1897, regarding the probable advantages of substituting quinine for cinchonidine as a prophylactic, and the necessity of keeping an accurate record of the results of the administration of prophylactics, instead of simply trusting to general impressions as to their efficacy.

Punjab.—Sulphate of cinchonidine was issued in all jails, with the exception of the small one at Simla, in which there were only five admissions from malarial fever in 1898. The administration was carried out somewhat more systematically than it was in the preceding year, but in this respect there is still room for improvement. The general opinion among medical officers is that the drug is useful as a fever prophylactic and tonic. Its price has now risen so high that it becomes a question whether sulphate of quinine, given in a smaller dose, should not be substituted for it. There is sufficient in store however, to meet the requirements of the current year.

Madras.—The employment of quinine and arsenic as prophylactics against ague has been neither more systematic nor successful than last year. The experiment is beset with so many disturbing elements, which, if not carefully guarded against, are bound to vitiate results, that no useful deductions can be drawn from the partial and fragmentary evidence that has been recorded for 1898. In those selected jails where the practice of giving prophylactics has been introduced under the direction of the Surgeon-General, the experiment in a systematic form was begun only in November or December 1898, and the medical officers of those jails are naturally unable to offer any definite opinion as to its efficacy. In the Russellkonda hill jail only 22 prisoners were brought under the influence of a prophylactic arsenic, and the results are reported as very satisfactory; but the figures are evidently inconclusive. The medical superintendent of the Rajamundry Central Jail reported that cinchona febrifuge had been issued to all prisoners during the last quarter of 1897 and the first quarter of 1898, and adds the somewhat enigmatical remark that no benefit resulted "as there was an epidemic of malarial fever." There appears to be a diversity of opinion in respect to the utility of arsenical preparations for the purposes of prophylaxis, some medical officers condemning them on the ground of their producing intestinal irritation, whereas others regard them as superior to quinine and as useful tonics. Evidently considerable discrimination is required in the employment of this drug, and it is necessary to adapt the treatment to individual cases. Considering the shifting population and the many changing conditions that obtain in jails, it is clear that anything like prophylactic treatment must be given a prolonged period of trial before any useful comparisons can be instituted between recorded results. The start that has now been made in this direction will, however, be maintained, and progress reported year by year.

The medical officer of the Rajamundry Central Prison says :—

It is proposed during the next year to make investigations into the supposed connexion of malaria and mosquitoes, and I have already commenced following up the observations of Major Ross on the changes of proteosoma and halteridia of birds in grey mosquitoes which are very common here during the fever months.

The prophylaxis of malaria by quinine gr. V and cinchona gr. V on alternate days has been instituted. The years in which I have been in this jail have been abnormal, and I am therefore not prepared to make any positive statement. Judging from this year's cases I think it modifies the fever, although it may not prevent it. More observations are necessary in normal years.

Remittent and Simple Continued Fevers.

89. Details with regard to remittent and simple continued fevers will be found in Tables XLII, XLVIII, and L. Morbidity from both forms of fever and mortality from the former diminished, while the mortality from the latter remained unchanged. The maximum months for remittent fever in 1898 were August, April, July, and March; whereas in 1897 the maximum months had been August, January, and February. As a rule, medical officers state that the cases were malarial, though one appears to have been a case of heat apoplexy, one a case of tubercle of the lungs, one may be suspected of having been a case of septicæmia, one was complicated with dysentery, and in a few pericarditic, pneumonic, or colitic lesions were found. As a rule, the *post-mortem* appearances, when recorded, are not inconsistent with the diagnosis, malarial remittent.

Enteric Fever.

90. Throughout the jails of India there were returned 20 admissions from enteric fever with 9 deaths, the numbers in the Preceding year having been 34 and 15. No jail had more than 2 cases, except Nagpur (Central) and Mangalore, the former returning 5 and the latter 3. The *post-mortem* appearances recorded were on the whole fairly characteristic, though in some cases judgement is difficult, owing to the imperfection of the record.

None of the reports throw any light upon the origin of the cases. The medical officer at Nagpur was unable to trace the source of the infection. The

Mangalore medical officer states that the two first cases were from different blocks, and that the third man was a sick-orderly. He adds :—

The first case was admitted into the hospital on the 21st September, and the other two on the 1st and 9th October, respectively. The symptoms observed in these cases were the characteristic temperature and stools, tenderness over the right iliac region, etc. No rash was observed in any of the cases. Since April 1898 only boiled water was issued for drinking purposes, and all the wells were being Hankinized from time to time. Since the first case of enteric fever occurred, the dejecta of all suspicious cases were disinfected and burnt with kerosene oil and sawdust. The last outbreak of enteric fever was in 1897, and it was traced to No. I well, which was closed for drinking purposes. It is difficult to say what the present cases are due to. There has been no fresh case since the 9th October 1898.

Cerebrospinal Fever (2).

91. The truth regarding the causation of cerebrospinal fever seems, according to Osler, to be that while cases of cerebrospinal meningitis may be caused by the *pneumococcus* or by the *meningococcus intracellularis*, as well as by some other microbes, yet the only microbe causally associated with true specific cerebrospinal fever is the *meningococcus* (or *diplococcus*) *intracellularis*. This opinion is shared by the other eminent American observers who had an opportunity of making thorough bacteriological examinations in the course of a recent severe epidemic in America. On the other hand, Netter, Foa, and Baumgarten regard the *diplococcus intracellularis* as simply a variety of the *pneumococcus*. Marchoux found the Senegalese very liable to pneumonia and cerebrospinal meningitis caused by the *pneumococcus*, and came to the conclusion that the well-known "sleeping sickness"* was a form of pneumococcal cerebrospinal meningitis. On the other hand, the *d. intracellularis* has been found in cases of basal meningitis and infantile paralysis, as well as in a fatal case of fracture of the base of the skull, in a case of influenzal meningitis, and even as the apparent cause of an epidemic of conjunctivitis. The *d. intracellularis* also is sometimes found associated with the *pneumococcus* or with the bacillus of Friedländer. In one such case reported by Mayer it was considered that the primary invasion was that of the *d. intracellularis*, the *pneumococcus* invading the meninges as well as the lung secondarily. Other microbes which have been found to cause meningitis are the tubercle bacillus, the influenza bacillus, the streptococcus, the anthrax bacillus, and the *bacillus pyocyaneus* in association with the staphylococcus. It has been supposed that the so-called influenza of animals is a form of cerebrospinal meningitis. Low found the *d. intracellularis* constantly present in the noses of patients suffering from cerebrospinal fever, in whom the nasal discharge was sometimes profuse, a circumstance leading to cases being mistaken for influenza. But Schiff examining 27 persons with normal or catarrhally affected noses, found the *d. intracellularis* in seven, obtaining a culture three times. This was at a time when sporadic cases of cerebrospinal fever were occurring ; and he also found the same microbe in the nasal secretion of a case of cerebrospinal meningitis, in the exudation fluid of which the only microbe found was the tubercle bacillus. The conclusion he draws is that the microbic contents of the nasal secretion are not a safe guide to differential diagnosis in cases of meningitis. The suppositions that the infection enters by

* Manson is inclined to regard the *filaria perstans* as the cause of "sleeping sickness."

the nose and is spread by the nasal secretion are so far only suppositions; and the disease does not seem to be very contagious, though some remarkable family outbreaks have occurred. At the same time it is safe to isolate the patient, and to see that his excretions do not reach others, or that they are rendered innocent by disinfection. Germano found that the *d. intracellularis* resists desiccation, and preserves its vitality to the end of even 90 days. Buchanan has found the *diplococcus intracellularis* in a case in India, quoted below.

There were 24 cases of this disease with 15 deaths against 13 and 10 in the previous year. Eighteen of the cases and twelve of the deaths occurred in the Bengal administration :—

	Admissions.	Deaths.
Alipore Central	3	3
Midnapore Central	1	1
Bhagalpur Central	11	5
Buxar Central	3	3
Mirzapur District	3	1
Shikarpur District	1	1
Akola Central	1	1
Madras Penitentiary (natives)	1	...
	24	15

With regard to Bhagalpur the medical officer says :—

There were no cases in 1894, 1895, 1896; 11 cases with 9 deaths in 1897; 11 cases with 5 deaths in 1898. The cause was not discovered. The maize was suspected and stopped, but the cerebrospinal fever cases came as before at irregular intervals. No trace could be made out to connect one case with another. There was no overcrowding, but the jail was full up. Patients came from all parts of the jail and from all forms of labour.

The remarks of the medical officers of the other jails are as follows :—

Alipore.—Three cases of cerebrospinal meningitis were treated during the month of November. The first outbreak in this jail occurred in 1885, and continued for ten years. There had been no cases since 1894. The outbreak never assumed an epidemic form: all the cases were sporadic, and occurred in different parts of the jail.

Midnapore.—One isolated case of what proved to be cerebrospinal fever occurred, a very rapid case. The symptoms and *post-mortem* appearances were typical; but the most important point about the case is my finding the *diplococcus intracellularis* in the spinal lymph of exudation. The diplococci were abundantly seen in numerous pus cells. Several agar tubes were inoculated, but only one showed, on the fourth day, a culture the exact nature of which I am unacquainted with. Agar is not a good culture medium for this diplococcus, but I was obliged to use it, having no other culture media at hand. This is, I understand, the first instance of this organism being found in a case of cerebrospinal fever in India.

Some doubt, apparently, having arisen as to whether the fever breaking out in the Mirzapur Jail was not plague, the Sanitary Commissioner and the Inspector-General personally made a joint investigation, and came to the conclusion that the disease was cerebrospinal fever. They were unable to attribute the origin of the disease to local defective sanitary arrangements, and there had been no overcrowding or signs of underfeeding. The jail, however, had been unhealthy all the year, and its history for many years unsatisfactory.* With the exception of one barrack, in which one case had occurred about a month and-a-half before, all the barracks in which cases had occurred were evacuated, and their population placed in camp two miles from the jail. These barracks had already been disinfected, but the process was repeated in a very thorough

* See paragraph 75.

manner. The clothing of all the prisoners removed from the infected barracks was boiled and otherwise disinfected. As a further precautionary measure, orders were issued to disinfect all the barracks, whether infected or not, as well as the clothing of every prisoner in the jail. Tents were erected in the jail garden in which to keep all fresh cases of fever under observation, until the actual character of the attack had been determined.

The *post-mortem* records of the fatal cases are not very satisfactory. In one case it may be a question whether the meningitis was not tubercular. Out of the 123 cases, 95 fatal, that were diagnosed in the jails of India in the eight years 1891-98, 76, or 62 per cent., were in the jails of the Bengal administration, 17 per cent. in those of the Punjab, and 9 per cent. in those of Bombay. Previous reports have mentioned the measures adopted to deal with the disease.

Typhus, Relapsing Fever, Plague.

92. Fourteen cases of typhus, with only one death, were reported among the prisoners of India during the year. Twelve of the cases and the death were recorded in the Dera Ismail Khan Jail. All the men affected or suspected were isolated; the clothing of all the prisoners was washed; and all the barracks were thoroughly ventilated, and their walls and floors cleaned. The twelfth man affected had been a sick-attendant on previous cases, and had been isolated for three weeks when the disease declared itself in him. The two admissions at Bannu represent only one case, the man having been admitted first as an under-trial prisoner, and then as a convict. Relapsing fever was, as in the preceding year, completely absent. Plague accounted for 30 cases with 16 deaths, against 37 cases with 20 deaths in 1897. Twenty-nine of the cases and all the deaths occurred in the jails of the Bombay administration:—

	Admissions.	Deaths.
Bombay Common Jail	*20	9
Bombay House of Correction	3	2
Dharwar District Jail	6	5
Salem Central Prison	1	...
	30	16

There were in addition 10 cases with 4 deaths in the subordinate jails of Bombay. The Inspector-General of Prisons, Bombay, says:—

Common Prison.—Eighteen cases of plague, nine of which proved fatal, were transferred from this prison to the municipal infectious diseases hospital in the Arthur Road. Eighteen, or nearly nine-tenths of the total number of deaths, took place in the first six months of the year. With regard to the above circumstance, the medical officer of the prison, Lieutenant-Colonel Waters, remarks:—

"It would seem that this difference was in no small respect due to the change of system made in my absence. From the first I have advocated the maintenance of dryness in the yards where the prisoners work and sleep. In my absence a different plan was adopted, and the hard labour yard and the sleeping apartments were treated in the manner here below stated by Mr. Mackenzie:—'With reference to your inquiry as to the measures adopted to prevent the occurrence of plague in this prison during your absence on sick leave from 9th October 1897 to 9th July 1898, I have the honour to say that the practice of burning fires in the quarters was discontinued as superfluous, and that the precautions you took to maintain a thorough system of dryness and freedom from damp were quite departed from; the entire prison was frequently flooded with lime-wash, and twice daily, morning and evening, the sleeping rooms and the whole of the quadrangle of the prison were sprinkled with disinfectants. The entire prison, it may be said, was, in consequence of the incessant application of moisture, in a condition of

*Including two cases of "pestis minor."

perpetual dampness, perhaps more particularly in places where the direct heat of the sun could not penetrate.'"

House of Correction.—Three cases of plague, two of which terminated fatally, occurred amongst the convicts of this prison during the past year. Two of the plague cases were treated in the prison hospital, one man dying and one recovering. The third case, which was removed to the municipal hospital in Arthur Road, terminated fatally in that institution. Again, in regard to the prison under immediate reference, I allow the medical officer, Lieutenant-Colonel Waters, to speak for himself :—"I returned from nine months' sick leave on the 9th July last. My system of sanitation in the jail was simply a most scrupulous maintenance of dryness in all parts, and to ensure the end, as completely as possible, pans of burning charcoal were placed twice a day in the cells, morning and afternoon. This plan of dryness arrested the plague attack in this jail in February 1897, and by this means no plague, to speak of, occurred in the Common Jail whilst I was in charge. During my absence, however, a different system of sanitation was pursued, in which the essential of dryness found no place. The cells were frequently laved with lime-wash, and disinfectant solution was sprinkled over the jail premises daily, and the water, which I had completely cut off from the residential portion of the jail, was re-admitted thereto. Of all these I shall speak in my separate report on plague in the two jails during my absence."

The preceding paragraphs describe what the plague did during the year under report in our two Bombay prisons. The plague has also made its appearance in the Dharwar prison, attacking six prisoners, of whom only one recovered ; in the Belgam Subordinate Jail, where nine prisoners were attacked, of whom four died ; and in the Surat Subordinate Jail, where one prisoner, who recovered, was attacked. There have therefore in all during the year under report been 37 cases of plague in our prisons and jails, of which 20 proved fatal. I think, considering how the bubonic plague has been raging, and with extreme virulence in so many parts of Western India during the past year, that this department has every right to congratulate itself on having got off uncommonly cheap as regards its plague seizures and plague mortality. I will put it in another way, and say that we have every reason to be grateful to a number of our superintendents and medical officers for their strenuous and successful exertions to keep the plague from effecting a lodgement within their gates, or when the disease had made its appearance to expel it therefrom as speedily as possible. The report of Major Corkery, Superintendent and Medical Officer of the Dharwar prison, regarding the outbreak of plague therein is, I think, sufficiently interesting to justify me in quoting from it very largely.

I have, in common, I imagine, with very many other people, been much struck during the past two years with the extraordinary diversity of opinions held by all manner of men in regard to plague matters, and I have noticed the ardour with which many persons are disposed to maintain their opinions against those of others whose views may be antagonistic. If I have any opinions on the plague, I keep them to myself, for I am not a medical man, and my plague opinions—and I am possessed of some such—are, therefore I fancy of uncommonly little value. One opinion in connexion with plague matters which I do not keep to myself is that the more ventilated and discussed are any pronounced and more or less unusual views, which any person claiming to be an authority on plague matters may hold, the better, and it is in the exercise of that opinion that I have in this report given Lieutenant-Colonel Waters an opportunity of fully stating his views in regard to what, for brevity's sake, I will call his "dry theory."

In the case of the prison of Thana, government were good enough to temporarily place a portion of the buildings of the new, and as yet incomplete, lunatic asylum at Nawpada, close to Thana, at the disposal of this department as, in view of the plague obtaining in the neighbourhood of places from which prisoners were being sent to the Thana prison, a prison observation camp. At Belgam, owing to the appearance of plague in the small local jail, the latter was temporarily emptied of its occupants, the prisoners being accommodated in the neighbouring civil jail and in tents pitched close to the latter.

The following is the quotation from the Superintendent of the Dharwar Jail, mentioned above by the Inspector-General of Prisons :—

Plague has been very rife in the town and district of Dharwar since August 1898, the disease being imported from Hubli.

For about three months prior to the outbreak of plague in the jail, all new admissions have been kept in a separate camp (jail hospital proper) for about 35 days before admission into the prison or being allowed to communicate with the other prisoners.

The first case occurred on the 19th October, the patient being a prisoner who was admitted in February last under sentence of ten months' rigorous imprisonment, and was employed in the kitchen since the month of June. He showed signs of general malaise on the evening of the 16th instant, and the following day had slight fever, for which the Hospital Assistant gave him some ordinary diaphoretic; but the next day his temperature increased and as he developed suspicious bubonic symptoms, he was immediately isolated, and transferred next morning to the Municipal Plague Hospital.

Eight of the other cooks who were employed in the same kitchen with him and who slept in the same cell at night were also immediately separated, and kept under observation for the next fifteen days. The kitchen and cell were thoroughly disinfected and ventilated, and were not utilized for a whole month.

On the 24th there was an imported case in the observation quarters, the patient being a prisoner admitted twelve days previously from the Gadag Taluqa, where the disease was already prevalent, so that he undoubtedly brought the infection with him, as he had been confined to the observation ward since admission. He was immediately transferred to the plague hospital, and all precautions were adopted to prevent the spread of the infection amongst the inmates of his ward.

On the following day a prisoner employed as a baker developed the disease and was immediately transferred to the plague hospital. This man was employed, as was the first man attacked, in handling flour, the grain for which is supplied by a Dharwar contractor. These two men slept in the same block in the prison premises, but in rooms separated about 20 yards from each other.

It is possible the grain may have been infected, as dead rats had been found in the grain market, which was thoroughly cleaned and disinfected fourteen days previously; but against this there is the fact that no one else employed in handling or grinding the grain was attacked. No certain explanation of the introduction of the disease into the jail can be offered, but it is possible it may have been conveyed in the following manner:—

Two jail warders who resided with their families in the Dharwar town, where plague was rife at the time, died of plague in their own houses on the 22nd October. One of them was employed at the observation camp (outside the jail), and was actually on duty two days before his death, but the probability of his conveying the infection inside the jail is not clear, as he is not supposed to have had any communication for a fortnight previous with the jail proper.

The second man, however, was employed in the jail, and while he was incubating and feeling unwell, it is possible he may have lain down and rested in the cells (as they were kept open by day) in which the infection occurred. This man, however, was absent from duty ten days previous to his death.

It has also been suggested that the infection may have been conveyed by the police guard, as plague was very rife in their quarters, and several of them, including their wives and families, had died from the disease; but against this there is the fact that none of them actually employed on the jail guard was ever attacked with the disease.

On the 28th October a prisoner employed in carrying water was attacked, and he was immediately removed to the plague hospital. No direct connexion with the previous cases could be traced, as he worked outside the main building, had come into no contact with the suspected batch of prisoners, and slept in a building which was about 50 yards from the block previously infected. In addition to all the usual precautions, *viz.*, segregation of all contacts, disinfection and unroofing of the rooms, burning of the floors, the whole range of cells in that block was vacated and kept open day and night.

On the 3rd November a convict warder was attacked in a cell opposite to the block in which the first two cases occurred, and again on the 9th November a second convict warder was attacked in a cell adjoining the last.

In both these cases no direct cause of infection could be traced, and the disease had evidently located itself in a small area which included two ranges of blocks facing each other. This last block was then evacuated after being thoroughly disinfected, and subsequent to this no further cases occurred. In conjunction with Mr. Cappel, the Collector of the district, who visited the jail the morning of the occurrence of the first case, all the warders were induced to submit to inoculation, while the convict warders and prisoners

were forcibly appealed to an the subject, but at first there was considerable reluctance on the part of the latter to accept the prophylactic. However, the Collector considerably strengthened my hands by authorizing me to extend to the prisoners the greatest inducements at my disposal, short of interference with sentences; and on the 23rd instant when only two prisoners came forward, one, a convict overseer, was promptly promoted to convict warder.

Other inducements, such as promotion of night watchmen to convict overseers' posts, 100 special marks awarded to convict officers and all prisoners who came under mark rules, extra diets on medical grounds, such as mutton, milk, sugar, rice, etc., given to all prisoners who were inoculated until such times as they were fit for duty, and, as a special privilege, tobacco allowed to those who desired it, were resorted to. The Inspector-General of Prisons also approved of my action, and kindly sanctioned all the extras incurred. These inducements, together with a little tact and kindness, gradually won them all over, for on the 29th October 65 more accepted the operation, and by the 6th November all the prisoners had been inoculated (364), including the Pathans and other refractory classes.

It is interesting to note that out of the six cases five occurred amongst the uninoculated, and these all died from within 24 to 72 hours of admission into hospital, whilst the sixth case, who was inoculated only two days before he developed symptoms, and who was undoubtedly incubating the disease at the time, recovered, and is at work again, though the medical officer in charge of the plague hospital assures me his symptoms on admission were quite as grave as those of any of the other five.

Although the inoculations were practically completed by the 6th November, the Collector and District Magistrate suggested, at the instance of Mr. Haffkine, that a trial should be made and the results carefully watched of giving half the jail population, indiscriminately selected, whose sentences exceeded six months and over, a second inoculation. This was accordingly completed by the 23rd November, 119 prisoners having most cheerfully and voluntarily submitted to the second operation.

In addition to this, first inoculations are resorted to once a week on all new admissions, after completing fifteen days in the observation ward.

To further safeguard the prisoners from outside infection, as most of the warders lived in the town, ten huts of bamboos and thatch were constructed in the vicinity, but outside the precincts of the jail, sufficient to accommodate twenty warders and their families; and these were all induced to be inoculated prior to occupying the huts. It is also interesting to note that whereas five members of the warders' families were attacked with plague whilst residing in the town and suburbs, no further cases occurred amongst them in their new abodes. Other huts are in course of erection to accommodate the remaining warders and families.

The Superintendent of the Salem Central Prison says :—

A Burman of the convict warder guard developed symptoms of plague in hospital on the 26th December, and was at once isolated; and no other cases have occurred. The cause is obscure, as, though four convicts had been admitted to jail from the Hosur *taluq*, where plague was present in the early part of the month, yet there had been no sickness among the men, nor had there been any communication between these men and the Burman to account for infection.

Regarding the Bombay Common Prison the Superintendent reports :—

The number of dead or sick rats found during the attack was quite inappreciable; I should say, not more than half a dozen in all. One thing, however, is, I think, noteworthy, and that is, that as the plague increased in virulence in the prison surroundings, the number of rats decreased, and *vice versâ;* and at the recrudescence of the plague they disappeared altogether: not a rat was to be seen for weeks. But about three months ago they commenced to return, and now the prison is simply swarming with them.

Out of the 20 men attacked in the Bombay Common Prison 4 had been inoculated. These 4 men recovered. Of the 16 who had not been inoculated, 9, or 56 per cent., died, and 7, or 44 per cent., recovered. The numbers are too small to found upon.

Erysipelas and Mumps.

93. In all, 166 cases of erysipelas with 15 deaths occurred in the jails of India, against 164 and 18 in the preceding year: 74 in the Punjab and 41 in the North-Western Provinces and Oudh. The maximum number of cases was 23 in the Rawalpindi Jail. The number in the Allahabad District Jail, which had been high for three years past, was reduced to 7 in 1898. Some remarks of the medical officer are recorded in Table XLIV.

Year by year a large number of cases of mumps is returned from the jails of India. During the year under review there were 1,447, against 2,264 in the previous year. In the North-Western Provinces occurred 896 cases, in Bengal 250, and in Burma 210; the highest numbers in individual jails being 262 at Fatehgarh (Central), 201 at Allahabad (Central), 194 at Insein (Central), and 153 at Bhagalpur (Central).

Scurvy (3).

94. In the year under review there was a fall in the amount of scurvy returned, as compared with the preceding year: 212 cases, or 1·9 per mille of strength, with three deaths, against 310 cases, or 2·6 per mille, with 13 deaths. The ratios and actuals for scurvy will be found in Tables XL—XLIII. Out of the whole number of cases, 49 per cent. occurred in the Central Provinces, 12 per cent. in Burma, 11 per cent. in Bombay, and 10 per cent. in the Punjab. Again, about 24 per cent. occurred in the Hoshangabad Jail, 13 per cent. in the Nagpur Central Prison, and 11 per cent. in the Saugor Jail. The following are remarks of the administrative officers:—

Andamans.—A good deal of scurvy appeared among the convicts in August, and continued for about five months, disappearing towards the end of the year. There were eight admissions for severe scurvy. The men in the cellular jail were very prone to the disease, and the severest cases occurred there. Antiscorbutics were issued to all convicts throughout the settlement. I attribute the scurvy primarily to the want of antiscorbutic vegetables; secondly, to the neglect of the convicts to use the tamarind ration; thirdly, in the cellular jail, to the use of boiled water, and to depression concomitant with solitary confinement.

Assam.—I have seen a little scurvy here and there, and would advise the systematic issue of the lime-pickle I originally introduced into the jails of the Central Provinces, where it was found to be of the greatest benefit; and for this purpose would recommend that lime trees of the *khagazi* variety should be grown in every jail garden to the extent of about one tree for every prisoner. Particulars as to the mode of manufacture and storage of the pickle have been sent to all district and jail officers. Dysentery and pneumonia are essentially the results of scurvy; and were scurvy to be eradicated, as could be done, I have no doubt that the number of deaths from dysentery, pneumonia, and diarrhœa would be still further reduced.

Punjab.—When I visited the Lahore Central Prison at the end of May, I found the prisoners in very poor health. Many of them exhibited unmistakable signs of malarial cachexia, including a markedly scorbutic condition of the gums. I agree with Major Braide that the prevalence of malarial fevers during the previous autumn and early months of the year under report was mainly responsible for this unfortunate state of affairs. I at once ordered the following ameliorative measures to be taken without loss of time:—Issue of prophylactics; a more liberal issue of fresh milk, meat, *dahi*, sago, and such like, to the sick and convalescents; the issue of a ration of sound fresh potatoes and onions to every prisoner daily; the substitution of clean bedding for that in use; the substitution of lime-pickle for the antiscorbutics (dried mango and tamarind pulp) that were being issued in the dietary; the substitution of dallia-porridge for the daily ration of parched gram; the treatment of the well whence the water-supply is obtained with permanganate of potash; the complete segregation of all dysentery cases in hospital, an the thorough disinfection of the evacuations of all such patients, the reduction of the number in the sleeping wards by placing a certain number of prisoners in tents pitched in an unoccupied enclosure; and the reduction of the hard labour tasks. When I again

visited the jail a couple of months later, I found the general health distinctly improved, and a steady, though slow, advance has been made ever since.

In the reports of former years reference has been made to the so-called malarial scurvy, and to the difficulty of ascertaining how much of the condition is due to malaria and how much to scurvy. On this point Professor Macleod of Netley writes as follows :—

> There is in India a state of blood and tissue deterioration very closely resembling the scorbutic, if not identical with it, associated with, if not produced by, malarial disease, which claims special attention and study.....In severe outbreaks of malarial disease .....this form of malarial cachexia was peculiarly prevalent and severe, but it is always present in India, and constitutes the chief variety of scurvy observed in Indian jails..... In this class of cases, as occurring among natives, it is difficult, if not impossible, to dissociate dietetic and malarious influences, and to say how much of the scorbutic dyscrasia is due to the one and how much to the other..... Even if future observations justify the conclusion that the condition known as malarial scurvy" is different in nature and causation from true scurvy; there still remains the large class of cases in which the malarial and scorbutic elements are combined, and of which Chevers writes :—"Scorbutus often gives deadliness to Indian fevers, and Indian scurvy never rages more obstinately than among the subjects of malarious cachexia."

Arnold of Buluwayo shows that the native prisoners in Rhodesia exhibit much the same phenomena.

Dr. Jones, Superintendent of the Yeotmahl District Jail, says :—

> In all our jail gardens trenching is carried out on a systematic basis, and a piece of land thus trenched is cropped by suitable vegetables during the season. But such vegetables, I feel certain, are deficient in potash salts, with the result that after an elapse of some years, much to the surprise of the medical officer, scurvy makes it appearance in his jail; for, is not the soil in his garden highly impregnated with certain salts of the excreta used in trenching, *viz.*, the alkaline chlorides, and sulphates, with phosphates of iron, lime, and silica ..... To fertilize a plot of ground that is annually used to grow vegetables, cattle manure, well seasoned, is essential, as it is rich in potash salts and ammonia ..... The sweet potato is richer in salts than cabbages, carrots, or turnips; and so its beneficial action in the treatment of scurvy is easily understood.* ..... Plantains, which contain about 27 per cent. of solid matter, are useful to add to a jail diet.

Tubercle of the lungs and Phthisis Pulmonalis.

95. In Tables XL—XLIII may be seen the ratios and actuals for tubercle of the lungs. In the years 1895, 1896, 1897, and 1898 Madras had the highest admission-rate; and in 1897 and 1898 Assam had the lowest. As in the previous year, the highest death-rate was in the Andamans, while in Assam there were no deaths from tubercle of the lungs.

Of the jails with the highest ratios (Table XLII)—Rajamundry (Central), Narsinghpur, and Vizagapatam—Narsinghpur had a high ratio also in 1897. The ratio of the Orai Jail, after having been high for two years, fell in 1898.

In the jails of India 39 cases with 9 deaths were declared to be non-tubercular phthisis. Cases of syphilitic phthisis ought to have been returned, according to the instructions of the Nomenclature, as secondary syphilis. Some of the *post-mortem* records are very defective, and those that are somewhat fuller are not unsuggestive of tubercle. In two cases it is stated that no *post-mortem* was made, because there was no doubt as to the diagnosis; but as such a diagnosis ought to be unusual and difficult, the medical officer who makes it ought to be glad and anxious to confirm or correct it by a *post-mortem* examination.

* Compare the report for 1895, page 78, paragraph 83.

Taking tubercle of the lungs and phthisis together, the admission and death ratios from phthisis pulmonalis in 1898 are respectively 8·2 and 3·33, against 7·1 and 3·02 in the preceding year.

The Inspector-General of Prisons, North-Western Provinces and Oudh, asserts that the causes of the prevalence of tubercle are undoubtedly the sedentary occupations which have to be followed by a large proportion of the prisoners, and the inhalation of irritating particles of wool, cotton, etc., which must exist in the air of all factories.*

Pneumonia and Other Respiratory Diseases.

96. With the increase of influenza there was a rise in the pneumonia admission-rate, but a fall in the death-rate. The second table in paragraph 51, Section III, shows the variation of the pneumonia death-rate with the varying prevalence of influenza from the first year of the epidemic. The same table also displays the fact that in 1898 the prisoners suffered nearly as much from pneumonia as the native troops, and much more than the European troops. In previous years the prisoners had usually had higher ratios both from iufluenza and from pneumonia than the native soldiers. Table LI shows that the months of greatest prevalence of pneumonia in 1898 were January, March, and December, and those of least prevalence July, September, and August, an indication that dry cold is a factor in the causation of the disease. In Table XL it may be seen that Bombay, which usually has a very high death ratio from pneumonia, takes in 1898 only the second place, the Punjab having risen to the first. But, through the reduction in the pneumonia of Bombay was considerable, the greatest reduction was in the ratio of the Central Provinces. Among the six provinces with increased pneumonia death-rates the Punjab had the greatest increase. As usual, Indus Valley, as may be seen in Table XLI, had the highest admission-rate from pneumonia, tha next in order being Central India, and Upper Sub-Himalaya and the lowest Assam. The highest ratios for individual jails may be found from Table XLII. Only Sind Gang had an admission ratio over 100 per 1,000 of strength; but 16 jails had ratios over 50 per 1,000, those of Mirzapur and Shikarpur being over 90 per 1,000. Twelve out of these 17 will be found metioned in Table XLIV. Reasons given by medical officers for the prevalance of pneumonia were influenza, chills, and overcrowding. The administrative medical officer of Assam notices the connexion between the pneumonia of jails and scurvy.

The pneumonia ratios of all jails will be found in Table XLII. An inquiry seems called for in the case of Delhi, Faridpur, Jessore, and some of the other jails with high ratios, to explain either an increase of pneumonia or a continued prevalence of it or mortality from it. The following are some remarks of the Inspector-General of Prisons, North-Western Provinces and Oudh:—

> Pneumonia is always a fatal disease in jails, and next to dysentery gives most anxiety to medical officers of jails. I believe the prevalence of pneumonia and other respiratory diseases, and the high death-rate from these affections, has of recent years been a great deal due to the effects of the influenza epidemics, which now occur almost yearly in our jails. The direct mortality from these epidemics is not high, but a large proportion of the prisoners who are attacked are severely injured in health, and are particularly liable to suffer from diseases of the respiratory organs. Another important factor in the causation of these diseases is the fact that native prisoners cannot be got to wear their clothing at night. In the coldest nights of winter many of the prisoners remove their blanket coats and cotton clothing, and it is impossible to get the barrack overseers to report prisoners who do so. Even prisoners in hospital suffering from pneumonia will remove

* See the note by A. Crombie appended to this report.

their clothing if they are allowed to do so. The practice in our jails is to regulate ventilation in the sleeping barracks during the cold weather by partly building up the barrack gratings with *kacha* bricks, and this plan has been found effective in preventing excessive lowering of the temperature in the barracks at night, which is one of the most important predisposing causes of pneumonia. Some jail superintendents disapprove of the building up of the barrack gratings, as they consider the interference with the ventilation so caused the chief factor in the causation of pneumonia. I do not think that the same amount of ventilation which is necessary in the hot weather is required during the cold weather, and I cannot agree with the views of those superintendents who advocate the taking of no steps to partially close the barrack gratings during the cold weather. The best means of controlling the ventilation is by hanging *purdahs* made of matting in front of the barrack gratings. These *purdahs* can be lowered at night, and raised during the day so as to let air and sunlight into the barrack.

It would be interesting to learn whether pneumonia and other respiratory diseases are more frequent where the ventilators are left open, or where they are partially bricked up. Unless the custom of denuding themselves at night is a vice of particular jails, its effect on these diseases of the lungs should be general; so that if it is an important factor in causing disease, it might be expected that there would be no very great difference in the incidence of pneumonia in the various jails, or from year to year; but the differences are very great, although some jails suffer more regularly than others. Experience elsewhere suggests that the throwing off of clothing and the attack of pneumonia are not so much cause and effect as effects of a common cause—close impure air in the sleeping room.

Under the conditions of jail life pneumonia seems to be frequently, if not always, an infectious disease; and it should be treated accordingly by scrupulous attention to the cleanliness of the blankets and clothing in which prisoners sleep, and, if free ventilation is impossible, by the temporary evacuation of a barrack in which a case occurs.

Other Respiratory Diseases were, as in the three preceding years, most prevalent in the Andamans; and the same is the case for the period 1882-91 taken as a whole. The admission ratio was, however, lower than in the preceding year. Among geographical groups Southern India had the highest admission ratio, and Burma Inland the lowest.

Dysentery and Diarrhœa.

97. The admission-rates from dysentery and from diarrhœa fell, while the death-rate from each was much reduced. The death-rate for dysentery fell from 11·07 to 5·71, and that for diarrhœa from 3·17 to 1·48. The reduction is probably connected with the normal character of the seasons of 1898.

The relative prevalence and mortality of dysentery and diarrhœa in the various groups and administrations are displayed in Tables XL and XLI. Among geographical groups Bengal-Orissa had the highest admission ratio, and Western Coast the lowest, for dysentery; and the Hills the highest, and Southern India the lowest, for diarrhœa. As to administrations, Assam, the Central Provinces, and Bengal were worst in diarrhœa; and Bengal, Assam, and the Central Provinces in dysentery. The Central Provinces still had the highest death ratio from dysentery, but it had fallen from 64.72 to 11·67; and the death-rate from diarrhœa, no longer highest but coming after that of Assam, had fallen from 18·65 to 3·36. The explanation of the low morbidity and of the absence of mortality from diarrhœa in Madras is the same as for the three preceding years: diarrhœa being considered merely as a symptom, cases were returned under the head of the supposed primary disease. Thus, though

there were no deaths from diarrhœa in the medical returns, there were 6 deaths from inflammatory affections of the intestines. The Inspector-General of Prisons, Madras, has not followed the medical returns; for, instead of the therein recorded 44 cases with no deaths among all classes of prisoners, he has shown, among convicts only, 531 admissions from diarrhœa with 6 deaths. In using the table given in paragraph 70 to compare the present of administrations with their past, and administrations with each other, in the matter of diarrhœa mortality this idiosyncrasy of Madras must be borne in mind. In Table LII it is shown that dysentery was most prevalent in August, September, and July, and least prevalent in February, March, and April. The contrast in the seasonal distribution of dysentery and pneumonia in 1898 may be studied by comparing Table LII with Table LI.

The Sanitary Commissioner, Assam, remarks that if scurvy were to be thoroughly eradicated, as could be done, the number of deaths from dysentery, pneumonia, and diarrhœa would no doubt be much reduced. The following are remarks by the Inspectors-General of the provinces named :—

Bengal.—During the year the reports called for by the Government of India on the treatment of cases of dysentery by powdered cinnamon bark were submitted. These reports showed a very great diversity of opinion among medical officers as to the value of the drug, some extolling it as being equal in efficacy to ipecacuanha in the treatment of dysentery, while others considered it of no value. The general opinion appeared to be that it could not take the place of ipecacuanha in cases of acute dysentery, but that it was of value, either alone or in combination with other medicines, in the treatment of sub-acute dysentery, and occasionally in mild chronic cases.

Punjab.—The intimate relationship between dysentery and scurvy has been recognized as long as I can remember, while the importance of an ample supply of good vegetables in the dietary in maintaining the prisoners in health and condition has been insisted on over and over again during the past twenty years. . . . . It is well known that malarial fevers, by lowering vitality, predispose to dysentery, and I think its prevalence and fatality in 1898 are largely ascribable to that cause. In regard to the prevention of dysentery under the sanitary conditions existing in the jails in the Punjab, I would merely say that, in my opinion, two of the main objects to be kept in view are, firstly, to protect the prisoners against the attacks of malarial fevers, and, secondly, to supply them from day to day with ample fresh vegetables possessing antiscorbutic value. In regard to the latter, there can be no doubt that the incidence of the disease, especially in its worst form, is largely dependent on the existence of scurvy, or a dyscrasia indistinguishable from it. Defects in hygienic arrangements that are harmless under normal conditions quickly make themselves felt as soon as the natural power to resist disease becomes impaired from one cause or another ; and this is really the history of the mortality in our jails.

Central Provinces.—Dysentery contributed two-thirds of the total mortality of the Jubbulpore Jail, and with regard to this disease the medical officer writes:—"Privation in the district increased up to the end of 1897, and so did the mortality, not from general diseases, but from this one disease—dysentery. Death from this disease showed highest in 1898, and is still continuing, and 1899 will not see the end of it. The victims of chronic privation linger on for months, and apparently years, but that terrible anasarca develops."

Madras.—The prevalence of dysentery, especially when it is associated with diarrhœa, in prisons is indicative of an impoverished condition of the general health, and is a matter for grave anxiety. . . . . That some of the more experienced of medical officers regard dysentery as not free from the suspicion of infectiveness, will appear from the following extract :— "The medical officer acting for me treated the dysentery cases inside the jail in hospital with ordinary cases of disease, until some twelve cases had accumulated ; and three patients who were under treatment for other diseases were attacked with dysentery." Unfortunately, however, means for segregation are not always available, but the matter will be borne in mind when hospital reconstruction and repairs have to be dealt with in future.

North-Western Provinces and Oudh.—The fall in the ratio of admissions and deaths

is satisfactory, but it must be remembered that in 1897 a very large proportion of the prisoners admitted into our jails were suffering from the effects of famine, and were therefore particularly liable to contract bowel-complaints. Dysentery is undoubtedly the most important of all jail diseases, and I am strongly inclined to think that the mortality from this disease is considerably greater than the figures given in the returns indicate, as the *post-mortem* examination reports show that a considerable number of prisoners, who were returned as having died of other diseases, suffered from ulceration of the intestines and dysentery as a complication. The causes of jail dysentery have been much discussed in recent years, and in the last administration report Colonel Hall devoted much attention to this subject, pointing out the importance of the adulteration of the prisoners' food with earth and sand, as a factor in the causation of jail dysentery. Since that report was written, every possible effort has been made to minimize the quantity of earth and dirt in the rations. The precautions taken have undoubtedly led to a reduction in the adulteration of the *atta* with dirt, but the chloroform test shows that in all jails mud still exists to an appreciable extent in the food, and I do not believe that it can be entirely eliminated. As I before mentioned, the proportion of mud in the best *atta* that can be bought in the bazaar is quite as great as it is in the *atta* used in our jails. I have not been able to trace any connexion between the amount of adulteration in the *atta* and the number of admissions and deaths from dysentery in particular jails. On the contrary the jails which show the highest death-rates from dysentery very often have the cleanest *atta*, owing to the fact that in these jails special precautions are taken to have the food as good and free from mud as possible. This I specially noticed in the Benares Central Prison, which shows a high death-rate from dysentery, although the precautions taken to prevent contamination of the *atta* by dirt are most elaborate, and the chloroform test showed that the flour contained practically no mud.

All jail superintendents agree in considering malarial poisoning by far the most important predisposing cause of jail dysentery, and it cannot be doubted that the lowering of vitality and the general malnutrition, which are the results of malaria, are infinitely the most important predisposing cause of this disease. The specific lesions found in cases of jail dysentery prove it to be due to specific infection, and I do not think that enough attention has been paid to the isolation of prisoners suffering from this disease. That it is an infectious disease can hardly be doubted, and I am strongly inclined to believe that if every dysentery case occurring in the jails could be isolated, and treated in a separate cell, the number of admissions and deaths would be largely reduced. A certain number of cells in which dysentery cases could be isolated and treated, should be attached to every jail hospital. Unfortunately, few of our jail hospitals have cellular accommodation in the hospital compound, and the funds at our disposal are not sufficient to provide this accommodation. In central prisons, where these cells do exist, they are generally occupied by criminal lunatics. Another point which requires to be more insisted on, is the necessity for the immediate destruction of all dysenteric stools, so as to prevent infection from this source. In jails where dysentery is prevalent, incinerators are being supplied, in order that the evacuations of dysenteric patients may be rapidly and effectively destroyed. No medicines appear to have much effect in the treatment of jail dysentery. The only method of treatment which is of any use, is to confine the patient strictly to milk diet, and in order to do this, it is essential that the prisoner should be kept apart from other prisoners. A native prisoner can never be got to adhere to milk diet voluntarily, and if treated in a jail hospital, he is certain to get *chapatees*, which in case of jail dysentery are absolutely fatal, from other prisoners.

If in India we are unable to give a satisfactory explanation of the prevalence of dysentery in our jails, it is consoling to know that the same disease prevails in the asylums of England. A recent work by Dr. Gemmel of the Lancaster County Asylum, which has been lately ably reviewed in the *Indian Medical Gazette*, proves that this is the case. Dr. Gemmel writes:—"This ulcerative affection of the colon in some asylums appears to be indigenous, and is liable at different times and under varying conditions to outbreaks of great severity, which might even be called epidemic. Year in and year out it occurs, one year mild and with few fatalities, another the reverse with a high death-rate. The milk and water-supply has been proved to be free from contamination, the drainage is good, or, if defects existed, they have been long corrected, the food both in quality and quantity receiving, as far as possible, careful consideration. What is the cause? Why does it exist in one asylum and not in another? Under what conditions does it develop?

These questions present themselves for elucidation. Some of them can only be imperfectly answered, others not at all."

From the prevalence of dysentery in asylums in England, it may be argued that malaria is not an important factor in the causation of jail dysentery, but on the other hand, we may fairly conclude that the mortality from dysentery in asylums in England would be very much greater, if the inmates of those institutions were subjected to the same malarial conditions as prisoners in our jails are. Malaria is not the actual cause, but the most important predisposing condition is the causation of this disease.

Attention is drawn in the above extract to the considerable increase that has taken place in the numbers of admission and deaths in the Benares and Fatehgarh Central Jails since the drinking water has been boiled, and the opinion of the medical officer of the Benares Jail is quoted that the water may have become infected during cooling. There is no doubt danger of water being polluted while cooling, unless precautions are taken; but it has been found elsewhere among Europeans and natives, freemen and prisoners, that distaste for boiled water is so great, owing to its being insipid and lukewarm, that every opportunity is taken to drink water from forbidden sources. Similar facilities for obtaining polluted water may not exist at Benares or Fatehgarh; but it should not be forgotten that the ordinary convict will not readily believe that an insipid or lukewarm water, either boiled or drawn from the tap, is more wholesome than a cool refreshing water taken from some other source. Again, leaving the question of specific infection of the water on one side, the use of an unpalatable drinking water may provoke dyspepsia, perhaps the most important of the immediately predisposing causes of dysenteric attacks.

In 1898 the case-mortality of dysentery was greater in the central than in the district jails of the North-Western Provinces and Oudh, of the Punjab, of Berar, and of the Central Provinces. This peculiarity was present in at least the jails of the North-Western Provinces and Oudh in the two preceding years also.

There would be little exaggeration in saying that the prevention of bowel-complaints is the beginning and end of jail hygiene; as it certainly is the most difficult of the problems the jail medical officer has to face. Not only do dysentery and diarrhœa themselves primarily cause a very large proportion of the deaths in a prison, but their supervention often determines the issue in other diseases (7). No doubt great predisposing causes are malaria and scurvy, the influence of one preponderating here and that of the other there. It is certain, however, that unsuitable or insufficiently cooked food is not only a predisposing but an exciting cause. There is divergence of opinion as to whether jail dysentery is or is not infectious. There is, however, entire agreement as to the necessity of treating cases of dysentery in isolation, not only on account of possible risk of infection and on account of the offensive emanations from the sufferers, but also on account of the impossibility of securing proper dieting in a common ward. The practice of incinerating the excreta of patients suffering from bowel-complaints, a practice referred to in the quotation given above from the report of the Inspector-General of Prisons, North-Western Provinces and Oudh, is one that should be generally adopted.

A common cause of bowel-complaints, which perhaps does not always receive the attention it deserves, is the presence of intestinal parasites; and the systematic examination of prisoners for the presence of parasites would probably repay the trouble involved.

Beri beri (6).

98. There were 148 admissions with 14 deaths recorded under the head of beri-beri, against 60 and 3 in the previous year. There were 13 admissions with 2 deaths in Burma, and 135 admissions with 12 deaths in Madras. There were 65 admissions with 9 deaths in Rajamundry (Central), 56 admissions with 2 deaths in Vellore (Central), 13 cases with 2 deaths in Meiktila (District), 8 cases with 1 death in Trichinopoly (Central) Jail, and cases in the Salem, Coimbatore, Guntur, and Berhampur Jails. All the admissions at Vellore were among men transferred from Rajamundry on medical grounds, and 8 out of the 10 deaths among them were credited to Rajamundry. In some of the other jails also the admissions were of men from Rajamundry. It follows that many cases were counted twice—once at Rajamundry and once at the other jail; so that the number of admissions for India represents far more than the number of cases. At Meiktila the grain was suspected of being the cause, and it was condemned. The investigations of Captain Fearnside at the Rajamundry Jail have been referred to above under the head of "Madras."* The following are his conclusions, mostly in his own words :—

The diagnosis beri-beri is disproved for the following reasons :—

I.—It is not established that in the Northern Circars beri-beri is endemic except on Dr. Malcolmson's authority, and his book, written in 1835, is now obsolete and unreliable.

II.—Cases that have been returned as beri-beri have been proved by the *post-mortem* lesions to be not beri-beri.

III.—The beri-beri heart is conspicuous by its absence, and there has been no hypertrophic influence on the cardiac muscle.

IV.—Numbness and burning sensations of the feet, if taken to denote peripheral neuritis, have been found in diseases in which it is not known to occur and are, therefore, an unreliable proof of nerve degeneration amongst the prisoners. Further, no tests for the re-action of nerve degeneration have been employed to prove the presence of this pathological condition.

V.—The sanitary incident of the year 1887 is explained by the introduction of the district jail prisoners into the jail and by the discovery of anchylostoma duodenale, beri-beri being at the time supposed to be due to anchylostoma or to have a connexion with it.

VI.—The health of the jail was as unsatisfactory before 1887, as after it.

VII.—The malarial hæmatozoon and anchylostoma duodenale, each capable of epidemics of dropsy and excessive mortality, have been found in this jail to be associated together in many individuals, and are thus doubly fatal in their effects.

VIII.—The malignant malarial parasite was found in the blood of 30 per cent. of cases carefully examined, and the malignancy may vary from year to year, and thus explain the variation in the vital statistics of this jail in different years.

IX.—Chronic malarials, in whose blood crescents are found, if they remain in the jail, are bound sooner or later to succumb, quinine having no effect on this crescentic body; and removal from the infected jail is the only remedy.

X.—The *Kois* and other hill tribes bring into the jail a crescent-forming malaria parasite, and there is every reason to suppose that when a large number of the class of natives came to the jail, as in 1880 and 1887, it assumed an epidemic form. There is also a strong suspicion of infection either direct or indirect.

The absence of the beri-beri heart, and of paralysis, the infrequency of sudden deaths, and the frequency of high fever, albuminuria, and enlarged spleen, disprove both clincially and pathologically the diagnosis beri-beri in this jail. Malaria combined with

* Paragraph 81.

anchylostoma was the opinion I gave in the sanitary sheet of 1897 as the cause of sickness and mortality in the jail.

Strongylus Duodenalis and other Intestinal Parasites (4).

99. During the year 72 cases with 6 deaths, against 230 and 13 in the previous year, were returned as due to the *strongylus duodenalis (dochmius, sclerostoma*, or *ankylostomum*). The numbers reported from the various jails, groups, and administrations may be seen in Table XLIII. The highest numbers were from Rajamundry and Cannanore in Madras. No remarks on the subject are made by the Inspector-General of Prisons.

Close, while Civil Surgeon of Budaon in 1897, found in 81 consecutive *post-mortems* the strongyles present in 44, either alone or with other parasites, the causes of death being various, including injuries. Rogers states that he and others have shown that from 60 to 80 per cent. of the natives of Assam, Bengal, and some other parts of India harbour in their intestines from a few to 100 or more strongyles. From the remarks of Rogers and of Thornhill it may be gathered that those infected may be placed in one of three categories. When the number of worms is less than a hundred, the powers of the body may be more than equal to the repair of any damage done to the blood. When the number lies between 100 and 300, or perhaps 500, there may be no breakdown, so long as no other cause of disease is present ; but the patient may not be able to stand the addition of, for example, malaria. A man in whom there have been 500 or more strongyles for six months or more will suffer from anæmia without the addition of any other disease-cause, and may be said to be suffering from ankylostomiasis. Thornhill points out that however few worms a man harbour at first, if he remains in the infected area, he will certainly increase the number of his parasites ; and that, if delayed too long, a change to a non-infected region may come oo late. Powell found by estimation based upon actual counting that in 7 grains of the fæces of a moderately affected man there were 820 eggs of the strongyle, and in the same quantity of the fæces of a severely affected man 33,600 ; and Giles considers these results moderate. In a certain mine in Austria the larvæ were supposed to have been found in the dung of the horses employed in the mine, and also in certain moist parts of the mine itself ; but Korbelius, as the result of a careful investigation, states that the eggs and larvæ found in horse-dung, though extremely like those of the ankylostomum, are in reality those of the sclerostoma of the horse. The same disease has appeared among the white miners of the Kimberley and De Beers mines in South Africa, as well as among miners and others at Liege in Belgium. Finally, the parasite is believed by Fergusson to be the real cause of the " sleeping sickness" of Africa. (For *other supposed causes of the same, see paragraph 91.) Loos believes that by experiment on himself he has ascertained that the *strongylus duodenalis* can gain access to the body through the skin; but this cannot be credited until it has been confirmed by other observers.

The presence of tænia was most frequently reported from Sitapur, Fatehgarh (District), and Raipur (Central), of ascaris from Rajamundry (Central) and Chupra ; and there were only six cases of " other entozoa," two of them in the Andamans. In Table LIII it may be seen that the " other entozoa" of 1898 were *bothriocephalus latus, oxyuris vermicularis*, and *filaria sanguinis hominis*.

* " Sleeping sickness " has also been said to be Beri-beri. (6).

100. From the Jails of India in 1898 no *kala azar* was returned, though the medical officer of the Tezpur Jail considered it possible that five of the men who died therein (four returned under anæmia and one under ague) had suffered from that form of disease. Even by the labours of Rogers and Ross it cannot be said that the problem of *kala azar* has been completely solved.

Kala Azar (5).

101. Cases of guinea-worm were, as usual, most frequent in the Deccan and Southern India. The administrations with the greatest numbers of cases were Bombay, Madras, and the Punjab. The number of admissions in individual jails may be seen in Table XLIII. The highest was 84 in the Yerrowda Central Prison.

Dracunculus Medinensis.

102. The Punjab and the Andamans administrations had the highest admission ratios from abscess, ulcer, and boil; and in the case of individual jails of over 100 strength the ratios of over 200 per mille of strength were those of Rohtak, Hamirpur, Narsinghpur, Bannu, Mirzapur, Moulmein (Central), Montgomery (Central), Rawalpindi, Banda, Shahpur, Saugor, Etah, and Lahore (Central). Banda, Rawalpindi, Shahpur, and Narsinghpur were also in this list in last report; and Rawalpindi and Narsinghpur in the list of 1896 as well. There were 13 cases, with 6 deaths, of slough or phagedæna over all the jails of India; but there were not more than 3 cases in any one jail (Yerrowda and Hyderabad). Seven cases and two deaths (Table XLIII) occurred in the Bombay administration, in the Yerrowda (Central) and Hyderabad Jails and in the Sind Gang.

Abscess, Ulcer, and Boil; Slough and Phagedæna.

103. Too many deaths were still returned from the jails of India under the indefinite heading "Anæmia and Debility," and Chunar was again the worst offender. In only 8 out of the 122 fatal cases under that head in that jail was a *post-mortem* examination made, and the records sent in are very meagre; but in several, lesions are described which would justify a more definite diagnosis. This jail was closed in October, and the prisoners distributed among other jails in the province. At least 50 of those transferred died in the jails to which they had been sent; and it is noteworthy that most of the deaths were ascribed to dysentery, a cause which in the Chunar Jail itself had been credited with only five deaths. (Table XLIII.)

Anæmia and Debility.

104. A table is, as usual, here given to compare the mortality of prisoners in 1898 with that of soldiers. Taking the death-rate of European troops as unit, the death-rate of native troops will be represented by 0·6, and the death-rate of prisoners by 1·3. The mortality of prisoners was comparatively high as regards bowel-complaints, anæmia and debility, respiratory diseases, and tubercle of the lungs. Only from fevers was the European soldiers' mortality highest. The enormously greater liability of the prisoners to death from bowel-complaints is well shown in the table. Taking the mortality of the native troops from fevers as 1, that of the prisoners is 1·1, and that of the European troops 6·0. Taking the mortality of the native troops from bowel complaints as 1, that of the European troops is 1·2 and that of the prisoners 10·4. Taking the mortality of the European troops from respiratory diseases as 1, that of the native troops is 5·4, and that of the prisoners 6·4. While the liability of the native soldiers to die from respiratory diseases was less than that of the prisoners, yet these diseases made up a larger

Mortality of prisoners and of troops compared.

percentage of the total deaths among native soldiers than among prisoners. The chief cause of death among European troops was fevers, among native troops respiratory diseases, and among prisoners bowel-complaints. Of course, for obvious reasons, too much must not be made of the comparison here instituted :—

Causes of Death.	Died per 1,000 of Average Strength.			Relative Liability in Percentages.				Percentage in Deaths from all Causes.		
	European troops.	Native troops.	Prisoners.	European troops.	Native troops.	Prisoners.	Total 100.	European troops.	Native troops.	Prisoners.
Cholera . . .	·21	·33	·13	31	49	19	100	1·0	3·0	·5
Fevers* . . .	10·90	1·82	2·03	74	12	14	100	54·3	16·5	7·8
Bowel-complaints .	·82	·69	7·20	9	8	83	100	4·1	6·2	27·8
Spleen diseases .	·03	·01	·03	43	14	43	100	·1	·1	·1
Anæmia and debility	...	·12	2·01	...	6	94	100	...	1·1	7·8
Respiratory diseases	·77	4·13	4·89	8	42	50	100	3·8	37·4	18·9
Tubercle of the lungs	·58	·63	3·26	13	14	73	100	2·9	5·7	12·6
All other causes .	6·74	3·33	6·33	41	20	39	100	33·8	30·1	24·5
All Causes .	20·05	11·07	25·87	35	19	45	100	100·0	100·0	100·0

* Enteric, intermittent, remittent, and simple continued fevers.

Papers quoted in Section IV.

For explanation of abbreviations see end of Section II.

(1) Anderson, Trans. of the Epidem. Soc. of London, Vol. II, page 414; Thomson and Brownlee, L. of 22nd October 1898, page 1051; Anderson, L. of 19th November 1898, page 1363; Thomson and Brownlee, L. of 10th December 1898, page 1581.

(2) Class, quoted in L. of 24th December, page 1719; Low in B. M. J. of 4th February 1899, page 276; Wentworth in L. of 1st October 1898, page 854, and quoted in I. L. of 16th March 1899, page 239; Gwyn, Philad. Med. Jour. quoted in I. L. of 16th March 1899, page 242; Schiff in C. I. M. 1898, quoted in F. M. 17, page 219; Rolleston and Allingham in L. of 1st April 1899, page 889; Brodie, Rogers, and Hamilton in L. of 22nd October 1898, page 1045, and quoted in C. B. XXV, page 24; E. Fränkel in Z. H. XXVII, quoted in H. R. IX, page 241, also in V. J. *XXXIII, 2·1, page 5; B. M. J. of 25th March 1899, page 769; Buchanan in I. M. G. of March 1899, page 107; Hünermann, Z. K. M., Volume XXXV, page 436, quoted in F. M. 17, page 237; Marchoux, A. P. XIII, page 193, and quoted in C. B. XXVI, page 153; Schiff, C. I. M., 198, No. 22, page 577, quoted in C. B. XXV. page 437; Mayer, M. M. W., 1898, No. 35, quoted in C. B. XXV, page 438, and in H. R. IX, page 711; L. of 13th May 1899, page 1310; Sen in I. M. G. of June 1899, page 197; Rendu, quoted in L. of 10th June 1899, page 1573; Foa in atti della Soc. Piem. d'igiene IV, quoted in H. R. IX, page 565; Still in Trans. Path. Soc. of London, quoted in V. J XXXIII, 1·2, page 274, and in Pediatrics VI, page 453, quoted in F. M. 17, page 637; Osler in B. M. J. of 24th June 1899, page 1517, and in L. of 24th June 1899, page 1699; L. of 24th June 1899, page 1726; C. Fränkel in Z. H. XXXI, page 221; Councilman, Mallory, and Wright, a report of the State Board of Health of Massachusetts, Boston, 1898, quoted in H. R. IX, page 709; J. T. M. of July 1899, page 341; L. of 29th July 1899, page 283; Councilman, Mallory, and Wright, as above, and also in A. J. M. S. CXV, page 252, quoted in C. B. XXVI, page 97, also quoted along with other authors in V. J. XXXIII, 2·1, page 3; I. M. G. of September 1899, page 335 and page 341.

(3) Macleod in J. T. M. of September 1898, page 31; Arnold, quoted from L. in I. M. G. of December 1898, page 464; Jones in I. M. G. of January 1899, page 6; Buchanan in I. M. G. of September 1899, page 314; A. Buchanan in I. M. G. of September 1899, page 341.

(4) Powell in I. M. G. of December 1898, page 442 and page 479; Fergusson in B. M. J. of 4th February 1899, page 315; Rogers in J. T. M. of October 1898, page 57; Matthias in J. T. M. of October 1898, page 84; Scheube in *Janus* of January and February 1899, and Leichtenstern, W. K. R., 1898, Nos. 23—27, quoted in J. T. M. of February 1899; Loos in C. B. XXIV, pages 441 and 483; Leichtenstern in C. B. XXIV, page 974, and in C. B. XXVI, page 139; Strachan in J. T. M. of March 1899, page 208; Giles in I. M. G. of March 1899, page 91; Thornhill in I. M. G. of March 1899, page 113, I. M. G. of November 1895, page 409, and I. M. G. of January 1896, page 12; Close in I. M. G. of May 1899, page 156; Tinus in Oesterr. Sanitätsw., 1898, No. 42, quoted in H. R. IX, page 640; Rogers in J. P. B. of December 1898, quoted in C. B. XXVI, page 36; J. T. M. of August 1899, quoting *Janus* of July and August, which quotes Rev. Scient. No. 22 (anchylostomiasis at Liège, †Belgium); Korbelius in C. B. XXVI, pages 114 and 185 (relation of the horse to the anchylostomiasis of man); V. J. XXXIII, 2·1, page 212; Giles in B. M. J. of 9th September 1899, page 660.

(5) Powell in I. M. G. of December 1898, page 442; Thornhill quoted in B. M. J. of 25th March 1899, page 746; Giles in I. M. G. of March 1899, page 91; Rogers in B. M. J. of 17th June 1899, page 1464; Rogers in L. of 17th June 1899, page 1633; I. L. of 1st July 1899, page 35; R. Ross in I. M. G.

* See also B. M. I. of 18th November 1899, page 1412.

† See also B. M. I. of 18th November 1899, page 1438.

of July 1899, page 233 (a full and clear account); J. T. M. of July 1899, page 331; B. M. J. of 29th July 1899, page 300; Ross quoted in L. of 5th August 1899, page 352.

(6) Carpenter in J. T. M. of August 1899, page 12; Fearnside in I. M. G. of September 1899, pages 311, 316, and 349; Simon in J. T. M. of September 1899, page 29.

(7) Buchanan in B. M. J. of 9th September 1899, page 653.

(8) Ashe in I. M. G. of September 1899, page 313; Fearnside in I. M. G. of September 1899, page 316; I. M. G. of September 1899, page 333; Celli and Casagrandi quoted in B. M. J. of 9th September 1899, page 683.

SECTION V.

VITAL STATISTICS OF THE GENERAL POPULATION.

General Remarks.

105. In this report for 1897, the subject of Indian vital statistics was discussed at some length, and an attempt was made to indicate the outstanding peculiarities of the statistics obtained in the various provinces, so that it is unnecessary this year to do more than note the more important features of registration in 1898.

Each year carries us further from the day on which the census figures were recorded, and each year the ratios calculated upon those figures must become less accurate. It is important, therefore, to remember that in a province where the population is rapidly increasing, the mere rise of birth and death-rates to figures which have some appearance of being correct may not be entirely due to improved registration. Still, there is abundant evidence that the accuracy of the figures collected is improving, although improvement is by no means uniform, and much remains to be done, even with the existing agency, in many provinces, particularly in the towns.

Births.

106. The following statement furnishes a brief epitome of the birth statistics in 1897 and 1898, shewing the numbers of the urban and rural populations under registration; the numbers of children born, the millesimal birth-rates, with the average rates of the previous five years; and the percentages of male to female births.

Birth Statistics.

Province.		Number of Municipalities and towns in which births were registered.	Number of rural circles in which births were registered.	Population under Registration. In Municipalities and towns.	Population under Registration. In districts, excluding towns.	Population under Registration. Total.	Total number of births registered.	Ratio of births, per 1,000 of population.	Highest birth-rate in any one district.	Lowest birth-rate in any one district.	Number of males born to every 100 females born.	Excess or deficiency of births compared with deaths.	Mean ratio of births per 1,000 during previous five years.
Bengal	1897	148	557	3,444,512	67,625,105	71,069,617	2,625,844	36·94	47·40	18·46	106	+4·00	33·83
	1898	151	559	3,452,892	67,616,735	71,069,627	2,543,701	35·79	43·59	13·98	106	+9·82	35·61
Assam	1897	21	59	106,397	4,924,687	5,031,084	163,617	32·59	45·12	19·77	108·13	−18·02	31·39
	1898	21	60	106,397	4,924,687	5,031,084	147,819	29·46	38·18	18·66	107·65	−6·69	31·70
North-Western Provinces and Oudh.	1897	97	1,215	3,210,809	43,693,982	46,904,791	1,458,947	31·10	50·74	13·76	108·98	−9·36	37·42
	1898	98	1,216	3,221,272	43,683,519	46,904,791	1,751,725	37·35	53·93	25·99	108·05	+9·97	36·41
Punjab	1897	151	447	2,013,369	18,540,013	20,553,382	874,623	42·6	57·5	19·3	110·5	+11·5	40·8
	1898	150	448	2,010,390	18,551,034	20,553,982*	841,869	41·0	53·8	21·8	110·4	+9·9	41·7
Central Provinces*	1897	72	161	811,710	8,689,691	9,501,401	254,973	26·83	46·30	16·23	107·76	−42·51	36·11
	1898	73	163	816,417	8,684,984	9,501,401	284,176	29·91	45·54	22·18	106·69	+5·61	33·80
Berar	1897	38	67	356,002	2,496,823	2,852,825	113,364	39·7	49·4	37·0	105·7	−11·9	37·6
	1898	38	67	356,002	2,496,823	2,852,825	89,414	31·3	33·6	28·4	105·2	+7·9	37·6
Madras	1897	93	179	2,538,033	30,060,268	32,598,301	935,845	28·7	41·6	20·8	103·9	+3·3	27·8
	1898	93	181	2,538,033	30,710,147	33,248,180	911,742	27·4	41·5	81·6	104·3	+6·4	28·5
Coorg	1897	5	5	15,511	157,544	173,055	3,503	20·24	26·12	15·36	100·74	−29·79	24·18
	1898	5	5	15,511	157,544	173,055	2,795	16·15	19·05	11·58	107·34	−15·28	24·18
Bombay	1897	63	220	2,304,373	16,515,973	18,820,346	629,693	33·46	44·11	11·29	108·42	−6·38	35·31
	1898	63	220	2,304,373	16,515,973	18,820,346	582,371	30·94	42·33	13·08	108·19	+1·78	35·18
Lower Burma	1897	35	181	588,369	3,926,404	4,514,773	143,659	31·82	40·97	17·61	108	+6	27·36
	1898	34	196	582,692	3,928,005	4,510,697	153,838	34·11	45·24	18·77	109	+8	29·36

* Excluding Europeans and Eurasians.
† Excluding Zamindaris of the Chattisgarh Division.

In 1898, the highest birth-rates were registered in the Punjab, 41·0 per mille, the North-Western Provinces and Oudh 37·35, and Bengal 35·79; and the lowest birth-rates were registered in Assam, 29·46 per mille, Madras 27·4, and Coorg 16·15.

In every province, except the North-Western Provinces and Oudh, the Central Provinces and Lower Burma, the birth-rates recorded in 1898, were lower than those recorded in the preceding year, and in only three provinces, Bengal, the North-Western Provinces and Oudh and Lower Burma, were the rates higher than the averages of the previous five years. In only two provinces, however, Assam and Coorg, were the recorded births less numerous than the recorded deaths.

The percentage of male to female births ranged from 110·4 in the Punjab and 109·0 in Lower Burma, to 105·2 in Berar and 104·3 in Madras.

Deaths.

107. The next statement gives details of the mortality in the different provinces in 1897 and 1898.

Death Statistics.

Province.		Number of Municipalities and towns in which deaths were registered.	Number of rural circles in which deaths were registered.	Population under registration.			Number of deaths registered.			Ratio of deaths per 1,000 of population.			Highest death-rate.		Lowest death-rate.		Mean death-rate during previous 5 years.			Number of deaths of males to every 100 deaths of females.
				In Municipalities and towns.	In Districts, excluding towns.	Total.	In Municipalities and towns.	In Districts, excluding towns.	Total.	In Municipalities and towns.	In Districts, excluding towns.	Total.	In Municipalities and towns.	In Districts, excluding towns.	In Municipalities and towns.	In Districts, excluding towns.	In Municipalities and towns.	In Districts, excluding towns.	Total.	
Bengal	1897	148	557	3,444,512	67,625,105	71,069,617	120,815	2,220,757	2,341,632	35·09	32·83	32·94	89·59	49·92	14·20	23·62	33·78	32·03	32.11	118
	1898	151	559	3,452,892	67,616,725	71,069,617	94,580	1,793,188	1,888,468	27·50	26·52	26·57	52·84	41·50	9·98	15·29	34·15	32·23	32·32	117
Assam	1897	21	59	106,397	4,914,687	5,021,084	7,098	246,995	254,093	66·71	50·26	50·61	125·17	61·00	22·86	41·58	39·14	32·92	31·45	109·44
	1898	21	60	106,397	4,914,687	5,021,084	4,260	177,267	181,527	40·04	36·07	36·15	67·30	47·32	20·54	25·49	44·54	36·15	36·53	115·90
North-Western Provinces and Oudh.	1897	97	1,215	3,210,809	43,693,982	46,904,791	155,901	1,741,691	1,897,592	48·55	39·86	40·46	108·05	61·85	24·83	23·67	37·63	32·26	32·63	116·77
	1898	98	1,216	3,221,272	43,683,519	46,904,791	107,619	1,176,700	1,284,319	33·41	26·94	27·38	48·92	42·31	16·03	18·82	40·38	33·42	33·90	109·77
Punjab	1897	151	447	2,013,969	18,540,013	20,553,982	69,363	568,864	638,227	34·44	30·68	31·05	96·12	49·23	12·93	21·30	39·34	34·52	34·99	105·9
	1898	150	448	2,020,390	18,551,034	20,553,982*	66,439	571,685	638,124	33·05	30·82	31·05	53·86	40·10	13·38	16·90	35·36	30·85	31·30	107·1
Central Provinces.†	1897	72	161	811,710	8,689,691	9,501,401	66,315	592,607	658,822	81·67	68·20	69·34	510·83	96·24	29·05	29·95	29·61	37·20	37·02	124·84
	1898	73	163	816,417	8,684,984	9,501,401	22,552	208,355	230,907	27·62	23·98	24·30	55·66	35·35	14·00	19·63	45·92	43·89	44·06	113·11
Berar	1897	38	67	356,002	2,496,823	2,852,825	20,451	130,771	150,222	57·4	51·9	52·6	92·2	60·5	21·8	41·6	39·34	39·6	39·4	117·6
	1898	38	67	356,002	2,496,823	2,852,825	9,086	57,720	66,806	25·5	23·1	23·4	34·7	24·6	15·6	20·3	not stated	44·2	44·2	112·9
Madras	1897	93	179	2,538,033	30,060,268	32,598,301	81,056	746,469	827,525	31·9	24·8	25·4	56·8	50·7	7·3	19·0	28·2	19·7	20·4	105·8
	1898	93	181	2,538,033	30,710,147	33,248,180	73,672	623,436	699,108	29·8	20·3	21·0	45·2	29·2	8·1	14·8	29·1	20·3	21·0	106·3
Coorg	1897	5	5	15,511	157,544	173,055	964	7,694	8,658	62·15	48·84	50·03	116·71	66·47	32·45	34·45	31·62	25·87	27·19	116·07
	1898	5	5	15,511	157,544	173,055	648	4,792	5,440	41·78	30·42	31·44	73·76	38·92	19·88	24·13	38·75	30·31	31·07	130·50
Bombay	1897	63	220	2,304,373	16,515,073	18,820,346	130,723	619,193	749,916	56·72	37·49	39·84	148·38	54·77	10·63	14·41	33·77	29·59	30·45	111·0
	1898	63	220	2,304,373	16,515,073	18,820,346	110,336	438,489	548,825	47·88	26·55	29·16	106·77	64·76	9·09	9·95	37·89	31·09	31·92	111·06
Lower Burma	1897	35	181	588,369	3,926,404	4,514,773	19,025	99,544	118,570	32·34	25·33	26·26	43·89	36·88	15·87	13·91	29·06	21·30	22·37	137
	1898	34	196	582,692	3,928,005	4,510,697	19,286	98,570	117,586	33·10	25·09	26·13	43·39	32·05	17·38	17·06	29·67	22·63	23·52	130

* Excluding Europeans and Eurasians.
† Excluding Zamindaris of the Chhattisgarh Division.

The highest death-rates were 36·15, 31·44, and 31·05 per mille, registered, respectively, in Assam, the Punjab, and Coorg; and the lowest were 24·30, 23·4, and 21·0 per mille, registered in the Central Provinces, Berar, and Madras.

The year in most parts of the country was an extraordinarily healthy one, and in every province, except the Punjab and Lower Burma, the death-rates were lower, generally very much lower, than in the preceding year, while in every province save Madras, the Punjab, and Lower Burma, the rates were below the quinquennial averages. In the Punjab and Lower Burma the death-rates registered in 1898 were practically the same as those registered in 1897, the Punjab rate being very slightly in excess of the quinquennial average; and, although in Burma, the rate registered in 1898 was considerably higher than the five year average, the increase is largely due to improved registration. In Madras, registration continues defective, and the death-rate in 1898 was the same as the quinquennial average.

In every province the urban death-rates were higher than the rural. In every province, except Burma, the urban rates were lower than in 1897, and in every province, save the Punjab, the rural rates were also lower.

The following table exhibits the distribution of the mortality throughout the year: —

Statement showing the Deaths from all causes, according to Months, in the different Provinces of India during the year 1898.

Province.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.	Ratio of deaths per 1,000 of population.	
														1898.	1897.
Bengal	182,699	134,963	153,833	149,699	153,987	116,010	118,325	159,565	151,780	179,253	195,794	185,650	1,888,468	26·57	32·94
Assam	15,474	12,636	12,939	14,159	17,473	15,624	15,220	14,284	15,041	15,525	16,035	16,227	181,587	36·15	50·61
North-Western Provinces and Oudh.*	110,712	78,953	85,589	94,794	96,476	100,215	88,530	97,842	117,190	145,786	136,486	133,746	1,284,319	27·38	40·46
Punjab	58,358	41,973	43,539	44,578	53,537	55,469	45,334	49,861	55,083	64,467	64,618	61,307	638,124	31·05	31·05
Central Provinces*	24,427	18,543	17,040	18,434	19,145	15,978	14,366	17,847	18,641	22,406	21,034	21,856	230,907	24·30	69·34
Berar	6,707	5,035	5,589	5,507	4,554	3,301	3,913	5,588	6,381	6,370	6,763	7,068	66,806	23·4	53·6
Madras Presidency	80,757	58,128	54,700	49,617	50,050	50,332	56,591	57,027	58,421	54,441	62,327	70,017	699,108	21·0	25·4
Coorg	542	404	523	470	481	545	534	494	458	347	306	335	5,440	31·44	50·03
Bombay „	49,870	43,213	45,747	39,181	34,816	30,313	35,693	46,038	50,082	60,336	59,707	53,763	548,765	29·16	39·84
Lower Burma	10,835	9,118	8,560	9,029	9,101	9,507	11,126	10,955	10,024	9,842	9,688	9,671	117,856	26·13	30·16
Ajmer-Merwara	1,268	1,183	1,282	1,003	958	923	799	1,007	885	76	928	1,170	12,005	22·14	24·68
Mysore	8,855	7,509	9,543	8,955	6,621	6,370	6,780	6,753	6,755	8,798	9,605	10,348	96,792	19·98	17·94
Total	557,480	411,658	439,664	435,426	447,479	404,588	396,141	467,331	497,741	568,340	584,191	571,688	5,770,127	27·13	35·63

* Excluding Zamindaris.

The mortality in every month of the year, except January, was less than in the preceding year, the total death-rate being only 27·13 per mille in 1898 against 35·6 in 1897.

The highest mortality occurred in the months of November, December, and October in the order given, and the lowest in July, June, and February; the low mortality in June and July is noteworthy.

The following paragraphs contain a summary of the more important figures collected in the different provinces.

Bengal.

108. The total number of births registered in Bengal in 1898 was 2,543,701, or 82,143 less than in the preceding year; and the birth-rate, which declined from 38·03 per mille in

1896 to 36·94 in 1897, fell still further to 35·79, which, however, is ·18 per mille higher than the mean of the birth-rates recorded during the five years ending with 1897. The Sanitary Commissioner of the province ascribes the reduction in the birth-rate to the effect of the famine, "which lasted up to September 1897 in some places, and to the high prices of food grains which prevailed almost up to the close of the year in several others." The Local Government, does not, however, entirely endorse this view, and points out that if the famine was the sole cause of the reduction in the birth-rate, there should be a reduction in the birth-rates of other provinces where famine prevailed, while in Bengal itself the reduction should be most distinctly marked in those districts most severely affected by famine. But this was not the case, for in the North-Western Provinces and Oudh and in the Central Provinces, the birth-rates of 1898 were higher than those recorded in the preceding year, while in six of the fifteen districts, which were affected by famine in Bengal, the birth-rates of 1898 were higher than the birth-rates of 1897. It seems to be hinted that the postponement of marriages may have been the cause of the decline in the birth-rate in 1898, and an examination of the figures supports this view.

Famine may limit the natural increase of the people in several ways, three of which at least are obvious. If it is severe, it will exercise a directly unfavourable influence upon the fecundity of the very poor;—it was noted in 1897 in Berar that women driven to the relief centres were rarely pregnant. Probably an even more potent factor is the absence from their homes in search of work of the heads of families. But even when famine is less severe, when the pinch of actual starvation is not felt, and few men are forced to leave their homes, a decline in the birth-rate is to be expected, for, so far as caste usages will permit, marriages will be deferred until the return of some degree of prosperity is assured. It is not easy, however, to determine the relative effect of these restraining causes; and in Bengal the rapid improvement of registration renders the comparison of the monthly birth-rates in 1898, with those of even recent years, difficult. If the monthly birth-rates from and including 1893 are examined, it will be found that a high rate in January is invariable;—the maximum was recorded in that month in 1894; there is generally a fall in February, and a very distinct rise in March, after which the rates fall to a minimum in June, gradually ascending until September. In the last three months of an ordinary year, the rates are always high, and in one of the three, perhaps most often in December, the maximum of the year is generally reached.

In 1897 the monthly rates were fairly high except in October and December; but in 1898 the rate in January was a low one, and the monthly rates remained low until August, after which they were much above the average until the end of the year, the rate recorded in November, 4·41 per mille, being the highest monthly rate recorded since 1892.

It is impossible to say how far the low rates in the first half of 1898 were due to the postponement of marriages, but there seems to be little room for doubt that the exaggeration of the normal rise in the latter part of the year was due to the consummation, when prosperity had returned, of numerous marriages which had been deferred during the persistence of hard times.

The highest district birth-rates were 43·59, 43·40, and 42·22 per mille, registered, respectively, in Murshidabad, Tippera and Noakhali; and the lowest were 27·27, 26·87, and 13·98, registered in the 24-Parganas, Hooghly, and Calcutta. Calcutta is of course an urban district, but its birth-rate compares unfavourably with those of other towns, and with its own rate in 1897, which was

18·46. The falling off is attributed to the departure from the town of women for fear of plague. The average birth-rate in rural areas was 36·39, against only 24·02 in the towns. In some of the latter, notably Jangipur (44·82 per mille), Jamalpur, in Monghyr (44·05) and Jamalpur, in Mymensingh (42·11), the rates were high, but in the vast majority the rates were very low, the lowest being registered in Maniktala (9·61), Chittagong (8·84), and Jhalakati (8·45).

The causes believed by the provincial Sanitary Commissioner to account for the low rates in the towns are the following :—

(1) the preponderance of males in the urban population ;

(2) the presence of a large floating population ;

(3) the custom of women leaving the towns for their homes in the country for the purpose of being confined ; and,

(4) defective registration.

All these causes are, no doubt, more or less operative, not only in the towns of Bengal, but in most of the larger Indian towns, but it is of importance to discover how far each of the causes is operative, and what relation the fourth cause bears to the other three. In last year's report it was suggested in the case of Jhalakati, where the birth-rate of 1897 was only 2·11 per mille, that defective registration was mainly to blame for the low rate. Major Dyson has caused investigations to be made into the cause of the very low birth-rate in Jhalakati, and finds in the extraordinary condition of the small female population of the town cause for believing that registration there is as reliable as elsewhere in Bengal. From a statement given it seems that out of 399 females only 49 are married women capable of bearing children. But these figures are themselves suspicious. The census population of the town is 2,365, comprising 1,966 males and 399 females ; and the number of females to which the investigation set forth in the statement relates, is very curiously 399, exactly the same number of females that was recorded at the time of the census in 1891. But if registration in recent years was correct, the female population of Jhalakati, apart from immigrations was only 351 in 1896, and if the same decline has been continued in 1897 and 1898, for which years there are no figures relating exclusively to females available, the female population in 1898 would be only about 341. The balance, of course, may have been made up by immigration, but this may be doubted in view of the fact that the statement shewing the occupation of the female population includes neither infants nor children.

The provincial percentage of male to female births was 106, varying from 113 in Calcutta to 102 in Faridpur.

The total number of deaths registered was only 1,888,468, as compared with 2,341,632 in 1897, and the death-rate fell from 32·94 per mille in that year, to 26·57 in 1898, or 5·75 below the quinquennial average. The cause of the low death-rate was the exceptional salubrity of the year ; cholera mortality was only one-third of the average, and fevers and 'dysentery and diarrhœa' were less fatal than usual.

The highest district death-rates were recorded in Noakhali, 40·99 per mille, Darjeeling 39·73, and Chittagong 36·99 ; and the lowest in Singhbhum 17·28, Manbhum 16·43, and the Sonthal Parganas 15·33. In rural areas the average rate was 26·52 against 27·50 in the towns, among which the rates varied from 52·84 per mille in Garulia, a small town in the 24-Parganas, which suffered severely from cholera, 49·54 in Malda, where fever was extraordinarily prevalent, and 44·72 in Serampore where the deaths attributed to dysentery

and diarrhœa were very numerous, to 12·82 in Cossipore-Chitpur, 11·26 in Raghunathpur, and 9·98 in Maniktala.

Among the various sects, Muhammadans had the highest death-rate, 29·53 per mille, and Christians the lowest, 17·69. The rate among "other classes," 17·89, was very little higher than that among Christians, while Hindus and Buddhists died at very similar rates, 25·51 and 25·61 per mille, respectively.

The largest number of deaths occurred in November, January, December, and October, and the smallest numbers in June and July.

Male infants died at the rate of 215·65 per mille against 239·11 in 1897, and female infants at the rate of 170·28 against 194·14. The rates among boys and girls over one and under five, were also lower than in 1897, 37·18 and 31·23 per mille, respectively, against 45·79 and 38·72. As usual, the male death-rates were the higher in all age periods, the averages being 28·75 and 24·40 per mille for males and females, respectively.

Port of Calcutta.

109. The number of European seamen who arrived in the Port during 1898 was 20,401, the average number in the Port being 1,232 or 30 more than in the preceding year. The total number of deaths among them was 28, equal to a death-rate, calculated on the average daily strength, of 22·72 per mille, against 33·27 per mille in 1897.

Among the native floating population, 122 deaths were reported during the year, which on a calculated average strength of 25,620 is equal to a death-rate of 4·76 per mille, as compared with 8·11 per mille in 1897.

Assam.

110. The statistics from two mountain areas in Assam are treated separately from the general statistics of the province. These areas are the selected villages in the Garo Hills, with an aggregate population of 27,725, and Kohima, in the Naga Hills, with a population of 1,781. In the Garo Hills area, the birth-rate fell from 40·07 per mille in 1897, to 36·25 in 1898, and the death-rate from 51·83 to 42·09. In Kohima the birth-rate, as in 1897, was 34·25 per mille, but the death-rate fell from 55·29 to 38·74.

In the Brahmaputra and Surma Valleys and in those portions of the Khasi and Jaintia Hills district which are under registration, the total number of births recorded was 147,889, or 15,728 fewer than in the preceding year, and the birth-rate fell from 32·59 per mille in 1897 and a quinquennial average of 31·70, to 29·46. As in 1897, the highest district rates were recorded in Goalpara, Lakhimpur, and Sylhet, but the rates in 1898,—38·18, 34·02 and 30·46, respectively, were very much lower than those recorded in the preceding year, which were 45·12, 35·17, and 35·17.

At the other end of the scale, the same districts appear as in 1897, namely, Kamrup, Khasi and Jaintia Hills and Nowgong, and in these districts also the rates recorded, 25·54, 24·55, and 18·66, per mille were lower than in the preceding year.

The average percentage of male to female births fell from 108·13 to 107·65, and ranged from 112·76 in Nowgong to 102·82 in Darrang and 97·87 in the Khasi and Jaintia Hills.

The total number of deaths registered was 181,527 against 254,093 in 1897, and the death-rate, which in that year had reached 50·61 per mille, fell to 36·15, or ·38 per mille less than the quinquennial average. Among the districts, the highest rates were 47·25 per mille in Nowgong, 42·25 in Darrang, and 39·60 in the Khasi and Jaintia Hills; and the lowest were 31·78 in Cachar, 29·31 in Sibsagar,

and 25·93 in Kamrup, where it is to be feared registration is very defective. In rural areas the average death-rate was 36·07 per mille, against an urban average of 40·04; the rates in the towns ranging from 67·39 in Golaghat and 61·54 in Hailakandi, to 20·54 in Maulvi Bazar.

Christians and Hindus died at nearly the same rate, 31·80 and 31·60 per mille, respectively, Muhammadans at the rate of 38·78, and "other classes" at the rate of 54·40.

The lowest monthly death-rates were recorded in February, March, and April; the highest in May, November, and December.

Male infants died at the rate of 198·04 and female infants at the rate of 181·30 per mille; and boys and girls over one and under five, at the rates, respectively, of 37·71 and 36·12. In all age periods, save 20—30, the male rates were the higher, the averages being 37·58 for males and 34·63 for females.

North-Western Provinces and Oudh.

111. The year 1898 was an exceptionally healthy one in the North-Western Provinces and Oudh; the birth-rate was not only higher than the quinquennial mean, but was higher by ·36 per mille than the average of the five years ending with 1895, while the death-rate, with the exception of that registered in 1893, was the lowest on record.

The total number of births registered was 1,751,725 against 1,458,947, in 1897, and the birth-rate was 37·35 per mille as compared with 31·10 in the previous year, and 36·41 the quinquennial mean.

Among the districts, the highest rates registered were 53·93 per mille in Bulandshahr, 50·48 in Etah, and 49·26 in Budaun, all western districts; and the lowest were registered in Jaunpur, 27·34, Mirzapur 26·12, and Azamgarh 25·99, all districts in the east of the province. In the municipalities the rates ranged from 57·32 in Sikandarabad to 7·41 in Mussoorie. In every district, except Naini Tal, births were more numerous than deaths, although in Mainpuri and Mirzapur the excess was small.

The percentage of male to female births, which in 1897 was 108·98, fell to 108·05 and ranged from 120·34 in Dehra Dun to 103·38 in Garhwal.

The number of deaths registered was 1,284,319, or 613,273 fewer than in the preceding year, and the death-rate, which was 40·46 in 1897, and averaged 33·90 in the previous five years, fell to 27·38. The highest district death-rates were 41·59 per mille in Naini Tal, 41·49 in Bareilly, and 37·03 in Pilibhit; and the lowest were 22·05 in Azamgarh, 21·03 in Hardoi, and 19·11 in Gorakhpur. In rural areas the average death-rate was 26·94 per mille as compared with 33·41 in the towns in which the rates ranged from 48·92 in Kashipur in the Terai, to 16·93 in Sahtawar. In 31 of the 104 municipalities the deaths were more numerous than the births, as compared with 76 in the preceding year.

Among the various sects, Muhammadans had the highest death-rate, 27·49, followed very closely by Hindus with 27·41; Christians died at the rate of 11·94 per mille, and "other classes" at the rate of 18·39.

The highest monthly death-rates occured in October, November, December, and September in the order given, which correspond roughly with the months when the birth-rates were highest, namely October, December, September, and November. The lowest death-rates occurred in July, March, and February, and the lowest birth-rates in April, June, and May.

Among male infants the death-rate was 227·74 per mille and among females 210·46, against 262·97 and 255·10 in 1897. The mortality among children

between the ages of one year and five years, shews a much larger proportional reduction from 73·64 and 72·78 per mille among boys and girls, respectively, in 1897, to 44·63 and 44·43 in 1898. At all age periods, except those between 15 and 20, and 20 and 30, males died at a higher rate than females, the average being 27·65 per mille against 27·09.

Punjab.

112. The number of births registered in the Punjab in 1898 was 841,869 as compared with 874,623 in the preceding year; and the birth-rate was 41·0 per mille, against 42·6 in 1897, and 41·7 the quinquennial mean. The Sanitary Commissioner hazards the suggestion that the scarcity of 1897 was the cause of the decline of the birth-rate of 1898, but the Local Government points out that in the districts of Gujrat and Hissar, where famine was most severe in 1897, the birth-rates of 1898 were higher than those of the former year; and, although the argument based upon this is somewhat discounted by the fact that the rates in these districts in 1898 were below the quinquennial averages, it does not seem probable that the famine accounts for much of the decline in the provincial average. If the rates registered in the districts in 1898 are compared with the averages in the same districts during the previous five years, it will be found that there was a great falling off in all the districts of the Derajat Division, especially in Dera Ismail Khan, but in the other divisions, the rates rose in some districts and fell in others, and there was no general fall or rise. Among the districts, the birth-rates ranged from 53·8 per mille in Gujranwala to 21·8 in Simla; from 53·4 in Jhang to 29·8 in Peshawar and from 53·0 in Gurgaon to 30·6 in both Dera Ismail Khan and Dera Ghazi Khan. In Simla the sex distribution of the population accounts for a low birth-rate, but the extreme divergencies elsewhere suggest defective registration. In the Derajat Division, for instance, there were fewer births than usual and more deaths. The unhealthy season caused the increased deaths, and may explain also the decrease in the number of births, not necessarily on account of any deterioration of the reproductive energy of the people, but because the presence of sickness would deter many of them from registering births.

The percentages of males born to females, which in 1897 was 110·5, fell to 110·4, and ranged from 125·1 in Dera Ghazi Khan to 104·8 in both Delhi and Kangra.

The number of deaths registered in 1898 was 638,124, or 103 fewer than in the preceding year, the death-rates being practically the same in both years, 31·05 per mille, which is slightly less than the quinquennial mean of 31·30.

Although the average death-rate of the province in 1898 was not far from the quinquennial average, the death-rates in the districts, except in those of the Peshawar Division, shew great divergencies from the quinquennial averages recorded in them. In all the districts of the Rawalpindi and Derajat Divisions, except in the Rawalpindi district itself, the rates in 1898 were above the average; while in all the districts of the Delhi and Jullundur Divisions, except Gurgaon and Ferozepore, the rates were below the average. In the Lahore Division the lowest district death-rate was recorded, 21·3 per mille, in Montgomery, while in the same Division the highest rate, with the single exception of Dera Ismail Khan (40·1), was also recorded, namely, 39·4 in Jhang. Other extreme rates were 37·9 in Karnal, and 21·6 in Simla, and 21·4 in Hazara.

The average death-rate in rural areas was 30·82 per mille against 33·05 in the towns, in which rates ranged from 53·86 in Dera Ismail Khan, 53·16 in

Bannu, and 52·04 in Gurdaspur, to 17·25 in Montgomery, 17·19 in Talamba in Multan, and 13·38 in Abbottabad.

By far the highest death-rate among the various sects was 79·61 per mille registered among "other classes;" but it is explained that this is not a real rate, and is due to errors in classifying. Muhammadans died at the rate of 31·19 per thousand, and Hindus at the rate of 30·86; while far behind both come Native Christians with a death-rate of only 19·54.

As in the preceding year, the lowest death-rates occurred in the months of February, March, and April, and the highest in October and November.

Male infants died at the rate of 215·19 per mille and females at the rate of 210·09 as compared with 223·02 and 228·02 in the preceding year. Boys and girls between one year and five years of age, died respectively, at the rates of 63·04 and 68·57 per mille, against 58·42 and 66·76 per mille in 1897. At all age periods, save in infancy and 40—50 and 50—60, the female death-rates were the higher, the averages being 29·89 per mille for males and 32·36 per mille for females.

Central Provinces.

113. With the exception of the year 1894, when there was a slight rise, the number of births recorded in the Central Provinces has declined year by year since 1892. In 1897, the total number registered was only 254,973, and it is satisfactory to note in 1898 a rise to 284,176, equal to a birth-rate of 29·91 per mille, as compared with 26·83 in the preceding year, and a quinquennial average of 33·80.

The highest district birth-rates were 45·54 per mille registered in Nimar, 45·01 in Sambalpur, and 39·63 in Chhindwara; while the lowest were 26·17 in Seoni, 24·75 in Balaghat, and 22·18 in Saugor. In six districts—Nimar, Burhanpur, Betul, Nagpur, Wardha, and Chanda—the births were fewer than in the previous year; but in only two districts, Saugor and Damoh, where scarcity still lingered, were the births less numerous than the deaths.

The monthly distribution of births during 1898 is interesting. In the first seven months of the year the birth-rates were much below the normal, far fewer indeed than in the corresponding months of 1897, and the usual rise in March and April was hardly visible; but in August there was a rise, and in September the total had reached a figure in excess of any recorded in September, since 1891. In October the number of births was almost exactly double that recorded in the October previous, and was the highest monthly total on record; and exceptionally high figures were registered during the remaining months of the year.

The percentage of male to female births was 106·69, ranging from 111·14 in Nimar to 101·85 in Raipur.

The number of deaths registered was 230,907 and the death-rate, which is the lowest on record, was only 24·30 per mille, as compared with 69·34 in 1897, and an average of 44·06 in the previous five years. Among the districts, the highest rates registered were 34·63 per mille in Nimar, 33·18 in Burhanpur, and 30·48 in Damoh—all considerably lower than the lowest rate recorded in 1897, with the single exception of Sambalpur which escaped the direct effects of famine. The lowest district death-rates in 1898 were 21·36, 20·69, and 19·72 per mille, recorded, respectively, in Raipur, Bilaspur, and Mandla. In rural areas the average rate was 23·98 per mille as compared with 27·62 in the towns where the death-rate ranged from 55·66 per mille in Burha in Balaghat, and

44·96 in Khurai in Saugor, to 15·07 in Warora in Chanda, and 14·0 in Rajin in Raipur.

The provincial Sanitary Commissioner warns us that there is a doubt regarding the general accuracy of class registration, the results of which in 1898 shew the Hindus with the lowest death-rate, 22·44 per thousand, and "other classes" with the highest, 34·07, while Muhammadans come in between with 27·12. In 1897 the rates were Muhammadans 52·61, Hindus 59·72, and "other classes" 126·23.

The largest numbers of deaths were recorded in the months of January, October, and December, and the smallest in July, June, and August.

Infantile mortality was unusually low, male and female infants dying at the rates of 240·11 and 205·45 per mille, as compared with the enormous rates of 403·00 and 356·11 registered in the preceding year. Boys and girls over one year and under five years of age died at the rate of 26·13 and 22·37, respectively, as compared with 79·64 and 63·78 in 1897. As seems to be invariable in the Central Provinces, the male death-rates were the higher at every age period, the average death-rates being 25·80 per mille for males and 22·80 per mille for females.

Berar.

114. The number of births registered in Berar in 1898 was 89,414 as compared with 113,364 in the preceding year, and the birth-rate fell from 39·7 per mille to 31·3, or 6·3 per mille below the quinquennial mean. The highest district birth-rates were 33·6 and 33·2 per thousand, registered, respectively, in Akola and Ellichpur, and the lowest were 30·5 and 28·4 in Amraoti and Basim. The number of births recorded exceeded the deaths in every district, the excess reaching 10·4 per mille in Wun.

The average percentage of male to female births, which in 1897 was 106·7, fell to 105·2, varying between 107·2 in Buldana and 103·0 in Amraoti.

The number of deaths fell from 150,222 in 1897, to 65,806, and the death-rate from 52·6 to 23·4 per mille, which is 20·8 per mille below the average of the previous five years and one of the lowest death-rates recorded in Berar.

In only two of the districts, Wun (20·4) and Basim (21·0) were the death-rates lower than the provincial average; in the remaining districts the rates ranged from 25·1 in Akola to 24·0 in Amraoti.

In rural areas the average death-rate was 23·1, against 25·5 per mille in the towns, in which the extremes registered were 34·7 in Nandura, in Buldana, and 15·6 in Umarkhed, in Basim.

Christians and "other classes" died at the rates of 22·6 and 31·6 per mille, respectively; Muhammadans and Hindus at the rate of 23·4 and 23·1. The monthly mortality was highest in November and December, and lowest in June.

Male and female infants died at the rate of 194·8 and 166·8 per thousand; and boys and girls, between one year and five years of age at the rates, respectively, of 46·0 and 41·0. In the age periods, 10—15 and 20—30, the female death-rates were the higher, at all other periods males died at the greater rate, the averages being 24·1 per mille among males and 22·7 per mille among females.

Madras.

115. A falling off in the number of recorded births from 935,845 in 1897 to 911,742, reduced the birth-rate from 28·7 per mille to 27·4 or 1·1 per mille below the quinquennial average.

As in the preceding year, the highest district birth-rates were recorded in Madras (41·5 per mille), Chingleput (35·7), and Kistna (34·2), but the rates, especially in the case of Chingleput, were lower in 1898 than in 1897. The lowest district rates were 22·9, 22·7, and 18·6 registered, respectively, in Ganjam, Madura, and Malabar; the decline in the birth-rate in Madura, where the average is 29·4, being due to the inclusion in the district statistics of figures from certain zamindaris.

In rural areas the average birth-rate was 26·9 per mille, against 33·0 in the towns, among which the highest rates recorded were 54·5 in Vaniyambadi and 49·0 in Periyakulam.

The percentage of male to female births rose from 104·0 in 1897 to 104·3, and ranged from 112·8 in Ganjam to 95·8 in the Nilgiris.

The number of deaths registered in 1898 was 699,108 or 128,417 fewer than in the preceding year, and the death-rate, which had reached 25·4 per mille, fell to 21·0, the same as the quinquennial average. By far the highest district death-rate was recorded in Madras, 45·2 per mille, and this was followed by 30·9 and 25·9 in the Nilgiris and Tanjore, respectively. The lowest rates were recorded in Malabar, 17·5 per mille, Godaveri, 16·7, and Madura 15·6.

The average recorded death-rate in rural areas was only 20·3 per thousand against 29·8 in the towns, where the rates ranged from 45·2 in Madras and 39·3 in Guntur and in Ootacamund, to 8·1 in Samalkote in the Godaveri district.

Among the different sects the highest death-rate was 21·3 per mille registered for Hindus; Muhammadans followed with 18·9, then Native Christians 16·2, and lastly "other classes," 14·1.

The highest monthly death-rate was recorded in January (2·4), there was a considerable fall in February (1·8) and in March (1·6); the rates remained the same (1·5) during the next three months, to rise again in July, August, and September (1·7); there was a fall in October (1·6), but this was followed by a rise in November (1·9) and December (2·1).

Male infants died at the rate of 140·9 per mille and females at the rate of 116·0; boys and girls between one year and five years of age died at the rates of 25·9 and 24·1, respectively. In the age period, 15—20, females died at a higher rate than males, 11·4 per mille against 9·3, and in the next age period, 20—30, the sexes died at the same rate (10·3), but in all other age periods the male rates were the higher, the average being 21·9 per mille against 20·1.

Coorg.

116. The number of births registered in 1898 in Coorg was only 2,795, a smaller number than in any year since 1890, and the birth-rate of the year was 16·15 per mille, as compared with 20·24 in the preceding year, and a quinquennial average of 24·18. The rates in the various districts ranged from 19·05 in Kiggatnad to 11·58 in Mercara; and in all the five districts the recorded births were less numerous than the deaths. The average birth-rate in the towns was only 7·67 per mille. The percentage of males to females born rose from 100·74 in 1897 to 107·34, and ranged from 117·48 in Nanjarajapatna to 97·10 in Yedenalknad.

Although deaths were much less numerous in 1893 than in 1897, 5,440 against 8,658, the death-rate was a high one for Coorg, 31·44 per mille, against an average of 31·07 in the previous five years, which include the record death-rate of 50·03 per mille in 1897.

The district death-rates varied between 37·63 per 1,000 in Nanjarajapatna and 24·13 in Kiggatnad. The average rate in rural areas was 30·42 against 41·78

in the towns. The latter are all very small and the death-rates in some of them are enormously raised by the inclusion in the statistics of the deaths in the dispensaries of coolies, *e. g.*, the death-rate in Virajendrapett was 73·73 per mille, but of the 328 recorded deaths no less than 206 occurred in hospital, and 191 of the 206 were coolies on their way to or from the coffee estates Similarly, if the deaths of coolies are deducted from the total number registered in Mercara, the death-rate of the town is reduced from 30·85 per mille to 21·32.

Among Hindus, who form the vast majority of the population, the death-rate was 30·17; among Muhammadans it was 32·53; and among the small number described as "other classes" it was 83·50. The year began with a high death-rate in January; there was a fall in February, but in March the mortality rose, to fall again in April, after which it rose to a maximum in June, falling month by month until December, when it again rose.

The death-rate among infants was 187·2 per mille among males, and 157·08 among females, against 359·85 and 331·37, respectively, in the preceding year; among boys and girls over one year and under five years of age, the rates were 35·26 and 30·50, against 77·06 and 78·41 in 1897. In the age periods 10—15, 40—50, and 50—60, the female death-rates were the higher; and the average death-rates were 32·11 among males and 30·59 among females.

Bombay.

117. The number of births registered in the Presidency of Bombay, including Sind, again shews a considerable decline from 691,847 in 1896 and 629,693 in the following year, to 582,371 in 1898. The birth-rate in 1898 was only 30·94 per mille, against 33·46 in the preceding year, and a quinquennial average of 35·28. The highest district birth-rates were registered in the Panch Mahals, 42·33 per mille, Khandesh 40·74, and Broach, 40·49; the lowest in Ratnagiri, 24·52 per mille, Kanara 23·76, Hyderabad, 16·96 and Bombay City, 13·08. In rural areas the average birth-rate was 31·91 per mille, against only 24·05 in the towns, where rates ranged from 64·97 in Borsad, 52·0 in Kapadvanj, both in Kaira, and 50·59 in Nandurbar in Khandesh, to 12·64 in Sholapur, 12·27 in Ahmednagar, and 10·83 in Poona; the low rates in the two last being ascribed to the exodus on account of plague.

The percentage of male to female births fell from 108·42 in 1897 to 108·19 ranging from 137·27 in Hyderabad to 101·95 in Dharwar.

The smallest number of births was recorded in the month of February, and the monthly totals were much below the normals until August, when the number was about the average; but in the succeeding months the numbers born were far above the average, the maximum being recorded in October.

The total number of deaths registered was 548,825, or 201,091 fewer than in the previous year, so that in spite of the presence of plague, the death-rate fell from 39·84 per mille to 29·16, which is not only lower than the mean of the previous five years, 31·92, but is lower by 1·29 per mille than the mean of the five years ending with 1896, which include no year of exceptional mortality.

The highest district death-rates were 64·03, 63·81 and 41·77 per mille registered, respectively, in the City of Bombay, Dharwar, and Belgaum; and the lowest 17·27, 14·58, and 11·04 per mille in Upper Sind Frontier, Thar and Parkar, and Hyderabed.

In rural areas the average death-rate was 26·55, against an average of 47·88 in the towns, among which the highest rates registered were 106·76, 93·25, and 69·08 in the plague-stricken towns of Belgaum, Gokak, and Hubli.

The highest death-rates were recorded among Parsis and Christians, 32·54 and 32·22 per mille, respectively, and the lowest rate among "other classes" 7·25. Hindus died at a much higher rate than Muhammadans, 30·71 per mille, against 23·76.

The monthly death-rates fell fairly regularly from January (2·65) to a minimum in June (1·61), then rose rapidly to a maximum in October (3·21), falling slightly to the end of the year.

Male infants died at the rate of 157·22 per mille and females at the rate of 135·50; children between one year of age and five years at the rates of 42·84 among boys and 40·50 among girls. In the age periods 5—10, 10—15, 15—20, and 20—30, females died at the higher rate, the averages being 29·66 per mille among males, and 28·63 among females.

Burma.

118. A slight reduction has been made in the population referred to in the registration returns of Lower Burma, by the exclusion from them of certain inaccessible tracts of the Toungoo and Mergui districts, which are patrolled only at irregular intervals. The average birth and death-rates in these tracts in 1898 were registered as 18·94 and 11·77 per mille; and, although these may be much understated, since, however, the aggregate population of the tracts is only 17,163, but little difference in the provincial returns results from its exclusion.

In Lower Burma, the total number of births registered in 1898 was 153,838, more than 10,000 in excess of the total of the preceding year, and the birth-rate was 34·11 per mille, as compared with 31·82 in 1897, and 29·36, the quinquennial mean.

Hitherto, 32·27 per mille, the birth-rate registered in 1896, has been the highest on record, and the increase of nearly 2 per mille in 1898 affords evidence that the attention given in recent years to the improvement of registration in Burma is bearing fruit.

But a good deal remains to be done as a comparison of the ratios obtained in the districts shews. In Myaungmya, Mergui and Pegu, the birth-rates were respectively, 45·24, 45·09, and 41·49 per thousand, while in Prome, Akyab, and Rangoon, they were only 29·80, 28·58, and 18·77. The Rangoon district is entirely urban, and the male population is greatly in excess of the female, and there is a similar excess of males in the Akyab district; but in Prome, if the proportion of the sexes determined at the census has been maintained, there is a considerable excess of females, while in Myaungmya, Mergui, and Pegu, males are the more numerous.

The average birth-rate in rural areas was 35·34 per mille, very nearly 10 per mille higher than the average of 25·78 registered in the towns, in which the rates ranged from 50·05 in Kawkareik to 15·02 in Akyab.

In the province as a whole 109 boys were born for every 100 girls, the percentages ranging from 115 in Rangoon Town district to 103 in Bassein.

The number of deaths registered was 117,856, and the death-rate was 26·13 as compared with 26·26 in the preceding year, and 23·52, the mean of the previous five years.

The district death-rates varied between 43·39 per mille in Rangoon Town district, where alone the deaths exceeded the births, to 18·40 in Mergui. In rural areas the average death-rate was 25·09, or about 8 per mille less than the average in the towns which was 33·10, ranging from 43·39 in Rangoon and 41·91 in Pegu to 17·38 in Sandoway.

Among the different sects, by far the highest mortality was registered among the Hindus who died at the rate of 37·51. It is explained that "this is due to the bulk of the Hindu population being made up of coolies, who, from the nature of their occupation, are specially liable to early breakdown. In towns they huddle together in overcrowded rooms, and in the district live in squalid huts not raised above the ground as Burman houses are." These conditions no doubt conduce to a high death-rate, but as there can be proportionately few infants and young children among the coolies, they do not seem sufficient to account for a rise in the mortality among Hindus from 20·99 per mille in 1895 to 25·15, 31·51, and 37·51 in the three succeeding years. Christians had the lowest death-rate, 16·25 per mille, after whom came Muhammadans with 23·60, "other classes" with 25·89 and Burmese with 26·03.

The lowest mortality occurred in March and April, and the highest in July and August.

Among male infants the death-rate was 287·35 per thousand living, as compared with 193·96 among females; boys and girls between one year and five years of age died, respectively, at the rates of 35·92 and 30·43 per mille. The death-rates of children have shewn a progressive increase in recent years, due no doubt to the increase in the actual population while that on which ratios are calculated remains the same.

At all age periods, save between 30 and 40, the male death-rates were the higher, the average being 27·92 per mille among males and 24·12 per mille among females.

In Upper Burma registration throughout 1898 was limited to nine towns with an aggregate population of 280,297, comprising 139,489 males and 140,808 females. The number of births registered was 9,546, or 34·06 per thousand of the population, but the variation in the rates was considerable from 45·41 in Yamethin to 28·34 in Monywa, and 11·76 in Pagan. The average death-rate was 29·71, ranging from 36·44 in Pyinmana, to 16·63 in Pagan.

The registration of births and deaths has been extended to three more towns, making twelve in all, and arrangements were completed to introduce the registration of deaths into selected districts.

Military Cantonments.

119. The following statement shews the mortality during 1898 among the native population of the Cantonments in the four Commands and in the Hyderabad Assigned Districts.

Death-rate amongst Natives in the Cantonments of the four Commands of India and in the Hyderabad Assigned Districts during 1898.

Cantonments.	Died per 1,000 of population.	Cantonments.	Died per 1,000 of population.	Cantonments.	Died per 1,000 of population.
Fort William	10·5	Chakrata	18·6	Muttra	25·2
Alipore	16·1	Landour	21·0	Cawnpore	21·7
Dum-Dum	14·8	Dehra Dun	17·3	Allahabad	10·7
Barrackpore	18·2	Roorkee	15·6	Jhansi	11·7
Darjeeling	29·0	Meerut	30·1	Benares	17·2
Buxa	6·0	Naini Tal	10·8	Gorakhpore	10·9
Doranda	28·6	Ranikhet	16·7	Lucknow	13·1
Dinapore	15·3	Almora	12·4	Fyzabad	16·6
Cuttack	22·2	Lansdowne	35·2	Sitapur	23·3
Cachar	15·0	Bareilly	17·9	Saugor	17·5
Shillong	17·2	Shahjahanpur	28·9	Asirgarh	...
Dibrugarh	20·0	Fatehgarh	22·8	Jubbulpore	25·0
Kohima	45·9	Agra	24·1	Pachmarhi	45·6

Death-rate amongst Natives in the Cantonments of the four Commands of India and in the Hyderabad Assigned Districts during 1898—contd.

Cantonments.	Died per 1,000 of population.	Cantonments.	Died per 1,000 of population.	Cantonments.	Died per 1,000 of population.
Kamptee	16·8	Nowshera	9·2	Kurrachee *	...
Nowgong	27·5	Murdan	9·3	Neemuch	25·2
Deoli	16·9	Abbottabad	7·5	Mhow	33·5
Delhi	11·3	Kohat	6·0	Deesa	32·8
Umballa	27·5	Rangoon	37·2	Ahmedabad	13·1
Kasauli	26·3	Thayetmyo *	...	Rajkot	100·0
Dagshai	9·3	Meiktila	3·2	Bhuj	13·7
Subathu	28·1	Mandalay	17·5	Baroda	64·1
Jutogh	28·7	Bhamo	8·1	Sambalpur	5·6
Jullundur	13·8	Shwebo	12·3	Kamptee	15·7
Dharmsala	21·4	Fort Stedman *	...	Raipur	18·2
Amritsar	14·7	Secunderabad	12·2	Malegaon	25·0
Dalhousie	23·5	Cannanore*	...	Ahmednagar	9·1
Bakloh	9·6	Belgaum	86·6	Sirur	6·9
Sialkot	11·6	Calicut	133·3	Poona	18·2
Meean Meer	10·5	Quilon	7·7	Kirkee	18·5
Ferozepore	24·9	Bellary	2·3	Satara	3·3
Rawalpindi	7·8	Trichinopoly*	...	Quetta	15·1
Campbellpore	16·0	St. Thomas' Mount	17·9	Purandhur	18·9
Fort Attock	9·5	Pallavaram	12·0	Deolali Depôt	45·8
Murree	45·3	Vizianagram	10·7	Aurangabad	18·3
Jhelum	3·5	Berhampur*	...	Jalna	17·6
Mooltan	11·1	Maymyo	12·5	Hingoli	19·1
Dera Ismail Khan	6·9	Wellington	12·6	Mominabad	15·4
Dera Ghazi Khan	10·5	Poonamallee Depôt	18·5	Bolarum	23·7
Edwardesabad	29·1	Jacobabad	19·0	Raichur	10·7
Peshawar	12·2	Hyderabad	12·6		

* Population not available.

Appendix to Section V.

STATEMENT I.—*Births.*

PROVINCE.	Population under registration.	RATIO OF BIRTHS PER 1,000 OF POPULATION.			Number of males born to every 100 females born.	Excess of births over deaths per 1,000 of population.	Excess of deaths over births per 1,000 of population.
		Maximum for any one district.	Minimum for any one district.	Mean for the province.			
Bengal	71,069,617	43·59	13·98	35·79	106·	9·22	...
Assam	5,021,084	38·18	18·66	29·46	107·65	...	6·69
North-Western Provinces and Oudh	46,904,791	53·93	25·99	37·35	108·05	9·97	...
Punjab	20,553,982	53·8	21·8	41·0	110·4	9·9	...
Central Provinces*	9,501,401	45·54	22·18	29·91	106·09	5·61	...
Berar	2,852,825	33·6	28·4	31·3	105·2	7·9	...
Madras Presidency	33,248,180	41·5	18·6	27·4	104·3	6·4	...
Coorg	173,055	19·05	11·58	16·15	107·34	...	15·28
Bombay	18,820,346	42·33	13·08	30·94	108·19	1·78	...
Lower Burma	4,510,697	45·24	18·77	34·11	109·	8·	...
Ajmer-Merwara	542,358	43·48	25·82	29·73	113·56	7·59	...
Mysore	4,843,523	19·35	11·82	14·96	102·02	...	5·03

* Excluding Zamindaris.

STATEMENT II.—*Deaths.*

PROVINCE.	Population under registration.	Area in square miles.	Average population per square mile.	RATIO OF DEATHS PER 1,000 OF POPULATION.			DEATH-RATE PER 1,000.	
				Maximum for any one district.	Minimum for any one district.	Mean for the province.	Male.	Female.
Bengal	71,069,617	144,408	492	40·99	15·33	26·57	28·75	24·40
Assam	5,021,084	29,433	170	47·25	25·93	36·15	37·58	34·63
North-Western Provinces and Oudh	46,904,791	107,734	435	41·49	19·11	27·38	27·65	27·09
Punjab	20,553,982	110,463	186	40·1	21·3	31·1	29·9	32·4
Central Provinces*	9,501,401	71,582	133	34·63	19·72	24·30	25·80	22·80
Berar	2,852,825	16,068	177	25·1	20·4	23·4	24·1	22·7
Madras Presidency	33,248,180	128,727	270	45·2	15·6	21 0	21·9	20·1
Coorg	173,055	1,583	109	37·63	24·13	31·44	32·11	30·59
Bombay	18,820,346	124,130	151	64·03	11·04	29·16	29·66	28·63
Lower Burma	4,510,697	76,023	59	43·39	18·40	26·13	27·92	24·12
Ajmer-Merwara	542,358	2,711	200	22·37	22·07	22·13	22·34	21·91
Mysore	4,843,523	27,924	173	28·14	14·27	19·98	20·93	19·03

* Excluding Zamindaris.

STATEMENT III.—*Deaths in Towns and Rural Circles compared.*

PROVINCE.	NUMBER OF REGISTRATION CIRCLES.			POPULATION.			DEATHS PER 1,000.		
	Rural.	Town.	TOTAL	Rural.	Town.	TOTAL.	Rural.	Town.	TOTAL.
Bengal	559	151	710	67,616,725	3,452,892	71,069,617	26·52	27·50	26·57
Assam	60	21	81	4,914,687	106,397	5,021,084	36·07	40·04	36·15
North-Western Provinces and Oudh	1,216	98	1,314	43,683,519	3,221,272	46,904,791	26·94	33·41	27·38
Punjab	448	150	598	18,551,934	2,010,390	20,553,982*	30·82	33·05	31·05
Central Provinces†	163	73	236	8,684,984	816,417	9,501,401	23·98	27·62	24·30
Berar	67	38	105	2,496,823	356,002	2,852,855	23·1	25·5	23·4
Madras Presidency	181	93	274	30,710,147	2,538,033	33,248,180	20·3	29·8	21·0
Coorg	5	5	10	157,544	15,511	173,055	30·42	41·78	31·44
Bombay Presidency	220	63	283	16,515,973	2,304,373	18,820,346	26·55	47·88	29·16
Lower Burma	196	34	230	3,928,005	582,092	4,510,697	25·09	33·10	26·13
Ajmer-Merwara	17	6	23	418,206	124,152	542,358	19·49	31·05	22·13
Mysore	69	20	89	4,543,830	299,693	4,843,523	18·06	49·09	19·98

* The total excludes Europeans and Eurasians—*viz.*, 8,342.
† Excluding Zamindaris.

STATEMENT IV.—*Deaths according to age.*

PROVINCE.	RATIO PER 1,000.																	
	Under 1 year.		1 year and under 5 years.		5 years and under 10 years.		10 years and under 15 years.		15 years and under 20 years.		20 years and under 30 years.		30 years and under 40 years.		40 years and under 50 years.		50 years and under 60 years.		60 years and upwards.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
engal . .	215·65	170 28	37·18	31·23	15·56	12·44	13·04	10·62	16·01	14·91	17·35	15·00	18·33	15·04	23·68	18·03	34·08	28·00	64·45	49·23
ssam . .	198·04*	181·30*	37·71	36·12	20·51	16·81	19·52	18·69	29·54	29 42	27·57	27·65	30·34	28·44	37·80	28·99	48·27	41·63	82·57	64·93
.-W. Provinces and Oudh .	227·74	210·46	44·63	44·48	11·22	10·25	7·62	7 46	10·29	14·09	13·25	14·19	16·44	14·75	24·69	22·60	39·00	32·24	51·70	38·84
unjab . .	215·19	210·09	63·04	62·57	10·46	11·66	6·80	8·48	7·25	9 34	9 38	10·94	13 06	14·56	19·48	17 93	29·37	26·88	87·65	92·00
entral Provinces .	240 11	205·45	26·13	22 37	10·85	9·76	8·09	7·68	13·72	11·59	14·02	10·74	10·88	14·12	23 61	19·88	36·61	32·93	63·52	54·99
erar . .	194·8	168·8	46·0	41·0	10·0	8·4	6·4	6·9	8·1	7·9	8·5	9·2	11·2	10·7	18·0	12·4	31·9	26·4	61·9	60·0
adrasPresidency .	140·9	116·0	25·9	24·1	9·6	8·8	7·7	7·4	9·3	11·4	10·3	10·3	13·7	12·0	18·9	14·9	31·7	26·3	54·4	49·6
oorg . .	187·02	157·08	35·26	30·50	11·01	10·74	12 97	13 91	14·78	14·71	24·02	23·14	33·28	30·94	42·32	43·60	63·72	65·05	99·10	77·24
ombay . .	157·22	135·50	32·84	40·50	12·36	13·46	12·45	15·25	12·40	13 64	16·59	15·80	21·02	18·85	28·09	21·64	42·16	33·28	92·80	86·05
ower Burma .	287 35	193·96	35·92	30·43	15·04	12·48	9·26	8·49	13 85	11·18	14·02	13·68	19·24	19·56	24·03	19·78	30·82	25·33	64·21	58·60
jmer-Merwara .	170·59	152·57	42·95	39·37	5·30	4·72	4·36	5·46	6·06	10·19	7·97	10·15	11·26	10·66	21·02	15·67	37·11	31·52	57·85	49·77
ysore . .	78·32	64·4[illegible]	20·67	18·70	11·38	9 46	12·01	13·37	15·01	16·04	13·99	14·59	18·50	16·10	25·29	21 07	34·32	28·49	55·67	43·43

* Excluding the number of deaths and population of Khasi and Jaintia Hills.

STATEMENT V.—*Deaths according to Cause.*

PROVINCE.	DEATH PER 1,000 IN 1898.								Deaths per 1,000 in 1897.	Deaths per 1,000 in 1896.
	Plague.	Cholera.	Small-pox.	Fevers.	Dysentery and Diarrhœa.	Injuries.	All other causes.	All causes.		
Bengal	...	0·91	0·20	19·97	0·52	0·45	4·50	26·57	32·94	34·17
Assam	...	2·22	1·03	20·9	3·23	0·34	8·43	36·15	50·61	36·33
N.-W. Provinces and Oudh .	...	0·05	0·05	22·07	0·50	0·53	3·57	27·38	40·46	33·32
Punjab	...	...	0·24	20·35	0·77	0·30	9·33	31·05	31·05	31·53
Central Provinces . .	0·01	..	0·10	16·40	1·23	0·50	6·06	24·30	69·34	49·31
Berar	...	...	0·2	11·5	3·5	0·3	7·9	23·4	52·6	43·8
Madras Presidency . .	...	2·0	0·6	7·5	0·9	0·3	9·7	21·0	25·4	20·6
Coorg	...	0·05	0·13	27 02	1·09	0·31	2·84	31·44	50·03	26·43
Bombay	...	0·23	0·10	16·07	3 02	0·37	9·37	29·16	39·84	31·69
Lower Burma . . .	...	0·66	1·07	11 90	1·78	0·27	10·44	26·13	26·26	23·63
Ajmere-Merwara . . .	...	0·01	0·75	16·02	1·01	0·51	3·83	22·13	24·68	28·25
Mysore	...	0·25	1·35	11·07	1·39	0·78	5·15	19·98	17·94	14·21

* Excluding Zamindaris.

STATEMENT VI.—*Deaths from all Causes according to Months.*

PROVINCE.	RATIO PER 1 000.												
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	TOTAL.
Bengal .	2·66	1·89	2·16	2·10	2·16	1·63	1·66	2·24	2·13	2·52	2·75	2·61	26·57
Assam .	3·08	2·52	2·58	2·82	3·49	3·11	3·03	2·85	3·00	3·09	3·35	3 23	36 15
N.-W. Provinces & Oudh	2·36	1·68	1 82	2·02	2·06	2·14	1 84	2·08	2·50	3·11	2·91	2·85	27 38
Punjab .	2·84	2·04	2·12	2·17	2·60	2 70	2·21	2·43	2·68	3·14	3·14	2·98	31·05
Central Provinces* .	2·57	1·95	1·89	1·94	2·05	1·68	1·51	1·88	1·96	2·36	2·21	2·30	24·30
Berar . .	2·3	1·8	2·0	1·9	1·6	1·1	1·4	2·0	2·2	2·2	2·4	2·5	23·4
Madras Presidency .	2·4	1·8	1 6	1·5	1·5	1·5	1·7	1·7	1·7	1·6	1·9	2·1	21·0
Coorg . .	3·13	2·33	2·02	2·72	2 78	3·16	3·09	2·85	2·65	2·00	1·77	1·94	31·44
Bombay .	2·05	2·30	2·43	2·08	1·85	1·61	1·89	2·45	2·66	3·41	3·17	2·86	29·16
Lower Burma	2·40	2·02	1·99	2·01	2 02	2·11	2·47	2·43	2·22	2·18	2·15	2·14	26·13
Ajmer-Merwara .	2·34	2·18	2·18	1·85	1·77	1·70	1·34	1·86	1·63	1·42	1·71	2·16	22·14
Mysore .	1·83	1·55	1 97	1 85	1·37	1·32	1·40	1·39	1·39	1·82	1·58	2·12	19 98

* Excluding Zamindaris.

SECTION VI.

GENERAL POPULATION.

HISTORY OF CHIEF DISEASES.

Cholera.

120. There is no discovery regarding the etiology of cholera to chronicle. In the greater part of India, as the following paragraphs will show, the disease remained in comparative abeyance throughout the year, a year of remarkable prevalence being succeeded by one of singular absence of the disease. We may congratulate ourselves on the fact, but we cannot explain it.

Cholera.

121. Anti-cholera inoculations were continued at the coolie-depot at Purulia in Bengal, but it is not possible to say how far the inoculation was protective as there are no complete statistics, the Chief Commissioner of Assam having decided that it would be inexpedient to prescribe for preparation by the Managers of tea-gardens, of the half yearly returns to which allusion was made in this Report for 1897. If any conclusion is permissible from such figures as are available, it is decidedly in favour of the operation.

Experiments in cholera prophylaxis.

The disinfection of wells with permanganate of potassium as recommended by Mr. Hankin, has become almost a routine practice in many parts of India in the presence of cholera. So far there is nothing on record to prove the utility of the procedure, but general impressions are almost universally favourable to it.

122. In 1897 there were 555,035 deaths recorded as due to cholera, and the death-rate, calculated upon the whole population under registration, was 2·55 per mille. In 1898 the number of deaths fell to 152,703, fewer than in any year since 1880, and less than the number registered in an average year in Bengal alone.

The distribution of cholera in India.

The death-rate in 1898 in the country generally averaged ·70 per mille, and in every province, except Madras, the death-rate was much below the average. In Madras the deaths recorded numbered 65,444, a very striking contrast to the number, seven, registered in the adjoining Central Provinces. In the Punjab only 33 deaths were recorded, in Rajputana and in Hyderabad only six, in Central India only two, and in Berar not a single one.

The statement below shows the total number of deaths attributed to cholera in every province in India in each year from 1877 onwards :—

Statement showing the deaths from CHOLERA in the different Provinces in India from 1877 to 1898.

Year.	Bengal.*	Assam.	N.-W. P. and Oudh.	Punjab.	Central Provinces.	Berar.	Rajputana.	Central India.	Bombay.	Hyderabad.	Madras.	Mysore.	Coorg.	Lower Burma.	Ajmer-Merwara.
1877 . .	155,305	1,377	31,770	29	5,413	842	60	926	57,228	7,414	357,430	2,902	‡	7,276	11
1878 . .	95,191	6,732	22,221	215	40,985	34,306	2,303	8,047	46,743	6,696	47,167	723	49	6,759	318
1879 . .	130,363	17,415	35,892	26,135	27,575	225	918	2,734	6,937	6	13,396	14	...	1,828	130
1880 . .	59,643	2,803	71,546	274	339	1	...	299	684	...	613	25	...	2,638	3
1881 . .	79,180	5,010	25,865	5,907	9,140	3,404	197	581	16,694	1,721	9,446	35	3	5,239	16
1882 . .	182,352	21,015	89,372	59	11,932	3,573	1,337	1,562	7,904	150	23,604	893	31	7,177	289
1883 . .	90,429	14,068	18,166	191	16,935	27,897	797	1,740	37,954	1,047	36,284	124	...	2,183	87
1884 . .	134,421	22,276	30,143	614	149	87	1,397	1,028	13,804	2,479	75,476	339	...	5,515	227
1885 . .	173,767	7,753	63,457	1,936	21,868	3,683	1,615	4,624	37,887	1,387	58,109	2,677	...	7,685	108
1886 . .	118,363	20,188	34,565	11	16,679	976	173	999	167	499	13,417	10	...	4,037	755
1887 . .	173,578	7,941	200,628	8,804	13,576	14,396	2,612	8,868	25,711	2,831	28,359	832	3	2,649	384
1888 . .	111,391	9,693	18,704	14,938	921	305	31	191	36,300	2,057	58,677	1,015	2	15,982	13
1889 . .	171,103	18,283	48,494	2,858	52,588	10,925	6,923	5,344	32,451	1,128	76,020	1,590	9	3,840	55
1890 . .	145,885	15,396	80,295	3,401	4,787	847	2,746	3,132	3,259	...	35,288	1,326	5	1,076	408
1891 . .	292,575	23,882	169,013	10,107	21,312	7,958	2,946	13,474	17,850	3,102	98,773	1,304	7	2,400	532
1892 . .	259,398	21,552	194,886	75,959	30,072	2,030	26,760	8,384	42,900	53	79,033	5,497	58	6,908	2,352
1893 . .	196,976	21,849	12,154	639	557	1,188	314	127	18,853	165	38,209	680	9	2,393	3
1894 . .	236,150	13,497	178,079	113	7,043	3,452	2	5,210	33,588	1,862	42,289	328	8	7,428	...
1895 . .	177,087	18,962	52,562	549	15,506	11,919	1,049	6,043	8,890	467	21,172	2,334	...	5,130	289
1896 . .	225,824	17,042	69,147	5,146	52,985	12,264	3,797	15,766	25,404	525	47,847	2,100	49	2,959	12
1897 . .	196,247	33,240	44,208	622	57,131	10,122	1,496	13,302	57,109	1,039	143,445	4,348	106	8,538	19
1898 . .	65,020	11,149	2,508	33†	7§	...	6	3	4,368	6	65,444	1,193	8	2,972	1

* Excluding Calcutta from 1877 to 1892.
† Including 30 deaths in Cantonments.
‡ Statistics not available.
§ Excluding Zamindaries.

From the following statement of the seasonal distribution of the disease it will be seen that by far the largest number of deaths occurred in January; there was a great fall in the mortality in February, continued in a slight degree in March, followed by a rise in April. The mortality again declined in May, and in June there was a remarkable fall, the low figure recorded in that month becoming gradually lower, except for a slight rise in August till the minimum was reached in October; a slight rise in November was followed by a great rise in December :—

Statement showing the deaths from CHOLERA registered in the different Provinces by months during the year 1898.

Province.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.	Ratio of deaths per 1,000 of population. 1898.	1897.
Bengal . .	11,730	6,723	6,831	12,748	10,710	3,138	1,052	867	639	1,849	2,678	5,855	65,020	0·91	2·76
Assam . .	1,191	653	674	1,670	3,413	2,142	609	188	185	168	102	154	11,149	2·22	6·62
North-Western Provinces and Oudh . .	81	92	52	173	188	190	70	145	181	503	595	238	2,508	0·05	0·94
Punjab . .	...	...	...	2	30*	...	...	...	...	...	...	...	33	0·002	0·03
Central Provinces†	...	1	...	2	1	...	3	...	...	...	...	...	7	...	6·01
Berar . .	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3·56
Lower Burma	177	251	365	637	596	336	399	102	26	28	19	36	2,972	0·66	1·89
Madras Presidency . .	18,113	9,052	5,026	5,590	2,451	1,984	3,772	4,951	3,778	1,636	2,442	6,649	65,444	2·0	4·38
Bombay Presidency . .	113	36	167	518	495	697	631	719	523	348	89	32	4,368	0·23	3·03
Ajmer-Merwara .	...	...	1	...	...	...	...	...	...	...	...	...	1	0·01	0·04
Coorg . .	...	5	3	...	...	...	...	...	...	...	...	...	8	0·05	0·61
Mysore . .	43	6	21	366	172	139	90	114	111	24	58	49	1,193	0·25	0·88
Total .	31,448	16,819	13,140	21,706	18,056	8,826	6,626	7,086	5,444	4,556	5,983	13,013	152,703	0·70	2·55

* These deaths took place in the Umballa Cantonment.
† Excluding Zamindaries.

In the next statement the millesimal death-rates from cholera in the various provinces are contrasted with each other, and with quinquennial averages; urban and rural mortality are compared; the percentages of villages attacked in each province are shown; the highest mortality in any single district and in any single town in each province is set forth; and the month of maximum prevalence in each province as indicated by the recorded death-rate is stated.

Province.	Mortality in 1898.	Mean mortality of previous five years.	Urban mortality.	Rural mortality.	Per cent. of villages attacked.	Maximum mortality in any one district, excluding towns.	Maximum mortality in any one town.	Month of maximum prevalence.
Bengal . . .	0·91	2·71	0·94	0·91	5·04	8·04	15·15	April.
Assam	2·22	4·17	1·87	2·23	13·67	3·46	6·57	May.
North-Western Provinces and Oudh . . .	0·05	1·51	0·08	0·05	0·48	0·42	8·33	November.
Punjab . . .	0·002†	0·07	0·001	...	0·005	...	0·07	May.
Central Provinces* .	‡	...	...	...	...	...	...	July.
Berar	...	2·7	...	...	...	...	...	...
Lower Burma . .	0·66	1·17	1·14	0·59	4·20	1·44	7·46	April.
Madras . . .	2·0	1·8	2·1	2·0	13·81	6·9	24·5	January.
Bombay . . .	0·23	1·63	0·23	0·23	1·31	3·92	14·36	August.
Ajmer-Merwara . .	0·01	0·12	0·01	...	0·13	...	0·04	March.

* Excluding Zamindaries.
† Including Cantonments.
‡ The total deaths numbered 7 only.

Cholera in Bengal.

123. In Bengal in 1898 the number of deaths registered as due to cholera was 65,020, and it is necessary to go back for eighteen years to find so low a cholera mortality. In 1880 the number of deaths was only 39,643, but only twice since, in 1881 when the total was 79,180, and in 1883 when it was 90,439, have the totals been less than a hundred thousand, and in most years they have been much more.

The cholera death-rate in 1898 was ·91 per mille, less than a third of the rate of the preceding year, which was 2·76, and a little more than a third of the quinquennial average of 2·71.

The low mortality is attributed by the provincial Sanitary Commissioner, chiefly to "the almost normal rainfall of the year, and the satisfactory agricultural outturn almost everywhere." Although in every district, with the exception of Chittagong and Purnea, the mortality was below the average, the disease was entirely absent from only one district, Palamau. It was absent from 130 of the 710 circles of registration and was present in epidemic form in only eighteen.

The highest district death-rates were 7·92 per mille registered in Chittagong, 3·15 in Balasore, 2·70 in Tippera and 2·20 in Bhagalpur. In Chittagong the high mortality seems to have been due to the conditions following the occurrence of the cyclone of October 1897. The disease was exceedingly

prevalent in this district in January, it declined considerably in February, and still more in March, when the number of deaths fell to 566; a further decline to 128 occurred in July, after which cholera almost disappeared from the district.

In Puri, where the mortality, 9·57 per mille, was highest in 1897, the death-rate fell in 1898, to ·45, a fall which is attributed to "the improved sanitary condition of the place and to the opening of the East Coast Railway, which facilitated the rapid dispersion of pilgrims who congregate in Puri on the occasion of religious festivals several times a year." It may be noted that although deaths occurred in Puri in every month of the year, serious mortality was limited to the first four, and that the rapid dispersal of pilgrims did not lead to an outbreak of the disease elsewhere.

In the rural areas the average death-rate was ·91 per mille as compared with ·94 in the towns. No less than 39 of the latter escaped the occurrence at any rate of fatal cases, and in other 24, deaths were limited to one or two. In a few small towns the mortality was heavy, notably in Garulia 15·15 per mille, Madaripur 6·60, Bajitpur 5·95 and Narayanganj 5·47. In Balasore the death-rate was 7·60 per mille, in Patna 1·60, and in Gaya 2·32.

Taking the province as a whole, the greatest mortality occurred in April, January, and May, and the least in September, August, and July. In the main divisions of the province there were, as usual, variations in the seasonal prevalence of the disease. The maxima in Bengal Proper occurred in January, April and May; in Behar, in April and May; in Orissa, in March and April; and in Chota Nagpur in March. The minima were recorded in Bengal Proper, in September, August and October; in Behar, in January and February; in Orissa, in September and November; and in Chota Nagpur in December.

Three cases and two deaths occurred among the European seamen in the Port of Calcutta, equal to a death-rate calculated on the average strength, of 1·62 per mille, by far the lowest rate recorded, at any rate in recent years.

Cholera in Assam.

124. The number of deaths attributed to cholera in Assam was 11,149 equal to a death-rate of 2·22 per mille, about one-third of the rate in the preceding year and rather more than half the quinquennial average of 4·17. In every district the death-rates were much lower than in 1897, and in every district they were below the five years' average.

The highest rate was 3·39 per mille registered in Kamrup, and this was followed by the rates registered in the Surma Valley districts, 2·57 in Cachar, and 2·50 in Sylhet. The lowest rates registered were ·54 and ·55 in Nowgong and the Khasi and Jaintia Hills respectively; in the remaining districts rates varied between 1·86 in Goalpara and 1·48 in Lakhimpur. In rural areas the average death-rate was 2·23 per mille against 1·87 in the towns. Among the latter there were six, including Shillong, in which no death occurred, and rates were high in only Karimganj 6·57, Habiganj 5·77, Dhubri 4·35, Sunamganj 3·50, and Silchar 3·19.

Among immigrant coolies the numbers of deaths, 26 on board steamers, and 58 at the depots, were smaller than for years past; but on the tea-gardens the cholera death-rate was higher than among the general population. There were in all 1,627 deaths on the gardens, equal to a death-rate of 3·57 per thousand of the census population, and to 2·53 per thousand of the population in 1898 calculated upon the immigration returns.

In the province as a whole, the greatest mortality from cholera occurred in

May, June, and April, and the least in November and December. The maxima in the Surma Valley occurred in May and June, and in the Brahmaputra Valley in April and May, the minima occurring, respectively, in November and September and in December and November.

North-Western Provinces and Oudh.

125. In these provinces the mortality from cholera was unprecedentedly low, only 2,508 deaths were recorded, the smallest number since the introduction of trustworthy registration in 1871. The death-rate was ·05 per mille as compared with ·94 in the previous year, and the quinquennial average of 1·51. No less than six districts seem to have escaped the disease altogether, and in a good many others, notably those of the Meerut Division, the few scattered deaths that occurred may not have been due to true cholera. The immunity of the rural population, among whom the death-rate was ·05 per mille, may be gauged from the fact that from only 516 out of 107,132 villages was the occurrence of deaths reported. Among the population of the larger towns, 265 deaths in all were recorded, equal to a death-rate of ·08 per mille. In only two of the towns was the rate in excess of 1 per mille, Tanda 1·67 and Rudhauli 8·33, situated in the districts, respectively, of Fyzabad and Bara Banki, where the highest district rates ·43 and ·39 per mille were recorded.

The maximum prevalence of the disease occurred in November and the minimum in March.

Punjab.

126. Save for an outbreak in April, resulting in about 30 deaths in the Umballa Cantonment, the Punjab was practically free from cholera, only three cases being reported, two in April, in the town of Rewari, in the Gurgaon District, and one in Umballa City in September.

Central Provinces.

127. After the severe epidemics of 1896 and 1897, in which, respectively, 52,985 and 57,131 deaths were registered, the total cholera mortality in the Central Provinces fell to seven deaths. The incidence of cholera in these provinces is occasionally slight, but nothing approaching the low mortality of 1898 has been recorded since 1874, when the deaths numbered only 14.

Of the seven deaths which were registered in 1898, four occurred in the district of Balaghat, two in April and two in July; two in Nagpur in May and July, and one in Saugor in February.

Berar.

128. After occasioning the comparatively high death-rates of 4·2, 4·3, and 3·5 per mille in 1895, 1896, and 1897, respectively, cholera disappeared from the province in November 1897, and in 1898 not a single death was recorded as due to the disease Although cholera has been continuously present in Berar for the last seventeen years, its complete abeyance is not unknown; in 1880 only one death was recorded—in Buldana; in 1874 only two, also in Buldana, and in 1873 no death was recorded.

Madras.

129. The total number of deaths attributed to cholera in Madras in 1898 was 65,444, and the death-rate fell from 4·4 per mille in the preceding year to 2·0, as compared with a quinquennial average of 1·8. The death-rates were very high in the neighbouring districts of Tanjore (6·7), Trichinopoly (5·5), and South Arcot (5·2). These are irrigated districts, as also is Kistna, where the next highest rate, 2·9 per mille, was recorded. In Nellore, which adjoins Kistna on the

south, the cholera death-rate was 2·8, but this district was affected by famine during the year. In thirteen districts the death-rates from cholera were under the average; and in Ganjam only 46 deaths were registered, in Anantpur only nine, and in the Nilgiris only one.

Although 29 of the towns escaped altogether, the average urban death-rate was 2·1 per thousand or ·1 per mille higher than the rural rate. Among the towns some of the death-rates were very high, notably in Ramnad (24·5) and Palni (14·4) both in Madura; in Tiruvallur (11·3) in Tanjore, in Arcot (8·1), in Chidambaram (7·7) in South Arcot, and in Trichinopoly (7·3).

The largest numbers of deaths occurred in January (18,113), February (9,052), and December (6,649), and the smallest numbers in October (1,636) and June (1,984).

Coorg.

130. Only eight deaths from cholera were registered in Coorg, equal to a death-rate of ·05 per thousand of the population against ·61 in 1897, and an average in the previous five years of ·20. The deaths occurred in February and March, seven in the Padinalknad taluk and one in the Mercara taluk.

Bombay.

131. The number of deaths registered as due to cholera in Bombay was 4,368, and the death-rate, which is the lowest since 1890, was ·23 per mille against 3·03 in 1897, and a quinquennial average of 1·63. No less than 4,054 of the deaths occurred in the district of Dharwar, where the death-rate from cholera was 3·86 per mille. There were 104 cases in the City of Bombay, 97 in the Belgaum district, 79 in Kanara, and 15 in Kolaba. In the remaining districts, there were only a few scattered cases; Khandesh, Nasik, Ratnagiri, Surat, Broach, Kaira, Panch Mahals, and the districts in Sind escaping altogether—the Sind districts for the second year in succession. The town of Gadag-Betgeri in Dharwar sufferred severely, 342 deaths, giving a death-rate of 14·36 per mille; and the next highest urban death-rate was 2·25 in Ranebennur in the same district. Only 5·36 deaths occurred in the towns, and the urban and rural death-rates were identical.

The greatest prevalence of the disease occurred in August and the least in December.

Burma.

132. The number of cholera deaths registered in Lower Burma in 1898 was 2,972, and the death-rate was ·66 per mille, as compared with 1·89 in the previous year, and a quinquennial average of 1·17. In every district save four, Akyab, Bassein, Tavoy and Toungoo, the district rates in 1898 were lower than the quinquennial averages, and the district of Mergui was free from the disease. The highest district rates were registered in Akyab, 1·84 per mille, Bassein 1·69, and Kyaukpyu 1·32. Although thirteen of the 34 towns were free from the disease, the urban death-rate, 1·14 per mille, was nearly double the average of ·59 recorded in rural areas, deaths being fairly numerous in the populous towns of Akyab, (cholera death-rate 7·46), Bassein (4·06), Thayetmyo (2·81), Moulmein (1·20) and Prome (1·07).

There were 177 deaths recorded in January, after which the number rose to a maximum of 637 in April, declining steadily until August, when it dropped to 102, after which it fell to 26 in September and remained low until the end of the year.

In the nine towns in Upper Burma in which vital statistics are registered,

there were only four deaths ascribed to cholera, three in Myingyan and one in Pagan.

Summary of cholera registers.

133. The troops and the prison populations shared in the general immunity from cholera enjoyed by the people; and the following paragraphs, compiled from the cholera registers of outbreaks among troops and prisoners, show that even when cholera did appear among them it was, except in a few instances, limited to sporadic cases.

Details regarding first cases, etc.

134. Cholera occurred among European troops in nine stations, and there were in all 30 cases and 21 deaths—case-mortality 70 per cent. In only one instance, at Umballa, where there were 20 seizures and 15 deaths, was the disease present in epidemic form. Of the 20 seizures at Umballa, nine occurred among native followers and four of them recovered, but 10 of the 11 Europeans attacked, died. In other stations six of the attacks were single, and four of these terminated fatally.

Among Native troops, cholera occurred in six stations among 10 bodies of men, one of which suffered on two occasions. There were in all 57 cases, of which 44 ended in death, case-mortality 77·2 per cent.

Only eleven Jails suffered, four in Bengal, two in Assam, two in Madras, and three in Burma. There were only 18 cases in all, and it is doubtful if the disease was true cholera in at least five instances. There were, however, nine deaths, equal to a case-mortality of 50 per cent.

Prevalence of diarrhœa at the time of the occurrence of cholera.

135. There was no special prevalence of diarrhœa at the time of the occurrence of cholera, except in one instance, when a fatal case of doubtful cholera occurred in the Tezpur Jail.

Proportion of Buildings which furnished cases.

136. The statement below shows, in all cases where the details are available, the number of buildings occupied by the communities attacked, and the proportion which furnished cases of the disease:—

Communities.	Number of buildings occupied by communities attacked.	Number of buildings which furnished cases.	Percentage of buildings which furnished cases.
European troops	131	15	11·45
Native troops	805	31	3·85
Prisoners	91	14	15·39

State of the weather during outbreaks.

137. No special relation between particular meteorological conditions and the occurrence of cholera was established.

Communication with cholera elsewhere.

138. In one fatal outbreak among Europeans, the first attacked was of intemperate habits, and the day before his seizure, had visited a house in the bazar where there was a case of cholera. The occupant of the adjacent quarters visited the patient and was himself attacked on the following day. He recovered, and there was no other case.

Among Native troops there was no case in which cholera was imported in the sense used in this Report, but in many instances cholera was present in the neighbouring bazars or villages.

In two Bengal Jails, prisoners were attacked on the third and fourth days respectively, after their admission from villages where cholera was prevalent. In neither instance did the disease spread.

Attendants attacked by the disease.

139. The next statement shows, for the cases in respect of which details are available, the numbers treated, the numbers of attendants on these cases, and the numbers and percentages of the latter who were attacked :—

Communities.	Number of cholera cases treated.	Attendants.		
		Number.	Number of these attacked.	Percentage of attendants attacked.
European troops and followers .	30	78	0	0
Native troops and followers .	56	118	0	0
Prisoners	16	63	0	0

Sanitary defects in connection with outbreaks of cholera.

140. Among the sanitary defects noted, only the following seem likely to have been connected with the occurrence of cholera. The water-supply at Umballa was liable to pollution. At Manipur drinking water was taken from a river on the bank of which there are villages in which there were cases of cholera.

Effects of movement.

141. Seven parties of European troops were moved in five stations. No attack occurred after movement, the effect of which on the general health was satisfactory.

Native troops were moved in three stations: at Rangoon the movement was entirely successful; at Umballa one case occurred after the move; at Manipur nine cases occurred after the move, although the medical officer states that the movement was quite successful. The account of the proceedings at Manipur is confusing, but it seems that the men and their families were moved in six parties into separate segregation camps, and from there into a general camp. In the segregation camps three cases occurred, in at least one of which the disease must have been contracted in Manipur. In the general camp five cases occurred, after which the camp was shifted to another site where one more case occurred.

Other details regarding the occurrence of cholera.

142. The outbreak among European and Native troops and followers at Umballa is of special interest, as there was no case of cholera reported among the general population, indeed, except for two deaths that occurred in the district of Gurgaon in April, the Punjab was apparently free from the disease.

In these circumstances it is unfortunate that the accounts of the outbreak at Umballa are of a fragmentary character, and it is difficult to piece the fragments.

A suspicious case occurred on the 28th of April, when a syce died in the station followers' hospital with symptoms resembling those of cholera. Another suspicious case in a native is stated to have occurred on the 29th April, in which a fatal attack followed a self-administered purge taken to relieve the effects of a dietary indiscretion.

The first case recorded as cholera was that of a European artilleryman who was under treatment in hospital. On the 29th of April he absented him-

self from hospital, and remained out for several hours. He drank some beer and was exposed to the sun. Half-an-hour after his return to hospital he developed symptoms of cholera, and died collapsed on the 30th. The second case, also a European artilleryman, was admitted to hospital on the 1st May, but no connexion with the first case was traceable. On the 3rd May a private and a native follower were attacked; on the 4th, two privates, and on the 5th, two other privates and a follower; and on the same day the disease appeared among the 16th Bengal Cavalry.

The Umballa cantonment water-supply is conveyed in pipes, but these pipes are very leaky, so that in the rainy season the yield of water from the pipe is greater than the supply to the pipe. "The vibrio of cholera was found in the well used by the Government Model Dairy," but no case occurred at the dairy, and neither the milk nor the butter from the dairy appear to have been used by the natives who suffered.

The medical officers who report upon the outbreak, ascribe it to the polluted water-supply; but beyond the fact that the pipes were leaky, and the water consequently liable to pollution, there seems to be no evidence pointing to the water as the cause of the cholera.

Small-pox.

Small-pox in India.

143. The mortality ratio of India from small-pox was in 1898 more than two and a half times less than 1897, and nearly one and a half time less than the ratio of the quinquennium 1893—97. The highest numbers of deaths occurred in the months of March, February, and April; and the lowest in October, November, and September. The reduction of deaths in the months of 1898 varied from great to considerable; and the total number of cases for the year was only 62,517, against 167,318. Only in Lower Burma and Ajmer-Merwara was the mortality higher than in 1897; and only in Lower Burma was it also higher than the mortality of the quinquennium as a whole.

The following shows the mortality from small-pox in the different provincial registration areas of India in 1898 month by month:—

Statement showing the deaths from SMALL-POX *registered in the different provinces by months during the year 1898.*

Provinces.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total. 1898.	Ratio of deaths per 1,000 of population, 1898.	Ratio of deaths per 1,000 of population, 1897.	Mean ratio per 1,000 during previous 5 years.
Bengal	1,169	1,731	2,291	2,081	1,647	1,243	920	1,148	400	326	491	822	14,269	0·20	0·27	0·19
Assam	369	758	852	796	715	536	393	268	179	101	107	125	5,199	1·03	1·08	0·85
N.-W. Provinces and Oudh	229	177	223	355	329	278	245	175	109	82	84	133	2,419	0·05	1·86	0·61
Punjab	323	363	397	479	886	927	604	326	216	166	148	193	4,993	0·24	0·78	0·78
Central Provinces*	52	43	75	95	156	110	119	92	70	29	22	63	928	0·09	0·38	0·45
Berar	58	104	129	109	64	34	31	16	7	7	13	20	592	0·21	0·22	0·23
Lower Burma	328	605	734	877	665	461	354	223	174	114	94	197	4,826	1·07	0·43	0·44
Madras Presidency	4,094	3,692	3,563	2,368	1,219	992	875	806	745	689	657	790	20,490	0·62	0·67	0·45
Bombay ,,	264	493	435	280	111	67	63	39	44	36	40	52	1,834	0·10	0·20	0·20
Ajmer-Merwara	7	25	30	33	79	93	41	13	..	1	13	74	409	0·75	0·29	1·93
Coorg	1	...	4	9	4	...	3	1	...	...	...	...	22	0·13	0·34	0·39
Mysore	777	741	790	608	563	609	647	559	415	271	238	315	6,533	1·35	1·47	1·01
Total	7,671	8,642	9,493	8,090	6,438	5,350	4,295	3,666	2,359	1,822	1,907	2,784	62,517	0·29	0·77	0·43

* Excluding zamindaris.

and the following some further useful comparative statistics:—

SMALL-POX.	Bengal.	Assam.	N.-W. Provinces and Oudh.	Punjab.	Central Provinces.*	Berar.	Lower Burma.	Madras Presidency.	Bombay Presidency.	Ajmer-Merwara.	Coorg.	Mysore.
Difference from 1897 ratio .	—·07	—·05	—1·81	—·54	—·29	—·01	+·64	—·05	—·10	+·46	—·21	—·12
Difference from 1893—1897 ratio	+·01	+·18	—·56	—·54	—·36	—·02	+·63	+·17	—·10	—1·18	—·26	+·34
Highest district ratio .	5·99	8·45	·20	1·16	·44	·89	5·08	8·49	·44	6·38	·46	2·13
Lowest „ „ .	·0008	·01	·01	·01	·01	·01	·01	·03	·01	·06	·03	·47
Percentage of districts above rural mortality . †	16	22	23	39	20	17	29	24	35	22	40	38
Percentage of districts without mortality .	2	...	8	6	20	...	12	...	17	35	40	...
Rural mortality .	·20	1·05	·65	·25	·10	·22	1·10	·64	·10	·98	·14	1·35
Highest town ratio .	3·69	3·71	9·97	4·22	7·10	2·44	18·77	6·12	2·87	...	...	5·86
Lowest „ „ .	·01	·14	·01	·01	·06	·03	·03	·01	·01	...	...	·08
Percentage of towns above urban mortality ‡	21	33	14	28	18	18	24	25	14	...	...	30
Percentage of towns without mortality .	64	62	70	53	79	74	44	40	71	...	...	15
Urban mortality . .	·10	·39	·08	·21	·10	·11	·85	·31	·10	...	...	1·35
Children under 1 year .	2,332	952	681	1,130	218	91	721	3,791	506	146	...	1,431
„ 1-10 years .	6,960	2,667	1,447	3,381	386	181	2,628	9,285	948	249	...	2,177§
Percentage of children in total small-pox mortality . .	65·12	69·61	87·97	90·26	65·23	45·95	69·39	63·82	79·28	96·58	...	55·23

* Excluding zamindaris. † Excluding municipal towns. ‡ Municipal towns only. § Under 12 years.

The highest rural district ratios in India were those of Ganjam in Madras and Nowgong in Assam; and the highest town ratios those of Zigon in Lower Burma and Mau in the North-Western Provinces. Only in the North-Western Provinces and Oudh was the rural mortality lower than the urban. The proportion of children was highest in Ajmer-Merwara and the Punjab, and lowest in Berar.

Small-pox in Bengal.

144. In Bengal the mortality ratio was reduced as compared with that of the previous year, though somewhat higher than that of the quinquennium. Statistics will be found in paragraph 143. The greatest monthly numbers occurred in March and April, but they were lower than in the preceding year. Jalpaiguri rural district, as in 1897, had no small-pox mortality; Khulna had the lowest ratio; while Puri, which generally suffers much, returned the highest mortality. Regarding the severity of the disease in Puri, the Civil Surgeon, as quoted by the Sanitary Commissioner, says:—

"Small-pox was epidemic in a virulent form and claimed 5,508 victims, the largest number recorded of late years, ... The rapid increase from 1896 is remarkable. The disease seemed to spread up from Ganjam, and for the most part was worst in villages adjacent to the trunk road to Cuttack. It also took deep root in Bhubaneswar outpost, a hot-bed of obstruction to vaccination. It seems also to have spread in from the *mals* on the west side of the district, where I hear it has been fostered by the practice of inoculation.

Speaking of an outbreak at Cuttack in March, the Sanitary Commissioner declares that the practice of inoculation, which is still clandestinely carried on

in many parts of Orissa, the unprotected condition of the neighbouring native states, and the opposition of the people to vaccination are the causes of these periodical outbreaks. Last year several inoculators of Cuttack were detected and criminally prosecuted, with the result that some were heavily fined and some sentenced to imprisonment. The highest town ratio was that of Colgong in the Bhagalpur District, and the town with the lowest ratio was Dacca. The year under review was the third year in which there had been no death from small-pox among the European seamen in the port of Calcutta. Among the native floating population also there were no deaths, against 8 in 1897.

Small-pox in Assam.

145. From the tables given in paragraph 143 it may be seen that small-pox mortality in Assam was lower than in 1897, but higher than the mortality of the preceding quinquennium as a whole. March, April, and February had the greatest monthly numbers; and in the first and third the numbers were greater than in the preceding year. October, November, and December had the smallest numbers The Sanitary Commissioner remarks that on the whole the disease has been very satisfactorily kept under by efficient vaccination. Of all the provinces, except Madras, Assam had the highest rural mortality. The rural district with the highest ratio was Nowgong, regarding which the then Sanitary Commissioner in his report for 1897 had said:—

> The people are, however, so bigoted that comparatively little work was done during the season; and as a large portion of the population is unprotected, the probability is that the small-pox mortality in Nowgong will be large in 1898.

The lowest rural district ratio was that of Cachar; and the highest and lowest town ratios were respectively those of Jowai in the Khasi and Jaintia Hills and of Sylhet. The outbreak at Jowai, which had spread from Gauhati, seems to have been stamped out by energetic vaccination operations.

Small-pox in the North-Western Provinces and Oudh.

146. The statistics of small-pox will be found in paragraph 143. The mortality was about 37 times less than in the preceding year, and about 12 times less than the mortality of the quinquennium 1893—97 as a whole. The highest monthly numbers were those of April, May, and June; and the lowest those of October, November, and September; and every month of the year had a very much lower number than the corresponding month of 1897. Of all the provinces this had the lowest rural ratio, and only in this province was the rural mortality lower than the urban. The highest rural district ratio was that of Gorakhpur, and the highest town ratio that of Mau in the Azamgarh district.

Small-pox in the Punjab.

147. Below both that of the preceding year and that of the quinquennium, was the small-pox mortality of 1898. Statistical particulars are given in the tables in paragraph 143. In every month of the year the reduction was great. The highest numbers were those of June, May, and July; and the lowest those of October, November, and December. The Sanitary Commissioner states that small-pox was much more prevalent from 1867 to 1879 than from 1879 to 1898; and points out that the latter period almost coincides with the age of the vaccination department as it is at present. The highest rural district ratio was that of Umballa; while Faridabad in the Delhi district had the highest town ratio, and Amritsar the lowest. The percentage of children's deaths in total small-pox mortality was, excluding Ajmer-Merwara, highest in the Punjab.

Small-pox in the Central Provinces.

148. Small-pox mortality in the Central Provinces was much below that of the preceding year, as well as that of the quinquennium as a whole. The tables in paragraph 143 give the necessary statistics. The maximum months were May, July, and June; and the minimum November, October, and February. Except in September and December, there were fewer small-pox deaths than in each corresponding month of 1897, the reduction being very great except in July, August, and November. The highest rural district ratio was that of Sambalpur, and the lowest that of Nimar; the highest town ratio that of Bargarh in the Sambalpur district, and the lowest that of Chanda.

Small-pox in Berar.

149. In Berar, as is shown in the table in paragraph 143, the mortality from small-pox in 1898 was less than in 1897 and still more below the mortality of the quinquennium as a whole. The months of March, April, and February had most deaths, and the months of September, October, and November, fewest. As compared with the corresponding months of 1897, February, March, July, August, September, and October had more, and all the others fewer, deaths, the reduction being greatest in December. The highest rural district ratio was that of Buldana, and the lowest that of Amraoti; the highest town ratio that of Deulgaon Raja in the Buldana district, and the lowest that of Amraoti. In Berar, out of all the provinces, the proportion of children in the small-pox mortality was lowest.

Small-pox in Madras.

150. Madras in 1898 had a small-pox mortality which was below that of the preceding year, though higher than that of the quinquennium, as may be seen in the tables in paragraph 143. The number of deaths was much increased in January and February, increased in March and April, considerably reduced in May—November, and much reduced in December. The Sanitary Commissioner observes within the last three years a steady improvement in the rates within municipal towns as compared with their surrounding rural areas; and thinks this possibly due to the order that the chairman shall give a complete account of the methods of disposal of all births that have been registered and have arrived at an age to receive vaccination. The highest rural district ratio was that of Ganjam, which was also the highest district ratio in India, and the highest town ratio that of Berhampur in the Ganjam district. The Sanitary Commissioner says:—

> It will be noticed that the frightful rate of 12·2 per mille registered against Ganjam during 1897 has undergone a decline; but that in 1898 the mortality from this cause was still of a most serious nature. It will be remembered that the impetus given to the disease during 1897 was due to famine conditions leading to the crowding of the people upon works. What with the existence of extensive hill tracts inhabited by a class of people who probably would much prefer inoculation to vaccination, and the impossibility of dealing satisfactorily with any sanitary subject in zamindari tracts, Ganjam presents a most unpromising field to the sanitarian. Indeed, so little has it been considered possible to deal with the district by ordinary methods, that for the last ten years, in the hill tracts, the entire responsibility for the administration of the Vaccination Department has been in the hands of the civil authorities.

The Sanitary Commissioner also points out that in judging of the magnitude of small-pox epidemics, it is well to hold in mind that under the present system of registration in rural areas, and to a less extent in municipal towns, deaths from measles are apt to be included under "small-pox."

The lowest rural district ratio was that of Malabar, and the lowest town ratio that of Calicut in Malabar.

Small-pox in Coorg.

151. Small-pox mortality in Coorg was reduced, and only 22 deaths in all were registered. These facts may be gathered from the tables in paragraph 143. The reduction took place in February, June, August, November; the numbers in other months rising or remaining unaltered. There was no urban mortality. The highest rural district ratio was that of Kiggatnad, and the lowest that of Naujarajapatna.

Small-pox in Bombay.

152. The small-pox statistics of Bombay will be found in the tables in paragraph 143. The mortality was half that of the preceding year and of the quinquennium. March, April, and February saw the greatest numbers of deaths, and October, November, and August, the smallest numbers. As compared with the corresponding months of 1897, the numbers were much reduced in March-June, August, and December; reduced in July, January, February, October, and November; and increased in September. The Sanitary Commissioner says:—

> These figures may be considered very satisfactory, and they testify to the exceedingly good vaccination work which now for some years past has been done in the presidency. After the experience of the famine year of 1877 and the following year, when 27,369 and 4,475 deaths from small-pox were recorded, it is very satisfactory to be able to state that, notwithstanding much better registration, the famine year of 1897 and the following year gave only 3,835 and 1,834 deaths from the same disease. This result is chiefly to be attributed to the progress vaccination work has made since the former period.

The fact, however, seems to be that small-pox infection was not widespread in 1898; so that the state of vaccination was not really put to the proof. The highest rural district ratio was that of Khandesh. Barsi in the Sholapur district had the highest town ratio, and Surat the lowest.

Small-pox in Lower Burma.

153. The ratio of mortality from small-pox in Lower Burma was almost two and a half times greater than the corresponding ratio of 1897, and nearly as much greater than the quinquennial ratio. The tables in paragraph 143 give the figures. The maximum numbers of deaths were in April, March, and May, and the minimum in November, October, and September. From January to July the increase was great over the corresponding months of 1897, but in the remaining months the increase became less marked. Excepting Mysore, Lower Burma had the highest rural and the highest urban mortality of any province. The highest rural district ratio was that of Tharrawaddy, and the lowest that of Akyab. The highest town mortality, which was also the highest in India, was that of Zigon in the Pegu district, and the lowest that of Akyab.

Plague.

The Bacillus.(1)

154. In the report for 1897, page 170, paragraph 162, the point was noticed, references being given, that the descriptions of the bacillus given respectively by Kitasato and by Yersin did not agree the one with the other. And Kitasato has lately again called attention to the discrepancy in the following words:—

> It has been quite generally assumed that the bacillus above described [the one discovered by the author] is identical with that of Yersin, but this assumption is incorrect.....Further bacteriological investigations of the plague are desirable, and it is necessary that the scientific world should come to some definite conclusion as to the etiological bacilli before orrhotherapy and preventive inoculation can be instituted on a truly rational basis.

Balfour Stewart gives a good account of the methods of plague bacteriological diagnosis in use in the Bombay laboratory. He mentions that bacilli which have been cultivated for some time do not behave in quite the same way in culture media as bacilli fresh from a case of plague. Klein found that in the buried bodies of guinea-pigs the bacilli retained life and infectivity for 17 days, but that in 21 days or over they could no longer be cultivated or successfully inoculated.

155. Experimenting with guinea-pigs, rats, rabbits, and monkeys, Batzaroff found that a minute quantity of plague culture placed, even without producing excoriation, upon the nasal mucous membrane produced plague pneumonia; and that the plague virus, dried with some albuminous matter, produced, when similarly inoculated, the same effect. Infection could also be brought about, but with gradually diminishing ease, through the conjunctival, buccal, intestinal, rectal, and vaginal mucous membranes.

Rats. (2)

Being requested by the Municipal Commissioner of Bombay to express his opinion on the importance of rats in the diffusion of the plague, Professor Lustig offered the following remarks:—

1st. I have performed experiments on hundreds of rats of different races, and living in the most different conditions, and I have found that almost all are able to get plague.

2nd. Keeping in a cage several infected and non-infected rats, all die in a short time, and in their bodies plague microbes are always to be found.

3rd. Mixing a virulent plague culture with the food given to some rats, all these generally die from plague, and it is quite common to find the bacilli in their fæces.

4th. Generally in the infected rats the microbes enter the blood, and with great facility they pass into the urine. Thus this urine becomes a very infectant liquid.

5th. In 1897 I had occasion to examine at Poona some dead rats found in a granary, and in these I found plenty of microbes. I investigated also the corn of this granary, but I did not discover any plague microbes in it. Nevertheless, I know that two cooks who ate of this corn died from plague a few days after.

6th. I believe that the rats represent one of the most important means of diffusion of the disease, because they are able to carry everywhere virulent microbes.

The destruction of the rats is one of the most important measures to be taken against the plague. For this purpose poisons can be very useful, and specially would it be useful to provoke amongst the rats another epidemic with a microbe not virulent to man. For this purpose I believe that Loeffler's microbe would be the best, because it was used with satisfactory results in Thessaly some years ago. I got a culture of this microbe and tried it on white mice, and obtained a culture which was very virulent, but I had not success with the black rats. I know that the same was experienced by Dr. Galeotti, to whom I sent one of my cultures of Loeffler's microbe. Dr. Galleotti will receive in a short time from Prague another more virulent culture of the same microbe, and will repeat the experiments.

Manson also strongly believes that plague is a rat-borne disease, and that the most important *prophylactic* measure against plague is the destruction of rats; and it has been asserted by another writer that one reason of Calcutta's relative immunity is the comparative scarcity of rats. The official plague reports of Calcutta, however, show no knowledge of any such scarcity: in fact rats are frequently mentioned. On the other hand, the following has been put forward as the conclusion to be derived from the evidence offered to the British Plague Commission:—

It seems, then, that while rats suffer from plague, and the death of unusually large numbers of these animals is an important sign of a place having become infected with this disease—all the more important as it may occur very early, before the few cases that have occurred have attracted the attention of the authorities—yet they do not play an

important part in the actual spread of the disease, which may be very severe without any marked increased mortality among these rodents.

Meanwhile, it is safest that action should be inspired by the opinion that rats constitute a great danger.

Insects. (4)

156. Nuttall, who had previously contributed much to knowledge of the subject, read before the British Medical Association an important paper on the subject of the part played by insects in the propagation of infective diseases. With regard to plague he says :—

An active part has recently been attributed by clinical writers to blood-sucking insects in plague. Bugs and fleas were supposed to be the active agents here. Experiments made by the writer on animals with plague, anthrax, mouse septicaemia, and chicken cholera, all gave negative results. In a large number of experiments made by allowing these insects to bite animals dying of the diseases named, and then immediately afterwards transferring them to healthy animals, not a single case of infection occurred. Though the dejecta of bugs contained virulent bacilli after twenty-four hours, they did not do so later. In fact, it was shown that both fleas and bugs digest various pathogenic bacteria which they have taken up with the blood of diseased animals. Simond (1898) goes so far in his elaborate theorizing as to conclude that plague bacilli may acquire a heightened virulence in the bodies of such insects. He attributes a very important share to these insects in the propagation of plague, but gives no evidence to prove his assertions. The entirely negative results of my experiments should weigh more than gratuitous assumptions. That a bug or flea filled with the blood of a patient containing plague bacilli may serve as a passive carrier of the germs may be safely concluded from my experiments with these and other germs which were seen to remain alive and virulent in the bodies of these insects for twenty-four hours or longer when they were kept at low temperatures. If such an insect were crushed and the skin scratched by nails soiled with the blood it contained, infection might readily occur. In warm weather the insects are physiologically more active, and consequently digest the micro-organisms more rapidly.

In another paper Nuttall, after mentioning that Simond had shown experimentally that rat-fleas, if placed upon them, will attack men and dogs, goes on to say that it appears to be unknown to Simond that the rat-flea belongs to a different family from the *pulex irritans*, and that it has yet to be proved that it will attack men under natural circumstances,* whatever may be the case in laboratory experiments. Mühling also from experiments with anthrax bacilli came to the conclusion that any danger there might be was not from the insect biting the man but from the man crushing the insect and scratching it into his skin.

Dust. (4)

157. Neisser's experimental results support the opinion of Germano that there is no danger of the conveyance of plague by the dust floating in the air of rooms. The subject of the aërial conveyance of the disease is mentioned again in the abstract of the report of the German Plague Commission.

Infectiveness in convalescence. (4)

158. It has been stated that plague bacilli have been found in the throat several days after the temperature had returned to normal.

Susceptible articles. (4)

159. Kurth of the Bremen Bacteriological Institute after an examination of suspected jute, cotton, and hides, reported that he could find no evidence of the importation or of the likelihood of importation thereby of plague bacilli. It will be seen in a subsequent paragraph that the German Plague Commission formed the same opinion as regards hides.

* Sambon in J. T. M. of December 1899, page 119, agrees with Simond; but Galli-Valerio in C. B. XXVII, page 1, proves Simond to be probably wrong and certainly premature.

Favouring conditions, mixed infections, natural course. (7)

160. It has suggested itself to some minds that the outbreak of an epidemic is not due to the arrival of the bacillus, but to some change in the inhabitants or their environment; and it has even been hinted that in the intervals between epidemics the bacillus may lead a saprophytic existence, waiting for the return of conditions favourable to parasitism. If such be the case, the conditions must be such as affect men and rats simultaneously. An interesting and striking paper on the meteorological relations of plague, especially on its relation to vapour tension, is described as having been quite recently read by Mr. Baldwin Latham before the Royal Meteorological Society. The influence of vaccination against small-pox in strengthening resisting power against plague has also been discussed. Such vaccination has probably no effect. Pearse in a letter to the *Lancet* gives a list of the infective diseases from which Bombay patients have been found to be suffering along with plague. Some disease-viruses appeared to assist that of plague more than others did. Again, it has been stated that the mortality curves for the large cities of Poona, Bombay, and Calcutta for plague epidemics show great similarity; and that this points to the existence of a natural course and limit for a plague epidemic, a fact which must be taken into account in estimating the effect of measures adopted to arrest the progress of the outbreak.

Incubation, case-mortality, diagnosis. (8)

161. Haffkine considers that the period of incubation is on the average 5 days, but may extend to 10. The case-mortality appears to vary between 50 and 90 per cent.: Müller puts it at 62, and Pearse at 75 or more. In practice a diagnosis has sometimes had to be made between influenzal pneumonia and plague pneumonia.

Inoculation. (9)

162. The case for prophylactic inoculation has been clearly stated by Haffkine in a lecture before the Royal Society.

Mahamari. (10)

163. With regard to Mahamari, Captain Leonard Rogers, I.M.S., records the following interesting remarks:—

From inquiries that I have recently made in the Kumaon hills it appears that the term Mahamari is applied in these parts to any epidemic disease which is attended by a very high mortality, and under this name I have had a typical outbreak of cholera described to me by villagers. On the other hand, any infectious disease which is attended by a comparatively low mortality is called Sunjar, which term would probably include such diseases as measles and chicken-pox, etc., if they occur in these parts. From an examination of the records it appears to be certain that some of the outbreaks of so-called Mahamari are exactly similar to true plague, notably those of 1853-4, which spread down to the districts of Bijnor and Moradabad, and of 1876-7. It is, however, equally certain that this form of the disease may be absent from the hills for several years at a time, as for instance, between the years 1878 and 1881, when, although the whole of the villages of Kumaon and Garhwal were carefully inspected yearly and a special report made, no cases of the disease were found. Further, it seems likely from the descriptions that some of the outbreaks that have been returned as Mahamari have been outbreaks of typhus fever and not of plague, and that the latter are comparatively rare. Again, the outbreaks of the plague-like disease nearly always begin in the higher parts of the district, which border on Tibet, and it seems very probable that they originate in that country which, together with Yunnan, appears to be the home of the plague, from whence it spread to Canton and Hong-Kong in 1893; and that it is more likely that the plague reached Bombay in that roundabout way than that it travelled direct from Garhwal to the western part of India.

German Plague Commission.(17)

164. In the report for 1897 use was made of preliminary papers published by members of the German Plague Commission. Their official report is now published, and the following is a brief summary of some of the chief points :—

The question as to where the Bombay plague came from cannot be definitely settled; but the probability is that it came from the Mahamari region in Northern India, just as the plague of Canton in 1894 came from the endemic tract in Yunnan. Rats certainly played a part in the spread of the disease, but not mice. Whether the plague passes from rats to man by means of the excretions of the sick and dead animals or by means of insects, there can be no doubt of the danger of infected rats for man; but at the same time it is clear that under favourable circumstances plague can flourish without the help of rats. Though the evidence is not complete, it seems probable that insects do not play an important part in the conveyance of the disease. If they ever do, it is most likely to be in the overcrowded dwellings of the poor, where also the sputum of pneumonia cases is frequently received on the hands or clothes of the relatives of the sick. As the hospital staffs were hardly attacked, it seems pretty certain that mosquitoes at any rate were not concerned. The clinical forms are the Bubonic, the Pustular, and the Pulmonary. There is probably no *primary* plague septicæmia; and no cases of intestinal plague were met with. The presence of the bacillus in the blood is an *almost* certain precursor of death. The haemorrhages so frequent in plague are not due to the bacilli directly but to the toxin, as is shown by the fact that foetuses born of plague mothers, but themselves free from the bacillus, show them. In bubonic cases the bacillus is found in the buboes, and especially in the inflamed connective tissue surrounding the buboes; in pneumonic cases, in the lungs; in septicaemic cases in the blood, spleen, secondarily affected lymph glands, bone-marrow, bile, often also in the urine, peritoneal fluid, juice of hypostatically congested lungs, fluid of plague meningitis, sometimes in the blood and milk of women in labour. The bacillus was found in the sputum of pneumonic cases, in the bronchitic sputum of septicæmic cases, and sometimes in the urine, but not in the skin-petechiæ, the saliva, the fæces, the sweat, nor in the milk* and lochia of plague-stricken women. Buboes that have undergone puriform liquefaction are sterile, but when true pus appears, it contains staphylococci and streptecocci, and occasionally plague bacilli if it has not become sterile. In the lungs the *bacillus pestis* is found alone or with the diplococcus, or the streptococcus, or the influenza bacillus, or the tubercle bacillus. These seem to prepare a favourable ground for the plague bacillus; and when a tuberculous man recovers from plague, his tubercular affection becomes rapidly worse. When a skin lesion is found, it is not always on the extremities, but sometimes on such out-of-the-way places as the navel, the buttocks, or the foreskin. From the habit children have of putting everything in their mouths, they are apt to have submaxillary buboes. The end of the third day is the normal end of the disease: all continuations are relapses of three days' duration each, or are due to complications and sequelae.

The *bacillus pestis* possesses a capsule. It is non-motile, and has no flagella. It cannot be stained by Gram's method. It does not form spores. Well-marked involution forms appear in cultivations, especially in agar containing salt, and in corpses. It flourishes well between 30° and 37°C., not showing any evident optimum, but it seems as if a temperature somewhat below 20° were better for it than body temperature. At temperatures below 20° its growth is proportionately delayed. But at all temperatures its growth is markedly slow. It is strictly aërobic, and grows best in slightly alkaline media, requiring, however, a pretty high degree of concentration in its food. Pure cultures protected from drying and from light retain their vitality for months. The bacilli cannot stand quick and energetic drying. Apparently quick drying at a high temperature is more speedily fatal to them than slow drying at a low temperature. It is, therefore, not likely that in hot countries they can be carried in dust. Exposed to the sun, a thin layer dies more quickly than a thick one; but keeping the layer cool with water preserves its vitality. A layer on wool remains longer pathogenic than one on silk. Moist heat at 55°, 60°, or 70°C. killed the bacilli in 10 minutes, at 80 in 5 minutes, and at 100° at once. In the laboratory the best disinfectants were found to be steam, carbolic acid, lysol, corrosive sublimate, chloride of lime, milk of lime. In pneumonic sputum preserved for 16 days there were no longer any virulent bacilli, though there had been on the 10th

* There seems some discrepancy between the statements about the presence or absence of the bacillus in the milk of women, on pages 79 and 273 of the German Report.

day. In ordinary pipe water the bacilli were no longer virulent after five days, and in sterile water after ten days. In sterilized fæces and urine they did not live longer than five days. All the experiments show that the *bacillus pestis* possesses little resisting power, and it does not appear likely that it produces a resting form.

Rodents possess less resisting power against the plague bacillus than other animals, and the rat the least of all. But the grey monkey (*semnopithecus entellus*) is nearly as sensitive. On the other hand, horses, cattle, sheep, and goats fall sick when inoculated with large doses, but practically always recover; so that they are not likely to acquire the disease naturally, and their hides are not likely to be dangerous. Bodies of cats were sometimes brought in, but the animals seemed to have really died of starvation; * and cats soon recovered when inoculated. Dogs are not susceptible, or very little; pigs are almost completely insusceptible; birds are insusceptible.

Plague is, like anthrax, rather infective than toxic, but the toxin counts for something in human plague. Experiments on animals show that the toxic action is not very great, not nearly so great as in enteric fever and cholera, not to mention diphtheria. Man seems to be comparatively tolerant of the poison; but a man who has recovered from plague reacts more strongly than a healthy man to an injection of dead bacilli. The agglutinating action of plague serum is not of absolute value: a negative result cannot be used against the diagnosis "plague," but a positive reaction is a very valuable criterion of plague having been passed through. Again, plague serum is an excellent means for the differential diagnosis of true plague bacilli from those resembling them. As with cholera and enteric fever, the agglutinating action of the serum is in no way parallel to its protective and immunizing effects.

Experiments on animals gave hope for the success of preventive inoculation, and the results in man, so far as they went, were also favourable, but only experience can finally decide. With regard to the therapeutic use of serum, the only certain conclusion so far is that it does not produce directly or indirectly any visible harmful effects.

In a lecture before the German Public Health Society, R. Pfeiffer of the German Plague Commission gave a short and clear account of the results of the labours of the Commission.

Müller of the Austrian Plague Commission did not find any evidence of the agency of insects in the conveyance of infection. The bacteriological part of the Austrian report does not seem to have been published yet, only the clinical part being available.

The Plague Commission appointed by the Right Honorable the Secretary of State arrived in India in November and left in March 1899. The report has not yet been published.

Other Reports.[13]

165. Yersin, who shares Simond's views as to the large part taken by insects in the propagation of the disease, has published a report on the plague at Nhatrang in Annam. Total evacuation of the infected village, transfer of the inhabitants to a temporary village on a new site, destruction of the infected houses and those immediately surrounding them by fire, were the principal effective measures. A report by Dr. Gomes da Silva regarding the plague at Macao and Lappa in 1897 has also appeared. Finally Dr. Favre has written on an as yet not completely investigated "plague-like" disease which attracted attention in the years 1888—94 in a remote corner of Siberia, which is said to be spread by a species of rodent, a marmot, and which the people are said to combat by evacuation, isolation, and fire.

Conclusions.

166. No new fact of importance regarding plague has been discovered since paragraph 176 of the report for 1897 was written. While rats have continued to maintain

* But see Lorans in B. M. J. 2nd December 1899, page 1588.

their importance, no fresh evidence has been obtained in favour of the alleged active rôle of insects in the propagation of the disease. The point raised by Kitasato, as quoted in paragraph 154, is one that should be settled.

Plague in 1898.

167. The conclusions as to the method of progress of the disease and as to the measures adopted by the authorities must be much the same as those given in paragraph 187, page 196, and paragraph 206, page 210, of the report for 1897. The only change in measures, besides the improvement due to experience, was in the direction of mildening and popularizing them: not because the rules, which were scientifically stringent, were in themselves undesirable, but because it was found impracticable to carry them out in all their fullness, at least in the large towns. Endeavours were made, in various ways, to reconcile the people to the measures taken for their benefit, and to enlist the help of respectable and intelligent members of the native community. Where these were successful, the result, on the whole, was that, while certain desirable benefits had to be sacrificed, the detection of cases, the very basis of all possible measures, was facilitated.

Plague appeared indigenously for the first time in Bengal, Rajputana, the Central Provinces, Mysore, and Madras, but did not recur in Central India or Garhwal. The following tables show the statistics of the Indian plague of 1898, so far as they have been received in this office; but both the figures and the list of localities are certainly very incomplete:—

Statement showing the deaths from PLAGUE *in the different provinces by months during the year 1898.*

Provinces.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total. 1898.	Total. 1897.
Bengal	...	...	1	28	31	58	41	26	23	3	5	3	219	...
N.-W. Provinces and Oudh	17	30	71	27	2	...	...	...	...	...	...	1	148	72
Punjab	33	222	654	610	481	18	1	...	...	...	3	7	2,019	179
Central Provinces	...	...	...	...	...	...	...	...	...	1	33	97	131	11
Hyderabad State	478	545	132	6	2	...	7	...	155	571	1,288	684	3,868	8
Madras Presidency	...	...	...	...	...	...	...	13	26	80	133	305	557	2
Bombay „	6,203	6,811	6,651	3,773	2,759	1,003	2,490	6,515	10,952	17,227	13,777	8,030	86,191	47,710
Rajputana	71	35	10	5	...	...	...	...	...	1	1	1	124	44
Mysore	...	...	...	...	...	...	...	15	151	1,270	1,547	2,352	5,335	...
Baluchistan	...	...	...	3	15	...	...	...	...	...	...	...	18*	1
Central India	...	...	...	...	1	...	...	...	...	...	2	...	3	63†
Garhwal	...	...	...	...	...	...	...	...	...	...	...	...	...	17
Cutch	...	...	...	...	...	...	...	...	...	...	...	...	...	5,709
Total	6,792	7,643	7,519	4,452	3,291	1,079	2,539	6,569	11,307	19,153	16,789	11,480	98,613	53,816

* Imported cases.

† Including 52 at Khandaoni.

Deaths from PLAGUE *in native states of the Bombay presidency from 1st January to 30th December 1898.*

Native States.	Deaths from Plague.
Baroda	3,705
Kathiawar	1,506
Cutch	1,399
Kolhapur and Southern Maratha Country	9,441
*Rewa Kantha	160
Bhor	753
Palanpur	391
Savantvadi	9
*Dharmpur	43
Janjira	21
Akalkot	236
*Savanur	8
TOTAL	17,672

For Aundh and Sachin the figures of 1898 cannot be given separately. From September 1896 to 30th December 1898 they had, respectively, 1,216 and 275 deaths.
* These had no plague in 1897.

Part of the increase was no doubt due to the greater success attained in the detection and registration of cases: but the tables show that the disease both extended its boundaries and attacked more men in 1898.

On the 10th January 1898 the Bombay Government issued instructions regarding plague administration for the general guidance of district and other officers. A copy of these instructions is printed as an appendix to this section. In their resolution of the 3rd February 1898 the Government of India expressed general approval of these rules, at the same time laying down their views on certain points of plague administration. These points were:—general organization for the detection of cases; the unpopularity, and consequent ineffectiveness of corpse-inspection; the division of towns into wards of manageable size each under a European officer of influence aided by respectable natives of standing, and by female medical attendants for the inspection of women; the necessity that segregation should be carried out in hospitals or other suitable places specially appointed for the purpose; the good to be obtained by carefully explaining to the people the reasons for the measures, by getting the co-operation of leading native men, by paying due regard to the feelings and habits of the people, by encouraging the people to make segregation arrangements for themselves, and by refraining from separating the members of families; the need for encouraging inoculation, while keeping it strictly voluntary; the importance of making efficient arrangements to prevent people from returning to occupy evacuated houses before the time specified, and of securing that all articles likely to convey infection are without exception removed from infected houses and immediately destroyed or disinfected; the reasons why Government disapproves of sea or land quarantine; the reason why the Government disapproves, as a rule, of the use of cordons; in completion of the terms of the Venice Convention, approval of railway medical inspection being conducted so as to provide for the detention in the observation camp not only of persons in whom symptoms of plague or suspicious symptoms are discovered, but of all persons from the infected area who appear to be suspicious by reason of their appearance, the dirty condition of their clothes, the fact

that they are travelling in gangs, or belong to classes which are likely to disseminate the disease or to be untraceable on arrival at their destination or which cannot be depended upon to give information should plague occur among them after arrival at their destination, all other persons being allowed to proceed to their destination after inspection, and the rules not being allowed to exempt any class of persons as such or any railway class; finally, arrangements for checking the danger caused by pilgrimages.

Plague in the Bombay Presidency.

168. At the end of 1896 there had been a total of 2,909 attacks and 2,086 deaths from plague; 61,093 attacks and 46,944 deaths were recorded during 1897; while 1898 saw 110,369 attacks and 86,191 deaths. Statistics have already been given in the table in paragraph 167, but the following gives the progress of the disease by months in each collectorate in 1898. The figures shown are from returns received in the office of the Sanitary Commissioner, and "do not tally with returns elsewhere published." In the tables given in paragraph 183 the deaths from plague are, it is believed, included under fever.

No.	Collectorates.	January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.		Total.		Number of Towns and Villages affected by Plague.
		Attacks.	Deaths.	Attacks.	Deaths.	Attacks.	Deaths.	Attacks.	Deaths.	Attacks.	Deaths.	Attacks.	Deaths.	Attacks.	Deaths.	Attacks.	Deaths.	Attacks.	Deaths.	Attacks.	Deaths.	Attacks.	Deaths.	Attacks.	Deaths.	Attacks.	Deaths.	
1	Khandesh	63	55	99	79	80	68	11	7	...	...	...	...	...	...	...	...	1	...	...	...	24	8	11	13	289	230	16
2	Nasik	420	354	203	153	194	60	20	16	...	...	1	...	8	1	316	269	671	479	503	339	172	119	191	161	2,699	1,951	71
3	Thana	311	97	549	143	654	261	653	363	241	199	187	137	720	456	1,182	855	357	277	148	141	114	103	258	203	5,374	3,235	95
4	City of Bombay	2,920	2,934	4,750	4,498	4,780	4,973	2,613	2,171	811	524	371	150	336	263	643	543	921	664	867	709	271	209	580	472	19,863	18,130	1
5	Kolaba	95	68	161	125	269	238	79	73	32	25	4	5	...	...	1	...	10	7	8	5	16	15	104	93	779	654	46
6	Ahmednagar	171	152	110	102	34	28	1	1	...	...	...	...	1	1	1	1	...	...	17	10	30	23	33	15	398	333	12
7	Poona	646	436	206	137	94	42	23	13	6	4	2	...	4	1	39	29	103	61	462	328	281	239	76	65	1,942	1,355	60
8	Sholapur	746	497	474	370	116	80	18	9	...	...	1	...	97	62	203	77	123	65	219	166	106	89	185	142	2,288	1,557	80
9	Satara	1,125	778	540	402	338	137	117	96	148	120	115	74	259	183	558	300	1,201	822	2,463	1,987	1,706	1,459	770	560	9,340	6,918	220
10	Ratnagiri	16	13	43	27	199	146	201	167	9	11	...	...	...	...	1	1	10	7	2	1	1	1	...	...	482	374	33
11	Belgam	402	228	250	174	257	129	168	110	153	116	281	211	1,124	853	2,313	1,638	4,159	2,958	7,268	5,352	4,355	3,227	1,817	1,305	22,547	16,301	183
12	Dharwar	5	1	3	1	7	5	9	7	33	22	118	81	585	319	2,976	2,324	6,545	5,304	9,870	7,766	9,360	7,784	4,983	4,150	34,494	27,764	120
13	Bijapur	...	...	13	4	11	5	1	...	...	...	...	...	...	...	...	...	32	21	296	247	422	288	598	414	1,373	979	49
14	Kanara	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	13	8	10	11	11	8	42	32	76	59	8
15	Surat	684	555	815	577	560	471	188	153	87	51	110	71	376	274	344	245	143	114	38	28	18	12	3	1	3,366	2,552	95
16	Broach	3	2	...	...	1	1	7	4	1	1	2	2	23	13	209	151	162	118	83	61	37	22	52	49	580	424	19
17	Kaira	26	26	36	17	10	7	9	3	1	1	...	...	...	...	7	4	23	13	34	28	140	112	326	234	612	445	28
18	Panch Mahals	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	52	33	55	49	164	117	272	201	15
19	Ahmedabad	6	3	2	2	...	...	1	1	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	10	6	3
20	Karachi	7	4	...	...	3	...	809	579	2,076	1,684	388	272	138	64	98	78	25	14	21	13	10	10	8	4	3,583	2,722	33
21	Hyderabad	...	...	...	...	...	...	...	...	1	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	2	1	1
22	Thar and Parkar	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
23	Shikarpur	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
24	Jacobabad	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Total for the Presidency	7,646	6,203	8,254	6,811	7,607	6,651	4,928	3,773	3,599	2,759	1,581	1,003	3,671	2,490	8,892	6,515	14,500	10,952	22,361	17,227	17,129	13,777	10,201	8,030	110,369	86,191	1,188

The number of towns and villages affected was 1,188 against 912 in 1897. The deaths from plague in 1897 had been nearly exactly the same in number as the cholera deaths during the worst cholera year in the previous nineteen years. The heaviest mortality from cholera during the last twenty years occurred in the year 1897, but the plague deaths in 1898 exceeded this by 29,082. The parts most affected were the collectorates of Dharwar, City of Bombay, and Belgam, and the rates of plague deaths in them were 26·4, 22·4, and 16·1, respectively. Satara came next with a rate of 5·6, and then Kurrachee, Thana, Surat, Nasik, and Sholapur (2·08), the rates of the remaining affected collectorates being much lower. The only parts of Sind which returned indigenous cases were the towns of Kurrachee and Kotri, the former suffering severely. Except for a few imported cases, the collectorate of Ahmedabad was entirely free. With the foregoing exceptions, all the collectorates in the presidency were more or less affected.

Recognizing that the plague had come to stay, and that it was impracticable over a large area and a prolonged period of time to close the ordinary channels of daily business and intercourse without very sorely trying the patience of the public and jeopardizing general prosperity, the Government of Bombay by their Resolution of the 17th October 1898 made certain changes in the method of dealing under the Epidemic Diseases Act with travellers by railway. Railway detention camps and passes were discontinued, and replaced by a very strict medical examination, accompanied by disinfection of clothing, where necessary, at convenient railway centres and at places of arrival. Persons coming from infected localities were ordered to be subject to surveillance for ten days after arrival. It was ordered that at each examining station the examination should be conducted in the same way as for passengers departing by sea from Bombay. The detailed orders as to examination, disinfection, and surveillance, were so worded as to endeavour to secure the maximum preventive efficiency with the minimum of inconvenience to travellers. Persons travelling with certificates of inoculation, provided the date of such inoculation was certified to be within the last six months but not within the ten days immediately preceding, and provided the identity of the holders was not open to doubt, were ordinarily to be allowed to pass with the examination prescribed for first and second class passengers, except that they would probably be required to detrain. Discretion was left to local authorities to issue such orders as might be necessary, consistent with the general instructions and declared policy of government, as to special regulations for travellers who could not be depended upon to give a trustworthy account of their residence and movements or were suspicious whether by reason of their appearance or symptoms or the dirty condition of their clothes or effects. But in the orders regarding the surveillance of new arrivals it was emphatically laid down that under no circumstances would any respectable healthy person who could give a reference either in the place he came from or in the place at which he had arrived be detained.

Plague in Bombay City.

169. The statistics for Bombay City will be found in the table in paragraph 168. Full details regarding the disease and the measures adopted against it are given in the report of the Municipal Commissioner, of which the following is a short and very condensed summary :—

How the disease spreads from man to man, why at certain seasons, in spite of all that can be done, it assumes epidemic proportions, and why, again, at other seasons, with

precisely the same measures in force, it relapses into comparative inactivity, are subjects about which we are little wiser now than we were at the end of the first epidemic. Government in their Resolution of 27th May 1898 transferred the responsibility of plague administration in Bombay from the Plague Committee to the Municipal Commissioner, under the direct control of the Plague Commissioner. They further provided for the appointment of a Special Deputy Commissioner and a Special Medical Officer. Government more fully defined the powers and duties of the Municipal Commissioner and his assistants in regard to plague in their notification of the 12th August 1898. Each ward of the city was in charge of a special officer. The Pass Office, which had been opened in March 1898, was closed on 13th June 1898; and thereafter passes were issued by the various district officers, till they were entirely abolished by Government Resolution of the 16th October 1898. The operations were based on the general lines of policy initiated by Government in March 1898, and detailed on pages 186 *et seq.*, of the report of the Bombay Plague Committee for 1897-98. In addition to the removal of the sick to hospitals, the observation of "contacts," the evacuation and disinfection of infected houses; inoculation was encouraged, rats were destroyed, different communities were moved and assisted to start health camps and hospitals of their own, a systematic survey of houses in the city was undertaken with a view to their sanitary improvement. The regulations regarding the segregation of contacts were materially relaxed, and they were permitted to attend to their ordinary duties on the sole condition of returning to camp in the evening. Orders were issued by Government regarding the abolition of passes and detention camps for travellers by railway. The epidemic seems to have begun smouldering in insanitary spots, then laying hold of them—first one, then another—gradually tightening its grip upon them—making little excursions from them, and then suddenly flaring up into a general blaze all over the district attacked. There was a consensus of opinion among the district officers that want of light and ventilation, overcrowding, filth, and dampness, and defective drainage—in a word, defective sanitation—were almost universal characteristics of the localities chiefly attacked, but exceptions to this were numerous. It was exceedingly difficult to obtain any precise information either about the movements of, or the mortality among, rats. Cases occurred which seemed to show that rats undoubtedly can spread plague among human beings. Instances constantly occurred all over Bombay where dead rats had been found a few days previously to the residents of a house being attacked with plague, and it was a common incident to find dead rats in cupboards or behind boxes when a house was being disinfected on account of plague; but in this, as in most other respects, it was difficult to collect precise information. No important observations were recorded during the year regarding the migration of rats; but it very commonly occurred that when a house was attacked by plague, inquiry elicited that dead rats had been found a few days previously, and that then all traces of rats had disappeared. It is a point difficult to establish that the rats brought infection, but that is an almost universal opinion in Bombay; though occasional instances have been observed where plague infection has been carried by human beings from one house to another, and sickness in the second house has been followed by rat mortality. Dead rats did not always mean plague among the residents in a house. One case occurred when no less than 30 dead rats were found in a Marwari's shop, but no plague occurred in the vicinity. In Mandvi and Chakla, where the houses are for the most part fairly good, plague seemed at first to spread slowly from one man to another, the epidemic only becoming severe when the rats became badly infected and carried the disease into almost every house; but, speaking generally, plague attached itself to insanitary localities, and only after they had become thoroughly poisoned did the better class dwellings in the neighbourhood suffer. This feature of plague has been noticed in past years; and it was observed that localities, and even particular houses, which were badly affected in previous epidemics, were more liable to re-infection. These insanitary places are always liable to re-infection so long as the disease is prevalent. It may be brought in by rats, or by a man who has visited a sick friend, or in numberless other ways; and once it has obtained a fresh footing, the same conditions of filth and overcrowding, and of want of light and ventilation, help and foster it, until the place once more becomes a plague centre. It thus frequently happened that neighbourhoods suffering from these defects were seriously infected more than once during the epidemic. Facts of this kind are the weapons of those who urge that plague measures are useless, and therefore intolerable. The lives that are lost arrest the attention: no allowance is made for the lives that are saved. The people who suffered were those who

lived among the most insanitary surroundings, in other words, the poorer classes. The medical officers in Bombay noticed that the virulence of the disease, the rapidity of its course in the individual patient, and the case-mortality were greater than ever before; and the enlargement of the lymphatic glands, which has attached to plague the epithet Bubonic, was very slight or altogether absent in a very much larger proportion of cases. These were general impressions. The hospital statistics give actual facts. It may be noted that a low temperature in all three epidemics has had th e effect of increasing the disease, and that dry northerly and easterly winds had an unfavourable influence, often immediately, on the mortality. The coincidence that plague in each of the three outbreaks has become epidemic three months after the completion of the monsoon points to a period either of immunity for the population or of dormancy for the bacillus. Each year the disease appears to become epidemic at a later period than its predecessor; and it will be interesting to note, should there be a fourth epidemic, whether there is anything in the coincidence of the mortality becoming epidemic three months after the monsoon is over. It cannot be doubted that the measures undertaken in Bombay to combat the plague have been remarkably successful, and the smallness of the proportion of the population that have succumbed in the three years to the disease is a result which has probably never hitherto been obtained in the history of plague. The discovery of plague cases is the basis of all plague administration. The measures adopted may be perfect, but if a large proportion of cases escape detection, the administration is a failure. For various reasons it was not thought feasible to render the report of all sickness, or of all sickness from plague, compulsory upon the public generally in Bombay. But the majority of plague cases were discovered through reports from volunteers; voluntary admissions into hospital; information from friends and neighbours; information from private practitioners; information from the military authorities; roadside cases and miscellaneous; information secured by the plague staff direct, or from police or municipal subordinates; or information from cemeteries. Great difficulties were met with in the detection of cases; and although considerable improvement was effected, there is room for a great deal more. As a general rule every suffering plague case was removed to a hospital, a not inconsiderable proportion going voluntarily before the district officer appeared on the scene, but there were some 900 cases left in their houses by permission. The word "contact" is used to describe a person living with or attending a person suffering from plague. Contacts were often very difficult to get hold of, and it cannot be denied that a great many people coming under the description of contacts managed to escape being sent to camp. Another difficulty in regard to them was that the discipline of *private* hospitals was hardly sufficiently good to secure that contacts sent to them would reside there, especially if the patient died. In E Ward inoculation was to a large extent offered to contacts as an alternative to going to camp. The evacuation of thoroughly infected houses was carried on systematically throughout the city. It is a measure which popular opinion approves. Inoculation was pushed by medical practitioners and by some influential native gentlemen, as well as by European officials, but with only moderate success. Most of those inoculated belonged to the poorer classes, and many of them received a small pecuniary compensation. The attitude of the educated natives was in some measure due to certain evidence given before the Indian Plague Commission and to uncontradicted statements, criticizing the composition of the lymph, which had appeared in the daily papers. The people undoubtedly regard inoculation with suspicion; and many still believe that it may produce leprosy, wasting, loss of vitality, loss of memory, or phthisis. Except when plague is actually threatening them, they are unwilling to undergo the unavoidable pain and discomfort associated with it: it is to them a new thing, and they readily seize upon any and every possible and impossible objection to it. Many would say that they would undergo it if it was a certain protection against plague, but are not prepared to suffer the inconvenience for the sake of merely increasing their chances of immunity: they seem unable to realize the extent to which their chances are increased, and regard the death of a single inoculated person as proof that the treatment is valueless. A few are withheld by the belief that the protection afforded is merely temporary, and do not regard immunity for six months as sufficient reward for the two or three days' reactionary fever. There were 20 men employed at various times for the sole purpose of catching rats, and for rats brought in by others ½ anna per rat was paid from municipal funds. In these ways a large number of rats was destroyed. The orders regarding disinfection issued by the late Plague Committee (printed at pages 181 and 182 of Sir J. Campbell's report) continued in force. Towards the close

of the year when the epidemic was declining, it was felt to be desirable to emphasize the necessity of uniformity and thoroughness in disinfection; and on receipt of a report from Dr. Cayley, detailed instructions were drawn up in consultation with him for the guidance of all district officers. The systematic inspection of houses was continued. Owing to the insufficient house accommodation for the poor, it was difficult to abate overcrowding; but reduction in numbers was enforced where the creation or spread of disease was apprehended. A great stimulus was given to the provision of camp accommodation by Bombay Government Resolution of 17th November 1898, communicating the generous grant by the Government of India of one lakh of rupees for expenditure independently of the municipality on plague camps in and near the city. Great importance was attached to the provision of suitable accommodation for the families of patients in close proximity to the various hospitals. Private camps were erected to a very much larger extent than ever before. On the 17th November 1898 Government made known that the Government of India had sanctioned a grant for the Bombay presidency of three lakhs of rupees for expenditure on "Discretional Relief," to be incurred in the form of grants placed at the disposal of selected officers under the authority of the Government of Bombay. Of this amount one and half lakh was reserved provisionally for the city of Bombay. Bombay Government Resolution of 14th November with the Circular appended to it indicated the objects with which this fund was constituted and the rules laid down for its administration. The first object was to make the hospitals attractive by the provision of extra rations before discharge, by the gift of clothing or small sums of money on discharge, by the payment of funeral expenses, by the support of the family where necessary during illness or interruption of ordinary avocations, by assistance to survivors or convalescents to return to their homes, and so forth. The second was to remove the minor discomforts and losses attendant upon measures of disinfection, etc., by payment of prompt compensation for destruction or damage to clothing, etc., and by the grant of a trifling sum to cover in the case of the poorer classes the petty expenses incidental to the vacation of a house. The third was to remove the objections to temporary removal from an infected house or locality by compensation for interruption of work or loss of wages, by paying expenses of transit, by the provision of warm clothing or a blanket as a protection against the increased cold of camp life, and by the provision of cots as a protection against dampness. The actual assistance in cases of desperate distress has been enormous; and nothing has done more to convince the people generally that plague measures are intended for their welfare. This change in their attitude has been cheaply purchased at the expenditure of 50,000 rupees; and to those who have experienced the advantages of the Discretional Relief Fund it is difficult to realize how previous epidemics have been got through, and impossible to contemplate facing another epidemic, without its assistance. The total number of volunteers on the various district committees was 802. More than half of these did real work and rendered valuable service. Their organization and methods varied in different districts. Speaking generally, the attitude of the people in Bombay was distinctly friendly towards the plague administration, and a certain proportion have come to believe that some at any rate of the plague measures are useful. That which they could most clearly understand was the measure of evacuation of infected places. Compliance with this has been due partly to the bitterness of experience, partly to the growth of confidence in the plague officers, but very largely to the co-operation of plague volunteers. As a rule also they accepted as inevitable the necessity of removing plague patients to hospital, when once the case came to the notice of the authorities; but deliberate concealment of plague cases continued to occur, and though, in the absence of such an organized house-to-house visitation as obtained in the past, mere silence often sufficed to keep the authorities in ignorance, yet the assistance of the volunteers and the various methods adopted to obtain information of sickness, forced those who could not bear the idea of sending their relatives to hospital to extraordinary devices. Roadside cases of plague, whether sick or dead, are in some measure due to people refusing to believe they are ill and going about their business with plague upon them until they collapse; but cases undoubtedly occur, more especially among the labouring classes, many of whom come to Bombay to work for a few months only, leaving their families at home, where in order to avoid the attention of the plague authorities being called to the house in which they fell sick, the dead bodies of the plague-stricken are taken out and thrown down in any open space, or more often hidden in the empty rooms of some vacated chawl that has not been securely locked. Instances were not uncommon of sick men being turned out of their houses by the landlord for similar reasons. Every effort was made to make the public hospitals as popular as possible. Special arrange-

ments were made to accommodate the families of patients close by, and visitors were freely allowed. But treatment in a common ward, the necessary discipline, medical restriction of diet, and the use of serum treatment, were disliked. The arrangements in force for the medical inspection of persons entering Bombay by road and rail were fully described in Sir J. Campbell's plague report. They were relaxed or re-inforced according as the plague declined or increased. There is a general opinion among those engaged in plague operations that infection is not, except in pneumonic cases, readily conveyed from one human being direct to another. The rarity of cases arising in hospital supports this belief, and, except where people recklessly handle and embrace the sick without sanitary precautions of any kind, it is believed that the disease is more often contracted from infection lurking in the floors, etc., through some abrasion in the skin, and frequently through cracks in the skin between the toes. Infection may undoubtedly be carried in clothes and the like, and the movements of people from infected localities must often spread the plague, though those who take the disease with them may remain free from it themselves. The policy of evacuation of infected localities and houses is based on the almost universal experience that the principal danger in a plague epidemic is to be found in the infected locality, that the greatest safety lies in flight.

The second part of the Municipal Commissioner's Report is devoted to the subject of hospitals, public and private, to the consideration by the medical officers of plague as a disease, and to the results of the use of various sera.

It was, in fact, found impossible in the city of Bombay to detect all cases of plague either before or after the outbreak had attained epidemic proportions; and the number of plague deaths escaping discovery increased with the severity of the epidemic to such an extent, that when plague was at its worst it was not certain that much more than half the plague deaths had been correctly ascertained. Also, when plague cases were discovered, their discovery was in many cases too late to prevent the escape of those who ought to have been segregated or placed under surveillance. It was found, too, that specially stringent measures for the discovery of cases led to organized and extensive concealment. The general conclusion arrived at by the local government was that the efficiency of the measures approved by the Government of India in their Resolution of the 3rd February 1898, depends mainly on the exhaustive discovery of plague cases. Where cases remain undiscovered, measures, however well devised, must fail; for undiscovered sources of infection, both personal and local, remain. The system which will result in leaving fewest cases undiscovered will be the most effective; and experience in the city of Bombay has indicated as best that particular system which causes the least amount of popular resistance and discontent, while securing a treatment of infected persons and places such as to prevent any serious danger from them after they have been discovered.

Plague in the Port of Bombay.

170. During the year 71,498 vessels of all sorts with 1,207,571 crew and passengers were examined. The number includes every person who left Bombay by sea during the year, as well as those who arrived from the ports of Western India between Kurrachee and Bhatkal, inclusive, between the dates of 1st January and 20th April. After the latter date, and up to the end of the year, arrivals from infected ports only were subjected to a medical examination. The total number of plague cases detected during the year was 118. On vessels and native craft in the harbour 17 cases were found. Besides these, 96 cases were prevented from sailing on vessels leaving the port, and five were discovered on vessels coming from infected ports close to Bombay. A special sanitary police force was found necessary to assist the port health staff in carrying out the provisions

of the Venice Convention. Government, therefore, sanctioned 12 European and 50 native police for such work, and placed them under the orders of the Port Health Officer. Owing to the marked recrudescence of the plague in January, an exodus set in, and 30,878 more people left Bombay by sea than arrived during that month. They were chiefly millhands and labourers who had their homes along the coast in close proximity to Bombay. In order to prevent the spread of plague to the coast ports, Government directed that in addition to the inspection before leaving Bombay, the people were to be inspected a second time at the port of arrival. Native craft were prohibited from taking passengers, so that the inspections at the coast ports could be carried out at the places where the steamers called. Afterwards, owing to the diminution of plague along the coast ports near Bombay, inward sea inspections from such places were suspended on the 20th April, and only vessels coming from infected ports were examined. When the third marked epidemic of plague in Bombay commenced towards the end of the year, arrangements were made with the Peninsular and Oriental Company for the disinfection of all clothing and bedding of the native crews prior to sailing. This disinfection has now been extended to the clothing and bedding of all native crews bound to any port out of India, and is said to be working satisfactorily. Since the 1st September the inspection of the crews and passengers of outward-bound vessels which sailed to ports other than Indian ports has been made on shore prior to their embarkation, as directed by the Venice Sanitary Convention. The ship's company was again inspected on board before the issue of a Bill of Health immediately before departure from Bombay. The Bill of Health form was also revised accordingly. Experience has shown that a slight rise of body temperature precedes the more definite signs of plague; and, notwithstanding the difficulties due to the prejudices and carelessnesses of the people, the clinical thermometer was diligently used. In some cases it was found that passengers suffering from a rise of temperature had tried to reduce it immediately before examination by wetting their bodies with water, sucking ice, or taking doses of phenacetine. The newspapers reported cases of plague from Bombay at foreign ports from time to time; but subsequent inquiry in almost all cases proved they were not cases of plague, as in instances which occurred at Suez and Colombo. As far as is known at Bombay, also, plague broke out at Tamatave, Madagascar, in November and December 1898, that is, fifteen months after the last steamer left Bombay for Madagascar.

Plague in Bengal.

171. The plague deaths shown opposite Bengal in the table in paragraph 167 belong, with the exception of 16, to the city of Calcutta. The alleged occurrence of plague in Calcutta in 1896 was discussed in the report for that year, page 155, paragraph 159. On the 15th of April 1898 the Health Officer was informed of the finding of dead rats, and on the 17th he saw the first human case brought to his notice. Though this was not really the first case that had occurred, he believed it to be a very early one, because noticeable rat mortality was of only quite recent occurrence. The diagnosis in this case was bacteriologically confirmed by Mr. Haffkine. One of the domes who assisted at the *post-mortem* examination, and who had then scratched himself on a point of bone, became ill with fever two days after, and died in fourteen days from what was believed to be plague. Four other domes contracted the disease in a similar manner. As usual, at the beginning of the outbreak there were a number of cases which

were difficult to diagnose; and there were at first, and even afterwards, many persons who disbelieved in the reality of the visitation. Another ground of disbelief was the slowness of its spread, the absence of manifest epidemicity, and the low general mortality of the city; but the high case-mortality, the clinical symptoms, the pathological appearances, and above all the repeated positive results obtained by competent bacteriologists, stamped the disease as true plague. Most of the cases occurred in the middle of the town; the north, south, and east being practically free. Very little evidence could be obtained as to the manner in which the infection was carried from place to place or from person to person, partly on account of the difficulty of getting an accurate history. In the case of a European who lived in airy rooms on the roof of a lofty building, information was given that his pet dog brought a dead rat, and deposited it in his bed. At one time dead rats began to be noticed in considerable numbers in the General Market, in the neighbourhood of which human cases had been occurring, and were found on investigation to have died of plague. The entire market was very thoroughly disinfected, coolies being put on and working in shifts night and day. In this area human cases were discovered before rodent, but the Health Officer thinks from the way the disease appeared amongst different classes all round this quarter and the suddenness of the onset, that it is much more probable that infection of rats came first, though it was not discovered till after several cases had occurred. The network of sewers and the fact that the rats of one area can infect the rats of another area, even if they do not travel long distances themselves, render infection easy. Whether the disease is conveyed from infected rats to human beings by the germs incubating in the floors and ground, or through the agency of vermin on the rats, the Health Officer has no evidence to offer. In some houses the death of rats was not followed by plague, although plague cases always took place in the vicinity. The aims of the measures adopted were, as usual, detection of cases, segregation of sick and "contacts," evacuation of infected houses and localities, disinfection of infected houses and localities, and the improvement of general sanitation. But, to allay the alarm of the people, who were already beginning to leave Calcutta in large numbers, the following announcements were made:—

Quarantine will not be enforced by government against Calcutta.

No segregation will be enforced if the entire household has been inoculated.

No one will be declared plague-stricken without being seen by a competent medical officer, male or female, deputed by the municipality.

No one will be separated from his or her family. If necessary, all will go together to a camp, where the *purdah* will be respected.

Compensation will be paid on the spot, if any property is destroyed in being disinfected.

Encouragement will be given to the public to provide private family hospitals for the treatment of their relatives in their private houses, where proper accommodation is obtainable.

No person will be removed except on the order of a medical officer. The police are not authorized to examine or remove any one.

The period following the announcement of plague was characterized by organization on the part of the authorities; by panics, strikes, and disturbances amongst the lower classes of the people. In the districts and wards, committees were formed, whose duties were to make house-to-house inquiries as to the health of the people and report suspicious cases; to establish ward and caste hospitals, and to report any serious sanitary defects. These committees

mostly worked well, but they failed to gain the confidence of the people, who concealed cases from them almost as much as they did from the executive. As they had no power of entry, they could only accept what they were told. So the net result of their arduous and disinterested labours was somewhat disappointing, so far as the detection of cases was concerned. In fact, the greatest difficulty in dealing with the plague was the distrust and suspicion with which all plague officers were treated. Some inoculation was done, but its progress was stayed by the angry excitement caused by the circulation of wild stories prompted by malice or ignorance. Ultimately, owing to the small amount of plague, the absence of scare, and the removal of the office from the Health Office to the Town Hall, the number of people seeking inoculation decreased rapidly, until only those who desired to travel by rail, under the Government Notification of 30th October 1898, without the inconvenience of detention at the inspection camps, came for inoculation. On the 10th of October, Calcutta was declared free from plague under the terms of the Venice Convention. The Special Health Officer remarked that the course of the plague in Calcutta was anomalous, and that, although isolation, as well as vacation of affected spots, had been thoroughly carried out, it was too much to hope that its diminution was due to those measures only, in view of their reported failure in preventing the spread of plague elsewhere. He was convinced that sporadic cases were still occurring, and that the up-keep of the organization for dealing with the disease was justified. Though such cases were few, inquiry was rendered difficult by fictitious addresses being given at the burning ghât, by lying statements being made by the occupiers of houses where deaths had occurred, and by false statements being furnished by the *kavirajes* and practitioners attending the cases. The lapse of time, unfortunately, demonstrated the correctness of the Special Health Officer's opinion, as ten more deaths occurred before the end of the year, in four of which bacteriological examination was used to support the diagnosis. At this time the cases were occurring chiefly amongst the Marwari community. There was great dread of Calcutta being again declared infected, and cases were systematically concealed. It was not, however, till February 1899 that the increasing number of cases caused government to re-impose the rules.

Besides the deaths in Calcutta, 5 occurred at Chausa (Railway Inspection Station), 1 in March, 1 in June, 2 in July, and 1 in August; and 11 in villages in the Backergunge district. Seven of the deaths in Calcutta, two of those at Chausa, and all the 11 in Backergunge were in direct connexion with cases that had occurred in a house in Calcutta. Two of the remaining Chausa deaths were also due to Calcutta, and the fifth was that of a man who had come from Jullundur. The affected locality in Backergunge consisted of the two adjacent villages of Siddhakati and Abhoynil, about three miles south of Nalchiti, a small trading town with a municipality and a steamer station. The affected villages consisted of a number of scattered homesteads, each of which is well separated from its neighbour. The inhabitants, with few exceptions, showed a very reasonable spirit, and helped in the evacuation and burning down of the infected huts, and in the segregation of the sick and their families. For the houses burnt full compensation was paid.

The four plague observation camps at Chausa, Chakradharpore, Mairwa, and Khurda Road, which were established along the western frontier of Bengal to guard against the importation of plague into it by railway passengers from

Bombay and other affected places, were in full working order throughout 1898, the second and third having been opened on 22nd February and 19th January respectively. The examination of passengers was conducted in the same way as in 1897. At the Chausa camp, which was the most important of all, the total number of persons inspected and detained amounted to 636,819 and 24,776 respectively. Among those detained at Chausa there were only 18 deaths, five of which, as already stated, were from plague (4 bubonic and 1 pneumonic). There were no plague deaths in the other camps.

No Jeddah pilgrim vessel left Calcutta, nor did any arrive, during the year. The embarkation of pilgrims took place from Chittagong. Two hundred and twenty-seven vessels arrived during the year from the plague-infected ports of Bombay, Kurrachee, Hong-Kong, and the Hedjaz. No case of plague was found on any of these vessels; but one of them, from Hong-Kong, had had a case of plague removed from her at Penang. One case was found in connexion with the shipping in the person of a customs officer; but after his death the attempt to cultivate the plague bacillus from his organs failed. The vessel was disinfected.

Plague in the Punjab.

172. For the Punjab the plague statistics are given in the table in paragraph 167, as well as in the following:—

Months.	Jullundur.		Hoshiarpur.		Total.	
	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths
January	19	11	17	12	36	23
February	211	191	72	31	283	222
March	869	564	132	90	1,001	654
April	861	491	203	119	1,064	610
May	452	355	235	126	687	481
June	15	10	16	8	31	18
July	5	1	...	...	5	1
August	2	...	1	...	3	...
September	...	...	...	...	...	...
October	6	...	1	...	7	...
November	7	3	...	...	7	3
December	11	7	...	...	11	7
Total	2,458	1,633	677	386	3,135	2,019

During January no fresh infected villages were discovered, but in February 15 were found. In March, in which month 27 more villages became infected, a system of rewards for early information regarding newly attacked villages came fully into force, and is said to have probably had better results than any other system. The heavy punishment meted out to some lumbardars for concealing the existence of the disease in their villages had also a very salutary effect. During April 34 new villages were attacked; but in May only eight, and after July no new village was attacked until the fourth quarter of the year. During June occurred two or three isolated cases of what seemed to be a mild form of plague. In no case was the patient very ill, nor did the infection spread to other members of the family. This, it is considered, probably indicates that the disease had taken on the mild form noticed by others at the beginning or at the end of epidemics. Such cases require special observation, as, if not promptly recognized and treated, they may be the means of keeping plague extant in a district from one cold weather to the next. In

paragraphs 182, 196, 197, and pages 193 and 205 of the report for 1897 are mentioned the chief conclusions formed as to the mode of spread of plague in the Punjab, and specimens of the measures adopted. A cordon was drawn round the affected village; a nominal roll of those within the cordon was taken; the village was totally evacuated; the inhabitants were removed to "healthy" and segregation camps, the latter with its inmates and their belongings being subjected to disinfection; the village was thoroughly disinfected; and the inhabitants were not allowed to return to their disinfected village till three weeks in summer, or one month in winter, had elapsed since the occurrence of a case in camp. It was noticed that plague re-introduced into a disinfected village showed little or no tendency to spread, and might usually be checked by the evacuation of one or two houses. With regard to the efficacy of evacuation the Deputy Sanitary Commissioner, Captain James, I. M. S., says:—

> It is therefore fairly well established that in evacuation we have a method of quickly and certainly stamping out plague. In not a single village in the areas under consideration can it be said to have failed. It was successful in every season of the year, though it took longer in the winter than in the summer. It was equally successful in large villages of from 3,000 to 6,000 people as in little hamlets.

The disease usually declared itself within five days after exposure to infection. With regard to Haffkine's system of preventive inoculation the summing-up given is as follows:—

> It is only when the prophylactic has been tried in a large number of cases all over the country and under varying conditions that a definite decision as to its efficacy in protecting against plague will be arrived at. It will never be the sole remedy against the progress of the malady, but it may possibly become one of the chief measures. Small-pox is not nearly so infectious as this disease, and yet we have a more perfect protective serum to combat it, namely vaccine lymph. This remedy has now been tried for a hundred years, and tried on a very extensive scale. It has considerably diminished the amount of small-pox in existence, but it has not banished it. In the same way, it is impossible to believe that any form of protective inoculation can ever be effective if used as the only means of preventing infection. It is extremely difficult to inoculate large communities, and a few will always escape, and these few have the power of keeping the disease in existence, ready to break out again when favourable conditions arise; if on the other hand, we look upon the inoculation as one, but only one, of the excellent sanitary measures which science has given us to combat this malady, then there is every hope of its becoming a powerful weapon in our hands.

Plague in the North-Western Provinces and Oudh.

173. The plague statistics of the North-Western Provinces and Oudh for 1898 are shown in the following, as well as in the table in paragraph 167. There were 191 seizures with 148 deaths against 97 and 72 in 1897. The disease remained confined to the Saharanpur district. The first case occurred in Jawalapur on the 9th January. The actual mode of introduction is unknown; but as this town is only a short distance from some of the infected areas, the attack was confidently anticipated by the Sanitary Commissioner. The disease rapidly spread, and, as in Kankhal, cannot be said to have been arrested until the entire town had been evacuated. Cases continued to occur in the camps until the 28th May. The town having been completely and thoroughly disinfected, the people began to return to their houses about the middle of April. By this time the active measures taken as regards the infected villages in the neighbourhood had also been successful, and it may be said that the end of May saw this alarming

outbreak completely stamped out. The provinces have since then been entirely free from the disease :—

District.	MONTHS.																									
	January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.		Total.	
	Seizures.	Deaths.	Seizures.	Deaths.	Seizures.	Deaths.	Seizures.	Deaths.	Seizures.	Deaths.	Seizures.	Deaths.	Seizures.	Deaths.	Seizures.	Deaths.	Seizures.	Deaths.	Seizures.	Deaths.	Seizures.	Deaths.	Seizures.	Deaths.	Seizures.	Deaths.
Saharanpur . .	22	17	37	30	102	71	27	27	2	2	...	...	...	...	...	...	...	...	...	...	...	...	1	1	191	148

Excluding those in Jawalapur and villages in its vicinity, no cases are known to have occurred in the North-Western Provinces and Oudh during 1898, though alarms were frequent. Nevertheless, the Sanitary Commissioner retains the opinion expressed in his report for 1897, that such cases must have occurred. The memorandum issued by the local government as to the measures to be adopted in small centres of population was, he believes, of great value, because it is probable that when an isolated plague case was imported into a rural centre the people themselves took the necessary steps of isolating the patient, etc., without making any report to the authorities.

The measures adopted for keeping plague out of the provinces, and for fighting it after it had gained an entrance, were on the same lines as those described in the report for 1897.

Plague in the Central Provinces.

174. From September 1896, when the existence of plague was first recognized in Bombay, up to November 1898 the protective measures which were at first adopted and which still continue to be in force in the Central Provinces, and which consist chiefly of inspection of railway travellers, disinfection of clothing, detention of suspected persons, and police supervision of new arrivals, were successful in preventing the disease from obtaining a foothold in the province. During this period 22 cases of plague were detected at the various inspecting stations, 16 of them in 1897. At the end of October 1898 the disease was communicated by a traveller to a person residing permanently in Khandwa. In the first week of November the disease appeared in an epidemic form in the town of Hinganghat, extending afterwards to Wardha, and several villages in the Wardha district, also to the towns of Nagpur and Bhandara before the close of the year. At Khandwa the action taken was prompt and vigorous, and the disease spread no further. The precise origin of the outbreak in Hinganghat will never be known. The infection was doubtless brought in some way from Bombay, but whether by human agency or through the medium of goods brought by railway has not been discovered. It is, however, certain that the disease must have been in existence in the town for many days before it was actually recognized. Had this not been so, it doubtless might have been stamped out at once, as at Khandwa. The measures taken to combat these outbreaks were much the same in all cases. Briefly, they consisted of—

(1) Evacuation of the infected block in the first instance and eventually of the *mohalla*, including—

(*a*) Isolation of the sick ;

(*b*) Segregation of contacts ;

(*c*) Formation of observation camps for the other inhabitants ;

(2) Preliminary disinfection of infected houses;
(3) Unroofing and thorough exposure to sunlight;
(4) Final disinfection and cleansing prior to re-occupation;
(5) Disinfection of grain;
(6) Prophylactic inoculation.

"The total number of persons inoculated amounted to only 653. Its value s now, however, becoming generally recognized, and it is most satisfactory to find that the people everywhere showed the greatest readiness to take advantage of it." From the experience hitherto gained the Administration concludes that careful railway inspection is a most valuable and indispensable protection against the importation of plague; that early intelligence of a first case of plague and prompt isolation of the sick person and those who have been in contact with him is of supreme importance, and decisively effectual in preventing the spread of infection; that, after isolation, immediate evacuation is the first and most effectual measure, but that to be effectual it must be complete, all communication with the evacuated block of houses being cut off; that when the infection is established, a house-to-house visitation is the only effectual means of bringing cases to light; that it is dangerous to allow people to establish scattered camps in such numbers or positions that control is difficult or impossible; that if disinfection has been thoroughly done, re-occupation may safely be allowed after the expiry of a period of six weeks from the occurrence of the last case.

The Sanitary Commissioner states that in no instance was there any fact disclosed in support of a theory of dissemination by the agency of rats or other vermin, except in so far that the death of rats at Hinganghat and Wardha coincided with the appearance of the disease among human beings, and that in the Khandwa outbreak and in another occurrence in the Deputy Commissioner's compound at Wardha, the mortality among rats occurred after the appearance of the disease among human beings.

The monthly distribution of the plague deaths may be seen in the table in paragraph 167.

Plague in Mysore.

175. The situation of Bangalore as the point of convergence of four lines of railway always rendered it liable to the importation of plague. Two of these lines, namely, the main Southern Maratha Line, which runs directly from Poona, *vid* Dharwar, Hubli, and Belgam, to Bangalore, and the branch to Guntakal, which joins the main line running *vid* Sholapur and Poona, connected Bangalore with several centres of the disease in the Bombay presidency. Anxiety was therefore early felt at the possibility of infection by this means, and immediately on the passing of the Epidemic Diseases Act (III of 1897), steps were taken to establish a system of railway inspection. Although the first case of plague in Bangalore occurred in the civil and military station, it could have had no connexion with the outbreak that immediately followed it in the city. This case was the servant of a railway official who arrived with his master from Hubli on the 11th August, and was found to be ill on the 12th. On the 13th cases were found to have occurred in railway cooly families living near the railway sheds of the Southern Mahratta Railway. These coolies worked at the railway transhipping goods-sheds; the disease was confined for some time to these people and their friends; and the entrance to the goods-shed is extremely close to the first infected houses. It seems, therefore, that the importation of the plague was due in some way to the Southern Mahratta Railway; but whether the infection was brought

by railway survants from Hubli, or by clothes belonging to infected persons, or by goods, or by rats, it is impossible to say. At the same time, the fact that it was the coolies in the goods-shed, and not the other railway servants, that were first affected, rather points to the latter two sources. The diagnosis of the first cases was verified by bacteriological examination. The disease at first spread very slowly. Its progress by months and districts is shown in the following table as well as in that given in paragraph 167 :—

No.	Districts.	August.		September.		October.		November.		December.		Remarks.
		Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	
1	Bangalore City	22	15	227	138	1,393	1,095	1,313	1,099	322	252	
2	Mysore City	...	...	...	...	9	5	4	7	41	28	
3	Bangalore District	...	...	7	7	120	101	291	214	1,676	1,518	
4	Mysore District	...	...	2	2	9	7	63	59	64	45	
5	Kolar District	...	...	2	2	53	39	88	67	267	216	
6	Tumkur District	...	...	2	2	20	15	136	99	404	293	
7	Hassan District	...	...	...	...	1	1	1	...	...	...	Imported cases only.
8	Kadur District	...	...	...	...	4	4	1	1	1	...	
9	Chitaldroog District	...	...	...	...	4	3	1	1	1	...	
10	Shimoga District	...	...	...	...	...	...	...	...	...	...	

An endeavour was made to keep in view for ten days all who arrived in Bangalore, and, by a system of passes, to prevent men likely to carry infection from leaving. Unfortunately, from ignorance and timidity, the inhabitants gave no help, or were, for the most part passively, obstructive ; so that for long the detection of cases, the segregation of the sick and those in contact with them, and the evacuation of infected localities, were only partially attained. As these are measures which can be successful only when complete, it was difficult to get the disease in hand. The staff of the plague hospital, too, deserted, and a new staff had to be imported. Such was the fear of the inhabitants that they not only deserted their dead in their houses, but cast them forth to the number of over 200 into the roads, tanks, and wells. In fact, it was found impossible to "fight the people and deal effectively with the plague at the same time"; and the rigour of the original regulations and measures had to be somewhat relaxed, in doing which, however, great care had to be taken that things did not slide to the opposite extreme. In some few cases at Mysore the attitude of the Mahommedan inhabitants was threatening, and the Durbar authorities had considerable difficulty in dealing with them. At Bangalore trusting to death certificates was found useless, as was the refusal of burial without a certificate. The only measure of the kind at all successful was the making it penal to remove a body from the house without a certificate. Strange to say, the population so adverse to the other measures meant for their good, took kindly to inoculation. Accurate statistics are not available ; but the numbers reported are 30,758 first inoculations and 968 second inoculations by civil officers, and 11,815 first inoculations and 5,639 second inoculations by military officers. Of the civil inoculates, 379 were reported to have been attacked and 263 to have died.

Rewards were offered for the destruction of rats ; and in a report dated November it is noted that dead rats teeming with plague bacilli had been found in every quarter of the city and station of Bangalore, so that the entire locality appeared to be infected.

Plague in the City of Madras.

176. Thirteen imported and two indigenous cases* of plague occurred in the city of Madras. Precautions against the spread of infection were strictly carried out. When the plague broke out at Bangalore, a scheme of defence was drawn up with the aid of the Sanitary Commissioner. Four plague hospitals and four segregation camps were organized and opened by the Madras Municipality. A system of surveillance and passports was adopted which aimed at keeping every passenger from infected districts under observation for ten days. The system worked fairly well, but, of course, a certain percentage of arrivals altogether escaped observation and could not be traced by the sanitary staff or the police. Further precautions included a daily scrutiny of the mortality all over the town. A reward was given for each dead rat brought to a police station. The tail of each rat was cut off, to prevent the rats being brought twice, and twice daily the rat-bodies brought in were removed and cremated. But the numbers brought in did not show any tendency to diminish; there was some suspicion that persons might be induced to breed them for the sake of the reward, and it was known that field rats were constantly being brought in; so the reward was reduced. In accordance with the rules of the Venice Convention, 68 vessels, arrivals from Bombay and Calcutta, were inspected, when between two and three miles distant from the port, and all passengers were inspected on shore prior to embarkation. No plague cases were detected.

Plague in the Madras Presidency.

177. The general figures are given in the table in paragraph 167; and details as to districts and months in the ollowing :—

Districts	August.				September.				October.				November.				December.				Total.				Remarks.
	Imported.		Indigenous.		Imported.		Indigenous.		Imported.		Indigenous.		Imported.		Indigenous.		Imported.		Indigenous.		Imported.		Indigenous.		
	Seizures.	Deaths.	Seizures.	Deaths.	Seizures.	Deaths.	Seizures.	Deaths.	Seizures.	Deaths.	Seizures.	Deaths.	Seizures.	Deaths.	Seizures.	Deaths.	Seizures.	Deaths.	Seizures.	Deaths.	Seizures.	Deaths.	Seizures.	Deaths.	
Anantapur	2	1	4	3	2	2	16	11	11	7	23	19	6	5	79	67	1	1	121	88	22	16	243	188	
Bellary	3	3	...	...	2	2	7	7	...	...	1	1	2	2	9	9	7	7	117	102	14	12	134	119	
Chingleput	...	...	...	...	...	...	...	...	...	...	...	...	5	4	...	...	5	5	...	...	10	9	...	...	
Coimbatore	...	...	...	...	...	...	...	...	...	...	...	...	2	1	...	...	...	...	...	...	2	1	...	...	
Cuddapah	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...	1	1	...	...	
Kurnool	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	2	15	12	2	2	15	12	
Madras	...	...	...	...	...	...	...	...	...	...	...	...	7	5	...	...	5	2	...	...	12	7	...	...	
Madura	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	
Malabar	...	...	...	...	...	...	...	...	2	1	...	...	...	...	...	...	...	...	...	...	2	1	...	...	
North Arcot	7	6	...	...	2	2	...	...	33	30	2	1	16	13	2	3	8	5	1	2	66	56	5	6	
Salem	2	...	...	...	3	2	...	...	22	18	...	...	43	25	1	...	14	14	91	64	84	59	92	64	
South Canara	...	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...	...	...	...	1	1	...	...	
Trichinopoly	...	...	...	...	...	...	...	...	2	2	...	...	2	1	...	...	1	...	...	...	5	3	...	...	
Total	15	10	4	3	9	8	23	18	71	59	26	21	83	54	91	79	44	37	345	268	222	168	489	389	

Plague in an indigenous form first appeared at Guntakal in the Anantapur district, in the beginning of August 1898, *i. e.*, at about the same time as it attacked Bangalore, both places being probably infected from the same source, *viz.*, Hubli. From Guntakal the disease spread to the other parts of the Anantapur district and to the districts of Bellary and Kurnool. The epidemic was then rapidly extending in Mysore; and the districts of Salem and North Arcot, which are nearest to the infected portion of that province, were attacked early in December 1898. The Sanitary Commissioner notes that in no instance was a case

* According to the Surgeon-General. The Sanitary Commissioner's figures are given in the statement.

of plague reported as having originated from infected articles received from any locality outside the presidency. The origin of the disease was always found to be due to human beings suffering from the disease arriving from an infected locality. It was not till areas having close *passenger* traffic with Mysore became infected that the Madras presidency fell a victim to indigenous plague. The measures of railway and ship inspection dated from early in 1897. The object of the methods adopted was to ensure that arrivals by road, rail, or sea should be subjected to surveillance for a period of ten days to *whatever part of the presidency they proceeded.* This was secured by the giving of a document under the Additional Regulations, requiring the persons to present themselves before certain local authorities appointed in municipal and rural areas—a method familiarly known as the "passport system." Considering the number of localities into which plague was imported, and the number of times it was sometimes imported into one place, the Sanitary Commissioner thinks this method was very effectual; though it has been objected by others that the system was not and could not be thoroughly carried out, and that there may have been other circumstances that prevented the plague from spreading. In all the railway inspection stations opened up to the end of 1898, 1,792,603 passengers were examined. Of these, 9,633 were detained for observation. The chief measures for combating an outbreak of plague were the entire evacuation of the infected locality at an early stage of the epidemic; the removal of the people of the infected area to temporary shelter in the open air, and the stoppage of all direct communication between them and their houses and the surrounding healthy villages until the disease had abated; the thorough disinfection of houses by means of sepoys or trained coolies under efficient supervision. The greatest success was obtained where these measure were carried out thoroughly, and the Sanitary Commissioner remarks that evacuation of indigenously affected areas was found, as in all epidemics of this disease that history has recorded, to be the best sanitary measure. Early in September 1898 orders were issued to start *voluntary* inoculation by Haffkine's prophylactic both in the town of Madras and in the presidency where there were commissioned medical officers. Up to December, 5,685 inoculations were performed in the city and 10,532 in the presidency, making a total of 16,217. With right, however, the Sanitary Commissioner consistently opposed advice tendered to government from time to time to neglect or abolish necessary sanitary measures in favour of inoculation alone.

178. The figures for Hyderabad will be found in the table in paragraph 167. The following is shortened from the report of the Plague Commissioner:—

Plague in Hyderabad State.

In 1898 there were two epidemics of plague in the Hyderabad State. The first began in the cold weather 1897-98, and was confined to the western border of the State. It reached its height in February, during which month there were 616 cases with 545 deaths; and died down in May and June, the months in which the people sleep outside their houses. The second epidemic began in September, and reached its maximum in November, when there were 1,442 cases and 1,228 deaths. In both epidemics villages in the vicinity of rivers, nullahs, and tanks, were more affected than those situated on high dry land; plague was confined almost entirely to black cotton soil districts; plague occurred principally in districts in which salt is manufactured from the soil. The infection appeared to be spread entirely by human agency. The infection having been conveyed into a house, the house itself becomes infected. The virus is deposited in the floors, the dust of which constitutes the principal medium by which the infection is propagated from one human being to another. Evacuation proved to be the only measare

which arrested the progress of the epidemics. After 21 days in camp without cases or deaths, the villages were disinfected, and the inhabitants were then allowed to return to their homes. The mud floors of every house were dug out to a depth of from one and a half to two inches, the dug out portions were removed to a kiln outside the house, and burnt to ashes, and the floors were remade with fresh field earth. This process, and no other was employed, was carried out by the villagers themselves at their own cost. Detention camps were in full operation at the principal stations on the railways leading into Hyderabad throughout the year. Search parties marched from Hyderabad along every road leading to the infected frontiers, and searched every town and village *en route* for cases of plague, a reward of ten rupees having been offered for each case discovered. Experimental work was carried out in the temporary laboratory of the Hyderabad Medical School by Dr. Mullanah and his assistants.

Plague in Rajputana.

179. In Rajputana occurred 8 imported cases with 7 deaths and 140 indigenous cases with 117 deaths. The indigenous cases all occurred in the Sirohi State, the village of Kalindri being the most severely affected, and after it Teuri and Sheudial, while the remaining village, Wardra, had only 8 cases with 7 deaths. The monthly distribution of the disease is given in the table in paragraph 167.

The Rajputana border has been extensively exposed throughout the Bombay epidemic to plague infection on account of its position. Moreover, the enterprising character of the Marwari takes him all over India to engage in trade, while he keeps up house and family connexions in Rajputana. Consequently, when plague broke out in Bombay and the Deccan, the Marwaris returned in thousands, and extensive observation camps had to be arranged al along the lines of rail and road, as well as outside the cities, towns, and villages throughout the province. Platform inspections of all passengers from infected areas were carried out at Abu Road, Ajmere, and Bandikui; and all passengers who alighted in Rajputana, at stations on the Rajputana-Malwa or the Jodhpore-Bikanir Railway were regularly examined, and segregated if found to be suffering from suspicious fever or if likely to endanger the public health in entering the villages. The imported sick and their attendants were carefully isolated in separate hospital camps, and when a patient died or recovered, everything, including the hut in which the case had been treated, was burned. In the summer of 1897 camps were started at the different railway stations for detaining arrivals from plague-infected districts. It was owing to the native officials in charge of one of the camps having failed to carry out, in the case of a rich bania, the duties entrusted to them, that plague was introduced into the Sirohi State. In the middle of November 1897 this wealthy Seth found his way into the village of Teuri in the Sirohi State, and died there of plague. His funeral was well attended, and it was very soon followed by an outbreak of indigenous plague in this and three other villages adjacent. The villages were early vacated and disinfected, and the outbreak seemed to stop; but the weather was extremely cold at the time, and the people could not be kept out of their houses, so other cases soon occurred after re-occupation, and at the same time Poona refugees were attacked in the town of Kalindri, which had a population of over 4,000 and was only two miles distant from one of the villages early infected. Plague was at first confined to Poona refugees and their families and connexions, but it afterwards spread to others in the towns, and to some of those residing at their wells some distance away. As soon as the recrudescence took place, the owns were all again promptly vacated and the people kept out in camps. The encampments were widely scattered over the fields. The huts were burnt and the sites were changed when cases occurred in them, those ex-

posed to infection were freely disinfected, and the sick and their attendants were carefully segregated. Nevertheless, cases continued to occur till the hot weather had well set in. The nature of the disease was recognized by the villagers, who call it *chua ka rog* (rats' disease). The infected villages were entirely evacuated by the 20th January, after which date only officials were allowed to enter. The disease continued at Kalindri in epidemic form until the end of February, and sporadic cases occurred up till the 16th March. After that date three suspicious deaths were noted, and all precautions were taken as for plague. The last attack in Teuri occurred on 31st January, and in Sheudial on 2nd February. These two villages are much smaller than Kalindri, and so more easily controlled. But the early disappearance of plague from them is to be explained chiefly by the fact that there was not such a strong opposition to going into camp, and the people were moved out ten days before those of Kalindri. After an interval of a week, allowed for free ventilation, the plague houses were disinfected with perchloride of mercury solution (1 in 1,000). Then the floor of every house was dug up, and the earth carried outside and burnt. Lastly the interior of every house was thoroughly lime-washed. The houses remained unroofed until after the re-occupation of the villages on 23rd April. Excellent work was done by the Sirohi Durbar. When it is seen how plague spread elsewhere, it seems no exaggeration to say that the vigilance of the Durbar saved from a general epidemic not only the State of Sirohi but the whole of Rajputana.

The 3 cases that occurred in the last quarter of the year were all imported :—

Name of Railway Station or Village.	State in which the Railway Station or Village is situated.	January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.		Total.		Remarks.
		True.		True.		True.		True.		True.		True.		True.		True.		True.		True.		True.		True.		True.		
		Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	
IMPORTED.																												
u Road . .	Sirohi . .	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...	1	1	3	3	
pura Road .	Marwar . .	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	
rwar Junction .	Ditto . .	1	1	...	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	2	
airabad . .	Ajmer District.	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	
ittorgarh . .	Mewar . .	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...	1	1	
	TOTAL .	3	3	...	...	2	1	...	...	...	...	...	...	...	...	...	...	...	...	1	1	1	1	1	1	8	7	
INDIGENOUS.																												
lindri . .	Sirohi . .	36	25	34	31	8	8	6	5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	84	69	
eudial . .	Ditto . .	21	16	1	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	22	19	
uri . . .	Ditto . .	26	21	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	26	22	
edra . . .	Ditto . .	8	6	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	8	7	
	TOTAL .	91	68	35	35	8	9	6	5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	140	117	
	GRAND TOTAL .	94	71	35	35	10	10	6	5	...	...	...	...	...	...	...	...	...	...	1	1	1	1	1	1	148	124	

Plague in Central India.

180. There were no indigenous, only imported, cases in the Central India Agency, either found in the trains at platform inspection stations, or, as the case in Bhopawar, imported from a plague-infected area.

Plague in Baluchistan.

181. The 18 deaths from plague all occurred in persons who contracted the disease in Kurrachee, and who fled from there into the Las Beyla State. There were no other cases in Baluchistan.

Plague elsewhere.

182. There was no plague in Burma, Assam, Coorg, or Berar. Arrangements were made to prevent the entrance of the disease into those provinces, and to fight it if it did effect an entry.

Fevers.

Fevers in India.

183. The fever-mortality ratio of India for 1898 was considerably below that of 1897, as well as that of the five-year period 1893—7; and the number of deaths fell from 5,026,725 in 1897 to 3,866,650. The maximum months of death were November, October, and December, and the minimum July, February, and June. The highest ratios were those of Coorg and the North-Western Provinces and Oudh, and the lowest that of Madras. The greatest reduction of ratio as compared both with 1897 and with 1893—7 was in the Central Provinces. Except in four provinces, the rural mortality was higher than the urban, the North-Western Provinces and Oudh being, as usual, one of the exceptions. Disregarding Ajmer-Merwara, the highest rural district ratio in India was that of Naini Tal in the North-Western Provinces; and the highest town ratio was that of Belgam in Bombay. No districts and only four towns in India were free from fever-mortality.

The following table, which is believed to include plague, may be consulted not only for this, but also for the succeeding paragraphs dealing with fevers in the individual provinces :—

Statement showing the deaths from FEVERS *registered in the different provinces by months during the year 1898.*

Province.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total, 1898.	Ratio of deaths per 1,000 of population, 1898.	Ratio of deaths per 1,000 of population, 1897.	Mean ratio per 1,000 during previous 5
Bengal . .	140,477	100,847	116,858	110,473	114,251	86,583	88,831	119,665	114,252	136,725	151,483	139,038	1,419,483	19·97	23·62	23·5
Assam . .	8,441	7,086	7,242	7,724	9,059	8,827	9,698	9,259	9,281	8,993	9,833	9,520	104,963	20·90	28·74	20·0
North-Western Provinces and Oudh .	96,094	67,317	72,966	81,378	83,576	85,624	70,362	75,841	91,371	117,583	111,515	109,969	1,063,596	22·67	31·21	26·1
Punjab . .	40,567	27,263	27,173	28,868	34,822	36,884	28,692	31,221	35,070	43,075	43,824	40,807	418,206	20·35	20·57	20·5
Central Provinces* . .	16,943	12,032	12,403	13,280	14,301	11,267	9,203	11,286	11,582	14,038	13,873	13,920	155,928	16·41	40·98	27·3
Berar . .	3,278	2,648	2,911	2,920	2,332	1,580	1,738	2,491	2,892	3,093	3,486	3,420	32,789	11·49	23·00	21·5
Lower Burma	5,959	4,590	4,192	3,794	3,648	3,913	4,747	4,938	4,279	4,277	4,558	4,802	53,697	11·90	11·46	11·0
Madras Presidency .	26,269	19,529	20,372	18,306	19,601	20,103	22,038	21,016	19,434	18,982	20,765	22,223	248,638	7·48	8·97	8·1
Bombay „	28,108	24,226	25,264	20,242	18,075	15,200	17,626	23,158	27,985	36,640	36,415	29,576	302,515	16·07	24·05	21·7
Ajmer-Merwara . .	972	939	934	738	654	643	512	655	669	583	648	752	8,689	16·02	20·07	20·4
Coorg . .	487	363	455	414	413	452	460	405	386	289	264	288	4,676	27·02	41·50	25·0
Mysore . .	5,684	4,638	6,148	5,781	3,891	3,723	3,753	3,666	3,484	3,801	4,175	4,857	55,601	11·07	9·72	9·0
Total .	373,279	272,378	296,908	293,858	304,623	274,799	257,660	303,601	320,685	388,979	400,839	379,172	3,868,781	17·73	23·12	20·7

* Excluding Zamindaris.

And the same may be said of the following collection of useful data :—

	Fevers.	Bengal.	Assam.	N.-W. Provinces and Oudh.	Punjab.	Central Provinces.*	Berar.	Lower Burma	Madras Presidency.	Bombay Presidency.	Ajmer-Merwara.	Coorg.	Mysore.
	Difference from 1897 ratio .	—3·65	—7·84	—8·54	—·22	—24·58	—11·51	+·44	—1·49	—7·98	—4·05	—14·48	+1·35
	Difference from 1893-97 ratio .	—3·53	+·88	—3·52	—·21	—10·96	—10·05	+·82	—·69	—5·65	—4·40	+1·96	+2·04
†	Highest district ratio . .	35·22	34·67	39·49	33·04	30·85	14·82	19·39	25·16	37·57	47·19	35·84	13·28
†	Lowest „ „ . .	5·43	14·37	12·53	6·16	7·48	9·26	7·40	1·31	4·72	11·96	21·06	7·51
†	Percentage of districts above rural mortality . . .	44	33	42	42	55	33	53	57	48	44	60	50
†	Percentage of districts without mortality	...	...	...	...	...	...	...	...	...	...	...	...
†	Rural mortality . . .	20·21	20·94	22·49	20·65	16·58	11·43	12·45	7·50	15·41	16·73	27·51	10·56
‡	Highest town ratio . .	46·43	36·18	40·65	35·33	34·45	19·89	17·71	15·86	82·70	37·47	28·40	56·01
‡	Lowest „ „ . .	5·21	6·25	10·25	1·07	2·06	1·31	1·05	·08	1·48	7·10	19·30	4·14
‡	Percentage of towns above urban mortality . . .	61	38	46	42	51	47	41	34	24	60	40	35
‡	Percentage of towns without mortality	...	...	...	...	...	...	...	4	...	...	...	...
‡	Urban mortality . . .	15·29	19·50	25·21	17·44	14·52	11·96	8·23	7·16	20·82	13·61	22·05	18·68

* Excluding zamindaris. † Excluding municipal towns. ‡ Municipal towns only.

Sale of Quinine at Post Offices.

184. In Bengal there was a decrease of 3,610 parcels of quinine sold, each parcel containing 102 five-grain pice packets. The decrease, it is said, was most likely due to the exceptional healthiness of the year, and consequently to the demand for quinine, being less.

In Assam the sale of quinine is said to have been on the whole satisfactory, though the vaccinators are not considered good mediums for its sale ; and it is suggested that in future the secretaries of village schools should also be employed for the purpose.

Quinine is now sold at all post offices and by all the vaccination staff in the North-Western Provinces and Oudh. In addition large quantities were sent to magistrates of districts who had found the amount in hand for gratuitous distribution insufficient. Altogether, 10,604 packets were issued, the distribution being made from the District Jail, Aligarh.

No statistics are given for the Punjab ; but with regard to various districts it is mentioned that gratuitous distribution was made through the vaccination staff, the police, and headmen of villages.

The Central Provinces, Berar, Bombay, and Madras do not appear to have furnished particulars of quinine sales.

The sale of quinine powders continued to be appreciated by the public in Coorg, and 34,742 were sold by the post offices.

In Lower Burma 2,103 pice-packets were distributed during the year. The Sanitary Commissioner remarks that the scheme for the distribution and sale of quinine does not appear to make satisfactory progress, and that its success or otherwise rests primarily with the higher district officials. He discusses the chief obstacles to success and their remedies.

Fevers in Bengal.

185. In Bengal the mortality attributed to fevers was below that of the previous year, and below the mortality of the quinquennium as a whole. The statistics will be found in the

tables in paragraph 183. The maximum months were November, January, and December, and the minimum June, July, and February. Each month except January, had a smaller number of deaths than the corresponding month of the preceding year. The Sanitary Commissioner remarks that the year was a generally healthy one, and that there was a plentiful outturn of crops almost everywhere. The highest rural district ratio was that of Noakhali, followed by those of Dinajpur, Jalpaiguri, Rajshahi, Faridpur, Purneah, and Malda ; and the lowest was that of Puri. The fever at Rajshahi seems to have been partly influenza, and that at Malda was ascribed to prolonged inundations. The opinion that the effect of short rainfall on the public health depends to some extent on the character of the country was supported by the answers of civil surgeons to inquiry on the point. Thus, rain-floods are more apt to be beneficial in high-lying than in low-lying tracts. With regard to the effect on health of jute-steeping the opinion of civil surgeons was found to be divided. The Sanitary Commissioner sums up as follows :—

> It is extremely difficult to estimate to what extent jute-steeping acts as a factor in increasing the fever-mortality of Bengal. The water of tanks and pools in which jute is steeped is seriously polluted and rendered unfit for human consumption, and the stench which emanates from the decomposing jute vitiates the surrounding atmosphere ; but the extent to which these two factors affect the public health depends, on the one hand on the extent to which the water thus polluted is used for drinking or domestic purposes and, on the other, to the proximity to dwelling houses of those places in which the jute is steeped ; in other words, it depends on local conditions. In Eastern Bengal, where jute is most extensively grown, a large part of the country is subject to inundation ; and during the period (generally from July to September) when jute-steeping is carried on, the rivers are overflowing and washing away everything, thus considerably diminishing the evils of water contamination. It is also noticeable that the fever-mortality in all these districts is as a rule low during June, July, and August, and very high during October to January.

The highest town ratio was that of Malda in the Malda district, and the next that of Kumarkhali in the Nadia district ; and the lowest ratios, in order, those of Kendrapara in Cuttack, Purulia in Manbhum, and Jhalakati in Backergunge.

Two deaths occurred among European seamen, one from enteric fever; and forty in the native floating population. The ratio in both cases was below that of the preceding year.

Fevers in Assam.

186. The Assam statistics of fevers are given in the tables in paragraph 183. The mortality ratio, though somewhat above that of the quinquennium, was much below that of the preceding year. November, July, and December were the maximum months ; and February, March, and April the mimimum. There was a reduction in the number of deaths in all months, except January and February, the greatest reductions being in June and July. The highest rural district death-rate was that of Nowgong, and the next that of Goalpara ; while the lowest was that of Sibsagar. The Sanitary Commissioner mentions that the Sibsagar and Lakhimpur districts always show the least mortality from fevers ; but that they are being reached by the wave of epidemic malarial poisoning a year after its attack on Cachar and Sylhet. The highest town ratio was that of Golaghat in Sibsagar, and the lowest that of Shillong.

Kala Azar in Assam.

187. The number of deaths recorded as from *kala azar* was less by 2,140 than in 1897, but more than in any of the three years preceding that. The Sanitary Commissioner writes :—

These 16,472 cases are included in the total of 104,963 cases reported as due to fevers, whence it appears that nearly one-sixth of the total loss from fevers of all sorts is due to this scourge. The bulk of the cases are reported, as in former years, from the Nowgong district, many whole villages in which have no doubt been entirely depopulated or deserted ; but still I must say that I consider the figures as they stand to be utterly unreliable. I fully agree with Colonel Stephen that many, indeed the great majority, of deaths which in former years would have been registered under ordinary fevers, are now returned as *kala azar*. It is impossible to suppose that in 1898 of the 11,887 persons who died from fevers of all sorts in this district, 10,515 were sufferers from *kala azar* while the ordinary malarial fevers of the country caused only 1,372 deaths. It is impossible to review satisfactorily figures which are so hopelessly inaccurate. So much has been written by officers specially deputed to investigate and report on this disease, that I refrain from saying more than that it appears to be gradually dying away from the province as a whole, and especially so from the Lower Assam districts, such as Goalpara and Kamrup, while it may possibly be slightly increasing in Darrang, and its invasion into Sibsagar is feared. Special precautions are now being taken to treat all suspicious cases occurring, and, if possible, to prevent its spread in this latter district ; though it is to be feared that both it and Lakhimpur will suffer in their turn.

Fevers in the North-Western Provinces and Oudh.

188. Mortality from fevers in the North-Western Provinces and Oudh in 1898 was much less than in 1897, and considerably less than the mortality for the quinquennium as a whole, as may be seen in the tables in paragraph 183. The highest numbers of deaths occurred in October, November, and December ; and the lowest in February, July, and March. Every month, except June, saw a reduction, as compared with the corresponding month of the previous year. The Sanitary Commissioner states that the course of the disease was normal, and presented no peculiar features. The highest rural district ratio was that of Naini Tal ; and next in order were the ratios of Bareilly, Pilibhit, Saharanpur, Bulandshahr, and Mainpuri. All those rural districts have usually high ratios. Excluding Ajmer-Merwara, the ratio of Naini Tal was also the highest rural district ratio in India ; and next to that of Coorg the general rural mortality was the highest in India. The highest town ratio was that of Manglaur in the Saharanpur district ; and Najibabad, Ghaziabad, Jalesar, Muzaffarnagar, Gonda, Aonla, Sirdhana, Sikanderabad, Mainpuri, and Gangole had ratios above 35 per mille. The lowest town ratio was that of Nawabganj in the Bara Banki district. This province had the highest general urban mortality from fevers in the whole of India ; and it was one of the four provinces that showed a rural mortality lower than the urban.

Fevers in the Punjab.

189. In the Punjab fever-mortality was slightly reduced as compared with hat of the previous year and with that of the quinquennium as a whole. The figures are given in the tables in paragraph 183. The months that had most deaths were November, October, and December ; and those of fewest, March, February, and July. Each of the first eight months of 1898 had more, and each of the last four fewer, deaths than the corresponding month of 1897. The highest rural district ratio was that of Dera Ismail Khan, and the lowest that of Simla ; the highest town ratio that of the Dajal in the Dera Ghazi Khan district, and the lowest that of Talamba in the Mooltan district. Palwal in the Gurgaon

district, Lakki in the Bannu district, and Bhakkar and Dera Ismail Khan, both in the Dera Ismail Khan district, had also ratios over 30 per mille.

Fevers in the Central Provinces.

190. The statistics of fever-mortality in the Central Provinces are to be found in the tables in paragraph 183. The mortality was nearly two and a half times less than in 1897, and more than one and a half times less than the mortality of the quinquennium as a whole; and no other province showed so great a reduction. Every month of the year shared in the reduction, but it was greater from June onwards than in the first five months. The maximum months were January, October, and May; and the minimum July, June, and August. The year was one of recovery from the effects of privation and famine. The highest rural district ratio was that of Nimar, the next that of Burhanpur, and the lowest that of Sambalpur. Of town ratios the highest was that of Burha in Balaghat, the next that of Bankheri in Hoshangabad, and the lowest that of Narkar in Nagpur.

Fevers in Berar.

191. The fever-mortality of Berar, as may be seen in the tables in paragraph 183, was less than half that of the preceding year, and somewhat more than half that of the quinquennium as a whole. The highest numbers of deaths occurred in November, December, and January; and the lowest in June, July, and May. The reduction was greatest in the months May—October; but January and February were the only months in which there was no reduction. The Sanitary Commissioner ascribes the lessening of fever-mortality to reduced temperature, humidity, and rainfall. Berar was one of the four provinces that had the rural mortality below the urban. The highest rural district ratio was that of Wun, and the lowest that of Buldana; the highest town ratios those of Ellichpur Civil Station in Ellichpur and Wadegaon in Akola, and the lowest town ratio that of Karajgaon in Ellichpur.

Fevers in Madras.

192. The tables in paragraph 183 show that the fever-mortality of Madras in 1898 was lower than in 1897 and lower than that of the quinquennium as a whole; and that it was lower than that of any other province. The months of maximum death-numbers were January, December, and July; and those of minimum death-numbers April, October, and September. In the first three months of the year there were more deaths than in the corresponding months of 1897; but in all the other months fewer, the reduction being greatest in the last quarter of the year. The Sanitary Commissioner says:—

> It is a trite statement, but one necessary to be held in mind, that under the head of "Fevers" the majority of all affections in which pyrexia is a prominent symptom are likely to appear, as a sequence of the present system of registration and state of medical advance of the country. Nevertheless, it is safe to assume that the greater number of deaths so registered are due to malaria.

He mentions cases in which, to escape inquiry, cholera was registered under "Fevers," fever under "Other causes," and plague under "Other causes." The Sanitary Commissioner also indicates his belief that the period of greatest mortality from fever is that which immediately follows the greatest fall of the subsoil water level, and heralds a commencing rise; and that a fall subsequent to a great rise will be followed by increased mortality.

Of all the provinces Madras had the lowest rural mortality. The highest district ratio was that of the Nilgiris, and the lowest that of Tanjore. Madras had a lower urban mortality than any other province. The highest town ratio

was that of Kampli in Bellary, and the lowest that of Rajahpalaiyam in Tinnevelly.

Fevers in Coorg.

193. In Coorg the fever-mortality, though higher than that of the decennium as a whole, was much reduced from that of the previous year. Of the provincial ratios that of Coorg was the highest; and Coorg had also the highest rural mortality. The reduction was greatest in June, July, and the months of the final quarter; but all the months except the first three shared in it. January was the maximum month and November the minimum. Naujarajapatna had the highest rural district ratio, and Kodlipett the highest town ratio.

Fevers in Bombay.

194. As may be seen in the tables in paragraph 183, the Bombay fever death ratio was considerably below that of the preceding year and that of the five-year period. Every month of the year had fewer deaths than the corresponding month of 1897, the reduction being greatest in June and July. Deaths were most numerous in October, November, and December, and least numerous in June, July, and May. The figures shown in the tables include plague. If it were excluded, there would remain 216,324 deaths ascribed to fever, giving a ratio of 11·49 per mille. Such a ratio would class the year as one of the healthiest in the last eleven years, the people being in a state of rapid recovery from the famine of the previous year. The Sanitary Commissioner says:—

> With the agency at our disposal for the registration of deaths, and in a country where so many diseases are by the people called fever, it is inevitable that many diseases must be returned under the head of "fever" which do not rightly belong to this heading. This has always been the case, and, although these fever deaths cannot be relied on as being all due to fever, they can, when taken for a number of successive years, give an indication as to the prevalence or otherwise of the common fevers of the country. The carrying out of plague measures in some of the towns of the presidency has led to very much more accurate registration in them.

Bombay was one of the four provinces that had a rural ratio lower than the urban. The highest rural district ratio was that of Dharwar, the district invaded in greatest force by plague, that of Broach coming second; and the lowest that of Ahmednagar. The highest town ratio, which was also the highest in India was that of Belgam, a city attacked by the plague. The same explanation applies to the high ratios of Belgam Cantonment and of Gokak. The lowest town ratio was that of Ahmednagar Cantonment.

Fevers in Lower Burma.

195. Lower Burma was the only province, besides Mysore, in which the death ratio from fevers was higher than both the ratio of 1897 and the period ratio for the quinquennium. The elucidatory figures will be found in the tables in paragraph 183. The increase was confined to the first six months of the year, each of the last six months showing a decrease. January, August, and December saw most deaths, and May, April, and June fewest. The Sanitary Commissioner considers that if it were possible to differentiate diseases by a professional agency possessed of some degree of medical knowledge, probably not less than 50 per cent. of the fatality ascribed to this cause would come under other heads. The highest rural district ratio was that of Akyab, the ratios of Sandoway and Toungoo not being far behind; and the lowest that of Hanthawaddy. Shwegyin followed by Myaungmya, had the highest town ratio, and Danubyu the lowest. The fever-mortality of 9 towns of Upper Burma taken together was 8·59 per mille, which is very near the urban mortality of Lower Burma.

Dysentery and Diarrhœa.

Dysentery and Diarrhœa in India.

195. The mortality for India was reduced by 47 per cent. as compared with that of 1897, and 20 per cent. as compared with that of the quinquennium as a whole. The highest numbers of deaths occurred in the months of August, January, and September, and the lowest in April, March, and June. Every month, except January, showed a reduction as compared with the corresponding month of 1897, the diminution being greatest in the four months July—October.

The highest provincial death-rates were those of Berar, Assam, and Bombay; the lowest those of the North-Western Provinces and Bengal. The ratio of every province showed a decrease, except that of the Punjab, which was unchanged, and that of Ajmer-Merwara, which rose. The last named province was the only one of which the ratio was increased as compared both with that of 1897 and with that of the quinquennium. The greatest decrease as compared with the preceding year was in the case of the Central Provinces, and the greatest as compared with the five-year period in Berar. The decrease for India was connected with the return of the seasons to the normal, and the consequent passing away of famine and privation.

The following statement illustrates not only what has just been written, but also the succeeding paragraphs upon bowel complaints in the different provinces :—

Statement showing the deaths from DYSENTERY AND DIARRHŒA *registered in the different provinces by months during the year 1898.*

PROVINCE.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	TOTAL. 1898.	Ratio of deaths per 1,000 of population, 1898.	Ratio of deaths per 1,000 of population, 1897.	Mean ratio per 1,000 during 5 previous years.
Bengal . .	4,720	3,255	3,226	2,968	3,391	2,513	2,214	3,000	2,792	2,892	2,941	3,243	**37,155**	0·52	0·75	0·70
Assam . .	1,453	1,057	1,033	1,062	1,463	1,489	1,500	1,425	1,481	1,543	1,408	1,325	**16,239**	3·23	4·61	3·36
North-Western Provinces and Oudh.	2,097	1,550	1,514	1,722	2,021	2,088	1,972	2,241	2,171	2,285	1,972	1,941	**23,574**	0·50	1·25	1·04
Punjab . .	1,108	694	698	896	1,217	1,105	1,054	1,536	2,184	2,192	1,771	1,292	**15,747**	0·77	0.77	0·77
Central Provinces.*	1,704	1,031	966	875	862	764	888	1,157	1,128	936	747	664	**11,722**	1·23	8·53	3·39
Berar . .	1,014	690	838	728	554	449	725	1,162	1,200	899	823	860	**9,942**	3·48	10·36	7·13
Lower Burma .	505	525	461	645	877	938	1,146	889	656	491	467	432	**8,032**	1·78	1·95	1·74
Madras Presidency.	2,797	2,235	1,805	1,608	1,818	1,975	2,622	2,770	2,692	2,765	3,195	3,372	**29,654**	0·89	1·19	·82
Bombay „ .	5,179	3,920	4,133	4,165	3,628	3,430	4,419	6,271	5,784	5,733	4,831	5,296	**56,789**	3·02	4·57	2·39
Ajmer-Merwara.	40	31	27	53	50	28	39	114	60	27	33	47	**549**	1·01	0·81	0·96
Coorg . .	19	12	18	15	23	31	22	21	12	8	4	4	**189**	1·09	3·11	1·84
Mysore . .	532	431	460	359	371	406	548	626	528	870	815	783	**6,729**	1·39	1·47	1·05
TOTAL .	21,168	15,431	15,179	15,096	16,275	15,216	17,149	21,212	20,688	20,641	19,007	19,259	**216,321**	0·99	1·86	1·24

* Excluding zamindaris.

And the following continues the comparison in other points :—

Dysentery and Diarrhœa.	Bengal.	Assam.	N.-W. Provinces and Oudh.	Punjab.	Central Provinces.*	Berar.	Lower Burma.	Madras Presidency.	Bombay Presidency.	Ajmer-Merwara.	Coorg.	Mysore.
Difference from 1897 ratio	—·23	—1·38	—·75	0·00	—7·30	—6·88	—·17	—·30	—1·55	+·20	—2·02	—·08
Difference from 1893—1897 ratio	—·18	—·13	—·54	0·00	—2·16	—3·65	+·04	+ 07	+·63	+·05	—·75	+·34
† Highest district ratio	3·71	8·48	6·92	2·66	2·88	6·39	5·12	2·55	6·64	1·51	·89	3·22
† Lowest „ „	·02	·29	·02	·03	·10	·93	·43	·22	·02	·12	·39	·44
† Percentage of districts above rural mortality	35	56	33	42	45	67	41	24	39	17	40	·38
† Percentage of districts without mortality	...	...	...	...	...	...	...	...	...	6	...	...
† Rural mortality	·41	3·14	·42	·61	1·13	3·52	1·57	·67	2·83	·40	·56	1·28
‡ Highest town ratio	10·01	23·07	11·35	10·28	7·67	9·89	11·26	9·33	17·86	5·72	17·76	4·96
‡ Lowest „ „	·05	·86	·03	·19	·07	·20	·24	·05	·09	·28	·58	·68
‡ Percentage of towns above urban mortality	20	52	30	40	36	32	29	25	44	40	20	15
‡ Percentage of towns without mortality	8	...	12	3	4	3	3	13	2	...	20	10
‡ Urban mortality	2·68	7·40	1·64	2·19	2·36	3·23	3·21	3·53	4·35	3·07	6·45	2·99

* Excluding zamindaris. † Excluding municipal towns. ‡ Municipal towns only.

Ajmer-Merwara was the only province that had a percentage of rural districts without mortality; but, on the other hand, the same province and Assam were the only ones in which there were no towns without mortality. The highest rural district ratio was that of Lakhimpur, and the highest town ratio that of Golaghat, both in Assam. The general rural mortality was highest in Berar and Assam, and the general urban mortality in Assam and Coorg. Only in Berar was the rural mortality greater than the urban.

Dysentery and Diarrhœa in Bengal.

197. In Bengal the mortality was reduced as compared both with that of 1897 and with the period ratio of the quinquennium. The statistics may be obtained from the tables in paragraph 196. The reduction affected every month except January and February, and was greatest in the period July-November. According to the Sanitary Commissioner, the large falling-off in the mortality was evidently due to the plentiful outturn of crops almost everywhere during 1897, which enabled the people to obtain wholesome food; and it is noticeable that almost all the districts that were affected by the late famine show a smaller mortality from this cause during 1898. The highest rural district ratio was that of Darjeeling, and that of Howrah came next, followed by those of Balasore and Puri; all being rural districts which always return high mortalities. Uttarpara in the Hooghly district had the highest town ratio, followed, in order, by Serampore, Garulia, Baidabati, Bally, Howrah, Hooghly-Chinsura, and Dacca.

There were 2 deaths among European seamen, and 4 in the native floating population; the respective ratios being 1·62 and 0·15.

Dysentery and Diarrhœa in Assam.

198. The statistical points of most importance as to the mortality in Assam are given in the tables in paragraph 196. It was diminished both in comparison with that of 1897 and with that of the quinquennium as a whole. Every month showed a decrease, except January. The maximum months were October, July, and June, and the

minimum March, February, and April. The Sanitary Commissioner, in pointing out the remarkable variations of mortality shown by the different districts, says that he knows of no difference in the vital conditions affecting the inhabitants of the upper and lower stretches of the great Assam river which could possibly produce them. The highest rural district mortality, which was also the highest in India, was that of Lakhimpur, and the lowest that of Goalpara. Golaghat in the Sibsagar district had the highest town ratio in Assam and in India; and of all the provinces Assam had the highest general urban mortality ratio. The lowest town ratio was that of Jowai in the Hill District.

Dysentery and Diarrhœa in the North-Western Provinces and Oudh.

199. The mortality, as may be seen in the tables in paragraph 196, was two and a half times less than that of 1897, and less than half the period ratio of the quinquenium. In every month of the year the reduction was great. The months of most deaths were October, August, and September, and those of fewest March, February, and April. The highest rural district ratio was that of Garhwal, that of Almora being nearest to it, and that of Mainpuri lowest. Kashipur in the Naini Tal district had much the highest town ratio, the next in order being Hathras in the Aligarh district. The lowest town ratio, which was also the lowest in India, was that of Bindraban in the Muttra district.

Dysentery and Diarrhœa in the Punjab.

200. The Punjab had a mortality ratio which was exactly the same as in the previous year, and exactly the same as the ratio for the quinquennium as a whole. Reference may be made to the tables in paragraph 196. The greatest numbers of deaths occurred in October, September, and November, and the smallest in February, March, and April. Each of the first nine months saw an increase, each of the last three a decrease. The highest rural district ratio was that of Simla, which, like Gurdaspur, Gurgaon, and Delhi, usually has a high ratio; and the lowest that of Hazara. Balabgarh in the Delhi district had by far the highest town ratio, those of Pind Dadan Khan in the Jhelum district and Khanpur in the Hoshiarpur district being also high; and Muktsar in the Ferozepore district the lowest.

Dysentery and Diarrhœa in the Central Provinces.

201. As the tables in paragraph 196 show, the Central Provinces had a mortality nearly seven times less than that of 1897, and more than two and a half times less than the period ratio of the quinquennium. The reduction in this province was greater than in any other, and affected every month of the year. The maximum months were January, August, and September, and the minimum December, November, and June. The Sanitary Commissioner views this marked decline in the death-rate from bowel complaints as evidence of the complete disappearance of famine and privation from among the people. The highest rural district death-rate was that of Sambalpur, and the lowest that of Bhandara. Seoni in the Hoshangabad district, Murwara in the Murwara district, and Damoh in the Damoh district had the highest town ratios, and Umrer in the Nagpur district the lowest.

Dysentery and Diarrhœa in Berar.

202. In Berar the mortality was only about one-third of that of 1897, and about one-half the quinquennial period mortality. No other province showed so great a reduction from its quinquennial figure. The tables in paragraph 196 show the statistics. The months of greatest death-occurrence were September, August, and January; and those in which fewest deaths took place were June, May, and February.

Of all the provinces Berar had the highest general rural mortality; and it was the only one in which the rural mortality was greater than the urban. The highest rural district raito was that of Ellichpur, and that of Wun the lowest. The Sanitary Commissioner suspects that in the Wun district deaths from dysentery were reported and classed as deaths from fevers. The highest town ratio was that of Nandura in the Buldana district, the next that of Karajgaon in the Ellichpur district, and the lowest that of Senderjana in the Amraoti district.

Dysentery and Diarrhœa in Madras.

203. Madras in 1898 recorded a mortality which, while considerably below that of 1897, was somewhat higher than that for the five-year period. Particulars may be studied in the tables in paragraph 196. In all the months, except February and December, there was reduction in the number of deaths, but the reduction was greatest in the four months July-October. December, November, and January saw most deaths; April, March, and May fewest. The Sanitary Commissioner believes that the diminution of mortality may fairly be regarded as due to improved dietary of the people following the fall in the price of grain. The highest rural district ratio was that of Chingleput, and the lowest that of Madura; the highest town ratio that of Tuticorin in the Tinnevelly district, and the lowest that of Palni in the Madura district. Regarding Tuticorin, Cochin, Madras, and Coonoor, the Sanitary Commissioner mentions certain circumstances of soil and water pollution as explaining their high death-rates.

Dysentery and Diarrhœa in Coorg.

204. Coorg, as may be seen in the tables in paragraph 196, recorded a considerably reduced mortality. The reduction affected every month, but was most marked after March. Yedenalknad had the highest rural district ratio, and Veerajendrapett much the highest town ratio.

Dysentery and Diarrhœa in Bombay.

205. The mortality ratio of Bombay, though lower than that of the previous year, was somewhat higher than the ratio for the quinquennium as a whole. Some statistical details will be found in the tables in paragraph 196. There was great decrease in each of the five months July-November, decrease in April-June and December, increase in February and March, and great increase in January. The maximum months were August, September, and October; and the minimum June, May, and February. In the opinion of the Sanitary Commissioner these bowel complaints are chiefly due to the after-effects of the famine. The highest rural district death-rate was that of Sholapur, the district which was most severely affected by the famine, as well as the one in which it continued longest. Nasik came next, and Upper Sind Frontier last. Nandurbar in the Khandesh district had the highest town ratio, and there were other high ratios in the same district; while Kaira in the district of the same name had the lowest.

Dysentery and Diarrhœa in Lower Burma.

206. The tables given in paragraph 196 show that Lower Burma had a mortality below that of the preceding year, but above that of the quinquennium as a whole. The months of most deaths were July, June, and August, and those of fewest December, March, and November. Compared with the corresponding months of 1897, January, May, June, October, and November, showed increase, the others decrease. The highest rural district ratio was that of Thaton, the next being that of Tavoy, and the lowest that of Sandoway. Ma- ubin had the highest town ratio

and Shwedaung the lowest. Nine towns of Upper Burma together gave a ratio of 0·98, much lower than the urban mortality of Lower Burma.

Injuries.

207. The deaths recorded under "Injuries" are shown in the two subjoined statements.

Injuries in India.

From the first it may be seen that the ratio for India was lower than in the previous year; that each month participated in the reduction, but especially November; that the maximum months were August, July, and September, and the minimum February, January, and December; that the greatest ratio was that of Mysore and the least that of Lower Burma; that the greatest decrease was in the Central Provinces and the greatest increase in Mysore, while the Bombay ratio remained unchanged.

From the second, when compared with the similar table in the report for 1897, it may be gathered that there was an increase in the number of deaths caused by snakes and wild beasts in several provinces, but especially in Mysore. (The figure printed opposite Madras as 260 in the 1897 table is a press mistake for 2,260.) The Sanitary Commissioner of Bombay notes that snake-bites were most frequent in the six months May-October, and in the districts of Ratnagiri, Hyderabad, Shikarpur, and Thana. In the Punjab there were 147 deaths from hydrophobia against 129 in the previous year. There was a great decrease of suicide in the Central Provinces after the increase that occurred in the time of famine and privation. In Assam a steady increase of suicide is noted by the Sanitary Commissioner. In Bengal in 1897 there had been an unusually high number of accidental deaths, due to the loss of life in the Chittagong cyclone: hence the diminution in 1898. In Bombay more females than males died by drowning, but more males than females by the other forms of injury.

Statement showing the deaths from INJURIES *registered in the different provinces by months during the year 1898.*

Province.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total. 1898.	Ratio of deaths per 1,000 of population 1898.	Ratio of deaths per 1,000 of population, 1897.	Difference from 1897.
Bengal . . .	1,180	1,128	1,526	2,073	2,878	3,893	4,553	4,717	4,333	3,186	1,784	1,209	32,460	0·45	0·59	−·14
Assam . . .	88	59	112	115	143	167	228	186	188	158	106	122	1,672	0·34	0·53	−·19
N.-W. Provinces and Oudh . .	1,226	996	1,576	2,102	2,085	3,144	3,279	3,343	2,744	2,038	1,180	1,028	24,741	0·53	0·71	−·18
Punjab . . .	354	357	426	535	598	785	1,009	1,145	742	519	411	360	7,323	0·36	0·35	+·01
Central Provinces*	333	303	380	379	438	554	463	417	486	379	304	318	4,764	0·50	0·79	−·29
Berar . . .	79	68	80	83	87	96	63	91	80	94	85	65	976	0·34	0·47	−·13
Lower Burma .	106	82	82	116	109	124	124	96	102	103	87	86	1,217	0·27	0·25	+·02
Madras Presidency	760	750	867	905	1,088	874	919	956	1,083	1,038	834	893	11,047	0·33	0·36	−·03
Bombay „ .	476	443	539	563	658	686	676	687	690	660	471	435	6,984	0·37	0·37	0
Ajmer-Merwara .	5	13	14	29	31	36	41	41	28	18	8	14	278	0·51	0·47	+·04
Coorg . . .	5	3	5	7	2	11	6	1	5	6	1	1	53	0·31	0·35	−·04
Mysore . . .	108	96	102	127	114	57	93	95	238	1,193	1,201	362	3,786	0·78	0·22	+·56
Total .	4,720	4,298	5,709	7,114	8,231	10,427	11,539	11,775	10,719	9,392	6,474	4,98	291	0·44	0·53	−·09

* Excluding zamindaris.

Statement showing details of deaths from INJURIES registered in the different provinces during the year 1898.

PROVINCE.	Population under registration.	DETAILS OF DEATHS FROM INJURIES.			TOTAL.
		Suicide.	Snake-bite or killed by wild beasts.	Wounding, accident, and other injuries.	
Bengal	71,069,617	3,599	12,403	16,458	32,460
Assam	5,021,084	128	256	1,288	1,672
N.-W. Provinces and Oudh	46,904,791	2,600	5,629	16,512	24,741
Punjab	20,553,982	351	1,344	5,628	7,323
Central Provinces*	9,501,401	706	1,179	2,869	4,754
Berar	2,852,825	150	174	652	976
Lower Burma	4,510,697	82	502	633	1,217
Madras Presidency	33,248,180	1,916	2,221	6,910	11,047
Bombay „	18,820,346	668	1,530	4,786	6,984
Ajmer-Merwara	542,358	8	87	183	278
Coorg	173,055	2	6	45	53
Mysore	4,843,523	132	2,782	872	3,786
TOTAL	218,041,859	10,342	28,113	56,836	95,291

* Excluding Zamindaris.

All Other Causes.

All Other Causes in India.

208. The ratio for India of 1898 was somewhat lower than that of 1897, every month of the year sharing in the diminution except November and December, which showed decided increases. The maximum months were December, November, and October, and the minimum April, June, and May. The greatest decreases were in Berar and the Central Provinces, and the greatest increase in Bombay. The Sanitary Commissioners of Bombay and the Punjab mention that greater accuracy of return brings under this head cases which would formerly have been registered under fever. The former officer notices the tendency to put under this head cases of plague, so as to avoid the inquiry that might have been aroused by their return as fever. The same thing was noticed to a smaller extent in Madras.

Statement showing the deaths from ALL OTHER CAUSES registered in the different provinces by months duringthe year 1898.

PROVINCE.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	TOTAL. 1898.	Ratio of deaths per 1,000 of population, 1898.	Ratio of deaths per 1,000 of population, 1897.	Difference from 1897.
Bengal	30,393	21,279	23,101	19,356	21,050	18,440	20,755	30,168	29,364	34,275	36,417	35,483	320,081	4·50	4·92	—·42
Assam	3,932	3,023	3,016	2,792	2,680	2,463	2,792	2,958	3,727	4,562	5,379	4,981	42,305	8·43	9·03	—·60
N.-W. Provinces and Oudh	10,985	8,821	9,258	9,064	8,277	8,891	10,602	16,097	20,614	23,295	21,140	20,437	167,481	3·57	4·48	—·91
Punjab	16,000	13,296	14,875	13,858	16,014	15,768	13,895	15,633	16,870	18,515	18,462	18,655	191,847	9·33	8·54	+·79
Central Provinces*	5,305	4,233	4,116	3,793	3,687	3,283	3,690	4,895	5,375	6,125	6,121	6,988	57,701	6·07	12·64	+8 57
Berar	2,278	1,575	1,631	1,607	1,517	1,142	1,351	1,828	2,202	2,277	2,336	2,733	22,507	7·89	15·07	—7·18
Lower Burma	3,760	3,005	3,126	2,960	3,206	3,735	4,356	4,797	4,787	4,829	4,463	4,118	47,112	10·44	10·28	+.16
Madras Presidency	28,724	22,870	22,657	20,770	23,903	24,404	26,365	26,598	27,689	29,331	34,434	36,090	323,835	9·74	9·81	—·07
Bombay Presidency	15,736	14,185	15,209	13,413	11,859	10,283	12,278	15,164	15,056	16,919	17,861	18,372	176,335	9·37	7·62	+1·75
Ajmer-Merwara	244	175	186	150	144	123	96	184	128	140	226	283	2,079	3·83	·00	+·83
Coorg	30	26	33	25	39	52	43	66	55	4	37	42	492	2·84	·12	—1·28
Mysore	1,321	1,597	2,022	1,714	1,510	1,436	1,649	1,693	1,979	2,639	3,118	3,882	24,950	5·15	4·18	+·97
TOTAL	119,194	94,095	99,230	89,562	93,886	90,020	97,872	119,991	127,846	142,951	150,014	152,064	1,376,725	6·31	6·79	—·48

* Excluding Zamindaris.

Charitable medical relief in India in 1898.

209. The statistics of charitable relief afforded in the different provinces of India during 1898, and of the expenditure incurred in maintaining the dispensaries in each province during the year, are summarized in the statement given as Appendix C to this section.

Plague Literature referred to in Section VI.

For explanation of abbreviations see end of Section II.

(1) Kitasato in *Twentieth Century Practice of Medicine*, quoted in L. of 28th January 1899, page 237; Balfour Stewart in B. M. J. of 23rd September 1899, page 807; Klein in C. B. XXV, page 742.

(2) Batzaroff in A. P. XIII, page 385, also quoted in I. M. G. of September 1899, page 345, and in H. R. X., page 17; Memorandum by Professor Lustig forwarded on the 21st February 1899, by the Government of Bombay to the Government of India; Manson in B. M. J. of 7th October 1899, page 922, and in J. T. M. of October 1899, page 57, and quoted in I. L. of 16th November 1899, page 416, and in L. of 7th October 1899, page 956; L. of 13th May 1899; B. M. J. of 8th April 1899, page 872.

(3) Nuttall reported in B. M. J. of 9th September 1899, page 642, and in J. T. M. of November 1899, page 107, and abstracted in B. M. J. of 5th August 1899, page 376, and J. T. M. of August 1899, page 7; Nuttall in H. R. IX. pages 210, 275, and 606; Nuttall quoted in V. J. XXXIII, 1·3, page 473; Nuttall in J. H. H. R. VIII, quoted in N. 61, page 153. Nuttall in Braithwaite's Retrospect CXX, page 175; Mühling in C. B. XXV, page 703, also quoted in B. M. J. of 17th June 1899, epitome-page 96; Calmate in J. T. M. of January 1900, page 159, and Coplin. page 167.

(4) Neisser, quoted in V. J. XXXIII. 1·3, page 457.

(5) Cayley quoted in L. of 8th April 1899, page 991.

(6) Kurth in C. B. XXIV, page 926,

(7) Galeotti and Polverini quoted in B. M. J. of 7th January 1899, page 26; Vincent in A. P. XII, page 798; Blaxall quoted in B. M. J. of 6th May 1899, page 1095; L. of 15th April 1899, page 1056, and of 13th May 1899, page 1326; B. M. J. of 2nd September 1899, page 621; Baldwin Latham quoted in B. M. J. of 23rd December 1899, page 1753, also in N. 61, page 214, and in L. of 30th December 1899, page 1851; Ramaswamy Naidu quoted in L. of 28th January 1899, page 236; Pearse in L. of 8th April 1899, page 988; L. of 16th December 1899, page 1698.

(8) Haffkine, Lecture before the Royal Society, quoted in L. of 24th June 1899, page 1176; Report of the German Plague Commission, page 72; Müller in Report of the Austrian Plague Commission, and quoted in C. B. XXVI, pages 91 and 301; Pearse in B. M. J. of 11th November 1899, page 1350; Lewin quoted from Vratsch in B. M. J. of 10th December 1898, epitome-page 93; L. of 24th December 1898, page 1719; Report of the Austrian Plague Commission, and the same quoted in C. B. XXVI, pages 91 and 301; Childe in B. M. J. of May 1897, page 1215.

(9) Haffkine, Lecture before the Royal Society, reported in L. of 24th June 1899, page 1694; in B. M. J. of 1st July 1899, page 11; and in J. T. M. of June, page 289, and of July 1899, page 322; I. L. of July 16, 1899, page 57; I. M. G. of September 1899, page 340.

(10) Rogers in I. M. G. of May 1899, page 152, and in J. T. M. of June 1899, page 312, and abstracted in B. M. J. of 13th May 1899, page 1176.

(11) Bericht über die Thätigkeit der zur Erforschung der Pest im Jahre 1897 nach Indien entsandten Kommission in Volume XVI of the Arbeiten aus dem Kaiserlichen Gesundheitsamte, 1899; Pfeiffer, Lecture before the Gesellschaft für öffentliche Gesundheitspflege at Berlin, reported in H. R. IX, page 1004; Müller in Report of the Austrian Plague Commission, quoted in C. B. XXVI, page 302; Discussion reported in C. B. XXVI, page 719.

(12) Yersin in A. P. XIII, page 251, and quoted in C. B. XXV, page 932; Gomes da Silva in China Imperial Maritime Customs Medical Report for the half-year ended 31st March 1898, pages 12 and 24; Favre in Z. H. XXX, page 359, and quoted from S. M. in H. R. IX, page 648; Zabolotny in A. P. XIII, page 833; I. L. of 1st February 1900, page 122.

Appendix to Section VI.

Extract from the Proceedings of the Government of Bombay in the General Department,—No. 154—171-P., dated Bombay Castle, the 10th January 1898.

RESOLUTION.—The accompanying "Instructions regarding plague administration," with appendix, should be forwarded to all Commissioners, Collectors, Chief Plague Authorities, Plague Committees, and Political Agents for the general guidance of District and other officers.

A. WINGATE,
Secretary to the Government of Bombay.

Instructions regarding plague administration for the general guidance of District and other officers.

1. Plague is a disease which is essentially associated with insanitary conditions in human habitations, the chief of which are accumulations of filth, overcrowding, and the absence of light and ventilation.

2. It is, in the first instance at least, a disease of locality, and is mainly conveyed from place to place by individuals in their persons, clothing, and personal effects, who have resided in the infected locality.

3. The essential measures to be taken for preventing the spread of the disease are its early recognition in a locality, the removal of the inmates from the infected locality or area, which, in the first instance, may be only a room or house, their segregation for a specific period, the disinfection of their persons, clothing, and personal effects, and of the houses with their contents, situated within the infected locality.

4. The first steps to be taken are in connexion with the sickness and mortality. There are, at present, no methods in actual operation by which these can be accurately ascertained. Infectious diseases are not notified, and the registration of deaths is imperfect. Means must be adopted to improve the latter, and check the results by recording in towns all funerals which pass the octroi posts, noting the name of the deceased and the locality of the house in which the death occurred, and by posting trustworthy subordinates, either members of the police force or of the Revenue Department, at all burying and burning grounds, noting similar information. These subordinates, not being connected with the municipality, will afford valuable aid in checking the returns, and they will assist the municipal authorities in arriving at correct results.

5. In villages, the Pátils must submit weekly returns of deaths in each village, within their respective jurisdictions, to the Mámlatdár, who will forward them to the Collector of the district, after noting on each any peculiarity in the incidence of the deaths, the mortality for the corresponding week during the past three years, and explaining, if he can, any excess. When the Mámlatdár is not satisfied as to the cause of any excessive or unusual mortality, he should cause specia linquiries to be made, and, if necessary, call in the assistance of the nearest medical subordinate.

6. The Pátils should also be required to give notice at the police station of the arrival in their villages of any persons from an infected locality. The names of such persons should be entered in a register at the police station, and they should be kept outside the village under observation for ten days and on no account allowed to sleep within the village site. The cause of the death of any person who has recently been in an infected locality should be investigated. In villages remote from a police station the Police Pátil should discharge these duties, but the Revenue Pátil and the Kulkarni should be held equally responsible.

7. The returns referred to in paragraphs 4 and 5 will show, both in towns and villages, any unusual mortality over the average of previous years, and also the occurrence of two or more deaths in one house or localized area when immediate special inquiry is necessary.

8. For the discovery of cases of sickness it will be necessary to obtain the assistance of the more respectable residents in each quarter, street, or group of houses. In any doubtful case of sickness they could obtain the services of the medical subordinate attached to the dispensary, or a hospital assistant may be specially deputed to aid the residents in the work of detection.

9. It should be made obligatory under the Epidemic Diseases Act for the occupier of

each room or house in an infected town to notify all cases of sickness and death occurring in the room or house occupied by him, and for every medical practitioner practising in such a town to report all cases of sickness and death coming to his knowledge in the practice of his profession.

10. When there is reason to believe that cases of plague are occurring in a town or are likely to occur, owing to its proximity to an infected area, the town should be divided into quarters or divisions of a size convenient for effective supervision, and each quarter should be placed, as far as possible, under the charge of a European official, who may be a civil officer, taken from any department, a military, or a medical officer, according to circumstances.

11. The quarter under each officer should be sub-divided into defined areas, which might consist of a street, a portion of one, or a group of houses, and each of these sub-divisions should be placed under the charge of a district or local subordinate, who may for convenience, be called a supervisor. With each supervisor will be associated one or more residents of the sub-division, who will assist the supervisor in obtaining information regarding sickness and mortality in the areas respectively allotted to him. Under each supervisor will be a gang of coolies, varying in number to suit the requirements of each locality. The gangs working in the more populous towns should be divided into three sections, each with defined duties as follows :—

(*a*) for the detection of cases and their removal to hospital ;

(*b*) for the evacuation of houses and for the removal of the inmates to camp ; and

(*c*) for the disinfection of houses.

12. So long as plague exists in the Presidency, it is advisable that the above organization should be prepared for each town and district area, native Superintendents being substituted for Europeans in the latter, and the members should be ready to act when the necessity arises. At each town exposed to danger an observation camp should be provided where all suspicious arrivals from infected areas may be detained for ten days.

13. It is believed that under such a scheme information regarding all cases of sickness will be easily and readily obtained, but should the people be unwilling to assist the authorities, or withhold the necessary information, then it will be advisable to organize search parties under the charge of the Divisional Superintendent. Each search party should be accompanied by a medical officer or subordinate, and by a female, either European or native.

14. It is absolutely essential to success that all the measures mentioned above for the suppression of the disease should be carried out promptly and effectively. To ensure this being done all the members of the staff engaged in the work should have a clear idea of their duties : the operations will then be conducted in a methodical and systematic manner.

15. The Superintendent should be provided with a suitable office situated in his own division, where he should remain the whole day, except at intervals for meals. The office will be his head-quarters to which all communications should be sent, and at which the supervisors will make their daily reports. He will exercise a general supervision over all the operations and will issue orders for the necessary action to be taken by each section of the gang of coolies.

16. No house vacated on account of plague may be re-occupied without his sanction and he may cause a notice to that effect to be affixed to each vacated house. He should place a seal on boxes containing valuable property left in houses which have been evacuated on account of plague. Such property may be removed by the owner, but if he declines to do so, it will remain at his risk.

17. Property of any value belonging to the poorer classes which it may be considered necessary or advisable to destroy as being infected should be appraised by two or more respectable natives, and the value paid to the owner by the Superintendent of the Division. Compensation should also be given without delay to the very poor for the destruction of clothes, etc., which although they may be of no market value yet serve a useful purpose to the owners.

18. After a house has been disinfected, the door will be secured by a padlock, of which the Superintendent will retain the key, or entrance may be barred by any other effectual method.

19. The stock of disinfectants, padlocks, and all surplus appliances for divisional use will be kept in or near the office.

20. Each supervisor will keep a list of all residents in each house in his sub-division. He will inspect all new arrivals, and will obtain information from them as to their previous place of residence. He will, in company will the local resident appointed to assist him, visit all the houses in his sub-division, and obtain information regarding the health of the different inmates, and will, on the conclusion of his rounds, report verbally to his Superintendent the occurrence of all cases of sickness and death and any information regarding arrivals from infected localities. Any case of plague, and all doubtful ones of sickness should be at once reported to the Superintendent at his office by day, and at his house by night.

21. The supervisor will be provided with a sufficient supply of disinfe ctants ready for use, with tubs, buckets, watering-pots, one or two hand-pumps, either jet or spray, and implements required for unroofing houses and making holes in the walls. There should also be a dooly, charpoy, or bamboo frame for the removal of the sick. It should be thoroughly washed or sprayed with perchloride of mercury solution, either at the hospital or sub-divisional depôt after use. This is necessary, as the same dooly may be used for carrying suspected cases to the observation ward. All the above articles should be kept in a room or yard near the centre of his sub-division or at the Superintendent's Office.

22. On a report being received by a Superintendent, of the occurrence of a case of plague, he should at once proceed to the house, and when he has satisfied himself that the case is one of plague or of a suspicious nature, he will at once give orders for the removal of the patient, either to the plague hospital or to the observation ward, according to the opinion he has formed of the case. The other inmates of the house, with their movable property, should be taken to the segregation camp, in charge of one or more policemen or other responsible persons.

23. They will be supplied with passes by the Superintendent admitting them into hospital and camp. These passes after countersignature by the medical officer or the officer at the camp will be returned through the policemen to the Superintendent.

24. After evacuation of the house, the walls and floors of all rooms, with their contents, except articles of food which it is not intended to destroy, and of all enclosure should be thoroughly drenched with a solution of perchloride of mercury; and in the course of two or three days coated with freshly prepared limewash. All rags and refuse found in the house or enclosure should be burned in the presence of the supervisor.

25. The roof, if not a pucka one, should be removed, and holes should be made in the walls to admit freely air and light to the smaller rooms and enclosures. On the completion of these operations, the door should be secured with a padlock.

26. The coolies engaged in the work of disinfection, etc., should be provided with boots or shoes, to protect their feet from the danger of infection through abraded surfaces.

27. It may be necessary, owing to the occurrence of several cases in the one area, to vacate a group of houses or a whole sub-division. Should any necessity exist for the adoption of such a measure, it should be carried out as soon as possible by placing a cordon of police or troops around the area and removing the whole population to the segregation camp. Disinfection and unroofing of the houses to be carried out in due course.

28. Experience has abundantly proved that the evacuation of an infected house or houses is seldom in itself sufficient to stamp out the disease. When plague manifests itself in one house in an indigenous form, those in the neighbourhood have, as a rule, already become infected, and it usually follows that cases subsequently appear in them. It is therefore always a wise and prudent course on the occurrence of an indigenous case, not only to evacuate the one house but also all those in the immediate neighbourhood.

29. On the evacuation of the houses in the infected area, all the other inhabitants should be encouraged to leave the town, and any obstacles which may tend to delay their departure should if possible be removed. The time for prescribing the issue of passes should be carefully considered by the Collector, as, if the rules prohibiting departure without passes are applied prematurely, the exodus of the inhabitants generally will be retarded, more particularly of the poorer classes, who feel diffident about applying for passes or are too apathetic to do so.

30. In a large town where the disease has become of general prevalence, every quarter being effected, and the arrangements for dealing with the epidemic are incomplete and defective, measures must be taken to regulate the departure of the population and prevent them carrying infection to healthy areas. Every effort should in the meantime be made to provide sufficient accommodation in huts for a large proportion of the population.

31. In the case of villages badly infected the whole of the inhabitants should be turned out. Villagers are accustomed to erecting shelters for themselves, but, if necessary, materials for hutting should be supplied. The sick and suspected villagers should be carefully separated from the healthy, and an officer should be appointed to examine the daily health of the population and prevent migration to other villages.

32. Daily inspection of villages situated in the neighbourhood of an infected locality should be instituted and maintained during the outbreak, and continued for ten days after the occurrence of the last case, with special reference to the exclusion of refugees, who should be required to camp out.

33. A site for the hospital should be selected as near as possible to the infected population, but a permanent building, suitable in all respects for a hospital, may sometimes be obtained either inside or on the outskirts of the town. It can be easily disinfected when it is no longer required for an hospital, and such a building would be more popular and convenient than huts erected at a distance from the town.

34. If a suitable building is not available, it will be necessary to erect huts for plague patients, for convalescents, and for the observation of doubtful cases, on the nearest site. The hospital huts intended for females should be some distance apart from those intended for males. The size of each hut will depend on the number of patients expected, but it is advisable not to place a large number of patients in one hut. A series of huts, each capable of accommodating six to twelve patients, will be the best arrangement, and it is one which will admit of the higher and lower castes securing separate accommodation. Movable mat screens should be provided between the beds to secure as much privacy as is possible to each patient. Every patient should be supplied with a cheap substitute for a spittoon, and both it and the vessels used as bed-pans, should contain a sufficient quantity of an effective disinfecting solution. The floor of the hospital huts should be freely watered daily with the perchloride of mercury solution, and vessels containing the same solution should always be available for the disinfection of the hands and feet of the native attendants.

35. One relative or friend may be permitted to attend a patient, and a stated time should be set apart for the visits of relatives and friends of the patients.

36. On the arrival of the patient at the hospital, all his clothing should be removed and burnt in the presence of the medical subordinate. Hospital clothing should then be supplied. On recovery the patient may be transferred to the convalescent ward or dismissed. In either case he should be given a warm bath and supplied with new clothes. The hospital clothing, on the discharge or death of the patient, should be disinfected, washed, and exposed to the sun for a few hours, after which it may be again taken into use.

37. The hospital and observation wards should be surrounded with a bamboo or other fence.

38. Huts for the segregation of individuals removed from infected houses, and of all suspected persons, should, if possible, be erected at a convenient distance from the hospital compound, and should be surrounded by a bamboo or other fence. Individuals brought for admission into this camp should, for purposes of cleanliness, be bathed in a solution of carbolic acid, one to a hundred parts of water, and their clothing soaked in a solution of one to twenty; if there are no children, perchloride of mercury solution may be used for the latter purpose.

39. All the inmates should be inspected daily, either by the medical officer or a medical subordinate, and any case of plague detected should be removed at once to hospital, and doubtful cases of fever to the observation ward. If no case occurs amongst them after an interval of 15 to 30 days, they may be allowed to return to their houses, if such houses have been cleaned and disinfected, and if the local authority considers that they are fit for re-occupation, or be admitted into the camp for healthy individuals, after a second disinfection of their clothing.

40. Both the hospital compound and the segregation camp should be guarded by troops or police, to prevent the egress of inmates.

41. The establishment of separate hospitals and segregation camps for the reception of members of special castes and religions should be encouraged, and every assistance should be given by the local authority for their erection and supervision. The treatment of the patients admitted into these hospitals may, if desired, be placed in the hands of *vaids* and *hakims*, and the internal management of both hospitals and camps may be conducted by members of the caste or religion concerned, subject, however, to the general supervision of a European doctor, where possible, and control of the local authorities, and to the usual arrangements as regards guard.

42. A camp for the healthy, *i.e.*, for people removed from houses not infected, should also be arranged for. All individuals admitted into it should also be bathed and their clothes disinfected, as with admissions into the segregation camp. They should be allowed to pursue their daily employments, on condition that they sleep in camp. The huts should be numbered, inmates registered, and a daily inspection made of all the residents. If no case of plague has occurred in a hut for 15 to 30 days, the inmates may, after a second disinfection of clothing, be allowed to return to their houses, if such houses have been cleaned and disinfected, and if the local authority considers that they are fit for re-occupation.

43. Should a case of plague occur in a hut, the patient should be removed to hospital, and the other inmates to the segregation camp. The hut should be removed, the site disinfected with the perchloride of mercury solution, and the materials of the hut should be similarly disinfected and exposed to the sun for a couple of days, when they can be utilized in the erection of another hut on a new site.

44. The best arrangements should be made for a plentiful supply of water to the different camps. If the water-supply to the town is conveyed through pipes, connexions should be carried into the camps. Bathing platforms at some distance apart for the two sexes should be constructed, and provided with surface drains for the removal of surplus water.

45. Separate latrines for the sexes should be erected in connexion with the two camps and hospital, and they should be well lighted with ordinary post lamps.

46. Bunniahs' shops with all supplies should be provided for each of the camps.

47. Cases of plague imported into towns and villages, if they are not at once discovered and isolated, will, under existing conditions, develop new centres of the disease, and thus infect fresh localities. It is a difficult matter to detect such cases in transit from an infected area.

48. Medical inspection of travellers by rail and road is useful in discovering those actually suffering from the disease or affected with the preliminary symptoms of fever, but as the period of incubation may extend to eight or nine days, it is evident that inspection is of no avail in detecting infected travellers who are in the stage of incubation. Such travellers cannot be discriminated from the non-infected, and it is necessary for their detection that they should be kept under observation for a period not exceeding ten days.

49. Passengers or travellers who can produce satisfactory evidence that they have not been exposed to infection, may be exempted from detention, as it frequently happens that only one or a few places may be infected in the particular district. The local authorities should give certificates to all persons wishing to travel from the non-infected areas in the district, stating that the holders (giving names, etc.) have not been exposed to infection.

50. The period of observation may, in the case of travellers of ascertained respectability, be converted into one of surveillance at places of destination, if they give satisfactory assurance (or furnish security) that they will report themselves daily to an authorized medical officer. Lists of such passengers should be forwarded either by wire or post to the local authority at place of destination, and any one failing to report may be prosecuted. The medical officer is not at liberty to exempt the individual from attendance without the concurrence of the local authority.

51. The inspecting officer may, however, exercise his discretion as to the necessity of detaining any particular individual.

52. In addition to medical inspection at selected stations, a medical officer or subordinate should, if available, be appointed to travel by each train from or passing through an infected district for the purpose of examining passengers booking and alighting at all stations along the line.

53. The object in exercising control over the movements of travellers from an infected area is for the general welfare of the public and not to harass the individuals. It is hoped that by detaining passengers from an infected area, the healthy or non-infected will be eliminated after a few days, and allowed to proceed on their journey. If the preparatory measures, as previously detailed, for the suppression, of the disease are carried out in an efficient manner, there is every reason to believe that restrictions on travelling will be unnecessary.

54. Any arrangement calculated to prevent the exodus of the healthy from an

infected locality or area, must tend to produce a more virulent form of the disease, and its more rapid diffusion among the community.

55. Camps will be established, under the orders of government, at selected stations suitable for detention of passengers and for the disinfection of clothing and baggage.

56. The above rules will also apply to travellers by road.

57. For preparation of the perchloride of mercury solution for disinfection, see Appendix.

APPENDIX.

The most convenient and satisfactory way of preparing the solution of perchloride of mercury, on a large scale, is that which has been recommended by Dr. Maynard, now on plague duty in Nasik.

The ingredients should be mixed in a 50-gallon cask in the following quantities: to 77 lbs. of perchloride of mercury and 33½ lbs. of pure salt add 15 gallons of boiling water, stir well with a wooden stick, and then fill up the cask with cold water. The solution contains one part of perchloride to 6½ of water, and one ordinary quart bottle of it added to 25 gallons of water—the capacity of the ordinary wooden tubs in use—will give a strength of 1 in 1,000.

The standard solution can be carried about in quart bottles placed in partitioned boxes, and is always ready for use without further weighing or measuring.

If the solution is prepared with cold water, the perchloride of mercury must be powdered and two parts of pure salt to one part of perchloride added. The whole should be well stirred until the solids are completely dissolved.

It is of advantage, for several reasons, to add one half per cent. of crude hydrochloric acid to the solution.

Iron hoops of all casks, tubs, and buckets should be dammered. If iron receptacles are used, they should be dammered inside and outside.

If metal pumps are employed for distributing the solution, they should, previous to use, be worked in vegetable oil, and after use thoroughly cleaned in water. This will tend to lessen the corrosive action of the mercury.

Appendix A to Section VI.

STATEMENT No. I.—*Showing the deaths from* CHOLERA *registered in the Districts of* BENGAL PROPER *during each month of 1898.*

District.	Population.	Number of cholera deaths registered in each month.												Total of the Year.
		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	
Calcutta	681,560	31	89	117	147	75	55	18	13	12	11	5	92	665
24-Pergunnahs	1,892,033	455	231	303	256	85	40	18	9	11	10	10	198	1,626
Howrah	763,625	61	186	228	113	87	43	39	33	32	17	11	52	902
Hoogly	1,034,293	18	53	84	102	69	16	43	37	8	1	...	7	438
Nuddea	1,644,108	35	30	76	117	130	4	...	1	1	3	30	72	499
Khulna	1,177,652	188	72	55	127	104	19	24	7	2	4	2	65	669
Jessore	1,888,827	314	104	24	130	143	4	2	3	1	1	1	52	779
Burdwan	1,391,880	3	30	40	108	232	43	13	22	11	10	...	15	527
Bankura	1,069,668	2	21	28	29	24	14	2	3	14	45	15	16	213
Beerbhoom	798,254	11	71	51	9	22	8	...	...	...	...	...	...	172
Midnapore	2,631,516	208	534	695	1,123	438	274	89	72	51	39	2	31	3,664
Dacca	2,395,602	489	394	483	842	356	29	17	16	37	110	488	1,727	5,008
Furreedpore	1,823,543	385	106	215	542	298	15	1	2	5	89	468	1,460	3,586
Backergunge	2,153,965	324	221	254	361	379	45	15	6	4	2	112	840	2,563
Mymensingh	3,472,186	729	386	392	920	1,267	244	60	2	4	...	27	165	4,196
Darjeeling	223,314	...	11	16	46	...	...	...	...	...	...	...	...	73
Jalpaiguri	680,736	1	...	6	...	49	4	7	...	...	...	...	1	68
Moorshedabad	1,250,946	30	33	11	...	1	...	...	...	...	1	48	61	185
Dinagepore	1,482,570	28	39	23	53	64	1	1	...	...	1	4	8	222
Maldah	814,919	63	12	5	...	2	...	...	1	...	...	...	17	100
Rajshahi	1,437,460	270	165	95	162	198	27	2	...	...	1	7	7	934
Rungpore	2,065,464	906	370	182	199	140	66	4	9	11	...	34	21	1,942
Bogra	766,635	128	74	145	503	105	6	3	...	1	9	8	10	992
Pubna	1,361,223	19	20	1	7	16	18	...	...	1	...	74	93	249
Purnea	1,944,658	83	76	325	1,480	1,142	71	5	4	2	3	1	13	3,205
Chittageng	1,290,167	5,831	2,054	566	566	511	526	128	28	2	..	6	2	10,220
Noakhally	1,009,693	66	122	117	383	348	112	8	2	...	...	33	92	1,283
Tipperah	1,782,935	380	607	663	1,097	1,389	154	14	4	1	...	89	419	4,817
Balasore	904,625	46	221	805	852	574	430	148	23	7	14	4	13	3,137
Cuttack	1,937,671	238	260	564	520	191	45	7	8	5	6	7	4	1,855
Puri	944,998	252	66	44	42	6	2	1	2	2	5	2	8	432
Rajmehal or Sonthal Deoghur Parganas.	1,753,775	5	5	7	9	21	35	4	4	14	21	3	4	132
Palamau	596,770	...	...	...	...	...	...	...	...	...	...	...	...	...
Manbhoom	1,193,328	1	6	23	17	28	73	5	...	14	11	7	3	188
Hazaribagh	1,104,321	...	...	...	15	1	6	2	5	...	18	12	1	60
Ranchi or Lohardaga	1,128,885	25	...	...	...	...	...	...	...	...	...	...	...	25
Chybassa or Singhbhum.	545,488	2	...	89	9	3	...	...	1	...	...	...	...	104
Monghyr	2,036,021	...	9	3	63	248	112	34	25	11	70	43	...	618
Bhagulpur	2,032,696	3	21	86	1,720	1,578	213	7	7	14	184	544	111	4,488
Gya	2,138,331	6	1	3	7	27	85	191	406	197	623	161	15	1,722
Patna	1,772,352	3	4	3	16	102	139	78	39	49	406	222	37	1,098
Shahabad	2,060,579	...	3	...	...	10	7	7	30	66	72	48	1	244
Sarun	2,466,065	...	...	...	2	28	91	13	8	11	16	10	63	242
Tirhoot or Muzaffarpur.	2,712,857	...	14	...	1	21	27	21	25	5	11	8	45	178
Champarun	1,859,465	...	2	1	4	...	...	...	...	11	4	13	...	35
Durbhunga	2,801,955	1	...	3	49	198	235	21	10	2	31	101	14	665
TOTAL	71,069,617	11,730	6,723	6,831	12,748	10,710	3,338	1,052	867	639	1,849	2,678	5,855	65,020

STATEMENT No. II.—*Showing the deaths from* CHOLERA *registered in the Districts of* ASSAM *during each month of 1898.*

District.	Population.	Number of Cholera deaths registered in each month.												Total of the year.
		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	
Cachar	367,542	37	8	30	110	330	221	81	29	10	37	18	34	945
Sylhet	2,154,593	576	319	184	567	2,028	1,214	267	39	47	39	31	70	5,381
Goalpara	452,304	387	182	120	95	22	15	2	3	14	1	1	1	843
Kamrup	634,249	169	74	257	596	610	322	53	35	12	6	2	14	2,150
Darrang	307,761	4	41	40	60	82	164	31	4	35	15	11	6	493
Nowgong	344,141	2	2	...	14	60	6	67	22	4	2	1	4	184
Sibsagar	457,274	7	21	27	180	199	104	57	33	41	40	22	18	749
Lakhimpur	254,053	7	6	16	32	76	96	51	23	22	28	14	6	377
Khasi and Jaintia Hills	49,167	2	...	...	16	6	...	...	...	...	...	2	1	27
TOTAL	5,021,084	1,191	653	674	1,670	3,413	2,142	609	188	185	168	102	154	11,149

Appendix A to Section VI—*continued.*

STATEMENT NO. III.—*Showing the deaths from* CHOLERA *registered in the Districts of the* NORTH-WESTERN PROVINCES AND OUDH *during each month of 1898.*

DISTRICT.	Population.	NUMBER OF CHOLERA DEATHS REGISTERED IN EACH MONTH.												Total of the year.
		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	
Eastern Division.														
Ghazipur	1,024,753	6	4	...	...	16	26	2	4	...	5	2	...	65
Ballia	995,327	...	...	...	...	11	44	...	41	3	...	...	...	99
Benares	921,943	...	5	3	6	9	25	4	2	...	1	...	...	55
Mirzapur	1,161,508	3	...	4	2	1	5	...	...	...	1	...	22	38
Azamgarh	1,728,625	...	8	...	...	5	7	...	1	1	10	...	...	32
Jaunpur	1,264,949	...	...	4	3	...	1	8	3	...	...	...	...	19
Gorakhpur	2,994,057	5	21	...	...	3	1	2	10	4	4	2	...	52
Basti	1,785,844	17	6	28	68	16	2	4	5	29	51	47	18	291
Allahabad	1,534,658	6	1	1	6	...	...	...	1	1	...	...	...	16
Fatehpur	699,157	...	1	2	..	...	1	...	...	...	...	...	...	4
Cawnpore	1,209,695	...	1	...	2	...	...	...	...	..	1	14	1	19
Fatehgarh (Farukhabad)	858,687	...	...	...	...	...	...	...	...	...	...	...	...	...
Districts south of or bordering on the Jumna.														
Banda	705,832	3*	...	...	...	...	...	...	...	..	...	...	...	3
Hamirpur	513,720	...	...	...	...	...	...	...	...	...	...	...	...	...
Jalaun	396,361	...	...	...	...	1	...	...	...	...	...	...	...	1
Etawah	727,629	...	...	...	...	1	...	...	...	...	...	...	...	1
Jhansi	683,619	...	...	...	...	...	...	...	...	1	...	...	...	1
Districts lying west of 80°, east longitude.														
Bareilly	1,040,949	...	...	...	1	...	...	1	...	1	2	...	...	5
Pilibhit	485,108	...	3	5*	...	...	...	...	...	...	...	...	...	8
Budaun	925,168	...	...	...	...	...	...	...	2	2	...	...	...	4
Shahjahanpur	918,981	10	...	...	1	...	...	...	...	...	...	...	...	11
Moradabad	1,179,398	2	1	1	2	1	1	2	3	...	...	...	3	16
Etah	702,063	...	1	...	2	1	...	2	...	...	...	...	...	6
Mainpuri	762,163	...	...	...	...	...	...	...	...	...	...	...	...	...
Aligarh	1,043,172	...	...	...	4	...	...	...	...	...	...	...	...	4
Bulandshahr	949,914	...	...	...	...	1	1	...	...	...	...	...	...	2
Agra	1,003,796	...	...	...	3	...	10	...	1	...	...	...	...	14
Muttra	713,421	...	...	...	...	2	6	2	1	1	1	...	...	13
Meerut	1,391,458	...	...	...	3	...	...	...	1	...	1	...	...	5
Muzaffarnagar	772,874	...	...	...	...	1	...	...	...	...	...	...	...	1
Saharanpur	1,001,280	...	...	...	1	...	...	...	1	...	...	...	...	2
Bijnor	794,070	...	...	...	...	3	1	2	1	...	11	...	1	19
Dehra Dun	168,135	...	...	...	...	...	...	...	...	...	...	...	...	...
Naini Tal	356,881	6	...	...	1	2	1	...	...	...	...	...	...	10
Almora	416,868	...	...	...	...	...	41	25	7	...	...	...	...	73
Garhwal	407,818	...	...	...	...	28	13	2	4	...	...	...	...	47
Oudh.														
Partabgarh	924,974	3	...	...	...	...	...	...	...	...	...	...	...	3
Rae Bareli	1,036,521	...	...	...	...	1	2	...	...	...	...	...	...	3
Sultanpur	1,075,851	5	...	1	...	1	...	1	...	...	...	4	6	18
Fyzabad	1,216,959	1	...	...	4	2	...	1	4	68	150	225	64	519
Bara Banki	1,130,906	3	...	...	3	2	...	...	5	7	112	227	88	447
Lucknow	774,163	...	...	1	1	...	1	...	...	...	...	7	12	22
Unao	953,636	...	...	...	...	...	...	...	...	...	...	...	...	...
Gonda	1,459,229	...	14	...	1	...	...	...	6	13	21	22	6	83
Bahraich	1,000,432	...	18	1	...	...	...	3	12	4	3	3	...	44
Kheri	903,615	2	8	...	59	80	1	8	5	14	28	4	...	209
Sitapur	1,075,413	9	...	1	...	...	...	1	25	32	101	38	17	224
Hardoi	1,113,211	...	...	...	...	...	...	...	...	...	...	...	...	...
TOTAL	46,904,791	81	92	52	173	188	190	70	145	181	503	595	238	2,508

* Actually occurred in November 1897.

Appendix A to Section VI—*continued.*

STATEMENT NO. IV.—*Showing the deaths from* CHOLERA *registered in the Districts of the* PUNJAB *during each month of 1898.*

DISTRICT.	Population.	NUMBER OF CHOLERA DEATHS REGISTERED IN EACH MONTH.												Total of the year.
		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	
Gurgaon	668,863	...	...	...	2	...	...	...	...	...	...	...	...	2
Delhi	635,224	...	...	...	...	...	...	...	...	...	...	...	...	...
Rohtak	590,440	...	...	...	...	...	...	...	...	...	...	...	...	...
Hissar	775,208	...	...	...	...	...	...	...	...	...	...	...	...	...
Karnal	761,094	...	...	...	...	...	...	...	...	...	...	...	...	...
Umballa	804,849	...	...	...	...	30*	...	...	...	1	...	...	...	31
Simla	35,246	...	...	...	...	...	...	...	...	...	...	...	...	...
Jullundur	891,347	...	...	...	...	...	...	...	...	...	...	...	...	...
Ludhiana	648,655	...	...	...	...	...	...	...	...	...	...	...	...	...
Hoshiarpur	1,011,644	...	...	...	...	...	...	...	...	...	...	...	...	...
Kangra	759,458	...	...		...	...	...	...	...	...	...	...	...	...
Gurdaspur	940,785	...	...	...	...	...	...	...	...	...	...	...	...	...
Sialkot	1,090,712	...	...	...	...	...	...	...	...	...	...	...	...	...
Amritsar	990,990	...	...	...	...	...	...	...	...	...	...	...	...	...
Gujrat	760,923	...	...	...	...	...	...	...	...	...	...	...	...	...
Gujranwala	690,061	...	...	...	...	...	...	...	...	...	...	...	...	...
Lahore	1,055,619	...	...	...	...	...	...	...	...	...	...	...	...	...
Ferozepore	861,499	...	...	...	...	...	...	...	...	...	...	...	...	...
Montgomery	499,449	...	...	...	...	...	...	...	...	...	...	...	...	...
Mooltan	620,859	...	...	...	...	...	...	...	...	...	...	...	...	...
Muzaffargarh	381,072	...	...	...	...	...	...	...	...	...	...	...	...	...
Dera Ghazi Khan	399,860	...	...	...	...	...	...	...	...	...	...	...	...	...
Dera Ismail Khan	482,463	...	...	...	...	...	...	...	...	...	...	...	...	...
Jhang	436,221	...	...	...	...	...	...	...	...	...	...	...	...	...
Shahpur	493,535	...	...	...	...	...	...	...	...	...	...	...	...	...
Jhelum	605,774	...	...	...	...	...	...	...	...	...	...	...	...	...
Hazara	476,125	...	...	...	...	...	...	...	...	...	...	...	...	...
Rawalpindi	845,259	...	...	...	...	...	...	...	...	...	...	...	...	...
Peshawar	679,183	...	...	...	...	...	...	...	...	...	...	...	...	...
Kohat	182,487	...	...	...	...	...	...	...	...	...	...	...	...	...
Bannu	369,972	...	...	...	...	...	...	...	...	...	...	...	...	...
TOTAL	20,553,982	...	...	...	2	30*	...	...	...	1	...	...	...	33

* These deaths occurred in the Umballa Cantonments.

STATEMENT NO. V.—*Showing the deaths from* CHOLERA *registered in the Districts of the* CENTRAL PROVINCES *during each month of 1898.*

DISTRICT.	Population.	NUMBER OF CHOLERA DEATHS REGISTERED IN EACH MONTH.												Total of the year.
		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	
Raipur	1,255,698	...	...	...	...	...	...	...	...	...	...	...	...	...
Bilaspur	827,433	...	...	...	...	...	...	...	...	...	...	...	...	...
Sambalpur	388,205	...	...	...	...	...	...	...	...	...	...	...	...	...
Jubbulpore	574,838	...	...	...	...	...	...	...	...	...	...	...	...	...
Seoni	370,767	...	...	...	...	...	...	...	...	...	...	...	...	...
Mandla	339,373	...	...	...	...	...	...	...	...	...	...	...	...	...
Narsinghpur	367,026	...	...	...	...	...	...	...	...	...	...	...	...	...
Murwara	173,308	...	...	...	...	...	...	...	...	...	...	...	...	...
Damoh	325,613	...	...	...	...	...	...	...	...	...	...	...	...	...
Saugor	1591,743	...	1	...	...	...	...	...	...	...	...	...	...	1
Chhindwara	339,443	...	...	...	...	...	...	...	...	...	...	...	...	...
Betul	323,196	...	...	...	...	...	...	...	...	...	...	...	...	...
Hoshangabad	493,053	...	...	...	...	...	...	...	...	...	...	...	...	...
Nimar	204,343	...	...	...	...	...	...	...	...	...	...	...	...	...
Bhandara	742,550	...	...	...	...	...	...	...	...	...	...	...	...	...
Nagpur	757,892	...	...	...	...	1	...	1	...	...	...	...	...	2
Balaghat	383,331	...	...	...	2	...	...	2	...	...	...	...	...	4
Wardha	400,854	...	...	...	...	...	...	...	...	...	...	...	...	...
Chanda	561,099	...	...	...	...	...	...	...	...	...	...	...	...	...
Burhanpur	81,366	...	...	...	...	...	...	...	...	...	...	...	...	...
TOTAL	9,501,401	...	1	...	2	1	...	3	...	...	...	...	...	7

Appendix A to Section VI—*continued.*

STATEMENT No. VI.—*Showing the deaths from* CHOLERA *registered in the Districts of* BERAR *during each month of 1898.*

DISTRICT.	Population.	NUMBER OF CHOLERA DEATHS REGISTERED IN EACH MONTH.												Total of the year.
		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	
Akola . . .	580,590	...	...	...	...	...	...	...	...	...	...	...	...	...
Buldana . .	478,029	...	...	...	...	...	...	...	...	...	...	...	...	...
Basim . . .	398,181	...	...	...	...	...	...	...	...	...	...	...	...	...
Amraoti . . .	655,645	...	...	...	...	...	...	...	...	...	...	...	...	...
Ellichpur . .	268,767	...	...	...	...	...	...	...	...	...	...	...	...	...
Wun . . .	471,613	...	...	...	...	...	...	...	...	...	...	...	...	...
TOTAL .	2,852,825	...	...	...	...	...	...	...	...	...	...	...	...	...

STATEMENT No. VII.—*Showing the deaths from* CHOLERA *registered in the Native States of* RAJPUTANA *and* CENTRAL INDIA *during each month of 1898.*

DISTRICT.	Population.	NUMBER OF CHOLERA DEATHS REGISTERED IN EACH MONTH.												Total of the year.
		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	
RAJPUTANA.														
Bhurtpore . .	640,303	...	...	...	4	1	...	1	...	...	...	...	...	6
TOTAL .	640,303	...	...	...	4	1	...	1	...	...	...	...	...	6
CENTRAL INDIA.														
Baghelkhand . .	1,781,806	...	...	...	...	...	2	...	...	...	...	...	...	2
TOTAL .	1,781,806	...	...	...	...	...	2	...	...	...	...	...	...	2
GRAND TOTAL .	2,422,109	...	...	...	4	1	2	1	...	...	...	...	...	8

Appendix A to Section VI—*continued.*

STATEMENT NO. VIII.—*Showing the deaths from CHOLERA registered in the Districts of HYDERABAD during each month of 1898.*

DISTRICT.	Population.	NUMBER OF CHOLERA DEATHS REGISTERED IN EACH MONTH.												Total of the year.
		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	
Raichur . . .	Not stated	...	...	...	...	...	...	...	...	...	...	...	...	...
Hingoli . . .	Ditto	...	...	...	...	...	...	...	...	...	...	...	...	...
Mominabad . .	Ditto	...	...	...	...	...	...	...	...	...	...	...	...	...
Bolarum . .	Ditto	...	4	...	2	...	...	...	...	...	...	...	...	6
Hyderabad . .	277,786	...	...	...	...	...	...	...	...	...	...	...	...	...
Jalna . . .	Not stated	...	...	...	...	...	...	...	...	...	...	...	...	...
Aurangabad . .	Ditto	...	...	...	...	...	...	...	...	...	...	...	...	...
TOTAL .	Not stated	...	4	...	2	...	...	...	...	...	...	...	...	6

STATEMENT NO. IX.—*Showing the deaths from CHOLERA registered in the Districts of the MADRAS PRESIDENCY during each month of 1898.*

DISTRICT.	Population (under registration).	NUMBER OF CHOLERA DEATHS REGISTERED IN EACH MONTH.												Total of the year.
		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	
Ganjam . . .	1,335,898	23	18	2	2	1	...	...	...	...	...	...	...	46
Vizagapatam . .	1,531,348	13	3	151	30	22	2	...	...	...	...	...	...	221
Godavari . .	2,077,858	197	107	88	41	21	12	19	4	19	5	3	4	520
Kistna . . .	1,855,024	601	335	297	273	198	249	836	1,451	965	219	30	21	5,475
Nellore . . .	1,463,357	470	549	373	113	48	65	141	273	457	310	566	791	4,156
Madras . . .	436,375	46	20	7	8	1	1	88	298	166	45	41	13	734
Chingleput . .	1,199,901	226	114	149	46	35	12	9	164	347	181	236	378	1,897
South Arcot . .	2,162,336	2,293	1,206	608	271	462	730	1,093	969	473	142	804	2,230	11,281
Trichinopoly . .	1,371,726	2,112	1,772	621	516	243	299	672	491	271	48	57	379	7,481
Tanjore . . .	2,227,081	8,930	2,800	518	172	190	127	322	430	334	272	158	648	14,901
Madura . . .	2,099,668	659	480	423	1,883	483	208	232	60	10	81	121	95	4,735
Tinnevelly . .	1,915,702	970	526	550	409	125	41	196	134	85	33	28	127	3,224
Kurnool . . .	817,660	...	...	...	...	16	4	79	237	271	120	56	1	784
Cuddapah . .	1,271,721	116	40	28	7	...	...	1	...	6	15	36	208	457
Bellary . . .	890,485	...	...	...	8	37	28	22	11	4	...	...	51	161
Anantapur . .	727,319	...	...	...	...	...	...	...	...	...	...	...	9	9
North Arcot . .	2,113,585	192	158	67	16	19	15	54	382	366	163	303	1,662	3,399
Salem . . .	1,961,784	152	243	255	685	382	50	...	2	2	...	...	31	1,802
Coimbatore . .	2,003,911	211	216	693	963	108	135	6	31	1	1	...	1	2,366
Nilgiris . . .	96,765	...	...	...	...	...	...	1	...	...	...	...	...	1
South Canara . .	1,052,002	543	200	92	17	10	...	...	...	...	...	...	...	862
Malabar . .	2,636,674	359	265	104	130	50	6	1	14	1	1	1	...	932
TOTAL .	33,248,180	18,113	9,052	5,026	5,590	2,451	1,984	3,772	4,951	3,778	1,636	2,442	6,649	65,444

Appendix A to Section VI—*continued.*

STATEMENT No. X.—*Showing the deaths from* CHOLERA *registered in the Districts of the* BOMBAY PRESIDENCY *during each month of 1898.*

DISTRICT.	Population.	NUMBER OF CHOLERA DEATHS REGISTERED IN EACH MONTH.												Total of the year.
		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	
Bombay City	806,144	21	17	12	8	8	3	12	3	8	5	3	4	104
Tanna	818,967	1	...	2	1	...	...	1	2	...	...	...	...	7
Colaba	594,779	12	1	...	1	...	...	...	1	...	...	...	...	15
Surat	649,824	...	...	...	...	...	...	...	...	...	...	...	...	...
Ahmedabad	920,928	...	...	...	...	...	...	1	...	...	...	...	...	1
Broach	341,450	...	...	...	...	...	...	...	...	...	...	...	...	...
Panch Mahals	313,381	...	...	...	...	...	...	...	...	...	...	...	...	...
Kaira	871,529	...	...	...	...	...	...	...	...	...	...	...	...	...
Khandesh	1,460,319	...	...	...	...	...	...	...	...	...	...	...	...	...
Ahmednagar	887,656	...	...	1	...	...	1	...	...	...	...	...	...	2
Nasik	841,087	...	...	...	...	...	...	...	...	...	...	...	...	...
Sholapur	750,255	...	...	...	...	...	2	1	...	...	...	...	...	3
Satara	1,225,511	...	...	...	...	...	2	...	...	...	...	...	...	2
Bijapur	793,286	...	1	...	...	...	...	1	...	1	...	...	...	3
Belgaum	1,011,453	...	1	...	...	15	18	3	2	9	37	18	4	97
Dharwar	1,050,533	79	16	152	483	450	681	601	697	497	306	68	24	4,054
Kanara	446,156	...	...	...	25	22	...	11	13	8	...	...	...	79
Ratnagiri	1,105,862	...	...	...	...	...	...	...	...	...	...	...	...	...
Poona	1,061,449	...	...	...	...	...	...	...	1	...	...	...	...	1
Thar and Parkar	332,401	...	...	...	...	...	...	...	...	...	...	...	...	...
Shikarpur	915,058	...	...	...	...	...	...	...	...	...	...	...	...	...
Karachi	561,013	...	...	...	...	...	...	...	...	...	...	...	...	...
Hyderabad	883,836	...	...	...	...	...	...	...	...	...	...	...	...	...
Upper Sind	174,469	...	...	...	...		...	...	...	...	...	...	...	...
TOTAL	18,820,346	113	36	167	518	495	707	631	719	523	348	89	32	4,368

STATEMENT No. XI.—*Showing the deaths from* CHOLERA *in the Districts of* LOWER BURMA *during each month of 1898.*

DISTRICT.	Population.	NUMBER OF CHOLERA DEATHS REGISTERED IN EACH MONTH.												Total of the year.
		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	
Akyab	44,479	57	74	105	116	159	162	79	9	...	...	...	...	761
Kyaukpyu	163,832	8	5	7	6	46	16	102	26	...	...	...	...	216
Sandoway	78,509	...	...	...	8	4	...	...	...	...	...	...	...	12
Rangoon	180,324	20	4	5	2	6	5	...	2	...	...	1	8	53
Hanthawaddy	396,887	18	1	7	5	38	3	...	...	...	...	...	7	79
Pegu	237,594	...	34	...	6	18	5	...	...	...	...	...	...	63
Tharrawaddy	339,240	41	9	...	1	...	...	15	...	3	...	...	...	69
Prome	368,466	...	7	39	13	1	5	...	1	4	7	14	...	91
Thongwa	333,443	10	64	50	62	47	42	29	11	6	...	...	...	321
Bassein	310,359	...	...	51	230	173	52	11	7	1	...	...	...	525
Henzada	438,950	...	16	43	19	11	16	33	28	2	21	4	8	201
Myaungmya	217,878	1	...	14	52	21	15	66	13	4	...	...	12	198
Amherst	233,539	...	4	29	40	20	10	...	...	...	...	...	1	104
Tavoy	94,921	2	5	1	...	...	...	...	...	...	...	...	...	8
Mergui	65,585	...	...	...	...	...	...	...	...	...	...	...	...	...
Thaton	266,620	...	...	1	12	9	...	63	...	...	...	...	...	85
Toungoo	175,434	20	28	12	20	...	2	1	...	...	...	...	...	83
Thayetmyo	194,637	...	...	1	45	43	3	...	5	6	...	...	...	103
TOTAL	4,510,697	177	251	365	637	596	336	399	102	26	28	19	36	2,972

Appendix A to Section VI—*concluded.*

STATEMENT No. XII.—*Showing the deaths from* CHOLERA *registered in the Districts of* AJMER-MERWARA *during each month of 1898.*

District.	Population.	Number of Cholera deaths registered in each month.												Total of the year.
		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	
Ajmer . .	422,359	...	...	1	...	...	...	...	...	...	...	...	...	1
Merwara . .	119,999	...	...	...	...	...	...	...	...	...	...	...	...	...
TOTAL .	542,358	...	...	1	...	...	...	...	...	...	...	...	...	1

STATEMENT No. XIII.—*Showing the deaths from* CHOLERA *registered in the Districts of* MYSORE *during each month of 1898.*

District.	Population.	Number of Cholera deaths registered in each month.												Total of the year.
		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	
MYSORE.														
Bangalore . .	702,913	1	1	...	...	...	...	...	...	...	...	1	...	3
Kolar . . .	591,030	10	...	...	...	...	2	1	...	...	11	...	1	25
Tumkur . .	580,786	...	...	2	...	...	...	...	...	...	...	...	...	2
Mysore . . .	1,181,814	2	...	5	12	2	...	4	15	...	...	...	...	40
Hassan . . .	514,952	...	2	3	2	1	...	1	...	1	1	7	...	18
Shimoga . .	527,981	30	1	5	350	166	68	27	64	54	2	...	...	767
Kadur . . .	330,063	...	2	6	2	3	...	...	...	1	9	10	25	58
Chitaldroog . .	413,984	...	...	...	...	...	69	57	35	55	1	40	23	280
TOTAL .	4,843,523	43	6	21	366	172	139	90	114	111	24	58	49	1,193
COORG.														
Coorg . . .	173,055	...	5	3	...	...	...	...	...	...	...	...	...	8
GRAND TOTAL .	5,016,578	43	11	24	366	172	139	90	114	111	24	58	49	2,201

Appendix B to Section VI.

Statement showing the number of attendants on cholera cases treated in the Hospitals of European and Native Regiments and in Jails during 1898 and the number of these attacked by cholera.

No.	Station.	Community.	Number of cases of cholera treated.	Medical Officers, Hospital Assistants and other attendants on cholera cases.	
				Number.	Number of these attached with cholera.
		European Troops.			
1	Thayetmyo	2nd South Stafford Regiment	2	8	None.
2	Calcutta	Station Hospital	1	8	,,
3	Dum Dum	Ditto	1	6	,,
4	Allahabad	Ditto	1	9	,,
5	Lucknow	Medical Staff	1*	6	,,
6	Fyzabad	1st Northampton Regiment	1	12	,,
7	Umballa	Station Hospital	20	14	,,
8	Mian Mir	2nd Yorkshire Regiment	1	4	,,
9	Madras	2nd Welsh Regiment	2	11	,,
		Total	30	78	None.
		Native Troops.			
1	Rangoon	Followers' Hospital	1	8	None.
2	Manipur	44th Gurkha Rifles	19	15	,,
3	Dinapore	18th Bengal Infantry	2	6	,,
4	Fort William	4th (P. A. V.) Rajputs	1	6	,,
5	Umballa	16th Bengal Cavalry	13	26	,,
6	Dinapore	43rd Gurkha Rifles (Detachment)	1	About 3	,,
7	Secunderabad	3rd Madras Light Infantry	1†	Not known	,,
8	Trichinopoly	27th Madras Infantry	8	14	,,
9	Ditto	7th Ditto ditto (Detachment)	3	14	,,
10	Ditto	4th Ditto Pioneers	7	14	,,
11	Ditto	Qasam Municipal Hospital	1	12	,,
		Total	56	118	None.
		Jails.			
1	Myingyan	Jail	2	8	None.
2	Prome	,,	3	3	,,
3	Moulmein	,,	2	5	,,
4	Tura	,,	1	7	,,
5	Tezpur	,,	1	6	,,
6	Midnapore	,,	2	5	,,
7	Contai	Sub-Jail	1	4	,,
8	Barisal	Jail	1	5	,,
9	Chupra	,,	1	9	,,
10	Rajahmundry	,,	2†	Not given.	
11	Madras	Her Majesty's Penitentiary	2	11	None.
		Total	16	63	None.
		GRAND TOTAL	102	259	None.

* Medical Officer.
† Not included in the total, as the number of attendants is not stated.

Appendix C to Section VI.

Statistics of Charitable Medical Relief in the different Provinces of India for the year 1898.

Province.	Number of Dispensaries.				Population Census of 1891.	Area in square miles as shown in Sanitary Report for 1898.	Total number of patients treated.	One Dispensary.		Cost of Medical Relief.			Remarks.
	1st class.	2nd class.	3rd class.	Total.				To population.	To area in square miles.	Direct contributions by Government.	Paid from local sources.	Total.	
1	2	3	4	5	6	7	8	9	10	11	12	13	14
										R	*R*	*R*	
Bengal	31	286	171	488	70,665,427	144,408	2,879,845	144,806	296	97,306	7,72,093	8,69,399	
Assam	17	90	1	108	5,476,833	29,433	610,267	50,711	273	62,711	1,75,199	2,37,910	
North-Western Provinces and Oudh.	13	276	80	369	46,905,085	107,734	3,856,844	127,114	292	3,12,185	3,47,982	6,60,167	
Punjab	6	252	9	267	20,860,913	110,463	3,025,389	78,131	414	25,556	5,30,157	5,55,713	
Central Provinces	7	82	36	125	12,235,186	71,582	1,547,918	97,881	573	50,912	1,16,349	1,67,261	
Berar	46	1	...	47	2,897,040	16,068	304,987	61,639	342	57,562	20,001	77,563	
Burma	43	61	1	105	8,146,855	159,496*	799,521	77,589	1,519	94,209	4,05,238	4,99,447	
Madras	14	428	30	472	34,336,196	128,727	4,067,111	72,746	273	87,488	9,34,668	10,22,156	
Bombay	41	169	104	314	26,694,594	124,130	1,751,236	85,015	395	3,46,641	3,42,548	6,89,189	
Coorg	...	2	2	4	173,055	1,583	41,396	43,264	396	3,422	11,813	15,235	
Total	218	1,647	434	2,299	228,391,184	893,624	18,884,514	99,344	389	11,37,992	36,56,048	47,94,040	

* Includes 83,473 square miles for Upper Burma as given in the Census Report of 1891.

SECTION VII.

GENERAL HISTORY OF VACCINATION.

Vaccination in India as a whole.

210. During 1896-97 the total number of persons vaccinated among the civil population of British India was 8,019,836; in 1897-98 the number fell to 7,829,983; and in 1898-99 the total showed a further decrease of upwards of three hundred thousand, and was only 7,497,597. The causes of the falling off in 1897-98 were mainly the presence of famine and plague; and although the effect on vaccination in 1898-99 of the recent famine was confined to diminished birth-rates in some of the provinces, the other cause was still unhappily persistent.

The actual presence of plague and the fear of its invasion have caused the diversion of the services of officers and subordinates ordinarily occupied in supervising and carrying on vaccination; while, among the people in many places, apart from the disturbance of the ordinary conditions of life, there is the unfounded dread that vaccination is being used as a cloak for anti-plague inoculation. So great was the terror of this in Coorg that vaccination had to be stopped altogether from November to March, and the operations performed during the year numbered only about half those performed in 1897-98.

The provinces in which the decrease occurred were Madras, Bombay, Bengal, the Punjab, Assam and Coorg; in the other provinces the number of operations was greater than in the preceding year.

In Madras, Bombay and Coorg the falling off was due in one way or another to plague. In Bengal, in addition, there was the introduction of a more perfect method of vaccinating. In the Punjab a new system of itinerating among the vaccinators was misunderstood, and the vaccinators did not work well. In Assam, although malarial fevers were unusually severe in a part of the province, the chief cause of the falling off was the unsatisfactory working of many of the staff.

Both primary operations and re-vaccinations were fewer than in 1897-98, the former falling from 7,186,888 to 6,913,977, and the latter from 618,065 to 583,602. The degree of success in primary operations was, however, somewhat higher in 1898-99 than in the preceding year, 94·02 per cent. having succeeded against 93·91; re-vaccinations, on the other hand, were less successful, 63·71 per cent. as compared with 64·44 per cent.

Among the different provinces the percentages of success varied greatly; in primary operations, from 98·84 in Assam to 89·6 in Madras, and in re-vaccinations, from 93·4 in Assam to 23·1 in Berar. Extreme differences in results must be due in the main to divergence in the interpretation of the term 'successful.'

The percentages of success obtained by the staffs of dispensaries ranged, in primary operations, from 96·75 in Bombay to 72·80 in Coorg; and in re-vaccinations, from 90·63 in Assam to 52·96 in Bengal.

The ratio of the total population protected during the year fell from 31·53 per mille in 1897-98 to 30·30 per mille in 1898-99, the provincial ratios varying between 54·41 per mille in Burma and 26·74 in Bombay.

As in the preceding year, the average number of operations performed by each vaccinator was highest in Berar, 3,020, and lowest in Bengal, 586.

Although there was a falling off in the number of infants protected in Madras, Bombay, Bengal, Assam, Berar and Coorg, yet the total in all provinces taken together was greater in 1898-99 than in 1897-98, rising from 2,815,592 in the latter to 2,853,132 in the former. The percentage of the total children born, estimated at 40 per mille of the entire population, was 31·37 per cent. as compared with 30·95 per cent. in the preceding year, and ranged from 60·31 in Berar to 7·38 in Coorg.

The number of children between one year and six years of age, who were successfully vaccinated, fell from 3,172,881 in 1897-98 to 3,008,037 in 1898-99, the decrease occurring in Madras, Bengal, the Central Provinces, Assam and Coorg.

The aggregate cost of the departments during the year was R10,75,762 against R11,06,845 in 1897-98; and the average cost of each successful operation was two annas and seven pies, or one pie more than in the preceding year, varying between nine annas and one pie in Coorg and one anna and four pies in Bengal.

The following statement shows in outline the working of the department in the different provinces in 1898-99 and in the preceding year:—

Comparative Statement of Vaccination in the different Provinces of India, excluding Ajmer-Merwara, in 1897-98 and 1898-99, together with the death-rates from Small-pox during 1897-98.

Province.		Population.	Number of vaccinations performed.			Percentage of successful cases.		Persons successfully vaccinated per mille of population.	Ratio of deaths from small-pox per 1,000 of population during the calendar years 1897 and 1898.	Average number of vaccinators employed in Department.*	Average number of operations per vaccinator.*
			Primary.	Re-vaccination.	Total.	Primary.	Re-vaccination.				
Bengal	1897-98	70,832,144	2,243,093	76,443	2,319,536	97·87	64,37	31·69	0·27	3,383	650
	1898-99	71,098,411	2,087,285	60,167	2,147,452	97·99	67·35	29·34	0·20	3,482	586
Assam	1897-98	5,634,258	272,707†	11,207	283,914†	98·77	90·96	49·61	1·08	222	1,065
	1898-99	5,634,258	237,088†	21,817	258,905†	98·35	93·78	45·02	1·03	219	981
North-Western Provinces and Oudh.	1897-98	47,146,033	1,318,912	66,093	1,385,005	89·66	63·47	25·97	1·86	866	1,599
	1898-99	47,146,033	1,340,561	58,665	1,399,226	92·58	71·22	26·53	0·05	875	1,598
Punjab	1897-98	20,553,982	626,589	212,235	838,824	94·39	60·63	35·04	0·78	299	2,799
	1898-99	20,553,982	657,518	177,558	835,076	94·85	58·69	35·41	0·24	297	2,808
Central Provinces	1897-98	12,944,805	347,210	51,489	398,699	96·67	87·70	29·42	0·38	274	1,391
	1898-99	12,900,386	383,633	65,617	449,250	95·92	81·77	32·69	0·10	274	1,588
Berar	1897-98	2,897,040	95,048	30,241	125,289	96·4	30·0	34·7	0·2	44	2,847
	1898-99	2,897,040	94,032	38,871	132,903	97·1	23·1	34·6	0·2	44	3,020
Burma	1897-98	8,146,855	405,469	26,081	431,550	94·56	59·74	48·97	0·41	167	2,526
	1898-99	8,146,855	447,259	33,398	480,657	94·60	60·13	54·41	1·07	177	2,635
Madras	1897-98	35,651,577	1,189,146	82,583	1,271,729	89·75	74·07	31·67	0·7	824	1,508
	1898-99	35,651,577	1,039,713	78,280	1,117,993	87·22	68·67	26·94	0·6	818	1,330
Bombay	1897-98	22,701,913	679,231	60,196	739,430	91·77	58·49	29·0	0·20	435	1,699
	1898-99	22,612,220	622,095	48,349	670,444	92·75	57·25	26·74	0·19	434	1,539
Coorg	1897-98	173,055	9,480	1,497	10,977	95·21	85·03	50·51	0·34	8	1,180
	1898-99	173,055	4,793	880	5,673	92·13	77·50	29·46	0·13	9	587
Total	1897-98	226,681,691	7,186,885	618,065	7,804,953	93·91	64·44	31·33	0·72‡	...	...
	1898-99	226,807,817	6,913,977	583,602	7,497,579	94·02	63·71	30·30	0·26‡	...	...

* Refers to special Vaccination Establishment only.
† Including Tea Gardens.
‡ Calculated on figures taken from the Sanitary Reports.

Animal Vaccinations.

211. In every province bovine lymph, either fresh or preserved, was largely used; in Madras, Burma, Assam, Berar and Coorg enclusively, or almost exclusively.

In Madras the highest ratio of success was obtained with fresh calf lymph, but excellent results were obtained with both lanolinated and glycerinated lymph, the use of which throughout the Presidency is exhibited in the following statement:—

		Glycerinated Lymph.		Lanolinated Lymph.	
		Number of cases.	Percentage of success.	Number of cases.	Percentage of success.
In districts .	Primary and secondary operations.	413,243	82·8	220,170	89·0
	Revaccinations .	15,742	70·4	12,111	68·4
Operations performed by dispensary staffs and medical subordinates.	Total cases .	9,258	80·1	15,213	75·1
Operations in Municipalities.	Total cases .	25,500	91·2	50,205	91·3

In the preceding year higher percentages of success were uniformly obtained with glycerinated lymph than with lanolinated lymph; but in 1898 the percentages resulting from the use of the latter were higher in primary operations in the districts and in Municipalities.

In the Central Provinces the manufacture of glycerinated lymph was not attended by success. In Assam, on the other hand, the product of the Shillong Depôt was extraordinarily efficacious. The vaccine is pounded up with a mixture of glycerine and water "in the proportion of two parts of the solid matter, and one part each of glycerine and water, by weight." It is preserved in capillary tubes, which are sealed in the flame of a spirit-lamp. The Sanitary Commissioner, Colonel Carr-Calthrop, while admitting that this method of preservation is "troublesome, laborious and more expensive than simple admixture with lanoline," claims for it that much less risk of contamination is involved in the use of a fresh capillary tube for each operation, than when operation after operation is performed from the same pot of lanolinated lymph.

Bengal.

212. During the official year 1898-99 the vaccination staff employed in Bengal, under the direction of the Sanitary Commissioner, comprised three Deputy Sanitary Commissioners, 48 Civil Surgeons, 206 native supervisors and five head vaccinators, the operators being 79 vaccinators paid by Government, 41 paid by District Boards, 241 employed by Municipalities and at dispensaries, 3,362 licensed vaccinators and 1,134 apprentices. For the greater part of the year the department was worked at an extraordinary disadvantage, being without the services of the

Year.	Death-rate from small-pox per 1,000 of population.	Number successfully vaccinated per 1,000 of population.*	Year.	Death-rate from small-pox per 1,000 of population.	Number successfully vaccinated per 1,000 of population.*
1877 . .	0·13	14·79	1888 . .	0·09	29·51
1878 . .	0·20	18·95	1889 . .	0·13	28·79
1879 . .	0·38	39·41	1890 . .	0·19	28·64
1880 . .	0·38	34·81	1891 . .	0·23	22·63
1881 . .	0·40	30·06	1892 . .	0·31	24·52
1882 . .	0·20	28·38	1893 . .	0·20	24·54
1883 . .	0·14	27·38	1894 . .	0·11	27·98
1884 . .	0·28	28·94	1895 . .	0·18	29·67
1885 . .	0·14	25·76	1896 . .	0·19	29·62
1886 . .	0·06	29·68	1897 . .	0·27	30·25
1887 . .	0·05	30·41	1898 . .	0.20	28·04

* The ratios of successful vaccinations refer to the official year (April to March).

Deputy Sanitary Commissioners, as commissioned medical officers could not be spared from other duties; so that each of the three vaccination circles was in charge of a commissioned officer for only two or three months.

The total number of operations performed throughout the province was 2,147,452, or 172,084 fewer than in 1897-98. The decrease was distributed over thirty-five districts and is attributed to several causes, the more important being the difficulty experienced by the licensed vaccinators in realising their fees, the plague inoculation scare, and the introduction of the practice of making six punctures, the two extra punctures being connected in some way in the mind of the masses with inoculation against plague.

The practice of making six punctures has now been introduced into the province generally, and although very unpopular at first—so much so that a certain degree of relaxation of the rule had to be permitted,—opposition is gradually dying out.

The number of primary operations that succeeded was 2,045,384 as compared with 2,195,509 in 1897-98, but the degree of success claimed was somewhat greater, 97·99 per cent. against 97·87. This high ratio does not, however, represent the facts, for vaccinators are prone to include in the returns partial successes and even absolute failures as successful cases.

The number of revaccinations performed during the year was 60,167,—a decline of 16,276 from the total of the preceding year; while the number of successful cases fell from 49,207 to 40,520. The percentage of success was, however, higher, 67·34 against 64·36 in 1897-98. The falling-off in the number of revaccinations is doubtless only temporary, for in the gradual increase in the number of these operations in recent years there is evidence that the people are beginning to appreciate the security afforded by the second operation. The rise in the ratio of success, which in 1898-99 was nearly twice as high as the average of the previous triennial period, is attributed by the local officers (*a*) to the operations being done at a sufficiently long interval after the primary vaccination to allow of the passing away of the effect of the latter, and (*b*) to the primary operation having been a failure or only a partial success.

Taking the number of infants born at 40 per 1,000 of the census population of 1891, 17·66 per cent. were protected during the year, against 17·8 in 1897-98 and 15·50 the mean of the three years 1894-95 to 1896-97.

The average number of operations performed by the vaccinators was considerably less than in 1897-98, the figure falling from 650 to 586.

The work of inspection was greatly hampered by the absence of the Deputy Sanitary Commissioners: in the Metropolitan and Eastern Bengal circles, no inspections were made by them at all; in Northern Bengal only 1,366; and in Western Bengal 7,627. In only two districts, Dacca and Purnea, as compared with five in the preceding year, did the inspections made by Civil Surgeons exceed 10,000; in seven as compared with nine the numbers ranged from 5,000 to 10,000; while in four districts the numbers were below 1,000. The proportion of the total operations inspected by Civil Surgeons was 8·51

per cent. against 9·34 in 1897-98, and the percentages verified by District Inspectors and Sub-Inspectors fell from 40·76 and 67·44 to 39·70 and 67·81, respectively.

Direct calf-to-arm vaccination is gradually gaining ground; the primary operations in 1898-99 numbered 206,083, an increase of 31,082 over the figure for the previous year, which was 25,681 in advance of that for 1896-97. Revaccinations, however, numbered only 21,632, or 7,855, less than in the previous year.

The numbers of calves operated on at both the Calcutta and Darjeeling depôts were greater than in 1897-98, and the amount of lanoline paste manufactured was slightly greater in Calcutta, 55,935 grains, and slightly less in Darjeeling, 53,785 grains, than in the previous year.

The Nepal Durbar was supplied with 765 grains of lanoline vaccine paste and glycerinated lymph during the year, and the statistics of the results, so far as they were furnished, show 93·42 per cent. of the operations performed to have been successful.

Vaccination is progressing in Bengal, but there is still much opposition to it in some districts, particularly in Behar, in Puri, and in the Tributary States of Orissa.

In certain of the districts, Major Dyson, despairs of any effective remedy short of the introduction of the Compulsory Vaccination Act. In Puri he considers that high caste Hindu operators paid by the District Board should be substituted for the licensed men; and he suggests the starting of a vaccination school at Cuttack where operators could be trained for Orissa and the Tributary States.

The cost of the Department which fell from R2,06,205 in 1896-97 to R1,81,480 in the succeeding year, decreased further to R1,73,875, the causes being the same as in 1897-98, absence of Deputy Sanitary Commissioners and the substitution of licensed for paid operators. The cost of each successful case was one anna and four pies against one anna and three pies in the preceding year.

Assam.

213. The vaccination staff in Assam, working under the general control of the Sanitary Commissioner and the district Civil Surgeons comprised 18 native inspectors, 183 paid and 29 licensed operators, with seven apprentices; and was supplemented by medical subordinates attached to dispensaries and private practitioners on Tea-garden estates.

Year.	Death-rate from small-pox per 1,000 of population.	Number successfully vaccinated per 1,000 of population *	Year.	Death-rate from small-pox per 1,000 of population.	Number successfully vaccinated per 1,000 of population. *
1877 . .	0·3	4·51	1888 . .	0·45	25·38
1878 . .	0·3	6·42	1889 . .	0·49	24·49
1879 . .	0·37	8·00	1890 . .	0·31	26·92
1880 . .	0·59	5·27	1891 . .	0·47	29·93
1881 . .	0·69	8·91	1892 . .	0·29	31·51
1882 . .	0·71	10·53	1893 . .	0·53	28·33
1883 . .	1·36	15·19	1894 . .	0·80	28·09
1884 . .	1·06	18·67	1895 . .	0·77	40·45
1885 . .	0·44	22·31	1896 . .	1·08	43·31
1886 . .	0·12	24·04	1897 . .	1·08	44·77
1887 . .	0·26	24·01	1898 . .	1·03	45·02

* The ratios of successful vaccinations refer to the official year (April to March).

The total number of operations performed by all agencies was 258,905, a considerable falling-off as compared with the

total of either of the last two years. The decline was, however, limited to primary operations and to the work of the provincial staff, and occurred in the districts of Sylhet, Goalpara, Darrang, Nowgong and Sibsagar and the Naga Hills. In Sylhet, where the greatest decrease occurred, it is attributed to a very severe outbreak of malarial fever, a lowered birth-rate and high mortality among infants, and in Goalpara it is said that similar influences were at work, but in the other districts it is to be feared that lack of zeal among the staff was the principal factor involved.

The number of operations performed by the paid and licensed operators aggregated 232,419, of which 208,542 primary operations and 20,113 revaccinations were reported to be successful. The ratios of success claimed, work out to 98·84 per cent. of the primary operations and 93·84 of the revaccinations; but the Sanitary Commissioner commenting on the primary operations writes:—

"I am of opinion that the number of cases reported as successful is too high. Vaccinators seem to report, as successful, cases in which the smallest vesicle follows the operation, notwithstanding that no trace may be visible three months afterwards. From my personal inspections, I should think primary operations were probably satisfactory in 95 per cent., partially successful in 3 per cent., and failures in about 2 per cent."

And regarding revaccinations "the percentage reported of successful revaccinations, *viz.*, 93·84, is suspiciously high, and is to my mind inconsistent with a very high percentage of thoroughly successful primary vaccinations."

Operators at dispensaries did not report quite such high percentages of success; of a total of 14,271 operations, 13,226 were successful primary vaccinations and 348 revaccinations succeeded, the percentages of success being respectively, 95·24 and 90·63.

The Compulsory Vaccination Act remained in force in eleven towns, but the aggregate number of operations performed in them continued to fall; in 1898-99 the number was 3,021 against 3,487 in the preceding year, and 4,152 in 1896-97. Notices were served on defaulters in only seven of the towns; 26 prosecutions were conducted, but only four persons were punished.

Taking the number of successful operations performed by all agencies combined, 45·02 per thousand of the population were protected during the year against 49·61 in 1897-98 and 40·62 the average of the previous quinquennium. The number of infants protected was 50,389, or about 22·36 of a hypothetical birth-rate of 40 per mille. This ratio, although less than that estimated in the preceding year, 25·9, is higher than the mean of the previous three years, which was 19·69 per mille. Although the actual number of cases inspected by Civil Surgeons was less than in the preceding year, 22,577 against 24,207, the percentage, owing to the smaller total, was higher, 9·15 against 8·87. Native Inspectors verified only 133,681 cases or 54·19 per cent., against 150,005, or 55·0 per cent. in 1897-98, the falling off being most conspicuous in Sylhet, Goalpara, and Nowgong, although in the last named small-pox was prevalent.

The percentages of the cases verified by Civil Surgeons and Native Inspectors which were found to be successful were, respectively, 95·99 and 98·73 per cent., as compared with 98·66 and 98·14 in the preceding year.

Inoculation is said to be practised in the districts of Sibsagar, Sylhet and Cachar, but not to the same extent as formerly, and no outbreak of small-pox was traced to it.

The animal vaccine depôt at Shillong was worked very successfully throughout the year, the supply from it was the largest on record and the quality of the glycerinated lymph was all that could be desired, so that the Chief Com-

missioner has authorised the abandonment of further attempts to introduce the use of fresh calf lymph at district head-quarters.

The total expenditure on the department fell from R22,346 in 1897-98 to R22,198, and the average cost of each successful operation from one anna and eight pies to one anna and seven pies and a half.

North-Western Provinces and Oudh.

214. The supervising staff of the Vaccination Department in the North-Western Provinces and Oudh in 1898-99 consisted of the Sanitary Commissioner and his two Deputies the district Civil Surgeons and 49 Assistant Superintendents. The average number of operators, including those paid from local funds, was 875, or nine more than in the preceding year.

Year.	Death-rate from small-pox per 1,000 of population.	Number successfully vaccinated per 1,000 of population.*	Year.	Death-rate from small-pox per 1,000 of population.	Number successfully vaccinated per 1,000 of population.*
1877 . .	0·84	19·40†	1888 . .	0·56	15·14
1878 . .	3·99	14·74	1889 . .	1·00	16·09
1879 . .	1·72	12·42	1890 . .	1·26	19·48
1880 . .	0·19	12·93	1891 . .	0·56	19·10
1881 . .	0·39	15·59	1892 . .	0·16	20·34
1882 . .	0·60	13·69	1893 . .	0·13	25·38
1883 . .	3·14	12·94	1894 . .	0·09	26·81
1884 . .	4·59	12·88	1895 . .	0·04	28·47
1885 . .	0·33	13·50	1896 . .	0·91	28·87
1886 . .	0·24	14·05	1897 . .	1·86	25·97
1887 . .	0·19	14·93	1898 . .	0·05	26·92

* The ratios of successful vaccinations refer to the official year (April to March).
† Excluding Oudh.

The number of operations performed was 1,398,684, which, although it exceeded the total of 1897-98 by 14,024, fell short of that of 1896-97 by no less than 128,624. The decrease was chiefly due to the employment, on duty in connection with plague prevention and the sanitation of fairs, of many of the most tactful and experienced vaccinators, the men engaged to take their places being, in many instances, untrained and lacking the influence of the permanent employés.

The average number of operations performed by each vaccinator was almost the same as in the preceding year, 1,598·5 as compared with 1,598·9. Of the total number of vaccinations performed, 1,340,036 were primary, and 58,648 were revaccinations, and the percentages of success claimed were 94·96 and 79·76 respectively, against 93·74 and 68·20 in 1897-98. At dispensaries, 525 primary operations and 17 revaccinations were performed, the ratios of success being 90·02 and 71·43 per cent. There were 637,472 infants successfully vaccinated during the year, so that estimating the number of births at 40 per thousand of the census population, 33·80 per cent. of the children born were protected, as compared with 29·23 per cent. in 1897-98, and 30·24 the mean of the three years, 1894-95 to 1896-97.

The decline in the numbers vaccinated in the towns where the Act is in force was noted in last year's report. This year the results were still worse. Although a few more vaccinators were employed, the number of primary operations fell from 111,585 in 1897-98 to 110,515, and the revaccinations from 4,987 to 3,896; but there was some improvement in the quality of the work, primary cases succeeding in 1898-99 at the rate of 95·01 per cent. against 92·45, and revaccinations at the rate of 71·97 per cent. against 71·41.

Although one of the Deputy Sanitary Commissioners was absent, and much of the time ordinarily devoted by the other to the work of inspection was spent on duty in connection with the prevention of plague and at the great fairs, there

was an increase in the number of inspections made by Deputy Sanitary Commissioners and Civil Surgeons, the percentage of the total number of operations verified rising from 6·31 in 1897-98 to 9·25 ; while Assistant Superintendents verified 29·40 against 26·98 per cent. Superior inspecting officers found 93·62 per cent., and inferior inspecting officers 93·38 per cent. of the cases seen by them to be successful, against 94·36 per cent. of success claimed by the vaccinators.

The supplies of lymph sent from Garhwal and Almora for starting work on the plains was of good quality, but many of the tubes sent from Tehri-Garhwal were bad and had to be destroyed. The work done at the Lucknow depôt was satisfactory, but the same could not be said of the establishment at Allahabad.

Owing to the absence of one of the Deputy Sanitary Commissioners, the cost of the department fell from R1,31,243 in 1897-98 to R1,30,967 ; but the average cost of each successful case remained the same as in the two preceding years, namely, one anna and eight pies.

Punjab.

215. The supervising staff, consisting of the Sanitary Commissioner, his Deputy, the District Civil Surgeons, six Divisional Inspectors, and 34 Native Supervisors remained unchanged, and the number of vaccinators was 303 against 305 in 1897-98. The number of operations performed during the year was 840,868, against 845,491 in the preceding year, and 902,413 in 1896-97. Of the total, 661,937 were primary operations and 178,931 were revaccinations, as compared with 631,774 and 213,717, respectively, in the preceding year.

Year.	Death-rate from small-pox per 1,000 of population.	Number successfully vaccinated per 1,000 of population.*	Year.	Death-rate from small-pox per 1,000 of population.	Number successfully vaccinated per 1,000 of population.*
1877 . .	0·70	23·70	1888 . .	0·90	40·84
1878 . .	2·30	21·23	1889 . .	0·42	40·13
1879 . .	2·83	17·34	1890 . .	0·47	37·15
1880 . .	0·52	21·41	1891 . .	0·17	33·24
1881 . .	0·38	35·02	1892 . .	0·54	33·25
1882 . .	0·34	25·15	1893 . .	0·20	37·72
1883 . .	0·64	31·08	1894 . .	0·30	35·48
1884 . .	0·87	28·68	1895 . .	0·41	37·44
1885 . .	0·40	29·93	1896 . .	2·19	36·65
1886 . .	0·57	30·52	1897 . .	0·78	35·04
1887 . .	0·87	32·36	1898 . .	0·24	35·37

* The ratios of successful vaccinations refer to the official year (April to March.)

Excepting an increase, amounting to 41,117, in the number of primary operations performed by the district staff, there was a general falling off in the numbers of operations of both classes performed by all agencies. Among the causes of the decrease are said to be the failure of the vaseline lymph, difficulty in procuring calves, dislike of the vaccinators to the new system of working in groups, and carelessness on the part of the operators. All these matters have the attention of the authorities ; and it may be stated that the falling-off is, in part, at any rate, believed to be apparent only, since the stricter supervision by the District Inspectors has checked the too common falsification of returns. The reduction in the amount of work was most marked in the case of the special staff who performed only 62,196 primary operations against 72,031 in the previous year, while the revaccinations done by them fell from 31,104 to 14,742 ; and even the latter figure is suspected by the Deputy Sanitary Commissioner to be "in excess of the actual number of operations performed." The decline in the work of the special staff is mainly due to the absence of supervision, the Deputy Sanitary Commissioner having been on plague duty for a portion of the year, but there was misconduct on the part of one of the native supervisors

and some of the vaccinators, while the assistance which should have been given by certain local authorities was withheld.

The average percentage of success was somewhat higher in primary operations and lower in revaccinations than in the previous year, the figures being 94·84 and 58·80 in 1898-99, and 94·40 and 60·77 in 1897-98.

Returns were furnished by seven of the eight large Native States which maintain their own vaccination establishments. There were 84,547 primary operations and 42,506 revaccinations performed in them, the ratios of success claimed being 95·40 and 49·60 per cent. Nearly three-fourths of the operations were performed in Patiala, but the results, both as regards quantity and quality were not so good as in 1897-98.

Estimating the number of births at 40 per mille of the census population, 59·97 per cent. of the infants born during the year were protected, as compared with 57·5 per cent. in 1897-98, and 58·25 per cent., the mean of the previous three years.

Civil Surgeons verified 6·54 per cent. of the primary cases and 3·38 per cent. of the revaccinations, against 8·66 and 2·25 per cent. in the previous year, native supervisors inspected 60·14 per cent. and 35·21 per cent., against 61·10 and 23·73 per cent., and Divisional Inspectors 17·81 per cent. and 15·29 per cent., against 17·94 and 25·85 per cent. The ratios of success found on inspection were in all cases higher than those claimed by the vaccinators, in consequence chiefly of the latter being required to return all operations, the results of which are unknown, as failures.

The Compulsory Act was introduced into the towns of Leiah and Gujranwala during the official year; but in most of the 18 towns in which the Act has been in force for some years past the amount of work done was comparatively small.

The vaccines used were humanized lymph, fresh calf lymph, and calf lymph mixed with vaseline. Information in respect of the success obtained with the different vaccines in the province as a whole is not given in the provincial report; but the results obtained by the special staff were the following:—in primary cases, humanized lymph was successful in 100 per cent., fresh calf lymph in 97·55 per cent., and vaseline vaccine in 96·14; in revaccinations humanized lymph produced successful results in 87·31 per cent. of the operations, fresh calf lymph in 73·42 per cent., and vaseline vaccine in 74·13 per cent.

The depôts at Murree and Amritsar were open, respectively, from April to October, and from November to March. Only vaseline lymph paste is prepared at these depôts, and during the year, 1,374 tubes were sent out from Murree and 1,792 from Amritsar. Of the total number, only 53 are reported to have failed, but the results obtained with 744 are unknown.

The amount spent on the department was R1,00,345, or R1,837 more than in 1897-98, but the cost of each successful case was the same as in the two preceding years, namely, two annas and two pies.

Central Provinces.

216. In 1898-99, as in the preceding year, the supervising staff under the control of the Sanitary Commissioner comprised the District Civil Surgeons, 28 Native Superintendents and 274 vaccinators.

With the passing away of famine, and the low birth-rate and high infantile mortality which attended it, the work of the department has improved. The total number of operations amounted to 435,174, against 384,476 in 1897-98, and the average number of operations performed by each vaccinator rose from 1,391 to 1,588. The increase was shared by the British districts and by the Native States, although in the latter revaccinations were somewhat fewer than in the preceding year.

Year.	Death-rate from small-pox per 1,000 of popula-tion.	Number successfully vaccinated per 1,000 of population.*	Year.	Death-rate from small-pox per 1,000 of popula-tion.	Number successfully vaccinated per 1,000 of population.*
1877 . .	0·37	37·68	1888 . .	1·22	37·51
1878 . .	2·18	37·41	1889 . .	1·99	34·87
1879 .	3·44	34·89	1890 . .	0·26	37·94
1880 . .	0·69	38·45	1891 . .	0·08	38·25
1881 . .	0·24	47·64	1892 . .	0·10	34·25
1882 . .	0·45	36·48	1893 . .	0·17	33·78
1883 . .	0·53	36·37	1894 . .	0·16	36·58
1884 . .	0·55	36·01	1895 . .	0·70	34·83
1885 . .	0·38	32·15	1896 . .	0·82	30·56
1886 . .	0·31	34·39	1897 . .	0·38	28·39
1887 . .	0·38	36·49	1898 . .	0·09	31·70

* The ratios of successful vaccinations refer to the official year (April to March).

In British territory the total number of primary operations was 294,289, of which 284,926, or 96·82 per cent., succeeded, and the number of revaccinations was 52,274 in which success was claimed in 41,377 cases, or 79·15 per cent., against 96·73 and 85·84 per cent. in 1897-98.

In the Feudatory States primary operations aggregated 76,743 and revaccinations 11,868, the percentages of success reported being 92·86 and 95·70, respectively, as compared with 96·86 and 94·27 in the preceding year.

Besides these operations, there were in all 14,076 performed by the staff of dispensaries, or 147 less than in 1897-98. In the British districts 10,928 primary operations were performed and 1,411 revaccinations, the ratios of success being 94·03 and 61·45 per cent., as compared with 95·46 and 77·48, respectively, in the previous year. In the Native States there were 1,673 primary vaccinations and 64 revaccinations, of which 91·51 and 87·50 per cent., respectively, proved successful, as compared with 90·86 and 91·38 in 1897-98.

Calculated on an estimated birth-rate of 40 per mille of the census population, 44·61 per cent. of the children born during the year were protected, against 36·20 in 1897-98 and 50·29, the mean of the previous triennium.

Although in both British territory and in the Feudatory States the numbers of villages visited and operations verified by Civil Surgeons and Native Superintendents were larger than in 1897-98, yet, owing to the greater number of operations performed, the proportions seen by both classes of officers were less, falling from 18·79 and 55·45 per cent., respectively, to 17·19 and 53·35 per cent. The percentages of all cases examined by Civil Surgeons and Native Superintendents which were found to be successful were, respectively, 89·08 and 92·19, as compared with 92·40 and 93·45 in the preceding year, these figures being lower in both years than the percentages claimed by the operators.

Operations were carried on with humanized lymph, fresh calf lymph and calf lymph mixed with lanoline and with glycerine, but no figures to shew the degree of success obtained with the different vaccines are given in the provincial report. It is, however, stated that the manufacture of glycerinated lymph was not at all successful.

The cost of the department rose from R46,148 in 1897-98 to R50,927, but the average cost of each successful operation was a fraction less than in the two preceding years, in each of which it was two annas.

217. The provincial vaccination staff consisted of 7 Native Superintendent and 44 vaccinators, under the direct control of the Sanitary Commissioner.

Berar.

The total number of operations performed was 132,903, of which 94,032 were primary and 38,871 revaccinations, as compared with 95,048 primary operations and 30,241 revaccinations, in 1897-98. The falling off in the number of primary operations was mainly due to the diminished birth-rate of the year, while the increase in revaccination was brought about by the special attention given to the operation in places where small-pox had broken out and was attacking chiefly "the grown up children and adults for want of revaccination."

Year.	Death-rate from small-pox per 1,000 of population.	Number successfully vaccinated per 1,000 of population.*	Year.	Death-rate from small-pox per 1,000 of population.	Number successfully vaccinated per 1,000 of population.*
1877 . .	2·9	35·6	1888 . .	0·3	36·6
1878 . .	2·7	20·8	1889 . .	0·7	35·40
1879 . .	0·03	28·30	1890 . .	0·1	36·8
1880 . .	0·02	31·70	1891 . .	0·01	36·0
1881 . .	0·1	30·8	1892 . .	0·02	37·
1882 . .	0·1	36·1	1893 . .	0·06	35·0
1883 . .	1·5	30·33	1894 . .	0·3	32·2
1884 . .	0·02	37·0	1895 . .	0·2	31·8
1885 . .	0·09	36·2	1896 . .	0·28	34·5
1886 . .	0·04	35·6	1897 . .	0·2	34·7
1887 . .	0·1	35·2	1898 . .	0·2	34·6

* The ratios of successful vaccinations refer to the official year (April to March).

The average number of operations performed by each vaccinator, which in 1897-98 was 2,847, in 1898-99 reached the high figure of 3,020.

Of the primary operations 91,286, and of the revaccinations 8,989 succeeded, the percentages being, respectively, 97·1 and 23·1, as compared with 96·4 and 30·0 in the previous year.

Estimating the number of children born during the year at 40 per 1,000 of the census population, 60·31 per cent. of them were protected, against 63·4 in the preceding year, and 60·8 per cent., the mean of the previous three years. In the municipal towns where vaccination is compulsory, the percentage protected of the estimated number of infants born was 71·37.

About 2·06 per cent. of the primary operations were verified by the Sanitary Commissioner, and 55·6 per cent. by Native Superintendents, the percentages of success found by them being, respectively, 97·4 and 94·6, against 97·1 reported by the vaccinators.

Operations were started by the vaccination with lanoline lymph of children in each municipal town and district; when a good result was obtained calves were inoculated and distributed, one to each vaccinator, throughout the district, where the supply of fresh calf lymph was maintained during the season.

The cost of the department shews a slight reduction from R17,549 in 1897-98 to R17,521 in 1898-99, but the cost of each successful case was the same as in the former year, namely, two annas and nine pies.

Madras.

218. The work of vaccination was carried on in Madras under the general supervision of the Sanitary Commissioner, by the Deputy Sanitary Commissioner with the assistance of the District Medical and Sanitary Officers and 61 Deputy Inspectors, with an average staff of 818 operators, or six fewer than in 1897-98. The total number of operations performed by them in 1898-99 was 1,105,084, against 1,258,010 in the previous year, the average number to the credit of each vaccinator falling

Year.	Death-rate from small-pox per 1,000 of population.	Number successfully vaccinated per 1,000 of population.*	Year.	Death-rate from small-pox per 1,000 of population.	Number successfully vaccinated per 1,000 of population.*
1877 . .	3·02	21·	1888 . .	0·8	24·4
1878 . .	1·9	14·	1889 . .	1·0	26·1
1879 . .	0·0	13·	1890 . .	1·0	27·9
1880 . .	0·5	18·	1891 . .	1·4†	30·2
1881 . .	0·5	16·7	1892 . .	1·3	28·7
1882 . .	0·6	19·22	1893 . .	0·8	30·0
1883 . .	0·3	21·9	1894 . .	0·3	29·7
1884 . .	2·1	23·0	1895 . .	0·1	29·6
1885 . .	1·2	22·3	1896 . .	0·29	31·1
1886 . .	0·6	21·1	1897 . .	0·7	31·4
1887 . .	0·7	22·1	1898 . .	0·6	26·7

* The ratios of successful vaccinations refer to the official year (April to March).
† Calculated on the census figures of 1881.

from 1,508 to 1,330. Excepting the districts of Tanjore, Vizagapatam and Malabar, there was a decrease in all districts, which is attributed to a variety of causes, the more important being the plague inoculation scare, the absence of vaccinators, and the irregular supply of vaccine, to which may be added the absence on other duties of the Deputy Sanitary Commissioner, and the misconduct of not a few of the Deputy Inspectors.

The number of primary operations was 1,028,221, or 148,879 fewer than in the preceding year; and the number of revaccinations was 76,863, or 4,047 less than in 1897-98; the percentages of success claimed being, respectively, 89·6 and 75·5, as compared with 92·0 and 81·0 in the preceding year, and 92·6 and 80·2 in 1896-97. The apparent progressive decline in the percentage of success in primary cases is ascribed by the Deputy Sanitary Commissioner to recent figures being probably "a nearer approximation to the truth than those previously recorded."

By the staffs of dispensaries 12,909 operations were performed, or 810 less than in the preceding year. The percentage of success claimed in primary cases was 83·6, practically the same as in 1897-98, but in revaccinations it fell from 7·28 to 68·1.

Estimating the number of children born during the year at 40 per mille of the population, the percentage of infants protected was 19·84, compared with 23·23 in 1897-98, and 22·0, the mean of the previous three years.

No inspections were made by the Deputy Sanitary Commissioner as he was engaged during the greater part of the year on duty in connection with plague. The percentage of inspections performed by Civil Surgeons and Native Superintendents, however, rose from 2·5 and 49·7 in 1897-98, to 3·0 and 56·7, the degree of success found by them being 86·0 and 87·7 per cent. of the cases seen, against 88·7 claimed by the operators.

No humanized lymph was used, and operations were performed with fresh calf lymph, calf lymph preserved without admixture between glass plates, lanolinated lymph and glycerinated lymph. The following table shows the extent to which the various vaccines were used in the districts, excluding municipalities and dispensaries, and the degree of success obtained with each :—

	Number of cases, primary operations and revaccinations.	Percentage of success.
Fresh lymph	229,439	97·6
Preserved lymph without admixture .	100,690	95·9
Lanolinated lymph	232,281	88·0
Glycerinated lymph	428,985	82·4

As usual, the best results were obtained with fresh calf lymph; lymph preserved without admixture comes next, then lanolinated lymph, and lastly glycerinated lymph. The improvement in the results obtained in 1898-99 with the lanolinated lymph as compared with the previous year when the percentage was 86·6, is ascribed to full instructions regarding its use being issued to vaccinators, while it seems possible that the falling off in success with glycerinated lymph from 88·1 per cent. in 1897-98, was due to an inferior supply being sent out from the Cocanada depôt during a part of the year, but this is not fully brought out in the provincial report.

The cost of the department fell from R2,59,182 in 1897-98, to R2,49,520; but the cost of each successful case rose from three annas and nine pies, to four annas and three pies.

Coorg.

219. The vaccination Department in this small province was supervised by the Civil Surgeon, who had working under him a Native Inspector and eight vaccinators. The total number of operations performed was only 5,283, or rather less than half the total of the previous year. The cause of this extraordinary reduction was a plague inoculation scare excited among the people by the currency of an absurd rumour that anti-plague inoculation was being practised in the guise of vaccination. Of the operations performed, 4,554 were primary and 729 were revaccinations, the ratios of success being, respectively, 93·15 and 80·93 per cent. At the dispensaries 390 operations were performed, of which 72·80 per cent. of the 239 primary operations succeeded, and 60·93 of the revaccinations.

The percentage of infants protected was smaller than in any year since 1892-93, being only 7·38 of an estimated number equal to 40 per thousand of the census population.

The Civil Surgeon himself verified 7·95 per cent. of the operations against only 1·55 per cent. in the previous year; but the percentage verified by the Native Inspectors fell from 31·93 in 1897-98, to 10·95. Calf lymph was used exclusively.

The total cost of the department was R2,744, a little more than in the previous year, but the average cost of each successful operation rose from four annas and four pies to nine annas and one pie. It is to be noted in explanation of the increased cost, that although vaccination had to be temporarily suspended, the services of the staff were retained and they were employed on plague duty.

Bombay.

220. Towards the end of 1898 the Native State of Cambay was "permitted to maintain a complete vaccination organization of its own," and the figures which, however, in 1898-99 relate to only 2,344 operations, have been separated from those of the Presidency proper.

Year.	Death-rate from small-pox per 1,000 of population.	Number successfully vaccinated per 1,000 of population.*	Year.	Death-rate from small-pox per 1,000 of population.	Number successfully vaccinated per 1,000 of population.*
1877	1·69	26·58	1888	0·22	34·07
1878	0·28	22·30	1889	0·43	34·34
1879	0·07	23·15	1890	0·17	33·59
1880	0·06	25·25	1891	0·08	31·78
1881	0·03	27·88	1892	0·15	30·71
1882	0·10	30·18	1893	0·19	30·10
1883	0·81	31·01	1894	0·17	30·68
1884	0·88	30·39	1895	0·12	31·80
1885	0·16	32·45	1896	0·34	35·34
1886	0·05	32·30	1897	0·20	28·89
1887	0·23	33·54	1898	0·10	26·67

* The ratios of successful vaccinations refer to the official year (April to March).

The vaccination staff under the Sanitary Commissioner in Bombay and Sind, excluding Native States maintaining their own agencies, consisted in 1898-99 of five Deputy Sanitary Commissioners, one Superintendent of vaccination in Bombay City, 45 Superintendents of Sanitation and Vaccination and an average of 434 vaccinators.

The number of operations performed by them was 668,529, or 67,880 less than in the preceding year, excluding the returns for Cambay, while the number of operations performed by each vaccinator fell from 1,690 to 1,539. The decrease occurred in both classes of operations and was general throughout the Presidency, except in Bombay City, where there was a trifling increase.

In explanation the Sanitary Commissioner writes:—

"As in 1897-98, the year under report was a disastrous one for vaccination work. Firstly, there was during the later months of 1897 and early ones of 1898, a very low

birth-rate and a very high death-rate, especially among children ; during 1898 the former was very pronounced and it was not until August that much improvement took place ; then, there was still a certain amount of famine in some parts, and some other parts had not completely recovered from it ; the plague was with us all the year and greatly interfered with work, so much so in some parts that vaccination had to be entirely stopped ; nearly all the Deputy Sanitary Commissioners were on deputation, or leave or on plague duty, and as no full-time officers were appointed, their districts received very little of that inspection and supervision which is so very necessary in order to obtain efficient work, and lastly, several of the Inspectors and vaccinators were on plague duty."

Of the total number of operations, 621,097 * were primary and 92·86 per cent. of them succeeded, as compared with 91·90 in 1897-98. The number of revaccinations was 47,432, of which 56·97 per cent. were successful, as compared with 58·41 in the previous year.

Besides these, 1,915 operations were performed by the staff of dispensaries, of which 953 primary operations and 659 revaccinations, or 96·75 and 71·86 per cent., respectively, were successful.

Taking the total births at the rate of 40 per mille, 49·91 per cent. of the children born were protected, against 55·54 in 1897-98, and 58·11, the mean of the previous three years.

Small-pox was very prevalent in Southern Arabia and an additional vaccinator was engaged in Aden, while a vaccinator was sent to Lahej at the request of the Sultan of that place. The Arabs in the interior, it appears, are beginning to appreciate the benefit of vaccination, as many came to Aden to be operated upon, giving as their reason that " those who on former visits to Aden had been vaccinated, were able to go about among the infected with impunity."

Owing to their absence on other duty, but little inspection was done by Deputy Sanitary Commissioners, although that little, 2·32 per cent., was more than in the previous year, 1·18 per cent. Native inspecting officers, moreover, verified 40·68 per cent. of the cases against 31·79 in 1897-98.

Vaccination has hitherto been compulsory in the towns only of Bombay and Karachi, but in December, 1898, the Act was introduced into the town of Larkhana in Sind.

Inoculation was not practised anywhere, except in the Nara Taluka of the Khairpur State, and measures have been taken to secure its discontinuance there.

Both humanized and calf lymph were used, the latter in Bombay City and in selected places.

Owing mainly to the absence of Deputy Sanitary Commissioners, there was a considerable reduction in the expenditure on the department, which fell from R2,78,697 in 1897-98, to R2,55,809, the average cost of each successful case being six annas and nine pies, or one pie less than in the previous year.

On account of the non-receipt of returns from the Native State of Palanpur and the inclusion in the statistics of those from Cambay, the figures representing the number of operations in the Native States are not comparable with those of 1897-98. In the States of Baroda, Cutch, Kathiawar, Idar and Cambay there were an aggregate of 192,895 primary vaccinations, of which 95·55 per cent. were successful, as compared with 94·90 per cent. in the

* The grand total, 668,529 includes 779 secondary operations performed after the failure of the primary operations.

preceding year. The number of revaccinations was 8,995, and 68·99 succeeded, against 67·22 in 1897-98. Nearly all the operations were performed on children,—153,049 infants were protected, and 30,341 children between one year and six years of age,—the total protection afforded being 28·23 per 1,000 of the population.

221. The staff under the general supervision of the Sanitary Commissioner comprised the district Civil Surgeons, the Municipal Health Officers of Rangoon and Mandalay, and 12 Native Inspectors, with an average number of 177 vaccinators, or 10 more than in the preceding year. The number of operations performed by them was 466,303, against 421,786 in the preceding year, and 414,845 in 1896-97. Both classes of operations increased; the primary numbering 439,050 or 38,732 more than in 1897-98, and the revaccinations numbered 27,258 or 5,790 more than in the preceding year; but while the former increased in 30 of the 38 districts, the latter increased in only 17.

Burma.

Year.	Death-rate from small-pox per 1,000 of population.	Number successfully vaccinated per 1,000 of population.*	Year.	Death-rate from small-pox per 1,000 of population.	Number successfully vaccinated per 1,000 of population.*
1877 . .	0·41	6·66	1888 . .	0·16	19·79
1878 . .	0·47	9·25	1889 . .	0·77	26·67
1879 . .	0·74	11·79	1890 . .	1·01	24·36
1880 . .	1·73	11·00	1891 . .	0·29	21·42
1881 . .	0·48	11·	1892 . .	0·32	25·79
1882 . .	0·21	12·50	1893 . .	0·68	30·35
1883 . .	0·19	16·70	1894 . .	0·38	35·38
1884 . .	1·67	19·95	1895 . .	0·34	44·89
1885 . .	0·58	13·46	1896 . .	0·37	55·44
1886 . .	0·03	14·69	1897 . .	0·41	48·08
1887 . .	0·06	16·70	1898 . .	1·01	53·03

NOTE.—Figures prior to 1897 in this Statement refer to Lower Burma only.
* The ratios of successful vaccinations refer to the official year (April to March).

The causes of the improvement were the augmentation of establishment, the extension of the Act to four more municipalities, and the prevalence of small-pox in Rangoon and the districts in its vicinity.

Compulsory vaccination of immigrant coolies in Rangoon was stopped in August 1896, and the question of the introduction of an Act to legalize the compulsory vaccination of all unprotected adults is still pending.

Primary operations succeeded at the rate of 94·71 per cent. and revaccinations at the rate of 59·55, against 94·56 and 61·38 per cent. in the preceding year.

Dispensary vaccination continues to increase; the number of cases in 1896-97 was 8,403; in the following year it rose to 9,764, and in 1898-99, it has reached 14,349. Of these operations, 8,209 were primary, and 6,140 were revaccinations, the percentages of success reported being 88·66 and 62·70, respectively.

In all, 122,895 infants were protected, equal to 37·71 per 1,000 of the births estimated at 40 per mille of the census population, as compared with 34·34 per cent. protected in 1897-98, and 24·15 per cent., the average of the previous three years.

In the Shan States only primary operations were performed. In the Northern States the number was 2,975 and the percentage of success 82·49; and in the Southern States the operations numbered 3,750, and succeeded at the rate of 86·80 per cent.

The proportions of the operations verified by Civil Surgeons and Native Superintendents were, respectively, 21·67 and 18·14 per cent., as compared with 22·58 and 16·52 per cent. in 1897-98, and they found 89·35 and 89·07 per cent. to have succeeded, against a percentage of 92·66 claimed by the vaccinators.

In Mandalay, Bassein, Moulmein and Akyab, locally prepared calf lymph was used, but the rest of the province obtained prepared vaccine from the depôts at Rangoon and Taunggyi. From the former depôt 16,979 grains of glycerinated lymph were supplied, of which the quality is stated to have been generally excellent. From Taunggyi 17,253 grains of lanolinated lymph were issued; up to the end of 1898 the quality was good, but later supplies were inferior.

Owing chiefly to the augmentation of the provincial staff, the cost of the department rose from R66,790 in 1897-98, to R69,675 in 1898-99; but the cost of each successful operation fell from two annas and nine pies, to two annas and seven pies.

Ajmer-Merwara.

222. In the British Territory of Ajmer-Merwara the work of vaccination was supervised by the Civil Surgeon of Ajmer aided by a Native Superintendent. The number of operators in 1898-99, as in the preceding year, was 13. The number of operations was 17,948, of which all but 132 were primary, as compared with a total of 16,555, including 75 revaccinations in 1897-98. The percentage of succes reported was 98·46 in primary cases, or slightly less than in the preceding year, when 98·74 per cent. succeeded, but revaccinations were more successful, 65·15 per cent., against 61·33.

Year.	Death-rate from small-pox per 1,000 of population.	Number successfully vaccinated per 1,000 of population.*	Year.	Death-rate from small-pox per 1,000 of population.	Number successfully vaccinated per 1,000 of population.*
1879 . .	1·00	10·	1889 . .	3·66	20·
1880 . .	1·67	9·	1890 . .	·68	26·35
1881 . .	4·04	11·	1891 . .	1·03	23·75
1882 . .	1·56	10·04	1892 . .	3·05	19·99
1883 . .	1·25	10·	1893 . .	·13	22·34
1884 . .	2·06	8·	1894 . .	·81	24·30
1885 . .	2·83	7·	1895 . .	1·39	28·39
1886 . .	2·47	16·	1896 . .	7·05	29·51
1887 . .	·96	22·	1897 . .	0·29	30·09
1888 . .	1·48	22·	1898 . .	0·75	32·50

* The ratios of successful vaccinations refer to the official year (April to March).

Estimating the children born at 40 per mille of the population, 55·34 per cent. were protected during the year, against 51·3 per cent. in 1897-98, and an average of 46·04 in the three years ending with 1896-97.

The Civil Surgeon inspected 881, and the Native Superintendent 8,225 cases, and found, respectively, 98·59 and 98·84 per cent. successful, against 98·21 per cent. reported as successes by the operators.

The total expenditure on the operations was R2,185, or R9 more than in the preceding year, while the cost of each successful operation fell from two annas and two pies, to two annas.

Vaccination among troops.

223. The statistics regarding vaccination among European and Native Troops from 1st April 1898 to 31st March 1899 will be found in Statement No. VII of Appendix A.

Compulsory Vaccination Act.

224. A list of the towns, cantonments and rural tracts in which the Act was in force during 1898-99 forms Appendix B to this section, those into which it was introduced during the year being distinguished by asterisks.

Appendix A to Section VII.

STATEMENT No. I.—*Showing the strength of the Special Vaccination Establishment in each province and the total number of persons vaccinated by them during the year 1898-99.*

Province.	Population among whom vaccination was carried on (census of 1891).	Average population per square mile.	Staff.			Total number of persons vaccinated.			Average number vaccinated by each vaccinator.
			European supervising officers (omitting Civil Surgeons).	Native supervising officers.	Average number of vaccinators employed during the year.	Male.	Female.	Total.	
Bengal	71,092,411	392	3	206	3,482	1,062,438	978,113	2,040,551	586
Assam	5,634,258	113	...	18	219	127,075	105,344	232,419†	981
North-Western Provinces and Oudh	47,146,033	421	2	49	875	741,972	656,712	1,398,684	1,598
Punjab	20,553,982	186	1	6	297	464,123	369,730	833,853	2,808
Central Provinces	12,900,386	112	?	28	274	227,328	207,846	435,174	1,588
Berar	2,897,040	192	...	7	44	77,984	54,919	132,903	3,020
Madras Presidency	35,651,577	261	1	61	818	593,056	512,028	1,105,084	1,330
Coorg	173,055	109	...	1	9	3,633	1,650	5,283	587
Bombay Presidency	22,612,220	139	6	45	434	354,903	312,847	668,529*	1,539
Burma	8,146,855	81	...	12	177	246,933	219,375	466,308	2,635
Ajmer-Merwara	542,358	200	1	1	13	9,601	8,347	17,948	1,380

* Exclusive of Tea Gardens.
† Including 779 secondary vaccinations.

STATEMENT No. II.—*Showing the proportion of successful cases in primary vaccinations and revaccinations performed by the Special Vaccination Establishment in each province during the year 1898-99.*

Province.	Primary vaccinations.				Revaccinations.		Percentage of successful cases.	
	Total.	Successful.			Total.	Successful.	Primary	Revaccinations.
		—1	—6	Total of all ages.				
Bengal	2,002,299	477,482	1,313,965	1,965,196	38,252	28,913	98·14	75·58
Assam	210,986	47,317	119,612	208,542	21,433	20,113	98·84	93·84
North-Western Provinces and Oudh	1,340,036	637,129	483,006	1,227,261	58,648	41,776	94·96	79·76
Punjab	656,630	492,482	121,925	622,863	177,223	103,992	94·86	58·68
Central Provinces	371,032	222,281	100,347	356,189	64,142	52,735	96·00	82·22
Berar	94,032	69,887	17,132	91,286	38,871	8,989	97·1	23·1
Madras Presidency	1,028,221	281,008	457,153	897,484	76,863	52,918	89·6	75·5
Coorg	4,554	506	2,078	4,242	729	590	93·15	80·93
Bombay Presidency	621,097	451,113	114,477	576,047	47,432	27,020	92·86	56·97
Burma	439,050	120,471	209,159	415,836	27,258	16,231	94·71	59·55
Ajmer-Merwara	17,816	12,006	5,266	17,541	132	86	98·46	65·15

Appendix A to Section VII—*continued.*

STATEMENT No. III.—*Showing the cost of the Special Vaccination Establishment in each province, the cost of each successful case, and the sources from which the expenses were paid during the year 1898-99.*

Province.	Expenditure.				Paid from						Average cost of each successful case.
	Establishment.	Travelling allowances.	Contingencies.	Total.	Imperial funds.	Provincial funds.	Local funds.	Municipalities.	Native States.	Total.	
	R	R	R	R	R	R	R	R	R	R	R a. p.
Bengal . .	1,12,895	43,044	17,936	1,73,875	..	1,33,827	3,832	34,613	1,603	1,73,875	0 1 4
Assam . .	17,769	3,540	889	22,198	...	8,924	11,178	910	1,186	22,198	0 1 7½
North-Western Provinces and Oudh.	1,20,093	3,340	7,533	1,30,966	...	87,142	10,552	24,027	9,245	1,30,966	0 1 8
Punjab . .	88,042	5,540	6,763	1,00,345	...	20,918	55,077	22,858	1,492*	1,00,345	0 2 2
Central Provinces	44,563	4,329	2,035	50,927	...	4,088	37,085	2,996	6,758	50,927	0 1 11⅝
Berar . .	17,119	17	385	17,521	...	17,521	...	...	...	17,521	0 2 9
Madras Presidency	1,64,643	34,217	50,659	2,49,519	2,522	21,530	1,91,308	32,625	1,534†	2,49,519	0 4 3
Coorg . .	1,927	210	606	2,743	...	2,172	...	571	...	2,743	0 9 1
Bombay Presidency	2,08,463	21,098	26,247	2,55,808	...	83,477	1,03,750	37,795	30,786	2,55,808	0 6 9
Burma . .	53,946	13,738	1,991	69,675	2,313	13,049	34,356	19,510	447	69,675	0 2 7
Ajmer-Merwara .	2,045	102	38	2,185	785	276	424	700	...	2,185	0 2 0

* Paid from Cantonment Funds.
† ,, ,, Zamindaries.

STATEMENT No. IV.—*Showing the vaccinations performed by the Dispensary and other Establishments in each province during the year 1898-99.*

Province.	Number of vaccinators attached to dispensaries, etc.	Total number of persons vaccinated.	Average number vaccinated by each vaccinator.	Primary vaccinations.				Revaccinations.		Percentage of successful cases.	
				Total.	Successful.			Total.	Successful.	Primary.	Revaccinations.
					—1	—6	Total of all ages.				
Bengal . .	241	106,901	443	84,986	24,818	45,671	80,188	21,915	11,607	94·35	52·96
Assam . .	•	14,271	...	13,887	3,072	6,033	13,226	384	348	95·24	90·63
North-Western Provinces and Oudh.	...	542	...	525	343	100	451	17	5	90·02	71·43
Punjab . .	...	1,223	...	888	603	141	760	335	211	85·59	62·99
Central Provinces	...	14,076	...	12,601	7,939	3,043	11,807	1,475	923	93·70	62·58
Berar† . .	...	...	...	...	...	...	...	...	...	...	...
Madras Presidency	...	12,909	...	11,492	1,961	5,487	9,320	1,417	840	83·6	68·1
Coorg . .	‡	390	49	239	5	21	174	151	92	72·80	60·93
Bombay Presidency	...	1,915	1,902(?)	998	285	196	953	917	659	96·75	71·86
Burma . .	...	§14,349	...	8,209	2,424	3,225	7,278	6,140	3,850	88·66	62·70
Ajmer-Merwara‖ .	...	...	...	...	...	...	...	...	...	...	...

* Vaccinations were performed by the Civil Surgeons, Medical Subordinates, etc.
† Dispensary vaccination transferred to Special Establishment since July 1892.
‡ These cases were vaccinated by Medical Subordinates.
§ Including 13 secondary vaccinations.
‖ No Dispensary vaccination.

Appendix A to Section VII—*continued.*

STATEMENT NO. V.—*Showing the total vaccinations performed by the Special Vaccination and Dispensary Establishments combined in each province during the year 1898-99.*

PROVINCE.	TOTAL NUMBER SUCCESSFULLY VACCINATED.			Ratio of successful vaccinations per 1,000 of population.*	AVERAGE ANNUAL SUCCESSFUL VACCINATIONS DURING PREVIOUS FIVE YEARS.*		AVERAGE ANNUAL DEATHS FROM SMALL-POX DURING PREVIOUS FIVE YEARS.*	
	By Vaccine Department.	By Dispensaries.	TOTAL.		Number.	Ratio per 1,000.	Number.	Ratio per 1,000.
Bengal	1,994,109	91,795	2,085,904	28·05	2,013,555	28·32	13,201	0·18
Assam	† 228,655	13,574	242,229	40·58	208,415	36·99	4,271	0·85
North-Western Provinces and Oudh	1,269,037	456	1,269,493	26·92	1,277,709	27·10	‡ 28,461	‡ 0·61
Punjab	726,855	971	727,826	35·41	§ 672,485	§ 32·72	§ 15,855	§ 0·77
Central Provinces	408,924	12,730	421,654	31·70	409,245	31·72	4,222	0·39
Berar	100,275	‖	100,275	34·61	96,633	33·3	720	0·24
Madras Presidency	950,402	10,160	960,562	26·66	1,075,591	30·2	14,965	0·4
Coorg	4,832	266	5,098	27·92	9,159	52·92	54	0·31
Bombay Presidency	603,067	1,612	604,679	26·67	694,952	30·73	3,603	0·16
Burma	432,067	11,128	443,195	53·03	314,777	38·64	1,997	0·25
Ajmer-Merwara	17,627	¶	17,627	32·50	14,671	27·05	1,049	1·93

* Calculated on the work done by the Special Establishment only.
† Excluding tea gardens.
‡ Excluding Native State (Tehri-Garhwal).
§ Refers to District Staff only.
‖ Dispensary Vaccination transferred to Special Establishment since July 1892.
¶ No Dispensary Vaccination.

STATEMENT NO. VI.—*Showing the opertions performed byt he Special Vaccination and Dispensary Establishments combined with the estimated Births in each province during the year 1898-99.*

PROVINCE.	Annual births estimated at 40 per 1,000 of population.	NUMBER OF CHILDREN SUCCESSFULLY VACCINATED UNDER ONE YEAR.			Percentage of annual estimated births successfully vaccinated.	NUMBER OF CHILDREN SUCCESSFULLY VACCINATED ABOVE ONE AND UNDER SIX YEARS.		
		By Vaccine Department.	By Dispensaries.	TOTAL.		By Vaccine Department.	By Dispensaries.	TOTAL.
Bengal	2,843,696	477,482	24,818	502,300	17·66	1,313,965	45,671	1,359,636
Assam	225,370	47,317	3,072	50,389	22·36	119,612	6,033	125,645
North-Western Provinces and Oudh	1,885,841	637,129	343	637,472	33·80	483,006	100	483,106
Punjab	822,159	492,482	603	493,085	59·97	121,925	141	122,066
Central Provinces	516,015	222,281	7,939	230,220	44·61	100,347	3,043	103,390
Berar	115,882	69,887	*	69,887	60·31	17,132	*	17,132
Madras Presidency	1,426,063	281,008	1,961	282,969	19·84	457,153	5,487	462,640
Coorg	6,922	506	5	511	7·38	2,078	21	2,099
Bombay Presidency	904,489	451,113	285	451,398	49·91	114,477	196	114,673
Burma	325,874	120,471	2,424	122,895	37·71	209,159	3,225	212,384
Ajmer-Merwara	21,694	12,006	†	12,006	55·34	5,266	†	5,266

* Dispensary Vaccination transferred to Special Establishment since July 1892.
† No Dispensary Vaccination.

Appendix A to Section VII—*concluded.*

STATEMENT No. VII.—*Showing the number of persons primarily vaccinated and the number of those who were successfully vaccinated in Her Majesty's European and Native Troops in India during the official year ending 31st March 1899.*

	European Army.														Native Army.											
	Officers.		Officers' Wives.		Officers' Children.		Warrant and Non-Commissioned Officers and Men.		Women.		Children.		Total.		European Officers.		European Officers' Wives.		European Officers' Children.		Native Commissioned, Non-commissioned Officers and Men.		Women.		Children.		Total.	
	Primary.	Successful.	Primary.	Successful.	Primary.	Successful.	Primary.	Successful.	Primary.	Successful.	Primary.	Successful.	Primary	Successful.	Primary.	Successful.	Primary.	Successful.	Primary.	Successful.	Primary.	Successful.	Primary	Successful.	Primary.	Successful.	Primary.	Successful.
Bengal	...	...	...	...	5	5	12	8	...	...	299	235	316	248	...	...	1	1	6	6	1,706	1,253	92	74	923	847	2,728	2,181
Punjab	...	...	...	...	1	1	2	...	...	...	203	164	206	165	...	...	...	...	5	5	2,152	1,385	28	27	896	805	3,081	2,422
Madras	...	...	...	...	3	2	1	...	1	1	177	148	182	151	...	...	...	...	2	2	563	599	85	71	1,188	1,009	2,238	1,681
Bombay	...	...	...	...	...	...	...	...	...	...	154	111	154	111	...	...	...	...	5	5	738	456	...	...	1,302	1,195	2,045	1,656
Hyderabad Contingent .	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	532	337	...	...	627	574	1,160	911
INDIA . .	...	...	...	...	9	8	15	8	1	1	833	658	858	675	...	...	1	1	19	18	6,091	4,230	205	172	4,936	4,430	11,252	8,851

Appendix B to Section VII.

List of towns and rural tracts where the Compulsory Vaccination Act is in force.

Province and district.		Town.	Rural tract.		
Bengal.					
Burdwan	1	Burdwan	Burdwan Division.	1	From the river Damodar to Assansol on the Bengal-Nagpur Railway.
	2	Raniganj			
	3	Katwa			
	4	Dainhat			
	5	Kalna			
Bankura	6	Bankura		2	The storeyard in village Dihika.
	7	Vishnupur			
	8	Sonamukhi			
Birbhum	9	Suri		3	The branch line from station Damodar on the Bengal-Nagpur Railway to Sanctoria.
	10	Rampur Hat			
	11	Khalasipara			
	12	Bogtoi			
	13	Brahmanigram			
Midnapore	14	Kalisara		4	The Bengal-Nagpur Railway premises at Assansol (Budha).
	15	Midnapur			
	16	Ghatal			
	17	Chandrakona			
	18	Kirpai			
	19	Ramjibunpur			
	20	Kharar			
	21	Tamluk			
Hooghly	22	Hooghly and Chinsura.	None.		
	23	Utterpara.			
	24	Bansberia.			
	25	Serampore.			
	26	Baidyabati.			
	27	Bhadreswar.			
	28	Kotrung.			
	29	Jahanadad.			
Howrah	30	Howrah.			
	31	Bally.			
24-Parganas	32	Cossipur and Chitpur.			
	33	Maniktola.			
	34	Baranagar.			
	35	South Subarbun.			
	36	Rajpur.			
	37	Baruipur.			
	38	Jaynagar.			
	39	South Barrackpur.			
	40	North Barrackpur.			
	41	North Dum-Dum.			
	42	South Dum-Dum.			
	43	Basirhat.			
	44	Taki.			
	45	Baduria.			
	46	Barasat.			
	47	Naihati.			
	48	Gobardanga.			
Khoolna	49	Khoolna.			
	50	Satkhira.			
	51	Chanduria.			
	52	Debhatta.			
Nadia	53	Krishnagar.			
	54	Nadia.			
	55	Kushtia.			
	56	Kumarkhali.			
	57	Meherpur.			
	58	Santipur.			
	59	Ranaghat.			
	60	Chakdaha.			
	61	Birnagar.			
Jessore	62	Jessore.			
	63	Kotchandpur.			
	64	Moheshpur.			
	65	Berhampur.			
Murshidabad	66	Lalbag or City Murshidabad.			
	67	Jhangipur.			
	68	Kandi.			
Dinajpur	69	Dinajpur.			
Rajshahi	70	Rampur Boalia.			
	71	Nattore.			
Rangpur	72	Rangpur.			
Bogra	73	Bogra.			
	74	Sherpur.			
Pabna	75	Pabna.			
	76	Serajganj.			

Province and district.		Town.	Rural tract.		
Bengal—*contd.*					
Darjeeling	77	Darjeeling.	Villages of Chittagong District.	1	Maheshkali.
	78	Kurseong.		2	Patenga.
Jalpaiguri	79	Jalpaiguri.		3	Goshaildenga.
Dacca	80	Dacca.		4	Halishahar.
	81	Narainganj.		5	Katakhali.
Faridpur	82	Faridpur.		6	Bakaliya.
	83	Madaripur.		7	Chandgaon.
	84	Barisal.		8	Nasirabad.
	85	Jhalokati.		9	Pahartali.
Backerganj	86	Nalchiti.		10	Agrabad.
	87	Ferozepur.			
	88	Patuakhali.			
	89	Nasirabad.			
	90	Muktagacha.			
	91	Jamalpur.			
Mymensingh	92	Sherpur.			
	93	Tangail			
	94	Netrokona			
	95	Kishoreganj			
	96	Bazitpur			
	97	Comilla			
Tipperah	98	Brahmanbaria			
	99	Chandpur*			
Noakhally	100	Sudharam or Noakhali.			
Chittagong	101	Chittagong			
	102	Cox Bazar			
Patna	103	Patna City			
	104	Dinapur Nizamut			
	105	Barh			
	106	Bihar			
Gya	107	Gya			
	108	Tikari			
	109	Daudnagar			
	110	Arrah			
Shahabad	111	Buxar			
	112	Dumraon			
	113	Sasaram.			
	114	Jagadishpur.			
	115	Bhabhua.			
Darbhanga	116	Darbhanga.			
	117	Roserha.			
	118	Madhubani.			
Muzaffarpur	119	Muzaffarpur.			
	120	Sitamarhi.			
	121	Lalganj.			
	122	Hajipur.			
Saran	123	Chapra.			
	124	Siwan.			
	125	Revilganj.			
Champaran	126	Motihari.			
	127	Bettiah.			
Monghyr	128	Monghyr.			
	129	Jamalpur.			
	130	Jamui.			
Bhagalpur	131	Bhagalpur.			
	132	Colgong.			
Purneah	133	Purneah.			
	134	Kishorganj.			
Maldah	135	English Bazar.			
	136	Old Maldah	Chota Nagpur Division.		Area situated within the Bengal-Nagpur Railway boundary from mile 421·368 west of Nimdip Nala to mile 620·75, where the line crosses the Damodar river within the jurisdiction of the Commissioner of the Chota Nagpur Division.
Sonthal Parganas.	137	Deoghar			
	138	Sahibganj			
	139	Dumka			
	140	Rajmahal			
Cuttack	141	Cuttack			
	142	Kendrapara			
Balasore	143	Jajpur			
	144	Balasore			
Puri	145	Puri			
Hazaribagh	146	Hazaribagh			
	147	Chatra			
Lohardaga	148	Ranchi			
	149	Lohardaga			
Palamau	150	Daltonganj			
Manbhum	151	Purulia			
	152	Jhalda			
Singbhum	153	Raghunathpur			
	154	Chaibasa			

* In places marked with an asterisk the Vaccination Act was introduced in 1898.

Appendix B to Section VII —*continued.*

List of towns and rural tracts where the Compulsory Vaccination Act is in force.

Province and district.		Town.		Rural tract.	
Assam.					
Cachar	1	Silchar	...	None.	
Sylhet	2	Sylhet	...		
Goalpara	3	Dhubri	...		
	4	Goalpara	...		
Kamrup	5	Gauhati	...		
Lakhimpur	6	Dibrugarh	...		
Sibsagar	7	Sibsagar Station	...		
	8	Golaghat Union	...		
	9	Jorhat Union	...		
Khasi and Jaintia Hills.	10	Shillong	...		
Nowgong	11	Nowgong	...		
North-Western Provinces and Oudh.					
Almora	1	Almora	...		
Naini Tal	2	Naini Tal	...		
	3	Khasipur	...		
	4	Haldwani	...		
	5	Bijnor	...		
Bijnor	6	Chandpur	...		
	7	Dhampur	...		
	8	Nagina	...		
	9	Najibabad	...		
Moradabad	10	Moradabad	...		
	11	Chandausi	...		
	12	Amroha	...		
	13	Sambhal	...		
Bareilly	14	Bareilly	...		
Pilibhit	15	Pilibhit	...		
	16	Bilaspur	...		
Shahjahanpur	17	Shahjahanpur	...		
	18	Tilhar	...		
Budaun	19	Budaun	...		
	20	Bilsi	...		
	21	Ujhani	...		
	22	Sahaswan	...		
Dehra Dun	23	Dehra	...		
	24	Mussoorie	...		
Saharanpur	25	Saharanpur	...		
	26	Hardwar Union	...		
	27	Deoband	...		
	28	Roorkee	...		
Muzaffarnagar	29	Muzaffarnagar	...		
	30	Kairana	...		
	31	Kandhla	...		
Meerut	32	Meerut	...	None.	
	33	Ghaziabad	...		
	34	Baraut	...		
	35	Bagput	...		
	36	Sardhana	...		
	37	Mawana	...		
	38	Shahdara	...		
	39	Hapur	...		
	40	Pikhawa	...		
Bulandshahr	41	Bulandshahr	...		
	42	Anupshahr	...		
	43	Sikandrabad	...		
	44	Khurja	...		
Aligarh	45	Koil	...		
	46	Hathras	...		
	47	Sihandra Rao	...		
	48	Atrauli	...		
Etah	49	Etah	...		
	50	Soron	...		
	51	Kasganj	...		
	52	Marehra	...		
	53	Jalesar	...		
Muttra	54	Muttra	...		
	55	Kosi	...		
	56	Brindaban	...		
Farukhabad	57	Farukhabad-Fatehgarh	...		
Mainpuri	58	Mainpuri	...		
Agra	59	Agra	...		
	60	Fatehpur-Sikri	...		
	61	Ferozabad	...		
Etawah	62	Etawah	...		
Lucknow	63	Lucknow	...		
North-Western Provinces and Oudh —*contd.*					
Unao	64	Unao	...	None.	
Rae Bareili	65	Rae Bareili	...		
Sitapur	66	Sitapur	...		
	67	Khairabad	...		
	68	Shahabad	...		
Hardoi	69	Hardoi	...		
	70	Sandi	...		
	71	Pihani	...		
	72	Sandila	...		
Kheri	73	Lakhimpur	...		
	74	Muhamdi	...		
Cawnpore	75	Cawnpore	...		
Fatehpur	76	Fatehpur	...		
Banda	77	Banda	...		
Allahabad	78	Allahabad	...		
Jalaun	79	Orai	...		
	80	Kalpi	...		
	81	Kunch	...		
Jhansi	82	Jhansi	...		
	83	Mau Ranipur	...		
	84	Lalitput	...		
Fyzabad	85	Fyzabad-Ajudhia	...		
	86	Tanda	...		
Gonda	87	Gonda	...		
	88	Nawabganj	...		
	89	Utraula	...		
	90	Balrampur	...		
Bahraich	91	Bahraich	...		
	92	Bhinga	...		
	93	Nanpara	...		
Barabanki	94	Nawabganj	...		
Sultanpur	95	Sultanpur	...		
Pertabgarh	96	Bela	...		
Gorakhpur	97	Gorakhpur	...		
Azamgarh	98	Azamgarh	...		
Ghazipur	99	Ghazipur	...		
Ballia	100	Ballia	...		
Benares	101	Benares	...		
Mirzapur	102	Mirzapur	...		
	103	Chunar	...		
Jaunpore	104	Jaunpur	...		
Punjab.					
Rohtak	1	Rohtak	...	None.	
	2	Beri	...		
Delhi	3	Delhi	...		
Umballa	4	Umballa	...		
	5	Simla	...		
Simla	6	Kasauli	...		
	7	Subathu	...		
	8	Dagshai	...		
Jhang	9	Jhang Cum Maghiana	...		
Lahore	10	Lahore	...		
Amritsar	11	Amritsar	...		
Bannu	12	Edwardesabad	...		
	13	Isa Khel	...		
Dehra Ghazi Khan.	14	Dehra Ghazi Khan	...		
	15	Leiah	...		
Kangra	16	Dharmsala	...		
Jullundur	17	Jullundur	...		
Gurdaspur	18	Dalhousie	...		
Rawalpindi	19	Murree	...		
	20	Rawalpindi	...		
Jhelum	21	Jhelum	...		
	22	Pind Dadan Khan	...		
Mooltan	23	Mooltan	...		
Gujranwalla	24	Gujranwalla*	...		
Central Province.					
Raipur	1	Raipur	...	None.	
Nagpur	2	Nagpur	...		
Narsinghpur	3	Narsinghpur	...		
	4	Chhindwara	...		
	5	Gadarwara	...		
Hoshangabad	6	Harda	...		
Sambalpur	7	Sambalpur	...		

* In places marked with an asterisk the Vaccination Act was introduced in 1898.

Appendix B to Section VII—*continued.*

List of towns and rural tracts where the Compulsory Vaccination Act is in force.

Province and district.		Town.		Rural tract.	
Central Provinces—*contd.*					
Damoh	8	Damoh	...		
	9	Hatta	...		
Balaghat	10	Burha	...		
	11	Lalbara	...		
	12	Waraseoni			
	13	Katangi	...		
Chhindwara	14	Chhindwara	...		
Burhanpur	15	Burhanpur	...		
Bhandara	16	Bhandara	...		
	17	Pauni	...		
	18	Tumsar	...		
Bilaspur	19	Bilaspur	...		
Saugor	20	Saugor	...	None.	
	21	Rehli	...		
	22	Khurai	...		
	23	Deori	...		
	24	Garhakota	...		
Nimar	25	Khandwa	...		
Betul	26	Badnur	...		
	27	Betul	...		
	28	Multai	...		
Wardha	29	Wardha	...		
Seoni	30	Seoni*	...		
Mandla	31	Mandla*	...		
Jubbulpore	32	Sehora*	...		
	33	Murwara*	...		
Berar.					
Amraoti	1	Amroati	...		
	2	Amraoti Camp	...		
	3	Karenja	...		
Akola	4	Akola	...		
	5	Khamgaon	...		
	6	Shegaon	...	None.	
	7	Akot	...		
Basim	8	Basim	...		
Wun	9	Yeotmal	...		
Buldana	10	Buldana	...		
Ellichpur	11	Ellichpur City	...		
	12	Do. Civil Station	...		
Madras.					
Bellary	1	Adoni	...		
	2	Bellary	...		
Anantapur	3	Anantapur	...		
Vizagapatam	4	Anakapalle	...		
	5	Bimlipatam	...		
	6	Vizagapatam	...		
	7	Vizianagram	...		
Ganjam	8	Berhampur	...		
	9	Chicacole	...		
	10	Parlakimedi	...		
Kistna	11	Bezwada	...		
	12	Guntur	...		
	13	Masulipatam	...		
Malabar	14	Calicut	...		
	15	Cannanore	...		
	16	Cochin	...		
	17	Palghat	...		
	18	Telichery	...		
South Arcot	19	Chidambaram	...		
	20	Cuddalore	...	None.	
	21	Tiruvannamalai	...		
Godavari	22	Cocanada	...		
	23	Ellore	...		
	24	Rajahmundry	...		
Coimbatore	25	Coimbatore	...		
	26	Erode	...		
	27	Karur	...		
Chingleput	28	Conjeveram	...		
	29	Chingleput	...		
Nilgiris	30	Coonoor	...		
Cuddapah	31	Ootacamund	...		
	32	Cuddapah	...		
Madura	33	Dindigul	...		
	34	Madura	...		
	35	Pireakulam	...		
	36	Palni	...		
	37	Gudiyattam	...		
North Arcot	38	Tirupati	...		
	39	Vellore	...		
	40	Walajapet	...		

Province and district.		Town.		Rural tract.	
Madras—*contd.*					
Tanjore	41	Kumbaconam	...		
	42	Mannargudi	...		
	43	Mayaveram	...		
	44	Negapatam	...		
	45	Tanjore	...		
Kurnool	46	Kurnool	...		
Madras	47	Madras	...		
South Canara	48	Mangalore	...		
Nellore	49	Nellore	...		
	50	Ongole	...	None.	
Tinnevelly	51	Palamcottah	...		
	52	Tinnevelly	...		
	53	Srivilliputtur	...		
	54	Tuticorin	...		
Salem	55	Salem	...		
	56	Tiruppattur	...		
	57	Vaniyambadi	...		
Trichinopoly	58	Srirangam	...		
	59	Trichinopoly	...		
Coorg.					
Coorg	1	Mercara	...		
	2	Virazendrapet	...		
	3	Somvarpet	...	None.	
	4	Fraserpet	...		
	5	Kodlipet	...		
Bombay.					
Bombay	1	Bombay City	...		
Karachi	2	Karachi	...	None.	
Shikarpur	3	Larkhana*	...		
Lower Burma.					
Akyab	1	Akyab	...		
Hanthawady	2	Rangoon	...		
Bassein	3	Bassein	...		
	4	Ngathainggyaung	...		
Myaungmya	5	Myaungmya	...		
Henzada	6	Henzada	...		
	7	Myanaung	...		
	8	Zalun	...		
	9	Kyangin	...		
Thayetmyo	10	Thayetmyo	...		
Toungoo	11	Toungoo	...		
Tavoy	12	Tavoy	...		
Shwegyin	13	Shwegyin	...		
Prome	14	Prome	...	None.	
	15	Paungde	...		
Sandoway	16	Sandoway	...		
Thongwa	17	Maubin	...		
	18	Yandoon	...		
Mergui	19	Mergui	...		
Amherst	20	Moulmein	...		
	21	Thaton	...		
Pegu	22	Pegu	...		
Kyaukpyu	23	Ramree	...		
	24	Kyaukpyu	...		
Tharrawaddy	25	Thonze	...		
	26	Gyobingauk	...		
	27	Letpadan	...		
Thaton	28	Kyaikto	...		
Upper Burma.					
Mandalay	1	Mandalay	...		
Myingyan	2	Myingyan	...		
	3	Pagan	...		
Minbu	4	Salin	...		
	5	Minbu	...		
Yamethin	6	Pyinmana	...		
	7	Yamethin	...		
Pakokku	8	Pakokku	...	None.	
Magwe	9	Toungdwingyi	...		
Lower Chindwin	10	Monywa	...		
Yeu	11	Yeu	...		
Sagain	12	Sagain	...		
Shwebo	13	Shwebo	...		
Bhamo	14	Bhamo	...		
Kyaukse	15	Kyaukse	...		

* In places marked with an asterisk the Vaccination Act was introduced in 1898.

Appendix B to Section VII—*concluded.*

List of Cantonments where the Compulsory Vaccination Act is in force.

Command.		Cantonment.
Bengal	1	Dum-Dum.
	2	Barrackpore.
	3	Cuttack.
	4	Dinapore.
	5	Dibrugarh.
	6	Shillong.
	7	Allahabad.
	8	Benares.
	9	Agra.
	10	Cawnpore.
	11	Meerut.
	12	Delhi.
	13	Dehra Dun.
	14	Chakrata.
	15	Roorkee.
	16	Fyzabad.
	17	Landour.
	18	Jhansi.
	19	Moradabad.
	20	Bareilly.
	21	Sitapur.
	22	Muttra.
	23	Fatehgarh.
	24	Shajahanpur.
	25	Nani Tal.
	26	Lucknow.
	27	Almora.
	28	Ranikhet.
	29	Lansdowne.
	30	Gorakhpur.
	31	Jubbulpore.
	32	Saugor.
	33	Pachmarhi.
Punjab	1	Umballa.
	2	Rawalpindi.
	3	Kasauli.
	4	Subathu.
Punjab	5	Dagshai.
	6	Murree.
	7	Dharmsala.
	8	Dalhousie.
	9	Jullundur.
	10	Mian Mir.
	11	Ferozepore.*
Madras	1	Madras.
	2	Vellore.
	3	Vizianagram.
	4	Cannanore.
	5	Trichinopoly.
	6	Bangalore.
	7	Bellary.
	8	Coonoor.
	9	Belgaum.
	10	Secunderabad.
	11	St. Thomas Mount.
	12	Poonamallee.
	13	Pallaveram.
	14	Calicut.
	15	Quilon.
	16	Trichur.
Bombay	17	Rangoon.
	18	Thayetmyo.
	19	Moulmein.
	20	Bhamo.
	21	Myingyan.
	22	Shwebo.
	23	Meiktila.
	24	Mandalay.
	25	Maymyo.

* In places marked with an asterisk the Vaccination Act was introduced in 1898.

SECTION VIII.

SANITARY WORKS—MILITARY.

Expenditure on Military Works during 1898-99.

225. The net expenditure incurred on Military Works in India during 1898-99 was ₹85,83,112, against ₹81,40,534 in the preceding year.

Particulars of sanitary works executed in cantonments during the year under review are given in Tables V and XXX of the Statistical Returns appended to this report, which also show the sanitary defects of the stations having an unhealthy record.

Details of Military Works in 1897-98.

226. The following gives an abstract of the principal works undertaken during 1897-98 for furthering the health and comfort of the European and Native troops in India.

I.—Accommodation for British Troops.

Agra.—No. 1 double-storied barrack, Royal Artillery Lines, was re-roofed and an extra verandah added. No. 9 Building, Royal Artillery Lines, was also re-roofed; Barracks Nos. 1, 4 and 5, British Infantry Lines, were also re-roofed and the doors and windows were renewed.

Kailana (Chakrata).—For the hut accommodation the following work was completed:—

Lavatories with ablution rooms.

And the following were in progress:—

i.—Billiard and game rooms.
ii.—Temperance room and Library.
iii.—Theatre and refreshment room.
iv.—Road from Mall up to barracks.

Chakrata.—Re-roofing of Nos. 4 and 12 Barracks, British Infantry Lines, was begun.

Meerut.—The work of remodelling the latrines for the single men's barracks in the British Infantry Lines was in progress.

Bareilly.—No. 4 Barrack, British Infantry Lines, was re-roofed.

Ranikhet.—A number of subsidiary buildings were re-roofed.

Muttra.—The scheme for restoring existing buildings and constructing new accommodation for a British Cavalry regiment was continued, the following works being in progress:—

i.—Construction of band barrack.
ii.—Construction of subsidiary buildings to No. 5 and new barracks.
iii.—Construction of a lavatory, latrine, and cook-house for the band barrack.
iv.—Construction of a cook-house to replace No. 23 cook-house.
v.—Construction of an Institute building.

Ranikhet.—The following works in connection with the hut accommodation were completed:—

i.—Construction of detention ward and out-offices.
ii.—Construction of cook-house for Sergeants' Mess.

iii.—Construction of Medical Subordinates' quarters.
iv.—Construction of workshops and blacksmiths' forge.
v.—Providing quarters for two Warrant officers.
vi.—Constructing lavatory for quarter-guard.

Chaubuttia.—The following work was in progress :—

Improving the British Infantry huts.

Shahjehanpore.—Re-building No. 10 Family Barrack in the British Infantry Lines was in progress.

Jhansi.—The work of restoration of barrack buildings for the British Infantry regiment was prosecuted and the remodelling of Nos. 2 and 4 Barracks was completed in connection with this scheme.

Sitapur.—The work of restoring and reconstructing old and constructing new buildings was continued.

The following works were completed :—

i.—Altering No. 49 Staff Sergeants' quarters ;
ii.—Re-roofing and restoring No. 44 Armourers' shop and plunge bath ;
iii.—Re-roofing and remodelling No. 37 Cook-house ;
iv.—Converting buildings for quarters for the Sergeant Major ;

and the following works were in progress :—

(i).—Re-roofing No. 29 Staff Sergeants' quarters ;
(ii).—Remodelling Station Hospital buildings.

Lucknow —

i.—The work of re roofing and remodelling the Military Prison was continued, the guard room being re-roofed.
ii.—The provision of washing compartments in urinaries was in progress.
iii.—A new open menage was constructed for the Royal Artillery.
iv.—The plunge bath, British Cavalry Lines, was re-roofed.

Dinapore.—In the scheme for construction of new barracks for a head-quarter wing of British Infantry, Nos. 4 and 5 Barracks, Orderly room, Staff Sergeants' quarters and their subsidiary buildings were completed, and two blocks of family quarters and their subsidiary buildings were in progress.

Benares.—In connection with the scheme for new barracks for a detached wing of British Infantry, five new cook-houses were built, and No. 5 Barrack demolished.

Saugor.—The construction of a new barrack for 16 men, Royal Artillery Lines, was practically completed.

Dum-Dum.—Part of the Gymnasium was re-roofed.

Lebong.—Providing the requirements of a detached wing of British Infantry.

Of the above scheme, the following works were completed during the year :—

i.—Construction of five ½ Company barracks for single men ;
ii.—Construction of eight ½ Company cook-houses for single men's barracks ;
iii.—Construction of eight ½ Company latrines for single men's barracks ;
iv.—Construction of eight ½ Company lavatories for single men's barracks ;
v.—Construction of eight urinaries of two compartments for single men ;
vi.—Construction of a block of 8 quarters for married rank-and-file and for Class C Sergeants ;
vii.—Construction of an Armourer's shop ;
viii.—Construction of 4 Captains' quarters ;
ix.—Construction of a latrine for the quarter guard ;
x.—Construction of urinaries for the Institute and quarter guard ;

xi.—Construction of a dry earth store
xii.—Construction of Institute and Recreation room;
xiii.—Construction of Sergeants' Mess;
xiv.—Construction of cook-houses for Sergeants' Mess;
xv—Construction of urinary at Quarter Master's store;
xvi.—Construction of urinary for Orderly room;
xvii.—Construction of a cook-house for the hospital;
xviii.—Construction of Officers' Mess and out-houses;
xix.—Construction of regimental workshop with a urinary;
xx.—Construction of No. 2 Hospital for 20 men;
xxi.—Construction of a latrine for officers' servants;
xxii.—Construction of a shed for dooly bearers;
xxiii.—Construction of hospital Storekeeper's quarters;
xxiv.—Construction of hospital Storekeeper's store-room;
xxv.—Construction of mortuary;
xxvi.—Construction of urinary for the liquor bar;
xxvii.—Construction of a regimental and Quarter Master's store;
xxviii.—Construction of a block of five married quarters for rank-and-file and Class C Sergeants;
xxix.—Construction of a latrine for Sergeants' Mess.

The construction of the following works was in progress at the close of the year:—

i.—A block of quarters for 2 married Class B Sergeants.
ii.—A blacksmith's shop and forge.
iii.—A magazine.
iv.—Administrative offices for the hospital.
v.—A women's hospital.
vi.—A hospital for 20 men.
vii.—A ward for infectious diseases for the hospital.
viii.—A block of quarters for 11 married men and 1 female sweeper of the hospital, Native Establishment.
ix.—Various subsidiary buildings for the barracks and hospitals.
x.—A cart road, paths and drains for the new Cantonment.

Jallapahar.—A revetment wall at a heavy slip below the hospital, which was in progress from the previous year, was completed.

In June 1897, a severe earthquake occurred, which caused heavy damage and necessitated the following restorative works:—

i.—Reconstructing Nos. 1, 4 and 5 Officers' quarters and out-houses.
ii.—Reconstructing No. 16 cook-house and No. 16-B. latrine at the hospital.
iii.—Reconstructing No. 21-B. latrine to No. 21 single men's barrack.

Buxa.—The reconstruction of barrack and hospital buildings damaged by earthquake was commenced, and was in progress at the close of the year.

Rawalpindi.—The following works were completed in connection with hut accommodation at West Ridge:—

i.—Cook-houses for the single men of 2 battalions of British Infantry.
ii.—Cook-houses for the single men of 3 Mountain Batteries.

In Rawalpindi itself a new cricket ground for the British Cavalry was made; and No. 15 Building, Royal Artillery, was converted into a combined Sergeants' Mess, Royal Artillery.

Cherat.—In connection with hut accommodation, nine cook-houses and nine lavatories for single men were in progress.

Kuldannah.—The provision of hut accommodation was continued and the following buildings were completed :—

i.—A block of 4 married men's quarters.
ii.—Company wash-houses to Nos. 91 and 92 Barracks.
iii.—Company latrines to Nos. 91 and 92 Barracks.
No. 12 officers' quarters was reconstructed.

Gharial.—In connection with the hutting scheme No. 18 Barrack was built, and 3 Sergeants' rooms added to other barracks.

Peshawar.—A new cricket ground for the British Infantry was made. Also a latrine for the gymnasium.

Dalhousie.—The construction of Institute buildings for the convalescent depot was completed.

Mian Mir.—Nuseerabad pattern ovens were provided in the Royal Artillery and British Infantry cook-houses.

No. 74 Prayer room was reroofed, as also No. 94 gun-shed, Royal Artillery lines.

Aden.—The scheme for providing additional accommodation for Royal Artillery was proceeded with, and quarters for the regimental Sergeant Major were completed, also the road of approach to the new location.

Quetta.—Two new quarters for Class B Sergeants, Royal Artillery, were constructed, as well as cook-houses for the same. The restoration of barracks was proceeded with, the following being the principal works undertaken :—

i.—Reflooring dormitories of No. 10 Barrack, right British Infantry Lines.
ii.—Remodelling two Barracks in the right and left British Infantry Lines.
iii.—Reflooring 4 wash-houses, left British Infantry Lines.

Wellington.—No. 8 married men's barrack was converted into single men's quarters.

Bangalore.—Nos. 3 and 4 blocks, British Cavalry Lines, were extended to afford additional accommodation, and the work of providing extra accommodation for the British Infantry was practically completed.

Fyzabad.—The provision of washing compartments in urinaries was in progress.

Umballa.—No. 24 Sergeants' Mess, British Cavalry Lines, was reroofed. This building had been damaged by fire.

Dagshai.—The reroofing of the quarter-guard was put in hand and completed.

Multan.—No. 1 Barrack, British Infantry Lines, was reroofed.

Ferozepur.—The reroofing of thatched barracks which was commenced in 1895 was continued, and by the end of the year buildings Nos. 30, 34, 25, 17 and 19 had been completed.

Jullundur.—No. 1, Barrack Master's quarters, was reroofed.

Sialkot.—Buildings Nos. 139, 164, 175 and 88 were reroofed and restored.

Colaba.—Reroofing the verandahs of double storied baracks, British Infantry Lines, was put in hand, but will not be completed till June 1898.

Subathu.—No. 13 British Infantry barrack was refloored.

II.—Accommodation for Native Troops.

Dharamsala.—The work of transferring the 1-1st Gurkhas from lower to upper Dharmsala was practically completed: a few roads and drains alone remaining to be done.

Rawalpindi.—Accommodation for native drivers of 3 mountain batteries at West Ridge was completed.

Changlagali.—No. 21 wash-house was converted into a cook-house for the native troops.

Kirkee.—Moveable latrines for the Bombay Sappers and Miners were constructed.

St. Thomas's Mount.—The work of providing new buildings and converting old European barracks was practically completed.

Bangalore.—Constructing the military buildings for a Native Infantry regiment on the Arab plain was gone on with, and guard room, cells, armouries, and armourer's shops were completed.

Lansdowne.—The work of constructing a parade ground for the 9th Gurkhas was in progress.

Ferozepore.—Accommodation for storage of kit and accoutrements of reservists was provided.

III.—Hospitals.

1.—*Birtish Troops.*

Dagshai.—Accommodation for 12 additional beds was provided.

Jullundur.—No. 35 Station Hospital building was reroofed,—Allahabad tiles being substituted for the old thatch.

Solon.—The construction of a followers' hospital was in progress.

Kasauli.—A scullery was added to the station hospital cook-house.

Mian Mir.—Quarters for three married followers were constructed.

Khyragali.—Increased hospital accommodation was provided.

Gharial.—Hospital for 20 patients with subsidiary buildings was completed.

Peshawar.—Boilers for disinfecting clothing were provided.

Thobba and Cliffden.—Boilers for disinfecting clothing were provided.

Sitapur.—As noted under the head of accommodation for British troops the station hospital buildings included in the scheme for restoration of buildings at Sitapur, have been completed with the exception of the fence.

Lebong.—In the scheme for providing the requirements of a detached Wing of British Infantry, as mentioned under the head of accommodation for British troops, a cook-house has been built for the hospital; No. 2 hospital for 20 men in the same scheme was also finished, as also a dooly bearers' shed, storekeeper's quarters, storekeeper's store, mortuary, the administrative offices, women's hospital, hospital for 20 men, women's infectious ward, quarters for native army hospital corps and latrine for native followers were also in progress

Buxa.—As already mentioned under accommodation for British troops, repairs to the hospital damaged by the earthquake were in progress.

Jubbulpore.—Nos. 46 and 50 station hospital buildings were reroofed.

Lucknow.—The work of extending the station hospital was completed except the provision of some ablution rooms which alone remain to be done.

Barrackpore.—The work of providing a store and of repairing the Medical Subordinates' quarters was continued and completed.

Fyzabad.—No. 167 wash-house was improved by raising the roof.

Aden.—The construction of new station hospital with subsidiary buildings made good progress.

Colaba.—The construction of new station hospital with subsidiary buildings made good progress.

Poona.—Quarters for followers were constructed at the section hospital.

Quetta.—Quarters and out-offices for five 2nd class Assistant Surgeons were provided.

The Nursing Sisters' quarters were remodelled.

Madras.—The new detention hospital was practically completed.

Wellington.—Extra accommodation for 15 beds was given, and quarters for a Senior Assistant Surgeon and a laundary were also completed.

Belgaum.—The reroofing of No. 1 building was taken in hand and was nearly finished at the close of the year.

Secunderabad.—The following works were completed:—

i.—Providing hospital accommodation for 60 beds.
ii.—Constructing quarters for an Assistant Surgeon and hospital servants.
iii.—Enlarging compound wall and laying on water to No. 1 section hospital.

Choubuttia.—The following works were in progress:—

i.—A double-storied hospital.
ii.—A double-storied urinary for the hospital.
iii.—Additions to hospital Storekeeper's quarters.
iv.—Conversion of old lavatory into latrine.
v.—Additions of 2 quarters to No. 2-2 followers' hut.

Meerut.—The reroofing of No. 1 section hospital building was carried out.

Umballa.—The reroofing of No. 56 Assistant Surgeon's quarters, Station Hospital was put in hand, by collecting materials ready for proceeding with the work as soon as the girders indented for from England, should be received.

II.—Native Troops.

Almora.—The work of increasing the hospital accommodation for 1-3rd Gurkha Rifles was in progress.

Mooltan.—The Native Cavalry hospital was reroofed.

IV.—Officers' Quarters.

Jotogh.—Additional servants' houses were constructed for the Officers' Mess.

The field Officers' quarters, No. 1, was enlarged.

Rawalpindi.—Two Captains' quarters in both the right and left British Infantry Lines, West Ridge, were completed.

Cherat.—The fifth block of Officers' quarters was commenced, and five houses belonging to Mir Sundhoo were purchased.

Khyragali.—Two new cook-houses for the Officers' quarters and Mess were constructed.

Changlagali.—A new cook-house for No. 16 Officers' quarters was built.

Gharial.—Quarters for the Quarter Master and two Subalterns were erected as well as Mess Sergeants' and Abdar's quarters in the Officers' Mess.

Lebong.—As already mentioned under the head of accommodation for British troops, and in connection with the scheme for providing the requirements of a detached wing of British Infantry at Lebong, the following buildings were constructed:—

i.—Quarters for 4 Captains.
ii.—Officers' Mess with Mess Sergeants' quarters attached.
iii.—Servants' quarters for the Officers' Mess.
iv.—Latrine in connection with (iii).
v.—Cook-house in connection with (i).

Buxa.—The construction of officers' quarters and mess house, was continued from last year. The Commandant's quarters and out-houses were completed and the old mess house, a private building which is to be demolished, was acquired.

Quetta.—No. 40 Bungalow, Royal Artillery Lines, was remodelled, and stables and out-houses provided ; No. 55 bungalow was also reroofed.

V.—Water-Supplies and Drainage.

Subathu.—As a temporary measure, the water of a spring on the Dharmpore road, which formerly had been brought into the station by pakhali mules, was piped in. In the meantime arrangements for piping in water from some springs about 4 miles away in the direction of Solon were started, and during the year, the land round the springs and the springs themselves were acquired, and the head works pushed on. The pipe line was excavated, and two-thirds of the main laid. The service reservoirs were also put in hand. In all probability the water will be available for the troops about July 1898.

Dagshai.—Owing to the numerous cases of enteric fever which have lately occurred in this Cantonment, the Government of India ordered its evacuation for one year, and that a scheme for a piped supply of water should be carried out without delay. A search for water resulted in springs being found not far from the Subathu springs, and a project was prepared and the work put in hand. The pipe line was excavated for its whole length and pumping machinery indented for from England; the service reservoir and head works were also commenced.

The existing water-supply was also improved as a temporary measure.

Umballa.—The water-supply at Umballa has been decreasing steadily of late years ; and had fallen so low that some immediate measures became necessary to augment the supply. A well was sunk at Handesra on the line of the present duct, and the water from this well is raised by a pump, and passed into the duct.

Dalhousie.—The extension of the water-supply pipe to Ranikhet was continued and completed.

Ferozepore.—With a view of the preparation of a project for a piped water-supply for Ferozepore, an experimental well was sunk near the Railway Bridge over the Sutlej ; the experiments were not completed at the close of the year.

Sialkot.—In connection with the scheme for a supply of pure water for the cantonment and the city, surveys of land to be acquired were made, and an experimental well was sunk at Choi Chak, and observations of the yield made.

A well and trough were built in the Native Cavalry Lines.

Baracao.—A pump in the well at the encamping ground on the Murree cart road was provided.

Rawalpindi.—The provision of additional appliances for extinguishing fires was completed.

Peshawar.—Hankin's type filters were experimented with, in connection with the preparation of a scheme for filtering the water supplied to troops through Pasteur Chamberlain filters.

Nowshera.—The provision of a pump to the Station Hospital well, and also to the well near the Sergeants' mess was commenced.

Murree.—No. 1 compartment of the Tonley Tank was refloored.

Thobba.—The new reservoir was completed.

Gharial.—A reservoir at Upper Topa was constructed to supply Gharial and Lower Topa.

Doongagali.—Reconstruction of St. Hilda Cottage was commenced on a site outside the water shed bounding the gathering ground of the Murree water-supply.

Baragali.—The new water-supply for drinking purposes was nearly completed.

Allahabad.—The municipal water-supply was extended to the Native Cavalry Lines.

Lebong.—This water-supply project has been going on since 1895, and was continued.

Barrackpore.—The water-supply was extended.

Bombay.—The masonry tank at Butcher's Island which was in progress at the end of last year was completed.

Chaman.—In view of piping in water to Chaman, experiments were made at the source of supply to ascertain probable yield.

Bangalore.—Of this scheme 2-3rds is debitable to civil funds, and 1-3rd to military funds.

The works for this scheme were continued with the following result:—

i.—The distribution reservoir of two compartments was practically completed.
ii.—Pipes, special pieces, etc., for distribution, reservoir and head works were completed.
iii.—Rising main practically finished.
iv.—Filters nearly completed.
v.—Clear water cistern commenced.
vi.—Measuring chamber commenced.
vii.—Duct finished, except covering in.
viii.—Provision of pumps and boilers completed.
ix.—Engine and boiler house commenced.
x.—Inspection bungalow erected.
xi.—Quarters for Superintendent finished.
xii.—Office and godown built.
xiii.—Two drivers' quarters completed.
xiv.—Quarters for storekeeper built.
xv.—Quarters for fuel coolies completed.
xvi.—Quarters for sweepers built.
xvii.—Quarters for watch-men completed.
xviii.—Acquisition of land completed, except that complete payment was not made.
xix.—The pipes for the distribution system had begun to arrive at the port of Marmugao from England.
xx.—Earth work, bridges and buildings on the rising main, the telephone hut and two watchmen's huts were completed.
xxi.—Valve towers practically completed.

Agra.—Extension of water-supply to cook-houses, British Infantry Lines in Cantonment and Fort was completed.

Bareilly.—A trial well was sunk in connection with the scheme for providing a pipe water-supply, and the acquisition of land at the head works was in progress.

Lansdowne.—The pipe water-supply was extended to the lines of the 39th Garhwals.

Dehra Dun.—Water-supply was extended to the Mountain Battery Lines.

Jhansi.—Water-supply in the fort was completed, as far as the original

project is concerned. Some alterations to one of the pumps are required, as at present it does not work properly.

Chakrata.—Fencing certain springs at the source of the water-supply, was put in hand.

The extension of water to Kailana was under consideration and an estimate was under preparation.

Meerut.—The construction of the raised reservoir was in progress, and all the masonry work was completed. The iron tank will arrive from England next year.

Belgaum.—A trial well was sunk in the Royal Artillery Lines; the work was not proceeded with for want of funds.

Secunderabad.—The water-supply for the garrison was completed.

Rawalpindi.—The construction of *pakka* drains in the Cantonment was put in hand.

Peshawar.—Concrete drains in the Native Cavalry Lines were constructed.

Murree.—Draining the slopes above the parade ground and in connection with the same work, renewal of roads and retaining walls on the hillside below No. 20 barrack was finished.

Dum Dum.—The work of improving the drainage of the Cantonment was finished off.

Barrackpore.—The improved system of drainage of the Royal Artillery Lines was in progress.

Awand.—The improving of the drainage of the lines of His Excellency the Governor's body-guard was commenced and completed during the year.

SECTION IX.

CIVIL SANITARY WORKS.

227. During the official year 1897-98, the number of municipal towns in Bengal, excluding Calcutta, was raised from 148 to 151 by the constitution as municipalities of the towns of Asansol, Chandpur and Samastipur.

Bengal.

The total income, including opening balances which aggregated R32,000 less than in the preceding year, was R42,64,986, or R84,500 less than in 1896-97, the falling off being much more than accounted for by the smaller opening balance and by a reduction of R2,45,500 in the amount borrowed. Of the total income 45·75 per cent., about 1 per cent. less than in the previous year, was devoted to sanitation; 9·84 per cent. was spent on roads; 6·60 per cent. on measures for the preservation of the public safety, and 28·39 per cent. on other requirements.

The expenditure on water-supply shows a large decrease, from R5,44,984 in 1896-97 to R2,62,636, explained by reductions in capital expenditure of sums of R2,44,000 and R72,000 on account of the water-works at Bhagalpur and Howrah, respectively.

The expenditure on conservancy was R10,58,815, or R1,37,296 more than in the previous year, the increase being due to precautions taken through fear of plague. The expenditure on drainage was R1,13,456, or R7,604 less than in the preceding year; and the expenditure on markets and slaughter-houses was R43,819 or R27,862 more, mainly on account of the construction of a municipal slaughter house at Narainganj, and of improvements to the bazar buildings at Darjeeling.

The average proportion of municipal income applied to original sanitary works, which declined from 5·03 per cent. in 1895-96 to 3·70 per cent. in the year following, fell to 3·57 per cent. in 1897-98. In only fifteen towns, including Bhagalpur (18·10) Sirajganj (17·18), and Birnagar (16·40), was more than 10 per cent. of all income spent in this way; and in no less than 41 towns, against 37 and 28, respectively in the two preceding years, nothing whatever was spent.

On the other hand, there was again a rise in the proportion of income spent upon annually recurring sanitary works, from 40·20 per cent. in 1896-97 to 41·73 per cent., the proportions shewing the wide range from 70·53 per cent. in Faridpur to 7·93 per cent. in Joynagar, a small municipal town in the 24-Parganas.

The expenditure of public funds on rural sanitation was R3,23,467 against R4,00,272 in 1896-97; while private individuals provided R4,85,805 as compared with R11,72,068 in the previous year, when it must be remembered the purse strings of the benevolent were loosened in the presence of famine.

The most important sanitary work carried out during the year was the completion of a portion of the Champanagar and Nathnagar extension of the Bhagalpur water-works at a cost of R26,724.

228. The constitution of the Sanitary Board remained unchanged, and, as in former years, inconvenience arising from the difficulty in arranging for meetings was met by the

Sanitary Board.

circulation to the members of papers regarding the cases under consideration. The principal matters considered at the single meeting which was held, were :—

(1) The Monghyr drainage scheme ; and

(2) The supply of filtered water to the towns on the right bank of the Hooghly.

The following are the more important projects for which preliminary estimates were prepared :—

(1) Alternative projects, eight in number, varying in cost from 24 to 35 lakhs of rupees, for the supply of filtered water to the municipal towns on the right bank of the Hooghly. These were submitted to Government.

(2) The Patna water-supply. As stated in last year's report, it has been ascertained that an abundant supply of pure water can be obtained from the old bed of the river Sone, and as all the information necessary for the preparation of a scheme was received, the work was taken in hand.

Detailed estimates in connection with the following were prepared :—

(1) The flushing of some of the drains of the Patna Municipality pending the introduction of the water-supply scheme.

(2) The remodelling of the intake of the Berhampore water-supply works.

Estimates and plans for the following projects were considered :—

(1) A scheme for the drainage of the town of Krishnagar by opening out the Anjana *khal*.

(2) A scheme for the drainage of Monghyr. The Board while approving of the details of the drainage scheme, were of opinion that the introduction of a supply of water should precede its execution, and recommended the municipality to endeavour to introduce the water-supply scheme in combination with the drainage scheme; but Government, considering that the cost would press heavily upon the poorer tax-payers, have for the present declined to accord administrative sanction.

(3) Extension of the Howrah water-works. Scheme approved by the Board and sanctioned by Government.

(4) Re-excavation of Shiljoorie and Bijapur *khals* in connection with the drainage of the town of Comilla.

(5) Improvement of the drainage of Manicktolla. A surface-drainage scheme estimated to cost R50,000 was referred to the Board for opinion, but in the absence of details regarding levels, etc., had to be returned for resubmission with the necessary information.

(6) Extension of the unfiltered water-supply to the town and suburbs of Calcutta.

(7) Scheme for improving the Darjeeling water-supply system.

(8) Project for the construction of a municipal market at Narayanganj.

(9) Plans and estimates for lining the settling tanks of the Bhagalpur water-works with cement to prevent leakage, were rejected, and a less expensive method by the use of fine sand was recommended.

(10) Dacca conservancy scheme. The Municipal Commissioners prepared two schemes—

(*a*) The sewage to be removed by carts from 30 depots to railway sidings and taken thence by rail to trenching grounds three miles away from the town,—cost R53,000.

(*b*) The sewage to be removed by carts to three new trenching grounds to be selected,—cost R30,000.

The Board supported the latter scheme (*b*) to Government.

(11) Drainage of the Siwan municipality.

(12) Remodelling of the intake of the Bhagalpur water-works. The existing intake readily gets choked with sand and attempts to clear it are unsuccessful owing to the strong current flowing past the mouth of the pipe.

(13) A survey for drainage for the town of Nator was completed.

Numerous miscellaneous references were made by Government and by local authorities, the most important among the former was the question of bringing municipal water-works under effective control; and, among the latter the passing of the tenders for the Howrah water-works extension.

In October the Board called for replies to a circular issued during the previous year to municipal committees and local officers regarding experiments on the biological treatment of sewage and waste liquids. From the replies received it seems that in only 30 municipalities were experiments made, but these were mostly successful. In this connection it may be noted that the Sanitary Engineer was placed on temporary duty in England with a view to his making himself acquainted with the more recent methods of sewage disposal. On his return to Bengal he published a brochure* on the recent methods of sewage disposal which, under the orders of the Board, has been widely distributed in Bengal for the information of those concerned.

Assam.

229. The total income of the municipalities, stations, unions and towns in Assam in 1898 was R2,59,894, as compared with R2,58,169 in the previous year; and of the total, R1,33,543, or 45·52 per cent., was spent on sanitary works proper, against 43·98 per cent. in 1897. By far the largest percentage of income devoted to sanitation was 72·04 in Tezpur; elsewhere the percentages varied from 59·24 in Gauhati, to 22·42 in Jorhat. No work of capital importance was undertaken during the year, nor, as indicated by the Chief Commissioner, is any large undertaking likely for many years to come, in the small straggling towns of this province. In Gauhati, although R10,225 was spent on repairs to the pumping engine and other details connected with the water-works, the water-supply of the town is not yet in a satisfactory state, and the municipality have applied for a loan of R13,560 for further improvements. The Shillong station water-works suffered severely from the earthquake of 1897, and have not yet been completely repaired; R20,000 are required for the purpose and steps to obtain funds have been taken. The water-supply of Sylhet was improved by sinking a well, and by the enclosure of tanks with barbed-wire fences. It is reported that the trenching of night-soil is not successful in the towns, as it has not been possible to get the land cropped; but as cultivators for such land can be found elsewhere, it is not clear why they cannot be found in Assam. Meanwhile, the incinerators at Silchar, Manipur and Aijal are said to have worked well.

* "Recent methods of sewage disposal in England, by A E. Silk."

The sanitary works carried out in rural areas consisted chiefly in the construction and repair of wells, and the excavation and deepening of tanks. There were 35 Norton tube-wells sunk by the direction of the Barpeta local board and 9 at the instance of the Gauhati board.

The use of village sanitary inspection books has been introduced into selected villages in each district, but so far with very little practical benefit.

Sanitary Board.

230. No meeting of this body was held during the year, but the written opinions of the members were obtained on all sanitary questions of importance which were being considered.

North-Western Provinces and Oudh.

231. The constitution during the official year 1897-98, as a municipality of the town of Haldwani in the Naini Tal district, raised the number of municipal towns to 104. Excluding opening balances, the total of the municipal income was R44,83,166, as compared with R41,52 909 in the preceding year. Except under the head of conservancy, upon which the sum expended rose from R9,38,428 to R9,90,127, there was a general reduction of the sums devoted to sanitary works; the expenditure on water-supply fell from R8,90,523 to R5,28,226; on drainage from R3,15,108 to R1,81,087, and on markets and slaughter-houses from R35,843 to R28,031; the aggregate expenditure reaching R17,27,471, upwards of four and a half lakhs less than in the preceding year.

Except the further extension of the Allahabad water-supply to Karela Bagh, the remodelling of the Naini Tal water-supply and the completion of the Bhilaru sewage shoot at Mussoorie, no large work of importance was begun or completed, and the following notes have reference mainly to important works in operation, or in progress of completion.

At Agra, the daily average consumption of filtered water rose from 1,338,177 gallons in 1897-98, to 1,519,678 gallons, or 8·96 gallons per head of the population. In the cantonment the average daily consumption fell from 185,718 to 164,013 gallons. The additional filter, to the necessity for which allusion was made in last year's report, has not yet been supplied owing to financial difficulties and, in the meantime, the total daily output of filtered water has been limited to 1½ million gallons. The cost per thousand gallons of filtered water was 1·59 annas.

At Allahabad, the average daily consumption of filtered water was 1,410,229 gallons, equal to 8·04 gallons per head of the population, at a cost of 1·53 annas per thousand gallons. Improvements were effected at the intake which have removed the fear of the water-supply being diminished owing to the falling of the river in the hot weather, and have improved the quality of the water in the inlet well.

At Benares, there was an increase of 22½ per cent. in the quantity of filtered water consumed, from an average of 1,905,216 gallons per diem, to 2,336,084, or 11·04 gallons a head, the cost being 1·19 annas for every thousand gallons. The raised reservoir was completed during the year.

At Cawnpore, the daily average consumption of filtered water rose from 1,325,409, to 1,431,901 gallons, equal to 8¾ gallons a head, the cost per 1,000 gallons falling from 2·25, to 2·03 annas.

At Lucknow, the average daily consumption in the city, civil lines and cantonments was 978,982 gallons, or 3·7 gallons per head of the population; the maximum supplied in any one day being 6·2 gallons per head, and the cost

at 2¼ annas per 1,000 gallons. In addition to the filtered supply about 73 million gallons of unfiltered water were supplied to the Victoria Parks, for which it has been decided to have separate pumping machinery.

At Meerut, the average daily consumption was 406,235 gallons, or 3·4 gallons per head of the census population, but 6·2 gallons per head of the population reached by the supply. The cost of the filtered water, excluding interest and the repayment of loan, was 2·2 annas per 1,000 gallons.

At Mussoorie, the consumption of pumped water during the year was about 4,973,000 gallons.

At Naini Tal, the total quantity of water pumped was 10,681,500 gallons; but in addition to this the new springs tapped under the remodelling scheme yielded 6,000,000 gallons, and saved the cost of pumping for three months, while Rosamond's well springs yielded 2,102,500 gallons, and the gravity service to the Mall and Lower Bazar 1,314,000 gallons. Thus, the total quantity distributed by pipes was nearly 32,000,000 gallons or 8¾ gallons per head of the average population of 10,000. The cost per head of the population was 11 annas, against 17 annas in the previous year.

An estimate, amounting to R2,55,000, for extending and remodelling the water-supply system was sanctioned in March 1898; the pipes began to arrive in November, and before the end of the year were nearly all laid. The engines and boilers arrived in February, and though delay occurred, owing to parts of the boiler having been sent out incomplete, their erection was nearly finished by the end of the year.

At Rajpur and Dehra, the springs supplying the towns by gravitation yielded a good supply throughout the year, but no record of the quantity was maintained.

The water supplied to the towns was regularly analysed and generally found to be of excellent quality. At Agra, however, microbes resembling those associated with the causation of enteric fever were detected, and measures were taken to remove the defects which were supposed to lead to their presence in the water.

Less than half a lakh of rupees was spent on the Benares sewage works during the year. Tenders were invited for the construction of sewers in the unsewered area, but the rates offered by the single firm that tendered were prohibitive, so it was decided to carry out the work departmentally. Subsequently, in accordance with the wishes of Government, it was decided to leave the unsewered area and deal first with the populous sewered area along the bank of the river. The design and details of the work gave rise to a good deal of discussion, and the project was not sanctioned until September, after which the plans and fittings had to be procured. This, and the difficulty in obtaining a supervising staff of sufficient experience, account for the small sum spent during the year.

The Bhilaru sewage shoot at Mussoorie was completed in July 1898; but as the road from the bullock depot to the intake tank was not completed, the shoot was not used until October.

Surveys, with a view to introducing proper systems of surface drainage, were in progress or completed in the towns of Hathras, Aligarh, Fyzabad and Jhansi.

Sanitary Board.

232. The Sanitary Board met three times at Naini Tal during the recess, and the following were the more important matters which engaged their attention.

(1) The reports by the Sanitary Engineer on the quality of the municipal water-supplies. It was noted with satisfaction that the

supplies were generally pure, and that the large reduction effected in the quantity of organic matter shewed that careful attention had been paid to the filters. The board recommended that monthly qualitative bacteriological examinations should be made of the filtered water, and this recommendation has been accepted by Government.

(2) The sanitary condition of the town of Baghpat. The measures of improvement recommended by the Sanitary Commissioner and Sanitary Engineer were considered, and it was recognised that the finances of the municipality did not at present permit of any extensive drainage or water-supply scheme being carried out. Any funds the municipality can spare are to be devoted to improving the drainage and the sanitary condition of the town.

(3) The question of additional clerical establishment for Civil Surgeons was again discussed and, after correspondence with Government, an extra clerk was sanctioned for the offices of Civil Surgeons at five of the larger towns.

(4) The reports on the working of the Village Sanitation Act were read, and it was noted that special attention was being given to the protection of wells from contamination.

(5) A report by the Sanitary Engineer on a water-supply scheme for Jhansi was considered ; and it was agreed that although a supply from the river Betwa would be the best, and will perhaps ultimately be obtained, in the present state of the town's funds the proposed scheme to pump water from the existing cluster of wells would provide a safe and satisfactory supply.

(6) The insanitary state of the town of Kosi was discussed. The town was visited by the Deputy Sanitary Commissioner, and some of the remedies suggested by him having been adopted, there had been a satisfactory decline in the death-rate. The sub-soil water of the town is very high, owing to the proximity of the Agra canal and of tanks which have no outlet for storm-water ; but a drainage scheme to relieve the country in the neighbourhood of Kosi is being considered by Government.

233. The total income of the 31 municipal towns in the Panjab was, including an opening credit balance of nearly ten lakhs of rupees, R55,32,081, as compared with R52,95,950 in 1897. In spite of an increase to their funds, however, the aggregate expenditure on sanitation under all the most important heads declined ; the sum spent on water-supply was only R1,65,799, against R2,17,183 in the previous year ; the expenditure on sewerage and drainage fell from R1,02,847 to R96,888 ; and the expenditure on conservancy from R6,35,308 to R5,90,777 ; the total of all sanitary charges amounting to only R11,25,100 against R11,67,891 in the preceding year, and R12,36,690 in 1896.

Punjab.

The sum realized from the sale of street sweepings and manure, which in 1897 was R1,49,120, or about R13,000 more than in 1896, fell slightly in 1898 to R1,48,501 ; but a decline in the direct profit from this source is not to be regretted if, as in this case, it results from a safer method of filth disposal.

The principal sanitary works completed, in progress or under consideration, were the following :—At Simla, extensive improvements to the water-supply

were in progress, some portions of the work being completed during the year. At Haripur, the water-supply project was completed at a total cost of R46,262. At Ludhiana successful boring operations were carried out at the site where it is proposed to sink wells for the water-supply, the water found was of good quality, and an estimate for the construction of an experimental well was prepared. At Amritsar, the survey and preliminary operations in connection with the new water-supply of the town were completed.

At Lahore, the sewerage and drainage scheme for the city was in progress, as well as work on the Anarkali and Mozung outfall; but the sewerage and drainage project for Anarkali was deferred for want of funds. At Multan and Rawalpindi beginnings have been made with drainage schemes; but the drainage projects for Ferozepore City, Fazilka, Jagraon and Muktsar remained in the consultative stage, at least no money was spent on them, while the project for the diversion of the town drainage at Abbottabad was held in abeyance.

The sewerage farm in the neighbourhood of Delhi continues to be worked satisfactorily, in so far that the filth from eleven wards of the city is disposed of without nuisance, and the land is let out at a higher rate than was formerly the case.

Little progress is reported in the improvement of rural sanitation; but efforts are being made to stimulate the interest of the rural population in the subject by the offer of rewards to the village in each tahsil which effects the most improvement in its sanitary condition, the point upon which stress is to be laid to be determined by the Sanitary Commissioner aided by the suggestions of the District Civil Surgeon.

Sanitary Board.

234. No meeting of this body took place during the year, the reason given being that the members, feeling that the Board had no executive power, would meet uselessly. The question of extending the scope of the Board's work is being considered by the Local Government. During the year, papers relating to subjects of more or less importance connected with sanitation were circulated among the members.

Central Provinces.

235. The income of the nineteen *sadar* towns which had fallen to R14,10,350 in 1897, recovered slightly to R14,32,004 in 1898; and the total expenditure on sanitation rose from R2,88,047 in the former year, to R3,13,226 in the latter, including R79,117 on water-supply, against R61,437 in 1897, and R2,09,873 on conservancy, as compared with R2,03,702.

No new work of any magnitude was begun during the year; but the water-supply works at Jubbulpore and Wardha were completed at a cost, respectively, of R2,47,675 and R2,23,143.

At Khandwa, further progress on the water-supply works was made; and at Bhandara the works were completed, with the exception of the laying of the distribution pipes. At Harda, the water-supply project remains in abeyance apparently for want of funds.

The sum allotted for village sanitation was R96,424; but only R35,484 was spent, including R13,172 on the construction of wells, mostly in the districts of Sambulpur, Wardha and Nagpur, and R1,000 on the construction of tanks in the Nagpur district. On site cleansing, R16,291 was spent, and on drainage and roads, R2,286.

Progress continues to be made in the record of sanitary progress in the villages; and new sanitary maps, with lists of the villages included in them, have been prepared in order to start a new system of registration.

Sanitary Board.

236. The constitution of the Board remained unchanged, and a meeting was held at each divisional head-quarters. As in former years, the principal business was the improvement of sanitary conditions in villages.

Berar.

237. The estimated income of the twelve municipal towns in Berar in 1898, was, R2,65,520 or about R2,000 less than in the previous year; and the actual expenditure on sanitation was R1,34,753, as compared with R1,69,159. The decrease was distributed under all the principal headings; the expenditure on water-supplies falling from R57,904 to R43,457; on conservancy, from R66,853 to R63,135; on drainage, from R10,592 to R2,944; and on miscellaneous works, from R33,810 to R25,217. The apparent falling off in the expenditure on drainage is greater, while that on conservancy is less, owing to the Sanitary Commissioner having transferred certain sums formerly reckoned under the heading drainage, to the heading conservancy.

No new work of considerable magnitude was undertaken during the year.

The expenditure under the heading water-supply represents for the most part the repayment of loans; but there was a great deal spent on pumping. Unfortunately the water-supply works at Akola and Amraoti have disappointed the expectations formed of their performances. At Akola, the failure of the rains and the great heat so lowered the water level in the wells at Kapsi and Majode, that pumping had to be carried on for a longer time than usual, under unfavourable circumstances and, unhappily, at an exceptionally high cost. At Amraoti, the Kalapani tank dried up, but fortunately a fairly good supply of water was discovered by Dr. Khote at the confluence of two nullahs near Rajapeth, where a well was sunk and water pumped for the supply of the town.

At most of the towns night-soil is trenched, but the trenches are not in all cases cropped. Street sweepings and household refuse are generally sold to contractors for brickmaking.

In the districts, the sum devoted to sanitation fell from R1,05,475 in 1897, to R77,536 in 1898, including R29,155 on water-supplies, and R39,000 on conservancy.

Village sanitary inspection books have been introduced in five selected villages in each district. The books are kept up by *taluka* officers not below the status of *tahsildar*, and are sent annually to the Civil Surgeon's Office, there transcribed, and returned to the village official. "The information so recorded," it is stated, "will be put to some practical use in future."

Sanitary Board.

238. No information is given by the Sanitary Commissioner about the proceedings of the Sanitary Board.

Madras.

239. Excluding the presidency town, the estimated income of the fifty-eight municipal towns in Madras, in the official year 1898-99, was R29,56,220, as compared with R32,28,120 in the preceding year. The allotment for sanitary purposes was R15,71,540, or 53·2 per cent. of the total, against 63·6 per cent. in 1897-98.

The actual sums expended during the nine months ending with December 1898, were, except in the case of conservancy, much less than in the corresponding period in 1897; on water-supply, only R1,20,315 against R4,07,095; on the improvement of sites, R1,52,042 against R1,63,353; on miscellaneous sanitary improvements, including the repair of tanks, R58,670, against R79,237; but on conservancy, the sum rose from R4,63,861 to R4,98,175. The decline in expenditure is explained by the husbanding, by municipal bodies, of their resources against a possible invasion of plague.

The municipal income of the city of Madras was R13,48,150, or nearly a lakh of rupees less than in the preceding year, but R8,44,481 was set aside for sanitary purposes. The actual expenditure during the first nine months of the official year was R5,39,451, as compared with R4,55,332 in the corresponding period in 1897. The bulk of the expenditure was on conservancy, R2,96,000, and on miscellaneous improvements, R1,48,611, as compared with sums of R2,38,068 and R1,68,684, respectively, in 1897. On water-supplies, the expenditure in 1898 was R13,303 against R2,898, and on site-improvement R52,941 against R36,280.

At Conjeeveram, the construction of additional works, *viz.*, the fencing in of the pumping station, the construction of a service reservoir, and the extension of the pipe service were nearly completed, the cost being met from savings effected on the original estimate for the water-supply works.

Surveys in connection with water-supply schemes were made at Berhampur, Bezwada, Chidambaram, Guntur, and Kumbakonam; and five water-supply projects for Bezwada, Kurnool (extension), Tanjore (extension), Tiruvannamalai. and Vizianagram, and one drainage project, Kumbakonam, were prepared and submitted either to Government or to the Sanitary Board.

At Bezwada, it is proposed to sink three infiltration wells in the bank of the Kistna, and to pump water from them through a twelve inch main to a service reservoir situated on the highest land between the pumping station and the town, the water being distributed by gravitation to fountains in the town. The scheme will give 15 gallons per head daily to an estimated population of 30,000, and will cost R3,75,400.

At Kurnool, after the completion of the water-works, there remained a balance of nearly R6,000, which it is proposed to devote to an extension of the pipe supply.

At Tanjore, it is proposed to extend the works at a cost of R27,000.

At Vizianagram, the proposal is to cut an infiltration gallery 1,700 feet long, parallel to, and about 1,000 feet from, the bank of the Ootaigedda, a perennial stream about a mile and a half to the north of the town. The water will be pumped from the gallery to a service reservoir at a sufficient elevation on an adjoining hill, and will thence be distributed in pipes by gravitation. The project provides for 15 gallons *per diem* per head to a population of 40,000, and is estimated to cost R2,82,000.

There has been no advance made in sewage farming, which was carried on at Madras, Erode, Tanjore, Anakapalle, and Vizagapatam. A plot of land was purchased for the purpose at Tinnevelly, but nothing further was done. The income derived from the sale of street sweepings, *etc.*, continues to increase.

The estimated income of the district boards in 1897-98 was R79,62,700 and the sanitary allotment was 8·3 per cent. of the total, against 8·4 per cent. in each of the two preceding years. During the first nine months of the

financial year, R3,69,832 were spent, including R55,547 on water-supplies and R2,49,164 on conservancy. These sums shew a considerable decline as compared with the previous year, due, it is stated, to routine sanitary improvements being put off on account of the demand for funds to meet the possible occurrence of plague.

Little progress, it seems, has been made in ordinary rural sanitation, but the Sanitary Commissioner has great hopes of the results of a revision of the Act for Local Fund areas, which is being made.

Sanitary Board.

240. The constitution of the Board remained unchanged; but the rules for the conduct of business were slightly modified by the addition of a rule making it incumbent on Collectors to consult the Board when special difficulties, for which rules do not provide, arise in the laying out of house sites near railway stations. The Board scrutinised plans and estimates for 36 municipal and 78 local fund works, estimated to cost in the aggregate R4,89,525. Besides examining the various projects of which mention has already been made, proposals in connection with many other schemes, for which estimates had not been prepared, were considered by the Board.

Coorg.

241. The total expenditure on sanitary works in the small province of Coorg in 1898 appears to have been less than one thousand rupees, devoted chiefly to the construction of a new well at Gonikoppal, and to an improvement of tanks and of drains at Somwarpett.

Sanitary Board.

242. The Board met three times during the year, and the following was the principal business before them :—

(1) A suggestion made by the Civil Surgeon that each municipality should entertain one or two Sanitary Inspectors, was considered a good one, and it was agreed that it should be brought before the town committees, but it was pointed out that as the towns are very poor, it was doubtful if the necessary funds could be provided.

(2) The prevention of the invasion of plague from the neighbouring province of Mysore. The measures recommended were strengthening the medical inspecting staff and strict attention to the sanitary condition of towns, villages and coolie lines. Measures were adopted for the engagement of a plague supervisor and five plague inspectors, and a simple set of instructions for disinfection was drawn up and copies circulated among the inhabitants.

(3) A plan for a hospital at Pollibetta was approved.

Bombay.

243. The number of municipalities in Bombay in 1898, excluding Bombay City, was 166, or one less than in the previous year Two municipalities, Matar in Kaira, and Pussesavli in Satara, having been abolished, and only one new municipality, Kharda in Ahmednagar, having been established. The aggregate income in 1897-98 was R53,26,199, a decrease as compared with the preceding year of a sum not far short of six lakhs of rupees. Not only was the income less, but the proportion allotted to sanitation shewed a large decline from 57·21 to 49·23 per cent. of the total. The actual sums expended were on water-supply, R5,18,010 against R9,07,896 in the previous year ; on conservancy R10,50,768 against R14,77,597,

and on improvement of sites R1,21,933 against R1,71,085. The expenditure on miscellaneous sanitary work, including the construction and repair of tanks, was nearly trebled, rising from R2,38,337 to R6,62,651.

It is stated by the Sanitary Board that owing to the heavy expenditure in connection with plague, the consideration of important sanitary improvements has been deferred in almost every municipality, and that unless Government come to their aid in relieving them of some portion of the debts contracted, sanitary work must be at a standstill for years.

At Shikarpur nothing was done to drain the town, and indeed the municipality has passed a resolution stopping the construction of a system of gutters, which would have removed some of the waste water from the town.

At Sukkur the water-works engines have been neglected, so that extensive repairs will soon be necessary.

At Sholapur the municipality still rely upon one engine to pump water, and, should it break down, the results will be serious.

At Satara, it is stated that the Municipal Commissioners consider it inconsistent with their dignity to allow the Government Engineer to supervise the miles of open channel from the Kas tank, although they are quite unable to supervise it themselves.

At Hyderabad, the municipality was induced to order new engines for the river pumping station ; and plans and estimates for completing the water-supply project have been prepared. The committee obtained plans and estimates for a satisfactory drainage system, but the scheme has been shelved.

At Ahmedabad, the plans for the remainder of the drainage scheme have required some modification, but the municipality has applied for permission to raise a loan of eight lakhs of rupees to carry out the work.

At Kaira, a new water-supply scheme to cost R80,000, has been sketched out.

At Yeola, there is great delay in carrying out the water-supply scheme, due, seemingly, to delay in receipt of the necessary materials.

At Ahmednagar, the water-supply question is becoming acute. The town is situated upon a high table-land subject to recurring deficiency in the rainfall. Not only is the rainfall precarious, but, for some reason, the level of the sub-soil water has been steadily falling for the last ten or fifteen years ; this affects the wells of course, and also the old aqueducts upon which the town relies for its supply of water. The only solution of the question, it is said, is the completion of the Kapurwadi Tank at a cost of about a lakh and a half.

At Kirkee, the water-supply project has been nearly completed.

At Poona, the Sanitary Engineer has been directed by Government to prepare comprehensive drainage schemes for the city and for the adjoining crowded *sadar* and Sholapur bazars.

At Akalkot, the water-supply project which is being carried out under the supervision of the Sanitary Board, was rapidly approaching completion ; and it was hoped that the engine would be at work within less than a year of the date when final sanction to the scheme was accorded.

Like the municipalities, the district boards suffered a decline of their income, which fell from R41,45,747 in 1896-97 to R38,42,186 in 1897-98. The sanitary allotment was reduced from R8,64,063 to R7,12,176, of which R6,28,510 was set aside for, and R4,14,924 actually spent upon water-supplies.

The Village Sanitation Act was introduced into 17 more villages, making 299 in all; while village sanitary inspection books are in use in 3,199 villages, although, owing to the disorganization of ordinary sanitary work in the face of plague, but little progress has been made in filling them up.

Sanitary Board.

244. The constitution of the Board remained unchanged. The number of meetings is not stated, but the members are apparently in continuous communication with each other, and much useful work was done by them during the year, to some of which, and the most important, allusion has been made above.

The Board again approached their Government with a view to having executive powers conferred on them, but the Government of Bombay are not at present prepared to alter the rules governing their duties and powers.

Burma.

245. The income of the towns and districts in Upper and Lower Burma in 1898 was R67,76,486, and nearly 33 per cent. of this, or R22,20,490, was spent on sanitary improvement of one kind or another; although, as pointed out by the Sanitary Commissioner, many of the other 'sanitary works' which absorbed R8,13,228, have a very indirect bearing on sanitation. The sum expended under this heading is, however, more than a lakh and a half of rupees less than in 1897, while the expenditure on water-supply has increased from R2,41,137 to R3,90,833, and that on drainage from R1,19,799 to R4,08,816. On conservancy the expenditure fell from R8,12,295 to R6,07,613.

No sanitary undertaking of capital importance was begun during 1898 but the newly appointed Sanitary Engineer took up his office in January, and was very fully occupied throughout the year. A survey for water-supply works at Moulmein was completed, and plans for a gravitation project, estimated to cost R8,64,267, were submitted to the Chief Engineer. A preliminary survey was made of Bassein, and a report was made on the Kanthaonzin lake project for its water-supply. Mandalay and Meiktila were visited, and reports on their water-supplies submitted; a project for the water-supply of Meiktila at a cost of R1,32,431 being reviewed. The project prepared by the Executive Engineer of the Southern Shan States for the water-supply of Kengtung was thoroughly examined, and returned with suggestions for revision.

The plans and estimates prepared by the Municipal Engineer for the Prome drainage scheme were examined and returned for revision.

Village sanitation seems to make progress in some places, but in others the matter does not receive the attention from the district officials that its importance deserves.

Sanitary Board.

246. "The Sanitary Board did practically no work during the year."

SECTION X.

GENERAL REMARKS.

The Red Sea Pilgrim Traffic.

247. The number of pilgrims who arrived at the Camaran quarantine station during the winter and spring of 1897-98, and who were there detained for observation prior to proceeding to Jeddah for Mecca for the Haj of the year under review, was 15,228 against 14,210 in 1897. Of the total, only 1,014 were registered as coming from Indian ports, *viz.*, 890 natives of India and 124 Afghans, while in 1897 these numbers were, respectively, 2,493 and 327.

As regards India, the way to the Hejaz was practically closed during 1898, by the prohibition issued by the Government of India on February 20th, 1897, which suspended the pilgrimage for that year; but this order was subsequently modified in a Notification (November 20th, 1897) by the same authority, to the extent of permitting persons, not being permanent or temporary residents of the Bombay Presidency, excluding Sind, to embark at Karachi or Chittagong, the necessary precautions being taken for the preliminary medical observation of the intending pilgrims. At the same time the Government advised all concerned to refrain from taking advantage of the concession, in view of the stringent quarantine regulations imposed by the Turkish Government, and the consequent inconvenience thereby entailed on Indian pilgrims on arrival in Arabia. A quarantine camp was accordingly established at Chittagong and 730 pilgrims, who arrived for embarkation, were there detained for observation, and of these 708 were ultimately allowed to proceed on board the S. S. *Jubeda*, which left that port on February 16th. Subsequently, on November 10th, 1898, the Government of India further ordained that no person resident in the Bombay Presidency (excluding Sind, but including its port Karachi), the Madras Presidency, Mysore, the Hyderabad States, and Coorg, would be permitted to embark for Mecca, from any port in India, save Chittagong, and then only after a period of detention for medical observation. Intending pilgrims were, at the same time, again advised to defer their journey until a more favourable season.

As subsidiary measures, and prior to the order last noted, special arrangements were made to ensure that pilgrims passing through Baluchistan, should be conveyed by train, in reserved carriages, to observation camps before they were permitted to embark from Karachi; and further, authority was given to the Bombay Government to issue any necessary orders under the Epidemic Diseases Act in connection with the arrival of pilgrims from the Madras Presidency, who would be likely to require transhipment at Bombay *en route* to Karachi.

As regards Bombay, no vessels with pilgrims for Mecca left the port during the year, and from only one port in the Madras Presidency, *viz.*, Malabar, was a ship despatched, and this vessel left on March 8th, carrying 207 pilgrims. So far then as can be accurately ascertained, only two ships left Indian ports in this traffic, the total number of pilgrims conveyed being 915. It is satisfactory to record that no case of cholera or plague occurred during

the outward or homeward voyages, nor at Camaran where Indian pilgrims were detained for ten days prior to their departure for Jeddah.

Return of the Pilgrims.

248. During the year, 1,342 pilgrims returned from the Haj to Bombay *viâ* Aden and other ports, and these were conveyed in six ships which made altogether eleven trips between and including the months of April and November. In order to obviate the danger apprehended from the mixing of the pilgrims with the towns-people, the arrangements which had been successfully carried out in 1897, were again resorted to. The pilgrims were not allowed to enter the town, but after disinfection of their effects, were sent direct from the ship to the railway station and thence, by batches, in special trains to their destinations, the local authorities concerned being advised of the despatch of each train.

During the return voyage, five cases of infectious disease were recorded all of small-pox ; in all six deaths occurred : four from chronic dysentery, one from small-pox and one suicide. At no other port in India were returning pilgrims disembarked.

As regards the health of the pilgrims, the arrangements made for their control and comfort at Jeddah and on the journey thence to Mecca and back, nothing can be recorded here, as the usual report has not been submitted.

Jigger.

249. The expansion of the Empire and the development of inter-communication of its component parts, has had for one of its consequences, the risk of affording an open door to the invasion of India by the Chigger or "Jigger" pest.

The Jigger (*Pulex Penetrans*), is indigenous to South America and the West Indies, but obtained a foothold on the West Coast of Africa early in the "seventies", where it is said to have been landed in sand ballast from a ship from Brazil.

Its gradual spread from the coast was slow at first, and confined to the dry sandy tracts, but as the interior was opened up by the several expeditions of explorers and traders, the jigger was carried more rapidly throughout Central Africa, traversing the whole breadth of the continent in the lines of the trade routes.

Extended references to its distribution and clinical effects in Central Africa will be found in the accounts recently published by travellers in this region, and their statements are amplified and independently confirmed by Captain Haig, I. M. S., the medical officer in charge of the 1st Battalion, Uganda Regiment. In an interesting note on the subject, after describing the insect and the conditions which favour its existence outside the body, the clinical symptoms and course, and the ultimate disability that often follows the access of the impregnated female to the vascular layer of the skin, Captain Haig lays stress on the following points, which have an epidemiological interest.

After referring to the well-accredited assertion that the pest, originally confined to South America, was conveyed thence by a ship to the West Coast of Africa, the fomites in this case being sand ballast, which was discharged at the port of arrival, he notes its early confinement to the dry sandy tracts, with very slow and gradual dispersion. With the opening-up of the interior by explorers and traders, there was an extraordinary dispersion of the pest, its progress being easily traced as *pari passu* with the advance of the various lines of communication, until from the Lakes to the Coast on both sides, it now swarms over Equatorial Africa. But with this, there is an apparent confinement

to a certain restricted zone, roughly equatorial in general, but locally dependent on the drier and more sandy soils. It remains to be seen what effect the extension of communications north and south will have on its dispersion. "They cannot withstand moisture, and sprinkling the floor of a house with water drives them away."

While chiefly dependent on human hosts for progress to pastures new, and to some extent for propagation (though many of the lower animals serve this purpose and some warm-blooded animal seems to be essential for the period of gestation of the female) yet, the insects appear to be able to survive for a considerable but undetermined period, away from the neighbourhood of men or animals. Captain Haig further lays stress on the great value of habits or personal care and cleanliness as affording the one effectual means of preventing its disabling effects. The necessity of daily routine examinations of the feet (and of other parts of the body which have been in contact with the ground, *e. g.*, the elbows and buttocks) is strongly insisted on, and an instructive contrast is drawn between the clean and intelligent people of Uganda and the Masai tribes, who are said to be dirty and savage, in respect of the almost entire immunity of the former to the ravages of the insect, while the latter suffer terribly for their neglect. "Numbers of these people (the Masai) die from blood poisoning, the result of jigger ulcers." Again, "the sepoys of the Uganda Regiment used to be laid up frequently owing to jiggers, but now that they have learnt to examine their feet regularly, they do not suffer at all." In this way the penetration of the impregnated female is prevented, but at a later stage the excision of the gravid insect and its destruction by fire will obviate the propagation of the pest. Lastly, another observer, Captain Kilkelly, I. M. S., who was in charge of a native Regiment returning from Mombassa to Bombay, *viâ* Aden, has found that a period of from 2 to 3 weeks is required, from the time of the entry of the pulex into the tissues to the approximate time of ovulation, a fact which should secure the detection of cases in passengers from the East Coast of Africa to any Indian port. That the pest can, however, be introduced into new territory widely separated by sea from its present habitat, by incorporation in a human host, is shown by recent experiences in Bombay, where patients coming from Africa have been admitted to hospital.

The foregoing has its general interest in the fact that we have here a picture of an endemic disease becoming epidemic in the sense of its spreading widely and attacking the majority of the inhabitants of large and widely separated areas, but apparently always under the limiting conditions of the life requirements of its cause, an instance of the truth that epidemiology is a branch of Natural History. As regards the endemic areas, where the cause is one of the natural fauna, our safeguards lie in certain preventive measures; outside these areas, although the parasite may be introduced, its propagation and extension will depend on whether the environment be favourable or unfavourable to the requirements of what may be called the saprophytic stage of the organism.

India has long had constant and frequent communication with South America and the West Indies on account of the rice and coolie traffic, but there is no record of the introduction of the jigger by this means. More recently the connection of our West Coast ports has become much closer with the East Coast of Africa, and it was owing to the reports of the widespread nature of the pest and of the grave disabilities it inflicted, that the Government

of India were moved to take precautions for the prevention of its introduction into this country. The Governments of Madras, Bombay, Bengal, and Burma were accordingly addressed upon the subject, and the adoption of the following precautions was ordered. Periodical inspection and careful treatment of all Indian coolies employed by Government in British East Africa or in other parts of the continent having direct communication with Indian ports; medical inspection of all persons leaving East African ports for India and the prohibition of embarkation for India of those suffering from jigger; medical examination on boardship of passengers for India with the object of detecting cases infected shortly before embarkation, and which may have developed on the voyage; careful medical inspection at the port of debarkation in India of arrivals from Africa, and detention for treatment of all cases of jigger, in which the parasite had not already been extracted or destroyed. It was also arranged that advice should be given to natives in whom the parasite might develop after leaving Bombay and arrival at their homes, as to the nature of the disease and the necessity of early recourse to a dispensary for treatment. Where ships contained cases, washing down with kerosine oil was advised, and the ballast was to be discharged into the sea.

These precautions have so far been justified at each step; and the first alarm of a real danger to India of the introduction and dispersion of the jigger, though justifiable, was probably exaggerated. The timely warning received and the knowledge spread of the chief safeguards to be adopted, which may be summed up as personal care and cleanliness, have most probably secured us against one more scourge. But beyond this, it is doubtful if the damp coast districts of India to which the parasite would first be brought, are suited to the development of its larval stage; it is beyond doubt that jiggers must, previous to the warning of late in the year under review, have been carried into India by returning coolies or others, but, so far as is known, without establishing a foothold.

For the rest, it appears probable that the great range of temperature and the monsoon conditions to which the greater part of this country is liable, would prove inimical to its naturalization.

Disposal of excreta; the Sewage problem.

250. The effective removal and disposal of excreta in this country have ever been a standing problem for the sanitarian, and it is one that in the very diverse circumstances under which the different communities live, affords little prospect of a final and comprehensive solution. Out of a total population of some 300,000,000 persons, 90 per cent. dwell on the land in villages, the majority of which can only be visited at long intervals by a sanitary authority, and where ignorance and primæval custom in these matters give consent to that individual freedom of action which prevailed anterior to the Mosaic code. Hindus maintain a high standard of personal cleanliness, but their ignorance and the trammels of custom, make it very difficult to introduce sanitary improvements.

When we come to the towns and cities, the difficulties and dangers are increased, for the native retains much of his ignorance and clings to his customs, and what is effected by sanitary ordinance is but a more or less satisfactory compromise as far as removal of excreta is concerned, while the difficulties of disposal are greatly enhanced. This will be more clearly understood when the fact is grasped that, save in some half dozen of the largest towns, no system of sewerage proper obtains, and the very general arrangement

is for the night-soil to be removed by hand from the private dwelling and the public latrine, to spots set apart on the outskirts of the town, where it is commonly deposited in pits (from which it may or may not be removed after some months for use as manure), or it is trenched. Waste water (suliage) is dealt with separately ; as a rule, it trickles out of the houses and is carried off by surface drains to discharge into "tanks" or a convenient "*nullah*," or to a river. This is a point of great importance in view of any scheme of disposal. The native population uses an extremely small quantity of water for all domestic purposes, for while the average consumption per head in large English towns is about 33 gallons daily, it is probable that the native of India finds all his needs supplied by one or two gallons (excluding that for his cattle). It will now be evident that sewage, as the term is used in Europe, does not and never will exist in India, except under very exceptional circumstances, in a few large cities, with a water-supply on modern lines, and in Cantonments for British troops, when treated apart from any large native community in their neighbourhood. As Farr said—"a system of sewerage is the necessary complement of a water-supply" ; in the absence of the latter, save that obtained from a number of disconnected wells, the former has found no place in our plan of operations. Of recent years, however, the situation has been entirely changed in certain of the larger cities and towns by the introduction of that very factor, and we consequently find these more advanced communities face to face with the problems of disposal which have exercised English sanitarians during the last half century, or rather since the introduction of the water-closet in 1828-33. And it may be briefly stated that in the search for a means of disposal, the sewered towns in India have followed the example set in England. Bombay endeavours to discharge its excretory refuse into the sea, as is the case with Rangoon, where the "Shone" system of removal has long been in satsfactory operation. In Ahmedabad and Karachi, after certain difficulties of detail had been met and overcome, broad irrigation with subsequent cultivation, has been successfully carried out. The Calcutta sewage is conducted to an outfall into the Salt Lakes 5 miles east of the city ; that of Benares is discharged into the Ganges, while that of Simla finds its way into a mountain water-course.

In Cantonments, the system of disposal varies according to the site and the available land. The night-soil is removed by hand or cart, or, in a few instances in some hill stations, by wire tramway, to a suitable site where it is deposited in pits, or is trenched. Here we see the "dry-earth" system under the most favourable conditions, but with results often not in proportion to the efforts put forth, and hence the resort, in many cases, to incinerators.

The problem of disposal is simply how best to hasten and ensure the natural processes of decomposition, the complete resolution into the original component mineral and gaseous elements or compounds of the food of animals and men, the final stages in fact of a decomposition already begun in the body. Many of the preliminary steps by which the complex organic molecule is naturally resolved into simpler compounds, are doubtless of the nature of a hydrolysis brought about by enzymes in the absence of free oxygen (*e.g.*, insoluble albumens into peptones; urea into carbonate of ammonium), and this is a point of some importance in connection with the dissolution of the excess of suspended solids and extraneous rubbish (which is a prime characteristic of Indian sewage) in any method of biological treatment. But although the stages of

complete purification are many and complex, the final result can only be obtained in one way, *viz.*, by oxidation.

Oxidation may be brought about artificially by means of heat, naturally by the agency of microbes, either in presence of free oxygen or of reducible salts (*e.g.*, nitrate of soda); lastly by the vital action of living tissue-cells.

In the case of heat, oxidation may be —

(*a*) Complete, when the organic matter is entirely resolved, and no putrefaction products are evolved, implying a high temperature and free access of oxygen.

(*b*) Incomplete, when either by reason of the faulty construction of the incinerator, excess of moisture in the refuse or deficient fuel, the temperature is not sufficiently high, or oxygen does not obtain free access to all parts, and, as a result, partially decomposed products are given off, which if not dangerous, are at least a very serious nuisance.

When we invoke the agency of microbes, the processes are analagous :—

(*a*) With abundant access of oxygen, and under suitable conditions of temperature and moisture, decomposition is complete, and there is not only no nuisance, but we have at our disposal a stock of available capital for replenishing our depleted soil and so maintaining the cycle of life.

(*b*) With deficiency of oxygen, or defect in the other necessary conditions, there is putrefaction, with its drawbacks, if not dangers.

It is late in the day to re-affirm the great advantages and the superiority in every repect of Nature's method; but the artificial conditions created by the aggregation of large numbers of men on a limited area impose the necessity of furthering and assisting her efforts, which entails the exercise of care and judgment as to the form our assistance shall take in the varying conditions of the communities to be served.

The means of disposal in common use then, are —.

(1) Incineration.

(2) The discharge of the collected impurities into a water-course, sea or stream.

(3) The application to land, either by broad irrigation, by individual deposit on the surface, or by burial, more or less superficial.

(4) The new departure, or so-called "biological" methods now on trial in India as in England, in which the recognized agencies of the former methods (2) and (3) are afforded fuller scope on a more favourable stage, and under more certain control. It remains to discuss briefly these various means of disposal, in the light of the conditions that prevail in this country.

(1) The destruction of valuable organic refuse by burning is purely artificial and altogether wrong in principle; it entails immediate loss of the fixed nitrogen so valuable an asset in the earth's economy. Besides this there is the cost and loss of fuel. To burn sewage is doubly wasteful in India, where both manure and fuel are scarce—the want of the latter re-acting on the scarcity of the former—because the people are driven to the use of cow-dung as fuel. Attempts have been made to render the process cheaper by using ordinary refuse to burn night-soil, but it is only rarely and under exceptional circumstances that the former is in sufficient quantity or sufficiently combustible

to serve the purpose. In India the monsoon conditions militate against success in this respect, and as to the actual results, experience has shown that great nuisance (if not danger) from the evolution of partially decomposed products from lack of complete combustion, is very general. The heaping up of night-soil to await combustion, where the incinerator capacity is insufficient, is another common source of nuisance and danger. Again the admixture of earth with the night-soil, as carried out in the dry-earth system prevents combustion by heat; incineration therefore involves the abandonment of the dry-earth system in latrines with all its undeniable advantages. Lastly, this method fails to deal with the urine and slop-water, the larger part of the excretory refuse and on this account alone it is sufficiently condemned.

(2) Where a sewered town is situated upon or near a river, the temptation to discharge its sewage into the stream has only too frequently been succumbed to, and while this method of disposal depends upon the chemical and, chiefly, the biological forces which the stream commands, the almost inevitable result has been to create a fresh and greater danger in the place of the one which it is the object to defeat. This of course refers to raw untreated sewage which is commonly discharged in such amount, relative to the volume of running water, that the fauna and flora therein are unable to decompose it by the aid of the available oxygen, (which is an uncertain and limited factor), with the most deplorable consequences to the river and to the health of the community. But the discharge into rivers of a "purified" effluent from sewage has come to be recognized as feasible and permissible, although the English sanitary authorities have not yet found themselves able to specify a standard of "purity." This is a question that the present Royal Commission may be expected to pronounce upon, with an approach to definiteness that has hitherto been impossible, and towards the solution of which the conclusions recently arrived at from the experiments carried out on the Manchester Sewage and on the effect of the effluent obtained, upon the water of the Ship Canal, will materially assist.

The chief of the many methods devised to produce such "a purification" of the raw sewage, are—

(*a*) The precipitation of the suspended, and an uncertain but small quantity of the dissolved, impurities by chemicals.

(*b*) The filtration of sewage through land.

(*c*) The new "biological" methods, similar in principle to the former but not aiming at securing a profitable return.

Of the first it may be said that it is costly and only partially effectual; the dissolved matters are but little affected, and the chief problem is untouched. The effluent is not prepared for further self-purification in a stream that may be used for domestic service.

Broad irrigation may be highly successful and even profitable, but it requires a large area of land, which within a certain range must possess certain characteristics; the cost of land, of the necessary works and of the skilled supervision are drawbacks, while the results as to the quality of the effluent are in many cases very questionable. Where good porous soil is available and cheap, at a convenient distance and at the proper level to be commanded by gravitation, broad irrigation may certainly be ranked in the first class of the means of disposal, where the sewage is not "heavy."

The "biological" methods of recent introduction are an adaption of the principles of treatment by land filtration, and they depend upon the agency of micro-organisms, two broadly distinct stages being recognized in the entire process, just as has been shown to occur in the conversion of urea; the products of decomposition varying with the different classes of organisms in action, and in the presence or absence of oxygen. Whatever the details adopted, the ends sought are attained by exposing the sewage to the action of the micro-organisms with which it swarms, under conditions most favourable to their special functions, and ultimately in all cases, in the presence of free oxygen. We can control the action of the micro-organisms to almost any extent desired; the area required for the treatment of large quantities of sewage, and the expert supervision necessary are reduced to a minimum; climatic conditions, in the temperate and tropical zones, may be eliminated; a sewage, of almost any strength, may be adequately "purified;" and lastly, we retain the most valuable manurial elements, and as the chemical quality of the effluent is under control, we have the option of discharging it upon arable land, or into convenient water-courses. It must be admitted, however, that we have, as yet, no evidence that present biological methods will eliminate pathogenic organisms.

(3) Sewage may be simply discharged on to the surface of the earth and allowed to decompose, but unless the quantity be very small, and the place of deposit sufficiently far from human habitations and surface water-supplies, the practice is open to grave objections, especially in tropical climates under monsoon conditions, and measures should be taken to cover up the sewage with earth.

Again, the very prevalent practice adopted by Indian Municipalities of burying excreta in deep pits, is a modification of the old cess-pool. Oxygen fails to get access to the mass, and we get a minimum of the desirable nitrification, with a maximum of slow putrefaction. The method is unscientific; it is slow and wasteful, always objectionable and often dangerous.

"Trenching" stands in a different category, and provided it is carefully and properly carried out, it offers every advantage from the practical and scientific standpoints. It is indeed Nature's method in its simplest and most direct form; where land is available, of suitably porous character, well drained but with sufficient moisture; where the sewage is buried superficially and in moderate quantity, within the range of the nitrifying organisms and the access of oxygen, and where subsequent cultivation is not delayed, we have perhaps the most simple, scientific and adequate means of disposal for small isolated communities, where labour and land are cheap. One factor of prime importance is adequate and intelligent supervision; where "trenching" has failed in India and led to the employment of incinerators, it has been due to neglect or absence of one or more of the above conditions.

Coming now to the consideration of the various methods of disposal, it is obvious that the local conditions of each community must be taken fully into account. The conditions in India itself vary greatly, and as markedly from those which obtain in England, so that it is evident that a scheme which may be eminently suitable for one place, is not necessarily desirable for, even if practicable in, another.

In England labour is very dear, land is valuable and the population is congested, and an organic system of water-supply and sewerage is very general;

the problem to be faced, therefore, is the safe and expeditious disposal of a large quantity of fluid, comparatively lightly charged with organic impurities, without using much land in the neighbourhood of a town, and with a minimum of labour. The sewage of a large community, therefore, cannot be buried, and its discharge on to land has in most cases been accompanied by difficulties which have led to the introduction of the biological methods, which secure, at a minimum of cost, of labour and of land, an effluent that can be safely discharged into a river, under safeguards to water-supplies derived therefrom.

In India, on the other hand, the conditions affecting the majority of communities are very different—though water-supplies on European lines have been in some cases introduced, we have no complete organic system of sewerage as a direct adjunct to the water-supply, and we still live in the house-privy and public latrine era. As a consequence of this and of the comparatively small quantity of water used for domestic purposes, the sewage will not bear comparison with that ordinarily dealt with in England, and it must be remembered that the daily average solid excreta of the native of India, is from twice to thrice as large as that of a European. We have consequently to deal, in the main, with night-soil on the "dry" system; land is generally available, labour is cheap, microbial life is luxuriant, and there need be no question of an effluent. The best means of disposal, therefore, is, in the majority of cases, proper "trenching" on the lines, and under the conditions laid down; adequate supervision throughout, from the latrine to the disposal ground, being the great essential.

But we have seen how in the cases of larger communities, other systems have had to be introduced, and the question has arisen as to how far the new biological methods may be adapted to Indian conditions, where circumstances prevent a direct application of sewage to the land. Beginning tentatively, and dealing only with the domestic sullage water (including some urine) of individual dwellings, the Sanitary Commissioner with the Government of Madras as early as 1895, devised a simple "filter" of ordinary porous material (gravel and sand) to be placed at the house-drain outlet, and which, in its most effective form, provided for the upward and downward passage of the sullage. Further, larger "bacteria beds" of similar material, but allowing only of intermittent downward filtration, were instituted by the same officer for the purification of larger quantities of the same "slop-water," where otherwise it would discharge into natural "tanks" or excavations near the inhabited site. It may briefly be said that these simple devices have amply fulfilled all expectations, and pending the introduction of arrangements for complete sewerage, they undoubtedly offer a scientific, safe and cheap solution of the problem of sullage disposal, which is indeed one of grave concern to all Indian sanitary authorities.

The first attempt to deal with the solid and liquid excreta on this system was made in Quetta in 1898, the apparatus being of a small experimental kind on the lines of Mr. Cameron's Exeter process. The aim of Major Melville, R.A.M.C., who instituted and carried out this experiment, was to see what could be done with cantonment sewage diluted with equal parts of "slop-water", and subsequently with ten parts of water.

Owing to the short time at his disposal, this pioneer experiment was only carried on for three months, and no elaborate chemical analyses could be made;

but the results were sufficiently encouraging as to make it plain that a very powerful addition had been made to our resources as regards the sanitation of cantonments, where owing to the nature of the soil, etc., the old system of earth-burial had fallen into disrepute, mainly as a probable factor in the prevalence of endemic typhoid fever.

Subsequently similar experiments on a larger scale were carried on in the Presidency Jail, Calcutta, and in Poona, in both instances on the lines of the Septic Tank system; but the sewage treated in the case of Poona was considerably more dilute, the excreta of each person being mixed with 15 gallons of water. Here again the results have realised all anticipations, but the chief point of interest beyond the disposal of the excreta, is the extraordinary manurial value of the effluent. Simultaneous cropping experiments were made on several small areas of land, to which poudrette, crude sewage, farm yard manure and effluent respectively were applied, the result being most markedly in favour of the last; it is confidently anticipated that a very large recuperative revenue will accrue on this account.

Lastly, it may be well to refer to some recent experiences gained in experiments carried out at Simla, since, owing to the strength of the sewage treated, the results attained have, like those of Quetta, considerable importance with special reference to conditions peculiar to Indian communities, *e.g.*, cantonments, and to places where although there be no organic water-sewerage system, smaller quantities of water are available, as from a stream or from light sullage.

The sewage treated was the crude night-soil (solid excreta with a varying amount of urine) together with the small quantity of ablution water each native uses, probably a pint on the average. Repeated experiments with "control" sewages artificially prepared, showed that this consisted of from 8 to 10 oz. of solids, from 15 to 20 oz. of urine (for more than half the urine never finds its way to the depôts) a varying amount of raw vegetable refuse, and some rubbish, rags, etc. The population is one in which the proportion of adults to children is very large, 6 or 7 to 1. To each night-soil unit with its pint or so of ablution water, 5 gallons of water were added from a stream which receives a certain quantity of the sullage drainage of the town, and in this way 500 gallons of sewage were daily prepared containing the excreta of 90 persons. It will be seen that so far as the solid excreta are concerned, this dilution, as compared with an average of 3 oz. per head for a European population, was only equal to something less than 2 gallons per head. Three small experimental installations were prepared; one on the Exeter plan with a Septic Tank of a capacity of 200 gallons, through which 100 gallons of the sewage were passed daily; the attached filter had a capacity when filled with "clinker" of 100 gallons. The second was a copy of the Dibdin double downward bacteria beds $4\frac{1}{2}$ feet deep, each having a capacity for 200 gallons of sewage, when filled with clinker of walnut size. The remaining 200 gallons of sewage was passed into a Scott-Moncrieff upward filtration tank or bed, and thence down through an aerating bed which also accommodated the 200 gallons when plenished with finer clinker, $4\frac{1}{2}$ feet in depth. These installations were worked daily, save on occasional Sundays, for three months, the filters receiving but one charge a day; and for the greater part of the time the sewage was retained in them for periods varying

from one o three hours; latterly it was allowed to flow through without retention.

Excluding the coarse adventitious rubbish which was screened off, the composition of this sewage was on the average of 10 analyses, (controlled by analyses of artificially made sewage of the composition previously noted), as follows:—

	Grains per gallon.	
1. Total solids	304	Varying with the food grains; large quantity of undigested grain and vegetable matter.
Solids in suspension	172	
Solids in solution	132	

	Parts per 100,000.
2. Ammonia (Free)	14 to 16
3. Ammonia (Albuminoid)	8 to 10
4. Chlorine	16 to 20

The chief points to be noted are the excess of suspended over dissolved solids, and the very large amount of albuminoid ammonia, due probably to the undigested grain and vegetable matters, and also to the relatively small amount of urine.*

It soon became apparent that the Dibdin beds could never work satisfactorily for more than a few days, without requiring the removal of the felt of suspended solids which formed upon the surface and choked the pores of even the coarse material used: but given that attention, the effluent from the lower bed was undoubtedly the best obtained, as might be expected; but the object of getting rid of the sludge was defeated. In this respect much more was hoped from the other installations, both of which call into play the so-called "septic" or putrefactive action of anaerobic organisms. This question has been so fully discussed of late, that it need scarcely be entered on here, but the Simla experiments indicate that it is especially in very heavy domestic sewages, that this stage of the "biological" methods offers the most advantages, and this was the most striking lesson afforded by the experiments. First, in this respect, the 300 to 350 grains per gallon entering the tank were invariably reduced to from 60 to 70 grains, of which only 5 to 10 grains were in suspension; the result was identical from the passage through the upward Scott-Moncrieff bed. It should be noted that whereas the sewage took two days to pass completely through the Septic Tank, the full capacity of the Scott-Moncrieff bed was charged daily. At the conclusion of the experiment, no deposit of sludge was found in the upward filtration bed, save a small layer half an inch thick, due to the last day's operations. The same may be said of the Septic Tank, size $6' \times 2\frac{1}{2}' \times 2'$: the whole floor was covered with a layer of gritty sludge half an inch thick, while just below in the inlet pipe, there was a small conical heap of $2\frac{1}{2}$ inches. Measurements had been taken at two spots in the tank every week, and at first there was a gradual increase in the deposit, which went on in a decreasing ratio for six weeks, and amounted at the most to $4\frac{1}{2}$ to 6 inches; thereafter it steadily declined to the insignificant amount above noted. This settled satisfactorily one point of extreme importance in view of the nature of the sewage, and it only remains in this brief note to refer to the quality of the effluent.

* Fresh acid urine will give a total solid residue of roughly 2 oz. in 40 oz. of the fluid. A state alkaline urine yields little more than half this amount of solids.

A comparative tabular statement will best convey the facts of the means of the several analyses :—

	1	2	3	4	5
	Night-soil with 5 gallons of water per head.	Effluent from Septic Tank.	Effluent from upward filtration bed.	Filtrate from aerating bed of Septic Tank.	Filtrate from aerating bed of Scott-Moncrieff (upward) installation (No. 3).
		Parts per 100,000.			
1. Total dry solid residue	432	107	93	86	86
Solids in suspension .	244	14	7	3	2
Solids in solution . .	188	93	86	83	84
2. Ammonia (Free) . .	14·5	8·1	8·15	3·9	4·3
3. Ammonia (Albuminoid) .	9·3	2·8	1·9	1·08	0·9
4. Nitrates	...	...	...	1·1	1·42

N.B.—The chlorine was regularly present at 16 to 20.

It has to be noted that although the "purification" attained may not be ranked as first class on some arbitrary standard, it is the result of contact with only one aerating bed, and all recent experiments have shown that almost any degree of purification may be attained by double or "multiple contact." But before finally appraising the effluent, one point of great interest remains to be noted. It is intended to discharge the final effluent into a rocky mountain stream, which has hitherto received the crude sewage to its great detriment. It seemed advisable, therefore, to enquire into the effect of mixing the above filtrate with the stream water, as it is obvious that a filtrate crowded with nitrifying organisms, carries with it the means of self-purification if oxygen be supplied, as would certainly be the case in such a stream. Equal parts of filtrate and the river water were therefore mixed, and although analysis was carried out at once, the mean result of four analyses was as follows:—

	Parts per 100,000.
Ammonia (Free)	0·93
Ammonia (Albuminoid)	0·35
Nitrates	0·925
Chlorine	11·0

As the stream at its lowest yield will always provide a dilution of 6 or 7 parts to 1 of filtrate, there does not appear to be much left to desire on the chemical side of the question.

Without any pretension to a conclusive value, this note of a recent preliminary trial may serve to indicate a possible scope for biological methods under certain conditions in India.

Leprosy.

251. The volume* devoted to the report of the German Plague Commission contains a paper on Leprosy by Professor Sticker of Giessen of more than ordinary interest and importance.

Professor Sticker, who was one of the Commission, spent such leisure as he could snatch from his work in connection with plague in examining the lepers

* Arbeiten a. d. Kaiserlichen Gesundheitsamte, Vol. XVI.

in the Matunga Asylum in Bombay; he also visited Nasik, where he examined 40 lepers; and, on his journey to Europe, he examined a few in Cairo and Alexandria.

The result of Professor Sticker's work is to show that the nose is peculiarly the seat of leprosy. It is in the nose that the disease begins; it is from the nose that it is spread; and it is in the nasal secretion of the sufferer that the bacillus of leprosy is to be found, if it is to be found anywhere.

Particulars are given of 153 cases, of which 57 were nodular, 68 were anæsthetic and 28 were mixed.

The bacilli of leprosy were found in the nasal secretion in 55 of the cases of nodular leprosy, the two exceptions being elderly women, in whom the disease had remained quiescent for some time.

In the cases of mixed leprosy the bacilli were present in the nasal secretion in about the same proportion, 27 out of 28.

In the anæsthetic variety of the disease the presence of the bacillus in the secretion of the nose was not so constant; in 23 out of 68 cases it was not found, but in 19 of these 23 cases the disease had made no progress for years. Moreover, it is probable that further examination would have reduced the number of negative results, for on several occasions the baccilli, although not found at the first examination, were discovered in abundance at the second.

In almost every case, whether nodular or anæsthetic, young or old, recently acquired or apparently healed, some stage of ulceration of the nasal mucous membrane was to be found, generally over the cartilaginous portion of the septum.

Professor Sticker's experience leads to the following eight conclusions :—

1. The lesion in the nose, which generally contains and discharges large numbers of bacilli, is the single constant change in all cases of leprosy, in every form and stage of the disease.

2. The affection in the nose having the character of an ulcer or its sequel, although no trace of leprosy can be found elsewhere, must be something peculiar.

3. In every case of anæsthetic leprosy, whether it appears to begin on the hands, on the face or on the feet, the leprotic lesion is virulent on the nasal mucous membrane as regularly as in cases of nodular leprosy.

4. So long as the leprosy is not completely healed, the nasal ulceration contains the bacilli in greater or smaller numbers. But even in cases apparently completely cured the nasal ulceration may remain virulent for years.

5. As a rule, relapses and extensions of the disease are heralded by local signs in the nose, particularly epistaxis.

6. The nodules of leprosy generally first appear in the immediate neighbourhood of the nose.

7. Signs referable to the nose, itching, severe epistaxis, catarrhs, swellings, etc., are described by many lepers as forerunners of their attack; and such have long been known by the best observers as prodromata, although hitherto they have been erroneously explained.

8. The nasal ulcer containing bacilli may be found as the sole, and therefore the first sign of leprosy in children.

Professor Sticker gives the results of the examination of the nose in the 153 cases in the form of a table, which is reproduced below :—

		Cases in which the nasal mucous membrane appeared healthy.	Dry inflammation to ulceration.	Superficial atrophy of the mucous membrane.	Swelling of the mucous membrane with or without catarrh.	Contraction of the nasal passages.	Ozæna.	Advanced destruction of the frame of the nose.	Perforation of the Septum.
Nodular Leprosy	57 cases								
Cases with bacilli in nasal secretion	55 „	2 (12)	18 (8-45)	1 (11)	...	13 (8-50)	6 (12-60)	15 (10-60)	10 (10-55)
Cases without bacilli	2 „	1 (60)	1 (45)	...	...	...	...	...	...
Anæsthetic Leprosy	68 cases								
Cases with bacilli	45 „	6 (5-45)	10 (10-60)	1 (55)	2 (8-10)	5 (20-45)	5 (20-50)	16 (15-66)	11 (15-66)
Cases without bacilli	23 „	8 (12-60)	1 (45)	4 (40-66)	...	1 (60)	1 (45)	8 (45-50)	2 (50)
Mixed Leprosy	28 cases								
Cases with bacilli	27 „	1 (5)	4 (10-52)	...	4 (14-36)	3 (23-45)	3 (30-50)	12 (14-65)	11 (14-45)
Cases without bacilli	1 „	...	...	...	1 (12)	...	...	...	...
Total of all cases .		18	34	6	7	22	15	51	34

The figures in brackets give the approximate limits of the ages of the lepers.

The practical conclusions are that in every case where leprosy is or may be suspected, the secretion of the nasal mucous membrane should be carefully examined for the bacilli of the disease.

Severe nasal catarrh, commencing ozæna, and, above all, frequent bleeding of the nose, occurring among persons who have lived long among lepers are suspicious, and require careful bacteriological examination and timely local treatment.

Doubtful cases of leprosy may be cleared up by discovery of the bacillus in the nasal mucous membrane.

A leper in whom the skin and nervous lesions have long ceased to progress can be regarded as free from danger to his surroundings, only when the complete healing of the primary affection in the nose is established by examination.

Therapeutic measures should be directed to the destruction of the disease in the nose, since experience teaches that all secondary manifestations tend to spontaneous cure, while the nasal affection is extremely persistent.

Tuberculosis.

252. At the International Congress on Tuberculosis, held at Berlin on May 24th to 27th, 1899, Lieutenant-Colonel A. Crombie, M.D., Indian Medical Service (retired), was the delegate appointed to represent the Government of India. This officer has furnished a most interesting report on the proceedings, with special reference to the prevalence and prevention of the disease in India, and it has been included as an appendix to this section.

ROBERT HARVEY, *M.D., F.R.C.P.*,
Surgeon General,
Sanitary Commissioner with the Government of India.

Appendix to Section X.

Report on the recent Congress on Tuberculosis at Berlin, with special reference to the Prevalence and Prevention of the Disease in India ; by Alexander Crombie, M.D., Delegate for India.

The Congress was opened on the 24th of May 1899 by His Serene Highness the Duke von Ratibor, in the presence of Her Majesty the German Empress, in the Chamber of the Reichstag, where all the subsequent meetings were held. The Congress consisted of nearly two thousand members, besides about one hundred and sixty delegates representing different Governments, Universities, and public bodies interested in the prevention of tuberculosis.

The proceedings consisted in the reading of a large number of papers, mostly in the German language, on the nature, spread, prevention and treatment of tuberculosis. The number of these papers, which took the form of essays on the various aspects of the questions, was so great that there was little or no opportunity for discussing any of the points raised. They were not marked by the announcement of any new discovery, either in the pathology or treatment of tuberculosis ; their value, which it would be difficult to overestimate, consisted in the clear way in which they re-stated what has been already ascertained regarding the disease, and in drawing attention, in an emphatic way to the prevalence of tuberculosis in European countries, to its essentially communicabl, nature, and to the measures which are calculated to prevent its spread.

The following summary may be taken to represent the general conclusions arrived at by the different speakers during the four days which the Congress lasted, and to it I will add a few propositions having special reference to the existence of tuberculosis in India.

I.—*Essential Nature.*

Tubercular diseases are due to the presence and multiplication of the Tubercle Bacillus, discovered by Dr. Robert Koch (Flügge).

II.—*Heredity.*

Tuberculosis is acquired, not inherited. It is never seen in the unborn or in the newly-born, though it may be implanted in the first few days after birth (Virchow). Among 800 infants admitted to his clinique in Berlin, Heubner found no cases of tuberculosis in the first quarter of the first year of life, but about 26 per cent. of those of the fourth quarter of the first year were tuberculous.

Löffler doubts whether there is such a thing as an inherited or acquired predisposition to tuberculosis, or any natural immunity among mankind, either inherited or acquired. Koch and Virchow are, however,of opinion that a predisposition can be and is inherited. The latter says: "Tuberculosis is essentially a disease of extra-uterine life, and if it is hereditary, as it undoubtedly is, yet it is never congenital. It is hereditary not as a disease, but as a predisposition." In this opinion all practical men will agree (see Mosler "Über Entstehung und Verhütung der Tuberkulose als Volkskrankheit.") The features of this inherited predisposition are well known.

Others speak less dogmatically than Virchow of the complete absence of the bacillary infection in unborn children, though all admit its extreme rarity (Löffler). Of sixty female guinea pigs with artificially induced tuberculosis of the reproductive organs, one had tuberculous offspring.

III.—*Etiology.*

A disposition to tuberculosis may be acquired by living in dark, insanitary, damp, underground, badly ventilated or overcrowded dwellings ; by working in overcrowded workshops ; by certain occupations, especially such as entail the continued occupation of cramped positions interfering with the free play of the lungs, or such as lead to the inhalation of irritating dust (knife grinders, &c.) ; by inflammatory diseases of the bronchi or pleura ; by attacks of measles, whooping cough, mumps, &c. ; by general deterioration of health by insufficient or improper food ; by the abuse of alcohol ; by constitutional syphilis ; by diabetes

The prevalence of tuberculosis is in indirect proportion to the well-being of the community. Those who are well fed, well housed, and live and work in the open air, are much less subject to tuberculosis than those who spend their lives in crowded insanitary conditions. In certain industrial centres in Germany 50 per cent. of the death-rate of men from 15 to 60 years of age is due to tubercular disease (Friedeberg). The great diminution in the number of deaths from consumption in England and Wales during the last half-century, as noted in the Registrar-General's reports, as well as in Denmark (from 3·63 per 1,000 living in 1835—39 to 1·86 in 1895—98 in Copenhagen. Lehmann), is no doubt mainly due to the amelioration of the conditions in which the poor live in these two countries. The deaths from all diseases have kept pace with those from consumption.

With regard to the effect of improved diet, Mosler mentions the interesting fact that whereas formerly it was impossible to keep anthropoid apes alive in the Vienna Zoological Gardens for a single year, because of their susceptibility to lung-tuberculosis, Dr. Knauer succeeded in keeping one free from tuberculosis for seven years, and another is still alive after two years, by feeding them chiefly with roast meat. His generalisation, that a vegetarian diet favours infection by the tubercle bacillus, by inducing a debilitated state of the body, will not bear the light of Indian experience.

With regard to the abuse of alcohol as a predisposing cause of tuberculosis (Baer), the recent report of the Drink Commission shows that the most drunken counties of England are Northumberland, Lancashire, and Durham. In these counties one man in every 100 commits an offence annually through drunkenness. The death-rates from consumption in these three counties in 1,000 of the population are, respectively, 1·723, 1·540, 1·392, against 1·159 for the rest of England. In respect of mortality from consumption in England, they stand, respectively, 1, 2, and 4.

IV.—*Tuberculosis in Animals.*

Mosler asserts that among animals the carnivora are less susceptible to consumption than the herbivora, and among the latter, those which eat grain than those which live on grass; that the horse is less susceptible than the cow, and the mouse than the guinea-pig and rabbit. But the three animals which are most "refractory" to tuberculous infection are the dog, the goat, and the horse, which represent all three classes, and the omnivorous pig is just as susceptible as the cow. As I will show later, the high-caste vegetarian Hindu is the least susceptible of the races of Northern India to tubercular disease.

The tuberculosis of the cow and of the swine has been shown to be identical with that of man (Bollinger, Virchow). This identity rests on that of the tubercle bacillus. The dentity of the tuberculosis of birds is not established (Virchow, Flügge).

V.—*Mixed Infection.*

Phthisis pulmonalis, or consumption (of the lungs) as it is known clinically, is seldom long a pure tuberculosis; these terms include various pathological changes (inflammation, ulceration, &c.), the result of "mixed infection," the tubercle bacillus working together with other micro-organisms, the streptococcus, pneumococcus and others, to bring about the local and constitutional symptoms (Pfeiffer). The advent of fever (hectic) marks the commencement of this mixed infection, and is an indication of increased danger both to the patient and his associates. "Open tuberculosis" is an expression used to indicate the accession of these secondary ulcerative changes.

VI.—*Communicability.*

Tuberculosis is a communicable disease, but it is not infectious in the popular sense of the word, in the sense in which scarlatina, mumps, and typhus fever are infectious, although the only scientific distinction is that the infectious material of tuberculosis is not so easily diffused as is that of the diseases named. The *contagium vivum* of lung tuberculosis, for instance, is contained in the sputum, not in the breath of the patient, or in his surroundings, so long as these are not contaminated by his sputum, *i.e.*, by the tubercle bacilli contained in his sputum. The communicability of tuberculosis has been proved beyond all dispute by experiments on the lower animals.

VII.—*Sources of Contagion.*

The sources of contagion of tuberculosis are the discharges from tuberculous sores (the sputum of phthisical patients) and the flesh and dairy products of diseased animals.

The sputum of consumptives, even when rich in tubercle bacilli, is, however, harmless so long as it remains in a moist condition. The bacilli cannot escape from it, until it is dry and converted into dust. They are then in a condition to be diffused into the surroundings of the patient. The dust of hospitals and sick rooms where phthisical patients are treated contains active living tubercle bacilli, capable of communicating the disease. As dust they find their way into the air, and may be found in the food, on clothing, books, and on the furniture generally of the room, and it is chiefly in this way that the disease is conveyed. The danger would, however, be much greater were it not that sunlight rapidly destroys the vitality of the germs (Gebhard).

In the acts of coughing and sneezing the moist sputum may be squirted or "sprayed" into the mouths or air passages of healthy persons, or it may be conveyed directly from lip to lip in the act of kissing. These are, however, comparatively rare methods of infection (Fränkel).

The danger from the use of the flesh of tuberculous animals arises not from the muscular tissue itself, which even in the general tuberculosis of animals is probably always free from tubercle, but from the lymphatic vessels and glands, which are most liable to be diseased, and from which the meat cannot be entirely separated, as well as from contamination from contact with diseased bones and other parts (Schumburg). The flesh of pigs is much more frequently tuberculous than was formerly thought (Virchow). The statistics of the Leipzig Abbattoir demonstrate the great prevalence of tuberculosis among cattle killed for food. Of 27,191 cattle slaughtered for this purpose, 9,899, or 36 per cent., were suffering from tuberculosis. Of the latter number, in 2,881 the tuberculosis was general, and the whole carcase was condemned; in 7,018 it was more or less localised, and the meat was passed as fit for use. Pigs were less frequently affected with tuberculosis, but, on the other hand, they were more frequently affected with general tuberculosis, *i.e.*, in 40·16 per cent. of the cases (Army Medical Report for 1897).

(The flesh of goats on the contrary is probably always free from this infection. A. C.)

The milk of tuberculous animals very frequently contains tubercle bacilli, not only when they are suffering from tubercular disease of the udder, but also in localised and general tuberculosis (Bollinger). The extent of this danger may be estimated by the fact that 50 per cent. of the milk supply of Berlin is so infected (Fränkel). The late Professor Kanthack and Dr. Sladen found that more than 50 per cent. of the milk supplied in Cambridge contained tubercle bacilli ("Lancet," 14th January 1899). The danger from this source is much enhanced by the custom of mixing large quantities of milk from different sources before distribution. A single diseased cow is in this way capable of infecting a large quantity of milk (Obermüller).

Obermüller found that 30 per cent. of the guinea-pigs which he injected with tubercle bacilli derived from the best milk supply in Berlin (the so-called "Kindermilch") died of tuberculosis in from 11 to 13 weeks.

The danger of using butter obtained from diseased animals is only less, because a less quantity is consumed. 50 per cent. of the butter supplied to Berlin tables contains tubercle bacilli (Obermüller, Virchow), or at least bacilli which very closely resemble them, and are identical in their microscopic pathological results (Lydia Rabinowitsch).

VIII.—*Paths of Infection.*

The ways in which tubercle bacilli find entrance into the body are by inoculation of wounds in the skin, or through the uninjured mucous membrane. Any cutaneous wound or sore may be planted with bacilli in a room which contains dust derived from dried up phthisical expectoration, or they may be inserted at the time of the injury should this be caused by articles covered by recent sputum (broken spittoons, &c). In such cases the tuberculosis is usually localised at the site of the injury, or it may extend to the neighbouring lymphatics. Such modes of infection are not frequent.

The great portal for the entrance of tubercle bacilli is the mucous membrane of the air passages and mouth, especially that of the lungs themselves. Though long continued application of tubercle bacilli to the uninjured mucous membrane, as when tubercle-

infected dust is habitually breathed, may result in tubercular infection, the entry of the bacilli will be greatly facilitated by any injury or weakening caused by disease, especially inflammations of the endothetial covering. This has been shown experimentally by Squire, and Woodhead has drawn attention to infection of the tonsils, not only as a cause of strumous glands of the neck, but also perhaps of tubercular meningitis. Inflammations and catarrhs of the bronchial mucous membrane, which may be supposed to interfere with ciliary movement, will also facilitate the implantation of the bacilli (Fränkel, Virchow).

Healthy persons, and especially children who have inherited a predisposition, run great risks from living in rooms and breathing air infected with dust containing tubercle bacilli from dried sputum. It is in this way that the disease is usually spread in families from one individual to another. Staff Surgeon Dr. von Zander found that among 312 cases of tuberculosis which came under his observation from January to April 1899 the infection was probably conveyed in this way in 117, thus:—

1. From father	5 =	1·6 per cent.
2. From mother	9 =	2·9 „
From parents	14 =	4·5 „
3. From a brother	18 =	5·7 „
4. From a sister	20 =	6·4 „
From brother or sister	38 =	12·1 „
5. From child to parent	6 =	1·7 „
6. From other relation	5 =	1·6 „
Total relations	63 =	20·1 per cent.
II.—1. From husband to wife	9 =	2·9 per cent.
2. From wife to husband	12 =	3·8 „
	21 =	6·7 „
III.—Other sources, namely,—		
1. From business associates	16 =	5·1 „
2. From house companions	17 =	5·4 „
	33 =	10·5 „
Total of ascertained sources of infection	117 =	37·5 „
Total of unascertained	195 =	62·5 „
	312 =	100 „

These figures show in how large a proportion of cases of tuberculosis the infection can be traced more or less directly to intimate association with diseased persons. Heubner pointed out that a large proportion of the tuberculosis of after life was probably acquired in the first two years after birth, when children are exposed to the greatest danger from this source of infection.

Milk being the principal food of children during the first two or three years of life, it is chiefly at this period that uberculosis is acquired through this medium, when it so frequently takes the form of tubercular ulceration of the bowel and disease of the mesenteric lymphatics (*tabes mesenterica*). The European custom of consuming the milk in a raw state accounts for the great comparative frequency of these diseases in European children. The power of the digestive juices to destroy the vitality of the bacilli is the sole protection they enjoy, and anything which disorders and weakens digestion will give increased opportunities to the bacilli, which have been shown to exist so largely in the milk supply of large towns. Any debilitating disease, such as measles, influenza or insufficient or improper food, will act in this way. Unfortunately, it is weakly children who are chiefly fed on raw milk.

IX.—*Prevalence.*

A very valuable series of tables, showing the prevalence of consumption and inflammatory diseases of the respiratory organs in the different European States, was placed in

the hands of the members of the Congress by the Imperial Health Office. From these tables I extract the following particulars as being of special interest and value :—

Annual death-rate from consumption per 1,000 inhabitants.

State.	Death-rate.	Remarks.
England	1·358	
Scotland	1·727	
Norway	1·737	
Belgium	1·767	
Italy	1·871	
Netherlands	1·884	
Denmark	1·912	Towns.
Ireland	2·029	
Switzerland	2·031	
Germany	2·245	
Sweden	2·310	Towns.
France	3·023	Towns.
Hungary	3·184	
Austria	3·625	
Russia	3·986	Towns.

Death-rate from consumption in towns per 1,000 inhabitants.

Name of Town.	Population.	Death-rate from consumption.
1. Buenos Ayres	567,542	1·653
2. Naples	527,192	1·763
3. London	4,406,659	1·768
4. Amsterdam	498,772	1·877
5. Hamburg	625,552	2·115
6. Berlin	1,677,304	2·308
7. Warsaw	551,668	2·453
8. New York	1,977,041	2·529
9. Rio de Janeiro	632,250	3·803
10. Paris	2,511,629	3·870
11. Budapest	579,275	4·140
12. Vienna	1,511,114	4·272
13. St. Petersburg	1,027,624	4·410
14. Moscow	817,495	4·568
15. Madrid	482,816	4·077
16. Havre	118,478	5·085

In Germany, with a total death-rate of 21·8 per 1,000, the yearly death-rate from lung tuberculosis is 2·25 (10·3 per cent. of deaths), and from lung disease generally 4·9 (22·9 per cent.). Between the ages of 15 and 60 the total death-rate is 9·1 per 1,000, of which 2·95 (32·4 per cent.) are from lung tuberculosis. About 87,600 men of these ages die in Germany of lung tuberculosis annually (Köhler). In the German army the deaths from tuberculosis have steadily fallen from 0·63 per cent. in 1882-83 to 0·24 per cent. in 1897-98, with the exception of a slight rise in 1890-92, probably due to influenza. As the tuberculosis in the army bears a direct relationship to that of the general population, this decrease may be regarded as an index of greater care in recruiting; and as it is found that recruits who enter the army at 20 years of age suffer less than those who enter at 22, the influence of army life is probably favourable. Twenty-nine per cent. of those who become consumptive have tuberculous relatives (Schjerning). Kuthy calculates that there are about 400,000 consumptives in Hungary, *i.e.*, about 25 per 1,000. Tuberculosis always bears a direct relationship to thickness of population, and in some German industrial centres lung tuberculosis causes nearly 50 per cent. of the total death-rate (Friedeberg). It amounts to 47·7 per cent. among knife-grinders (Stratman); and in industrial assurance unions tuberculosis causes 11 per cent. of the invaliding, and in men up to 50 years of age it takes the second place, and up to 30 years it causes more than half of the invaliding (Gebhardt).

X.—*Prophylaxis.*

The prophylaxis of tuberculosis, and especially of lung tuberculosis, was considered under the following heads :—

1. *Notification.*—This can only, in the meantime, be regarded as a counsel of excellence. The difficulties of giving effect to this recommendation were fully recognised.

2. *Isolation.*—This also presents great practical difficulties of an obvious kind. Much, however, might be done by educating the popular mind as to the danger connected with "open" tuberculosis, a duty which is incumbent on all doctors, nurses, teachers, and clergymen. Children should, whenever possible, be separated from tuberculous parents. Phthisical children should be excluded from kindergartens, schools, orphan asylums, &c., and phthisical workmen from general workrooms, factories, &c.

3. Amelioration of the conditions of life, especially among the poor and in industrial centres, should be steadily carried out in respect of housing, sanitation, sobriety, food supplies, &c.

4. *Regulation of Food Supplies.*—This includes the application of the tuberculin test for the detection of bovine tuberculosis, the periodic inspection of slaughter houses, butcher shops, byres and dairies, and the destruction of all animals affected with tuberculosis.

5. *Cooking.*—All meat should be thoroughly cooked, and all milk boiled. (Butter should be salted or converted into ghi. A. C.)

6. *The Removal, Disinfection, and Destruction of Expectoration.*—Promiscuous expectoration should be prohibited. In all public places numerous spittoons, half filled with water or a disinfectant, should be provided, namely, in schools, public offices courts of justice, etc. Streets, pavements, etc., should be deluged with water at least once in 24 hours, best at night.

In sick rooms, hospitals, etc., patients should be forbidden to use pocket handkerchiefs, and properly constructed spittoons, three quarters full of water or a disinfectant provided; spittoons made of papier-maché, which could be destroyed together with their contents, are recommended. (In institutions for the cure of consumption each patient is provided with a wide-mouthed bottle which he carries about with him, to ensure the purity of the floors, walks, grounds, etc.) All sputum from these different receptacles should be destroyed daily by fire in a suitable destructor. The object of this care with regard to the sputum, is to prevent the spread of the disease through the expectoration becoming dry and converted into dust.

7. *Disinfection of Sick Rooms.*—This should be carefully carried out, if possible, under the directions of a responsible official (Roth, etc.).

XI.—*Curability.*

The curability of phthisis is now regarded much more favourably than formerly. Many cases attain cure in the clinical sense, *i.e.*, the local symptoms pass away, the bacilli disappear from the sputum, and the general condition improves, so that there is complete ability to resume work. In institutions for the cure of lung tuberculosis the recoveries in this sense reach 20 per cent. (Curschmann). Westhoven gives the following statistics for the institution opened at Danenfels in Donnersberg for the treatment of lung disease among the employés of the Anilin and Soda Manufactory at Baden, opened in 1893 :—

	No.
1. Cured so as to resume work in the factory	21
2. Much improved, nearly cured, able to resume work in factory	16
3. Improved, but hardly fit for work	12
4. Improved, fit for work till a second admission at Danenfels	4
5. Absconded before completion of cure	15
6. Not improved, died shortly after discharge	25
7. Died in Danenfels	4
8. Still in Danenfels	3
TOTAL	100

XII.—*Treatment.*

No announcement of any important discovery of any new means of treatment was made, and it is impossible to enter into so large a subject as that of the treatments

recommended. The chief interest was centred in the treatment adopted at the special institutions for the cure of lung tuberculosis, which are spreading rapidly throughout Europe, as inculcated so earnestly by Brehmer, Gebhardt and Dettweiler. The treatment consists in a combination of the open air treatment with dietetic, physical, and appropriate therapeutic measures, and in certain cases with complete rest. The results are very encouraging, as the statistics of Westhoven show. I had an opportunity of inspecting the arrangements of the institution established for that purpose at Grabowsee in the neighbourhood of Berlin by the Red Cross Society.

XIII.—*Tuberculosis in India.*

The statistics furnished by the Sanitary Reports of the different Provincial Governments do not admit of any comparison being made between the prevalence of tubercular diseases among the people generally in India and European countries. They could not be obtained without the enforcement of a system of medical certificates, which is at present impossible. Not only is there not a sufficient number of educated medical men capable of granting certificates of any value, but it is probably not an exaggeration to say that a large majority of the people of India die without any kind of medical attendance. Even in Calcutta, where there are more medical men in proportion to the population than elsewhere in India, Dr. Simpson, late Health Officer to the Corporation, showed that at least 50 per cent. of the mortality occurred without medical attendance of any kind. Only in the North-Western Provinces is any attempt made to obtain statistics which can be regarded as of any scientific value in a question of this kind. In that Province the cause of death was verified in 15,116 cases by means of the Medical Staff and a Professional Agency, which voluntarily supplied the required information during the year 1897, as was also done in previous years. The results for 1897 were as follow :—

Statistics of 15,116 deaths in the North-West Provinces of India, verified by the Medical Staff and a Professional Agency, for the year ending the 31st December, 1897.*

Cause of Death.	Children.	16 to 45 Years.	46 Years and more.	Total.
Malarial fever	682	413	492	1,587
Enteric fever	2	413	1	3
Other fevers	1,325	951	1,071	3,345
Dysentery	751	667	684	2,102
Diarrhœa	531	528	546	1,604
Pneumonia	112	235	102	449
Tubercle of lung	6	30	4	40
Other respiratory diseases	384	382	367	1,232
Anæmia and debility	357	183	469	1,009
Other diseases	1,738	1,392	715	3,842
	5,888	4,777	4,451	15,116

* (Sanitary Report for North-West Provinces for 1897.)

There were no deaths among children from tubercle of the meninges or brain, or of the mesenteric glands. The mortality from tubercle of the lung amounted to only 0·27 per cent. of the total deaths, and 75 per cent. of the deaths from this disease occurred between the ages of 16 and 45. Of the six children who died of lung tuberculosis, all were under 18 months. Including other diseases of the lungs, we get the following comparison with the statistics of Germany given above :—

	Percentage of Deaths to General Mortality.		
	Phthisis alone.	Lung Diseases generally.	Phthisis, 16 to 45 and 45 to 60.
North-West Provinces	0·26	8·4	0·63
Germany	10·3	22·9	32·4

But as the death-rate from other causes is probably in the North-West Provinces double that of Germany, the figures for the former should be doubled to make a fair comparison in estimating the comparative prevalence of phthisis among the people. I have

chosen Germany for this comparison because it holds a middle place in the statistics of Europe.

These figures are of little value except in so far as they confirm the experience of all medical men in India, that in contrast with that of Europe, diseases of the chest and phthisis among them take quite a subordinate place in the sickness and mortality of India, and that the tubercular diseases of childhood are conspicuous in consequence of their rarity among the civil population.

With regard to tubercular diseases among children, all authorities are unanimous. Taking strumous enlargement of the cervical glands as the commonest and most obvious form of tubercular infection in children, Chevers states that he never saw a case in a native of the plains of India. In the Orphan Asylums of Calcutta, with an aggregate strength of 561 European, East Indian, and Armenian children, and between 400 and 500 admissions to hospital per annum, there were, according to Webb, who was in charge of them for many years, no entries for scrofula. I have, however, seen a few cases of this kind in children of pure European descent ; but in at least one of these the child had visited England before the glands were visibly affected. According to Waring, scrofula in any form is very rare among the Burmese. Birch is of the same opinion as regards India.

Tubercular meningitis, both in its acute and chronic form, with hydrocephalus, is, however, met with in India, but I doubt whether it is as frequent as in England.

Tabes mesenterica is certainly very rare among the civil population. Chevers says that he never admitted a case to hospital. Morehead does not mention it as occurring in the large Byculla Schools at Bombay, neither do Webb and Fayrer as regards the Calcutta Schools ; and the contemporary accounts of the health of the children (mostly Indo-Britons) at the Madras Orphan Asylums are silent with regard to it (Chevers). According to Birch, " it is considerably less frequent than the European average." I cannot recall more than a few doubtful cases.

It was at one time, however, apparently very prevalent among the children of European soldiers serving in India, as the following figures show :—

—	Admissions.	Deaths.
1880	56	26
1881	43	24
1882	31	15
1883	32	21

It has become much less frequent of late years, and in 1896 there were only two admissions and no deaths in a strength of 5,790 European children. During the four years noted above, 1880 to 1883, with 162 admissions and 86 deaths from tabes mesenterica among European children in India, there were only three prisoners and five native soldiers so affected in India (Ewart). In 1896 there were no cases in the Native army or jails of India.

Tubercular disease of the hip-joint so common in European hospitals is "certainly unusual in India" (Birch). Chevers during his long experience in India saw only one solitary instance in a European girl. I never saw one, nor have any of the medical officers whom I have questioned.

The admissions and deaths among the children of European soldiers in India in 1896 were as follows :—

Total Strength, 5,790.

—	Admissions.	Deaths.
Tubercle of brain and meninges	2	2
„ „ lungs	2	0
„ „ intestines	1	0
„ „ mesenteric glands	2	0
„ „ lymphatic glands	8	3
Scrofula	2	0
	17	5
Ratio per 1,000 of strength	2·9	0·86

Women. Total Strength, 3,254.

—	Admissions.	Deaths.
Tubercle of lungs	14	4
Scrofula	1	0
	15	4
Ratio per 1,000	4·6	1·2

Pulmonary phthisis is, on the other hand, very common in India among adults. Birch thinks that perhaps it nearly approaches the English average. According to his recollection Eurasians are more affected than any other class, and next to them low-class Mohammedans. Among well-to-do Hindus it is certainly not so common as among the corresponding class in England. With an experience of an average of four to six consultations a day extended over ten years, I do not think I saw more than half a dozen cases a year among the latter, and in every case over 40 years of age the patient was diabetic. Morehead states that the number of natives suffering from phthisis admitted to the J. J. Hospital in Bombay during six years was only 445 in a population approaching 600,000, and Ewart shows that only 454 cases occurred in Natives in the Medical College Hospital, Calcutta, in the decennium 1857-67. In the European General Hospital in Calcutta, with 150 beds, there were always at least six cases under treatment, mostly Eurasians, or Europeans with less than three years' residence. My experience would lead me to accept the dictum of Chevers that "if an individual (European) lands in Lower Bengal, with perfectly healthy lungs, and lives well, prudently, and carefully, ...he will, residing there, never be attacked with phthisis, although he may be a member of a phthisical family;" as also his opinion that, in that climate, the course of the disease, once started, is exceedingly rapid whether the patient be European, Eurasian or Native. I believe it to be so exceptional as to be almost unheard of, to find a whole native family swept away by phthisis as is so frequent in Europe.

But this comparative freedom from tubercle disease is not apparently enjoyed by all the races of India alike. Webb says, "Among the natives of India inhabiting the lower range of the Himalayan mountains, I have certainly seen scrofulous swellings and ulcers of the neck common; but in no other part of India do I know this disease to prevail generally." "So also we are told in the Madras Report upon the medical topography of the mountainous region of Coorg, the lowest part of which is elevated not less than 3,000 feet above the sea, that there, 'phthisis is often met with and is usually said to occur between the ages of 20 and 40. Scrofula is very common, usually making its appearence at the age of puberty in the form of swellings of the neck, to which ulceration succeeds'." (Quoted by Chevers.) This is interesting because the region mentioned by Webb is the home of the Gurkha, and it would be also interesting to ascertain whether the people of the region inhabited by the Dogras, who with the Gurkhas suffer most from phthisis among our Native soldiers, are equally subject to scrofulous diseases. Jail statistics do not warrant such a conclusion, and Birch, who was Civil Surgeon of Dalhousie as well as of Darjiling, does not think that there was much phthisis among the hillmen, many of whom were Gurkhas. It is a question, however, which would repay investigation.

Soldiers and Prisoners.

The statistics of the European Army in India show that the British soldier is rather more subject to tuberculosis in India than in the United Kingdom. The figures for the ten years ending with 1896 are as follows (per 1,000 of strength):—

—	Admissions.	Deaths.	Invalided.
United Kingdom . . .	3·6	0·82	1·78
India	4·1	0·82	2·78

As regards age and length of service the returns for 1896 furnish the following figures, per 1,000 of strength :—

Age.

Tubercle of Lung.	Under 20.	20—24.	25—29.	30—34.	35—39.	40 and more.
Died	1·10	·45	·66	1·31	·69	2·63
Invalided . . .	2·76	1·98	2·41	1·53	2·75	—
	3·86	2·43	3·07	2·84	3·44	2·63

Length of service in India.

Tubercle of Lung.	Under One year.	1—2.	2—3.	3—4.	4—5.	5—10.	10 and more.
Died . . .	·18	·70	·69	·70	·68	·56	1·51
Invalided . .	1·08	2·73	2·56	2·99	1·48	1·97	—
	1·26	3·43	3·25	3·69	2·16	2·53	1·51

The following figures appear in the returns for 1896 as a means of estimating the relative prevalence of lung tuberculosis per 1,000 of strength of European and Native troops and prisoners in the jails of India :—

Lung Tuberculosis.	Admissions.	Deaths.
European troops . .	5·0	0·64
Native troops	2·5	0·65
Prisoners	7·2	3·07

There were no cases of phthisis among European prisoners confined in Indian jails during 1896.

In considering the value of these figures it is necessary to remember that in native regiments it is extremely difficult to obtain *post mortem* confirmation of the diagnosis made during life, whereas in jails a section is made in all fatal cases ; and it is therefore not impossible that the prevalence of lung tuberculosis may be really considerably greater among Native troops than the statistics show, and may approximate much more closely to the jail standard than would be thought at a first glance. As long ago as 1848 Alan Webb pointed out how easy it was to overlook tuberculosis in Natives of India dying of dysentery, diarrhœa, and other wasting diseases (Ewart).

Climate.

No law can be pointed out as indicative of the influence of climate on the prevalence of tubercle of the lung in India. Among European troops the highest rate of admissions was in the Deccan (7·7 per 1,000), and lowest in the West Coast regions (0·6). Among Native Troops it was highest in the Hill Stations (3·7) and lowest in Southern India (0·9). Among prisoners it was highest in Southern India (15·1), and lowest in Inland Burma (1·2 per 1,000). This was in 1896. In other years the figures have been entirely different. Among prisoners the admission-rate was apparently higher as a general rule in the smaller jails.

Racial Proclivity.

The question of racial proclivity. The following figures have been obtained from the Report of the Sanitary Commissioner with the Government of India for 1896, and are of interest as bearing on the question of the comparative racial liability to phthisis among

the troops serving in India. I have selected and grouped together regiments which are composed almost exclusively of certain races or castes, for the purpose of comparison :—

Regiment.	Total Strength.	Sikhs.	Admissions for Phthisis.
14th S.I.	901	880	2
15th S.I.	909	882	2
32nd Pioneers	884	872	0
34th Pioneers	907	896	3
30th S. I.	908	886	2
45th Sikhs	173	166	3
	4,682	4,582	12

Ratio 2·56 per 1,000.

Regiment.	Total Strength.	Rajputs.	Admissions for Phthisis.
7th B. I.	912	790	3
8th B. I.	899	760	1
13th B. I.	880	679	5
16th B. I.	900	821	1
39th Garwhalis	908	865	2
	4,499	3,915	12

Ratio 2·66 per 1,000.

Regiment.	Total Strength.	Mussulmans.	Admissions for Phthisis.
1st B. C.	621	615	4
5th B. I.	906	877	3
12th B. I.	907	853	0
17th B. I.	907	884	2
18th B. I.	875	859	5
33rd P. I.	900	809	7
	5,116	5,019	21

Ratio 4·11 per 1,000.

Regiment.	Total Strength.	Gurkhas.	Admissions for Phthisis.
9th G. R.	778	658	3
42nd G. R.	914	908	7
43rd G. R.	883	869	7
44th G. R.	888	870	2
1-2 G. R.	900	896	11
2-2 G. R.	907	907	7
1-3 G. R.	905	902	1
2-3 G. R.	914	913	3
	7,089	6,923	41

Ratio=5·78 per 1,000.

——	Total Strength.	Dogras.	Admissions for Phthisis.
37th Dogras	905	900	8
28th Dogras	900	878	4
	1,805	1,778	12

Ratio=6·65 per 1,000.

	Total Strength.	Sikhs.	Dogras.	Admissions for Phthisis.
29th B. I.	909	456	219	2
20th P. I.	908	226	226	2
2nd S. I.	899	234	344	7
	2,716	916	789	11

Ratio=4·05.

According to Commands.

Among 70,484 European troops the admission rate for phithisis was 5; among Native troops generally 2·5.

	Average Strength.	Admissions for phthisis.	Ratio per 1,000.
Bengal	26·796	93	3·7
Punjab	34·166	125	3·3
Madras	24·829	38	1·6
Bombay	24·369	42	1·5

The admission rate for tubercular diseases among British troops out of India in the years 1886-94 was :—

United Kingdom	3·5 per 1,000.
Gibraltar	1·9 "
Malta	2·6 "
Canada	2·0 "
West Indies (European)	1·8 "
West Indies (non-European)	8·5 "
West Africa (non-European)	10·0 "

From these figures it is evident that the West Indian troops are most subject to tubercular disease; after them in order of susceptibility come Dogras, Gurkhas, British troops in India, Mussulmans, British troops in United Kingdom, Rajputs and Sikhs; British troops in Gibraltar and Malta suffer least. The great susceptibility of the West Indian Negro is well known to physicians in all parts of the world, and the Inspector-General of Jails, Madras, says that Burmese convicts appear to be specially subject to tuberculosis in that Presidency.

From the foregoing data it is by no means clear that the great immunity of residents in India, both Native and European, which is so conspicuous in childhood, is extended in an equal degree to adult life, at least as regards the conditions under which our soldiers and prisoners live, though the experience of physicians whose practice is limited to civil life would appear to justify a more favourable opinion.

There has been a very considerable improvement in the health of the European Army in India, even in quite recent years, in respect of phthisis, as the following figures show :—

Admission per 1,000 of strength.

	European Troops.	Native Troops.	Jails.
1871–76	9·0	2·5	4·2
1881	7·1	2·9	—
1896	5·0	2·5	7·2

They show also that during the same period the admission rate for the Native Army has stood stationary, while that of the jails has increased.

The very marked improvement as regards European children has been already noticed.

XIV.—*Causes of lesser prevalence of Tuberculosis in India.*

Among the causes which would be likely to lead to this result, the following suggest themselves as important factors :—

A. The comparative infrequency of bovine tuberculosis in India. Dr. Simpson, late Health Officer of Calcutta, writes to me—"My experience is that bovine tuberculosis in

India is not common. It was very seldom met with at the slaughter-house in Calcutta." Tuberculosis is not mentioned among the diseases of cattle in the tables of the Reports of the Civil Veterinary Department of India for 1897-98, which are however concerned more with the more acute epidemics. Mr. A. Krishnasamiengar, B.A., writing on the cattle diseases of Mysore, makes no mention of tuberculosis. Mr. J. Cockburn, Zemindari Manager, in a list of the diseases of cattle in Bengal which he furnished to the Magistrate of Rajshahi in 1864, mentions "sookmina, or withering; the animal dries up and dies by exhaustion." This is probably tuberculosis, but without a special investigation directed to this question by the officers of the Veterinary Department, it would be impossible to hazard an opinion on the extent to which cattle suffer from tuberculosis in India. I would suggest that such an enquiry should be made. It is probably more frequent than is suspected at present, considering the terribly dark, dirty, overcrowded byres, where the miserable cows are very insufficiently fed.

B. The native habit of boiling all milk before using it. No native of India knowingly drinks a drop of unboiled milk. This custom of boiling milk probably originated in the necessity of doing so imposed by a climate in which milk will not keep even for a few hours without boiling. To Europeans the taste of boiled milk, especially when boiled after the Native fashion, in a brass vessel which has been previously disinfected by being inverted over a wood fire is most unpleasant, and they often drink and give to their children raw uncooked milk. This may account for the more frequent appearance of tabes mesenterica and scrofulous glands in European children.

C. Beef is an abomination to the Hindu, and except in the large towns is seldom attainable. Occasionally, and then generally, a worn-out draft ox is killed for the use of Europeans and Mohammedans in the mofussil. Stall-fed beef is unknown in India—even in large towns.

D. The flesh of the goat is almost exclusively used in India by Mohammedans; that of the sheep by Europeans. The goat is one of the three animals most "refractory" to tuberculosis. Goat's milk is also much used by Natives.

E. The open-air occupations of the Natives, in agriculture and fishing, also place them in favourable conditions as regards infection by tuberculosis. Their mat huts and open doors and windows are also in their favour. Chevers says he never had a case of phthisis in a native out of a mat hut; it was always out of a mud hut. The prevalence of tuberculosis in the different countries of Europe, bears a closer relation to the ventilation of their houses than to any other single cause. The Russian, who shuts every cranny in his house during his long winter, suffers more than the open-air Italian; the German, with his stove and double windows, than the Englishman in his better ventilated house.

F. His abstinence from alcohol is also in favour of the Native.

G. The Native of India converts all his butter into ghi, by a process of boiling and skimming, which must destroy any tubercle bacilli it may contain. The European in India eats raw butter.

The Native of India appears, in fact, to have instinctively adopted all the dietetic habits best calculated to protect him against bovine tuberculosis.

Children in India enjoy all these advantages equally with their parents, and Native children have this additional advantage over European children in India, that their mothers, almost without exception, suckle them. The European mother in India is very often unable to do so, and her child suffers from improper artificial food, and is thus made more susceptible to infection, and at the same time runs the additional risk of being fed with probably tuberculous milk and butter, not to speak of possibly tuberculous meat.

But a considerable part of the exemption which Indian children undoubtedly enjoy is doubtless due to the comparative infrequency of the diseases which seem most frequently to predispose to tuberculosis, namely, measles, mumps, scarlatina. and whooping cough, which, when they do occur, are also milder than in Europe (Ewart).

The mucous membranes of the respiratory passages are also less subject to the in, juries caused by inflammatory diseases, and are therefore less liable to the invasion of the tubercle bacillus. If it is true that *paharis* are more subject to tuberculosis than the Natives of the plains (see above), it may perhaps be partly accounted for by their more frequent attacks of bronchitis, etc.

To attempt to account for the different degrees of liability of the different races of India, as seen in our Native troops, would require a very intimate acquaintance with the dietetic and other habits of the different races and castes, and the discussion would lead me too far; but it would form a most interesting and practical subject for study. It would

involve a knowledge of the most intimate kind, of their treatment in infancy, their habits in adolescence and their attitude towards the different articles of diet most likely to be the vehicle of the bacillus, as well as of every possible predisposing cause. From these points of view the causes of the greater susceptibility of the Gurkha and the Mussulman are probably not far to seek.

XV.—*Measures which might be adopted in India to limit the spread of Tuberculosis.*

Many of those recommended at the Congress in Berlin are as yet hardly practicable in Europe, and are altogether beyond the scope of Indian legislation. I refer to notification of tuberculosis as an infectious disease, the isolation of the affected, the separation of children from diseased parents, etc., but there are certain measures which could, with great advantage, be put into operation in cantonments and jails, and which might be inculcated by the agency of doctors, nurses, teachers, clergymen and others in private life :—

1. The system of dairies, now in operation in so many jails and hospitals, might be extended to all hospitals, jails, and cantonments, Native as well as European. It is a most profitable industry.
2. No cow should be used for milk, or ox killed for food, till it has been subjected to the tuberculin test and found healthy.
3. If that is impossible, all milk should be boiled before being used; meat should be most carefully examined for tuberculosis by a competent professional person, and all meat should be thoroughly cooked before issue.
4. Promiscuous spitting and expectoration should be prohibited in all barracks and jails, and numerous spittoons, half filled with water, provided. These should be emptied daily.
5. In jails and European military hospitals cases of phthisis should be treated in separate rooms, apart from other patients. The patients should be made to spit into spittoons three-quarters filled with a disinfectant, and the contents destroyed daily. In Native Regimental Hospitals the same precautions should be taken; but the patient should be discharged from military service with as little delay as possible. Spitting on the floors or walls or into handkerchiefs should be prohibited in all cases of lung tuberculosis. No opportunity should be lost of explaining the danger connected with the sputum, and specially when it becomes dry and converted into dust.

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ANNUAL RETURNS

OF THE

EUROPEAN ARMY OF INDIA,

OF THE

NATIVE ARMY AND OF THE JAIL POPULATION

FOR THE YEAR

1898.

COMPILED AND SYSTEMATICALLY ARRANGED FROM THE ORIGINAL DOCUMENTS

BY

DAVID WILKIE, M.B., LIEUTENANT-COLONEL, I.M.S.,

STATISTICAL OFFICER TO THE GOVERNMENT OF INDIA IN THE SANITARY AND MEDICAL DEPARTMENTS.

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Note.—Owing to the system of weekly returns at present in force for the army, the months mentioned in Tables VI—XIII, XVIIIc, XVIIId, XX, XXI, XXIII, XXIV, XXIX, and XXXI—XXXVIII for troops are not calendar months, but 4-5 week periods.

For 1898 the months are divided as follows:—

January—from 1st January to 28th January.
February—from 29th January to 25th February.
March—from 26th February to 1st April.
April—from 2nd April to 29th April.
May—from 30th April to 3rd June.
June—from 4th June to 1st July.
July—from 2nd July to 29th July.
August—from 30th July to 2nd September.
September—from 3rd September to 30th September.
October—from 1st October to 28th October.
November—from 29th October to 2nd December.
December—from 3rd December to 31st December.

In the jail tables, on the other hand, the months mentioned are calendar months, the returns being monthly returns.

TABLE G.

Grouping of Diseases in the Main Tables for 1898.[c]

Head of Disease.	Includes or includes also
Cholera	Choleraic diarrhœa.
Heat-stroke	Sunstroke and Heat-Apoplexy.
Alcoholism	Delirium tremens. Alcoholic Poisoning.
Tubercle of the Lungs	Tubercular Phthisis, and Hæmoptysis due to tubercle.
Other Respiratory Diseases.	Includes Hæmoptysis and Cirrhosis of the Lung not due to tubercle, and excludes Pneumonia and Tubercular Phthisis.
Anæmia and Debility	Old age (Tables for men and women). Immaturity at birth (Tables for children).
Diarrhœa	Epidemic Diarrhœa.
Hepatic Congestion and Inflammation.	Congestion of liver, Hepatitis, Perihepatitis; but excludes Cirrhosis of liver.
Venereal Diseases	Primary syphilis, Secondary syphilis; Gonorrhœa, and Soft Chancre, which include also their sequelæ.
Guinea-Worm and Other Entozoa	The entozoa numbered from 1 to 56, 67 to 81: also Nos. 105 and 106.
Phagedæna, Slough and Gangrene.	Nomenclature of 1896, Nos. 25 *a* and *b*, 800, and 847. (These two headings appear only in jail tables.)
Abscess, Ulcer, and Boil	Nomenclature of 1896, Nos. 799, 843, and 845. (These two headings appear only in jail tables.)
Abortion and Puerperal Affections.	Nomenclature of 1896, Nos. 700 and 706 to 718, and any other diseases stated by medical officers to have been puerperal.
Other Diseases peculiar to Women.	Nomenclature of 1896, No. 426, Vomiting of Pregnancy, Nos. 632 to 699, 701 to 705, and Nos. 719 to 730.

[c] For details of individual diseases see Table LIII.

I.—EUROPEAN TROOPS, 1898.

TABLE D.

STATIONS by COMMANDS.

Stations.	Height above sea level in feet.*	Authority for height.†
Bengal :—		
Fort William (Calcutta)	17	S. G.
Fort Fulta	18	,,
Fort Chingrikhal	...	...
Dum-Dum	...	...
Barrackpore	24	S. G.
Dinapore	...	...
Benares	256	S. G.
Allahabad	298	,,
Fort Allahabad	298	,,
Fyzabad	336	,,
Sitapur	449	,,
Lucknow	400	,,
Cawnpore	417	,,
Fatehgarh	444	I. B.
Shahjahanpur	507	S. G.
Bareilly	560	,,
Roorkee	884	,,
Meerut	739	,,
Delhi	715	,,
Muttra	576	,,
Agra	554	,,
Jhansi	860	,,
Nowgong	770	I. B.
Saugor	1,753	S. G.
Jubbulpore	1,306	,,
‡ Ranikhet	5,983	,,
Chaubuttia	6,942	,,
‡ Chakrata	6,885	,,
‡ Lebong	6,000	I. B.
Darjeeling Convalescent Depôt.	7,168	S. G.
Naini Tal ,,	6,400	,,
Landour ,,	7,362	,,
Pachmarhi Sanitarium	3,481	,,
Punjab :—		
Umballa	902	S. G.
Jullundur	900	,,
Punjab :—*contd.*		
Ferozepore	645	S. G.
Amritsar	756	,,
Meean Meer	706	,,
Fort Lahore	706	,,
Sialkot	829	,,
Rawalpindi	1,707	,,
Campbellpur	1,200	M. O.
Attock	891	S. G.
Nowshera	1,100	M. O.
Peshawar	1,165	S. G.
Mooltan	402	,,
‡ Solon	5,166	,,
‡ Dagshai	5,982	,,
‡ Subathu	4,124	,,
‡ Jutogh	6,371	,,
‡ Khyragully	8,746	,,
‡ Baragully	...	...
‡ Kuldunnah	7,049	S. G.
‡ Kalabagh	7,936	I. B.
‡ Camp Gharial	5,112	S. G.
‡ ,, Thobba	7,133	I. B.
‡ ,, Lower Topa	7,320	,,
‡ Ghora Dhaka	7,353	,,
‡ Cherat	4,520	S. G.
Kasauli Convalescent Depôt	5,971	,,
Dalhousie ,, ,,	6,732	,,
Murree ,, ,,	7,098	,,
Madras :—		
Port Blair	85	S. G.
Rangoon	14	,,
Thayetmyo	145	,,
Meiktila	298	,,
Fort Dufferin (Mandalay)	249	,,
Shwebo	600	M. O.
Bhamo	351	S. G.
Secunderabad	1,732	,,
Madras :—*contd.*		
Belgam	2,473	S. G.
Cannanore	47	,,
Calicut	27	M. D.
Mallapuram	...	...
Bellary	1,483	S. G.
Bangalore	3,021	,,
Pallavaram	74	,,
St. Thomas' Mount	250	,,
Madras	15	,,
Bernardmyo	5,600	,,
‡ Ramandrug	3,150	,,
‡ Wellington	6,160	,,
Poonamallee Depôt	50	M. O.
Bombay :—		
Hyderabad	134	I. B.
Kurrachee	28	S. G.
Deesa	468	,,
Ahmedabad	170	,,
Neemuch	1,613	,,
Nasirabad	1,461	,,
Indore	1,806	,,
Mhow	1,903	,,
Kamptee	941	,,
Sitabaldi	1,236	,,
Satara	2,183	,,
Poona	1,909	,,
Kirkee	1,837	,,
Ahmednagar	2,125	,,
Colaba (Bombay)	20	,,
Quetta	5,511	,,
Taragarh Sanitarium	2,855	,,
Mount Abu ,,	3,960	,,
Purandhur ,,	4,364	,,
Khandalla ,,	2,000	M. O.
Deolali Depôt	1,829	S. G.
Aden	26	,,

* These heights are usually those of the survey-marks or of the mercury-surface in barometer-cisterns of meteorological observatories.
† S. G. = Surveyor-General of India; I. B. = Intelligence Branch of the Quarter-Master-General's Department; M. D. = Meteorological Department; M. O. = Medical Officers in charge of Station Hospitals in their Sanitary Reports.
‡ These are the official "Hill Stations."

TABLE I.

RATIOS OF COMMANDS.

The ratios of admissions and deaths to strength are taken from Table III. **The actuals will be found in Table IV.**

	Ratios per 1,000 of the average strength.				
	Bengal Command.	Punjab Command.	Madras Command.	Bombay Command.	India.*
—Strength	20,060	18,388	12,337	14,612	67,741
—† Constantly-sick-rate of each month—					
January	119·2	118·1	102·6	88·7	104·5
February	105·1	107·1	98·1	88·1	97·8
March	100·7	88·5	88·9	84·4	86·6
April	93·0	78·8	82·9	83·0	83·5
May	100·4	89·8	89·8	82·7	91·4
June	100·8	101·7	93·4	83·8	96·1
July	91·9	101·3	90·4	87·9	93·5
August	93·7	96·0	87·5	95·4	93·6
September	98·2	81·7	87·4	96·0	91·0
October	91·6	74·7	87·6	86·1	85·0
November	83·4	75·9	84·8	80·2	80·9
December	83·6	68·8	80·4	73·8	76·8
Of the year	96·2	89·8	89·2	85·7	90·0
—Admission-rate of the year—					
Influenza	5·2	·8	30·1	5·1	8·3
Cholera	·2	·6	·2	...	·3
Small-pox	...	·1	·1	...	0·3
Enteric Fever	41·1	48·7	11·6	35·1	30·9
Intermittent Fever	423·3	515·9	202·1	394·3	394·0
Remittent Fever	10·6	86·0	15·6	11·2	32·9
Simple Continued Fever	38·4	47·0	46·8	44·8	42·5
Tubercle of the lungs	3·5	2·0	2·1	4·4	3·0
Pneumonia	1·8	4·8	1·2	3·8	3·3
Other Respiratory Diseases	19·7	30·8	24·0	26·6	26·0
Dysentery	33·9	27·8	32·3	24·4	29·8
Diarrhœa	22·5	39·5	5·1	30·1	27·3
Hepatic Abscess	3·1	1·8	2·3	2·4	2·4
,, Congestion and Inflammation	20·4	14·4	27·1	15·4	18·6
Venereal Diseases	437·9	268·9	438·3	352·5	362·9
All Causes	1,483·5	1,558·0	1,292·6	1,420·0	1,436·9
—Death-rate of the year—					
Cholera	·15	·54	·68	...	·21
Small-pox	...	...	...	...	...
Enteric Fever	10·47	14·74	2·27	9·92	10·17
Intermittent Fever	·30	·44	·16	·21	·30
Remittent Fever	·10	·76	·24	·34	·37
Simple Continued Fever	...	·11	·08	...	·06
Heat-stroke	1·15	2·45	·41	·41	1·17
Circulatory Diseases	·15	·60	·73	·55	·47
Tubercle of the lungs	·75	·65	·08	·68	·58
Pneumonia	·23	1·25	·24	·48	·61
Other Respiratory Diseases	·15	·22	...	·14	·16
Dysentery	·85	1·03	·49	·62	·78
Diarrhœa	...	·05	...	·07	·04
Hepatic Abscess	2·09	1·25	1·13	1·57	1·52
All Causes	19·54	27·63	8·59	18·20	20·05
—Percentage in 100 admissions—					
Influenza	·35	·05	2·33	·36	·38
Cholera	·01	·04	·01	...	·02
Small-pox	...	...	·01	...	...
Enteric Fever	2·77	3·12	·90	2·47	2·57
Intermittent Fever	28·54	33·11	15·63	27·72	27·42
Remittent Fever	·71	5·52	1·21	·79	2·29
Simple Continued Fever	2·59	3·02	3·62	3·15	2·96
Tubercle of the lungs	·24	·13	·16	·31	·21
Pneumonia	·12	·31	·09	·27	·23
Other Respiratory Diseases	1·33	1·98	1·86	1·87	1·81
Dysentery	2·29	1·79	2·50	1·72	2·07
Diarrhœa	1·52	2·53	·40	2·12	1·90
Hepatic Abscess	·21	·12	·18	·17	·16
,, Congestion and Inflammation	1·38	·93	2·09	1·08	1·29
Venereal Diseases	29·52	17·26	33·91	24·82	25·26
—Percentage in 100 deaths—					
Cholera	·8	2·0	·9	...	1·0
Small-pox	...	...	...	...	...
Enteric Fever	53·6	53·3	26·4	54·5	50·7
Intermittent Fever	1·5	1·6	1·9	1·1	1·5
Remittent Fever	·5	2·8	2·8	1·9	1·8
Simple Continued Fever	...	·4	·9	...	·3
Heat-stroke	5·9	8·9	4·7	2·3	5·8
Circulatory Diseases	·8	2·2	8·5	3·0	2·4
Tubercle of the lungs	3·8	2·4	·9	3·8	2·9
Pneumonia	1·3	4·5	2·8	2·6	3·0
Other Respiratory Diseases	·8	·8	...	·8	·8
Dysentery	4·3	3·7	5·7	3·4	3·9
Diarrhœa	...	·2	...	·4	·2
Hepatic Abscess	10·7	4·5	13·2	8·6	7·6

* For complete detail of diseases see Table LIII.

† Worked on the aggregates.

TABLE II.

RATIOS of GEOGRAPHICAL GROUPS.

The ratios of admissions and deaths to strength are taken from Table III. **The actuals will be found in Table I**

RATIOS PER 1,000 OF THE AVERAGE STRENGTH.

	I Burma Coast and Bay Islands.	II Burma Inland.	IV Bengal and Orissa.	V Gangetic Plain and Chutia Nagpur.	VI Upper Sub-Himalaya.	VII N.-W. Frontier, Indus Valley, and N.-W. Rajputana.	VIII S.-E. Rajputana, Central India, and Gujarat.	IX Deccan.	X Western Coast.	XI Southern India.	XIIa Hill Stations.	XIIb Hill Convalescent Depôts, and Sanitaria.	India.†
I.—STRENGTH	1,226	2,654	2,381	6,686	12,751	4,737	6,011	8,256	1,522	3,520	7,625	3,160	67,74
II.—†CONSTANTLY-SICK-RATE OF EACH MONTH—													
January	136·7	108·5	114·3	133·2	118·8	139·7	112·0	98·7	89·6	74·8	80·4	90·1	104·1
February	104·0	102·6	88·3	120·2	108·1	107·5	102·9	99·6	99·2	82·2	82·2	77·1	97·6
March	78·6	85·5	77·8	120·0	95·0	84·0	101·3	98·2	94·3	87·3	61·1	62·9	86·6
April	73·7	74·8	79·3	107·5	83·9	89·3	93·8	95·7	86·1	87·8	72·7	76·0	83·1
May	88·1	79·0	80·1	108·3	92·6	100·1	94·5	100·3	80·3	89·0	81·4	90·1	91·2
June	95·6	81·1	73·5	100·3	107·7	102·2	99·3	101·8	70·2	87·6	79·5	106·1	96·1
July	69·9	76·9	70·2	91·8	97·9	110·5	96·3	102·6	72·7	90·8	78·0	111·9	93·1
August	62·8	70·8	75·0	92·2	101·3	103·8	97·4	109·7	64·9	94·9	80·0	97·1	93·0
September	81·0	71·7	79·6	96·2	93·1	79·4	112·5	109·8	70·4	85·8	77·8	96·0	91·0
October	93·4	71·4	70·4	96·0	89·3	72·1	101·5	90·4	89·3	80·0	76·8	103·3	85·0
November	81·9	69·4	80·6	87·0	82·1	85·8	87·8	86·0	87·6	88·9	81·3	104·4	80·9
December	77·4	57·6	85·8	87·7	77·3	70·9	92·3	85·0	85·5	86·9	70·1	92·6	76·8
OF THE YEAR	86·4	78·6	80·8	102·4	95·3	95·2	99·1	97·7	82·7	86·8	77·9	95·6	90·0
III.—ADMISSION-RATE OF THE YEAR—													
Influenza	·8	7·2	1·7	7·3	·1	...	7·2	43·6	...	8·5	2·0	12·3	8·3
Cholera	...	...	·8	·3	·9	...	...	...	...	·6	...	...	·3
Small-pox	·8	...	...	...	·1	...	...	...	...	...	...	...	...
Enteric Fever	7·3	4·5	19·3	44·1	36·6	29·6	47·1	25·7	2·6	19·3	59·7	20·3	36·9
Intermittent Fever	56·3	171·4	603·5	314·8	550·3	766·3	499·1	320·6	115·0	278·1	224·8	443·0	394·0
Remittent Fever	8·2	30·5	1·3	11·1	12·2	237·5	14·6	8·8	11·8	22·7	11·4	3·2	32·9
Simple Continued Fever	88·9	52·0	19·3	63·3	47·5	4·6	34·9	49·9	67·7	68·5	34·6	15·2	42·5
Rheumatic Fever	...	1·5	·8	·4	1·6	·8	1·2	1·2	1·3	·9	2·8	1·9	1·5
Tubercle of the lungs	1·6	1·1	2·1	3·4	2·9	2·5	3·0	2·1	2·6	2·3	1·3	2·8	3·0
Pneumonia	...	1·1	1·7	1·2	3·5	7·6	3·0	·8	3·9	·9	5·4	3·8	3·3
Other Respiratory Diseases	14·7	13·6	21·4	17·1	31·0	35·9	28·3	26·8	28·3	20·2	20·7	35·4	26·0
Dysentery	31·8	29·0	67·6	34·3	28·5	24·1	25·5	28·3	18·4	29·3	16·9	20·6	29·8
Diarrhœa	16·3	6·0	26·9	21·4	30·6	25·8	31·6	20·5	22·3	3·4	31·9	33·9	27·3
Hepatic {Abscess, Congestion and Inflammation	2·4	2·6	5·9	2·8	2·2	1·9	2·0	2·1	1·3	2·0	1·8	2·5	2·4
Venereal Diseases	18·8	10·9	20·2	21·4	18·0	12·9	16·1	21·3	7·2	40·6	12·6	19·6	18·6
ALL CAUSES	497·6	428·4	302·0	498·8	356·4	278·2	406·4	455·2	354·1	496·9	288·8	286·4	362·9
	1,168·0	1,197·4	1,444·8	1,425·5	1,622·4	1,890·0	1,612·4	1,447·2	1,092·6	1,488·4	1,139·3	1,432·6	1,430·9
IV.—DEATH-RATE OF THE YEAR—													
Cholera	...	...	·84	·15	·78	...	...	...	...	·28	...	...	·21
Small-pox	...	...	...	...	...	...	...	...	...	...	...	...	...
Enteric Fever	·82	·75	2·94	13·61	11·21	13·93	14·31	5·45	·66	3·12	14·30	3·48	10·17
Intermittent Fever	...	...	·42	...	·47	·63	·33	·12	...	·28	·13	·63	·30
Remittent Fever	...	·38	...	·15	·24	1·48	·33	...	...	·28	·39	·63	·37
Simple Continued Fever	...	...	...	...	·16	...	...	...	...	...	...	...	·06
Heat-stroke	...	·38	·84	1·35	2·04	4·22	1·16	·12	·66	1·14	...	·32	1·17
Circulatory Diseases	...	·38	·84	·15	·24	·63	·17	·85	·66	1·14	·26	·63	·47
Tubercle of the lungs	...	...	·84	·75	·71	·84	·33	·12	·66	·28	·52	·95	·58
Pneumonia	...	·38	·84	...	·78	2·11	·67	·12	·66	...	·52	·95	·01
Other Respiratory Diseases	...	...	...	·30	·08	...	...	...	·66	...	·39	...	·16
Dysentery	...	...	1·26	·60	1·02	·63	·50	1·09	·66	·57	·39	·95	·78
Diarrhœa	...	...	...	...	·08	...	...	...	...	...	...	...	·04
Hepatic Abscess	1·63	1·13	3·78	1·79	1·33	1·69	1·50	1·21	1·97	1·14	1·57	·95	1·52
ALL CAUSES	4·08	7·54	14·70	21·09	22·82	32·09	22·13	11·75	11·17	11·08	20·46	13·61	20·05
V.—PERCENTAGE IN 100 ADMISSIONS—													
Influenza	·07	·60	·12	·51	...	...	·44	3·01	...	·57	·17	·86	·58
Cholera	...	...	·06	·02	·05	...	...	...	...	·04	...	...	·02
Small-pox	·07	...	...	...	...	...	...	...	...	...	...	...	...
Enteric Fever	·63	·38	1·34	3·10	2·26	1·56	2·92	1·77	·24	1·30	5·24	1·41	2·57
Intermittent Fever	4·82	14·32	41·77	22·09	33·92	40·55	30·95	22·15	10·52	18·69	19·73	30·93	27·42
Remittent Fever	·70	2·55	·09	·78	·75	12·57	·91	·61	1·08	1·53	1·00	·22	2·29
Simple Continued Fever	7·61	4·34	1·34	4·44	2·93	·25	2·17	3·45	6·19	4·60	3·04	1·06	2·96
Rheumatic Fever	...	·13	·06	·03	·10	·04	·07	·08	·12	·06	·24	·13	·10
Tubercle of the lungs	·14	·09	·15	·24	·18	·13	·19	·14	·24	·15	·12	·20	·21
Pneumonia	...	·09	·12	·08	·22	·40	·19	·06	·36	·06	·47	·27	·23
Other Respiratory Diseases	1·26	1·13	1·48	1·20	1·91	1·90	1·75	1·85	2·39	1·36	1·82	2·47	1·81
Dysentery	2·72	2·42	4·68	2·40	1·75	1·27	1·58	1·96	1·68	1·97	1·48	1·44	2·07
Diarrhœa	1·40	·50	1·86	1·50	1·89	1·36	1·96	1·41	2·04	·23	2·80	2·36	1·90
Hepatic {Abscess, Congestion and Inflammation	·21	·22	·41	·20	·14	·10	·12	·14	·12	·13	·16	·18	·16
Venereal Diseases	1·61	·91	1·40	1·50	1·11	·68	1·00	1·47	·66	2·73	1·11	1·37	1·29
	42·60	35·78	20·90	34·99	21·97	14·72	25·21	31·45	32·41	33·33	25·35	19·99	25·26
VI.—PERCENTAGE IN 100 DEATHS—													
Cholera	...	...	5·7	·7	3·4	...	...	...	...	2·6	...	...	1·0
Small-pox	...	...	...	...	...	...	...	...	...	...	...	...	...
Enteric Fever	20·0	10·0	20·0	64·5	49·1	43·4	64·7	46·4	5·9	28·2	69·9	25·6	50·7
Intermittent Fever	...	...	2·9	...	2·1	2·0	1·3	1·0	...	2·6	·6	4·7	1·5
Remittent Fever	...	5·0	...	·7	1·0	4·6	1·5	...	...	2·6	1·9	4·7	1·8
Simple Continued Fever	...	...	...	...	·7	...	...	...	...	...	...	...	·3
Heat-stroke	...	5·0	5·7	6·4	8·9	13·2	5·3	1·0	5·9	10·3	...	2·3	5·8
Circulatory Diseases	...	5·0	5·7	·7	1·0	2·0	·8	7·2	5·9	10·3	1·3	4·7	2·4
Tubercle of the lungs	...	...	5·7	3·5	3·1	2·6	1·5	1·0	5·9	2·6	2·6	7·0	2·9
Pneumonia	...	5·0	5·7	...	3·4	6·6	3·0	1·0	5·9	...	2·6	7·0	3·0
Other Respiratory Diseases	...	...	...	1·4	·3	...	...	...	5·9	...	1·9	...	·8
Dysentery	...	...	8·6	2·8	4·5	2·0	2·3	9·3	5·9	5·1	1·9	7·0	3·9
Diarrhœa	...	...	...	...	·3	...	...	...	...	...	...	...	·2
Hepatic Abscess	40·0	15·0	25·7	8·5	5·8	5·3	6·8	10·3	17·6	10·3	7·7	7·0	7·6

* For complete detail of diseases see Table LIII.

† Worked on the aggregates.

TABLE III.

RATIOS of STATIONS, GROUPS, and COMMANDS. For actuals see Table IV.

Stations and Groups.	Average annual strength.	1. Admission-rate. Influenza.	Cholera.	Small-pox.	Enteric Fever.	Intermittent Fever.	Remittent Fever.	Simple Continued Fever.	Rheumatic Fever.	Heat-stroke.	Circulatory Diseases.	Tubercle of the lungs.	Pneumonia.	Other Respiratory Diseases.	Dysentery.	Diarrhœa.	Hepatic Abscess.	Hepatic Congestion and Inflammation.	Venereal Diseases.	2. Death-rate. All Causes.	Constantly Sick.	Primary Syphilis.	Soft Chancre.	Secondary Syphilis.	Gonorrhœa.
Port Blair .	143	...	...	...	...	62·9	...	49·0	...	...	...	...	...	...	21·0	69·9	...	21·0	118·9	692·3	29·7	14·0	...	55·9	49·0
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...
Rangoon .	1,083	·9	...	·9	8·3	55·4	9·2	94·2	...	...	3·7	1·8	...	16·6	33·2	9·2	2·8	18·5	547·6	1230·8	93·9	179·1	83·1	97·5	187·4
		...	...	...	·92	...	...	...	...	...	...	...	...	...	...	...	1·85	...	...	4·62		...	...	...	...
Group I.—Burma Coast and Bay Islands.	* 1,226	·8	...	·8	7·3	56·3	8·2	88·9	...	...	3·3	1·6	...	14·7	31·8	16·3	2·4	18·8	497·6	1168·0	† 86·4	159·9	73·4	93·0	171·3
		...	...	...	·82	...	...	...	...	...	...	...	...	...	...	...	1·63	...	...	4·08		...	...	...	...
Thayetmyo	627	...	...	...	...	6·4	...	199·4	...	1·6	3·2	1·6	1·6	9·6	14·4	6·4	...	11·2	564·6	1250·4	79·9	157·5	110·0	113·2	181·8
		...	...	...	...	...	...	...	...	...	...	...	1·59	...	...	...	...	...	...	6·38		...	...	...	...
Meiktila .	382	44·5	...	...	...	34·0	...	13·1	...	...	5·2	...	...	7·9	23·6	2·6	2·6	...	429·3	926·7	62·6	141·4	49·7	99·5	138·7
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...
Fort Dufferin	912	...	...	...	4·4	320·2	86·6	7·7	3·3	1·1	15·4	1·1	1·1	23·0	34·0	11·0	1·1	17·5	471·5	1563·6	98·6	123·9	38·4	178·7	130·5
		...	...	...	...	...	1·10	...	...	1·10	1·10	...	...	...	...	...	1·10	1·10	...	9·87		...	...	...	...
Shwebo .	428	4·7	...	...	16·4	116·8	4·7	2·3	2·3	...	9·3	2·3	2·3	7·0	58·4	2·3	11·7	14·0	306·1	929·9	80·6	49·1	70·1	72·4	114·5
		...	...	...	2·34	...	...	...	...	...	...	...	...	...	...	...	4·67	...	...	11·68		...	...	...	...
Bhamo .	305	...	...	...	3·3	314·8	...	...	...	...	...	...	...	9·8	9·8	...	...	...	190·2	708·2	33·4	26·2	16·4	68·9	78·7
		...	...	...	3·28	...	...	...	...	...	...	...	...	...	...	...	...	...	...	6·56		...	...	...	...
Group II.—Burma Inland.	* 2,654	7·2	...	...	4·5	171·4	30·5	52·0	1·5	·8	8·3	1·1	1·1	13·6	29·0	6·0	2·6	10·9	428·4	1197·4	† 78·6	111·5	59·3	122·1	135·3
		...	...	...	·75	...	·38	...	...	·38	·38	...	·38	...	...	...	1·13	·38	...	7·54		...	...	...	...
Fort William	1,127	...	·9	...	13·3	227·2	...	·9	...	1·8	8·0	1·8	·9	21·3	51·5	26·6	3·5	20·4	355·8	1039·0	69·3	42·6	70·1	31·9	111·2
		...	·89	...	·89	...	...	...	...	·89	1·77	...	...	...	·89	...	2·66	...	...	7·99		...	...	...	...
,, Fulta	13	...	...	...	...	307·7	...	76·9	...	76·9	...	...	...	...	...	...	...	...	...	846·2	6·2	...	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...
,, Chingri-khal.	34	...	...	...	...	617·6	...	...	...	...	...	...	...	...	88·2	88·2	...	58·8	176·5	1176·5	6·5	...	58·8	29·4	88·2
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...
Dum-Dum .	874	...	1·1	...	20·6	612·1	2·3	50·3	...	...	5·7	1·1	3·4	26·3	67·5	28·6	9·2	13·7	233·4	1411·9	88·6	20·6	58·4	32·0	122·4
		...	1·14	...	4·58	1·14	...	...	...	...	...	2·29	2·29	...	2·29	...	5·72	...	...	24·03		...	...	...	...
Barrackpore	334	12·0	...	...	38·9	1859·3	3·0	...	6·0	3·0	6·0	6·0	...	12·0	122·8	18·0	6·0	32·9	323·4	2946·1	109·2	12·0	107·8	32·9	170·7
		...	...	...	5·99	...	...	...	...	2·99	...	...	...	...	...	...	2·99	...	...	14·97		...	...	...	...
Group IV.—Bengal and Orissa.	* 2,381	1·7	·8	...	19·3	603·5	1·3	19·3	·8	1·7	6·7	2·1	1·7	21·4	67·6	26·9	5·9	20·2	302·0	1444·8	† 80·8	29·4	70·6	31·9	170·1
		...	·84	...	2·94	·42	...	...	...	·84	·84	·84	·84	...	1·26	...	3·78	...	...	14·70		...	...	...	...
B Dinapore .	651	...	...	...	13·8	394·8	9·2	...	...	3·1	7·7	9·2	3·1	16·9	16·9	16·9	6·1	16·9	680·5	1705·1	105·3	228·9	92·2	135·2	224·3
		...	...	...	9·22	...	...	...	...	...	...	1·54	...	...	...	...	7·68	...	1·54	23·04		...	...	1·54	...
Benares .	384	...	...	...	15·6	434·9	62·5	106·8	...	2·6	...	...	2·6	20·8	13·0	23·4	...	13·0	627·6	1690·1	110·1	23·4	177·1	96·4	330·7
		...	...	...	2·60	...	2·60	...	...	2·60	...	...	...	...	...	...	...	...	...	7·81		...	...	...	...
Allahabad .	924	...	1·1	...	47·6	264·1	...	122·3	1·1	3·2	15·2	3·2	2·2	13·0	44·4	42·2	1·1	21·6	563·9	1530·3	116·6	72·5	189·4	126·6	175·3
		...	...	...	18·40	...	...	...	...	...	...	...	...	...	...	...	...	...	1·08	21·65		...	...	1·08	...
Fort Allah-abad.	199	...	...	...	25·1	648·2	10·1	170·9	...	...	...	...	...	10·1	5·0	20·1	...	...	...	1733·7	93·7	65·3	170·9	120·6	191·0
		...	...	...	5·03	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5·03		...	...	...	...
Fyzabad .	652	...	1·5	...	47·5	362·0	44·5	...	...	6·1	32·2	1·5	...	19·9	46·0	30·7	1·5	18·4	385·0	1447·9	103·5	50·6	82·8	70·6	181·0
		...	1·53	...	7·67	...	...	...	...	3·07	...	...	...	...	1·53	...	...	...	...	13·80		...	...	...	...
Sitapur .	532	73·3	...	...	11·3	142·9	13·2	3·8	...	13·2	1·9	...	...	...	24·4	3·8	5·6	18·8	327·1	896·6	72·0	18·8	92·1	107·1	109·0
		...	...	...	3·76	...	...	...	...	5·64	...	...	...	...	...	...	3·76	...	...	13·16		...	...	...	...
Lucknow .	2,348	...	...	...	74·1	252·1	...	69·0	·4	2·6	9·8	4·7	·9	15·3	45·1	17·5	3·8	31·5	404·6	1253·1	98·7	109·0	27·3	128·2	140·8
		...	...	...	22·57	...	...	...	...	1·28	·43	1·28	...	·43	·85	...	1·70	...	·43	30·66		...	...	·43	...
Cawnpore .	794	12·6	...	...	25·2	317·4	3·8	89·4	1·3	3·8	13·9	1·3	...	35·3	25·2	17·6	1·3	12·6	619·6	1484·9	113·5	250·6	18·9	163·7	186·4
		...	...	...	7·56	...	...	...	...	...	...	1·26	...	1·26	...	...	1·26	1·26	...	16·37		...	...	...	...
Fatehgarh .	202	...	...	...	...	752·5	14·9	...	...	24·8	34·7	5·0	5·0	9·9	9·9	14·9	...	24·8	762·4	2272·3	99·4	183·2	34·7	232·7	311·9
		...	...	...	...	...	...	...	...	...	...	...	...	...	4·95	...	...	...	...	4·95		...	...	...	...
Group V.—Gangetic Plain and Chutia Nagpur.	* 6,686	7·3	·3	...	44·1	314·8	11·1	63·3	·4	4·6	12·3	3·4	1·2	17·1	34·5	21·4	2·8	31·4	498·8	1425·5	† 102·4	115·6	78·7	126·7	177·8
		...	·15	...	13·61	...	·15	...	...	1·35	·15	·75	...	·30	·60	...	1·79	·15	·45	21·09		...	...	·45	...

* Derived from the aggregates. † Worked on the aggregates.

TABLE III—*continued.*

RATIOS of STATIONS, GROUPS, and COMMANDS. For actuals see Table IV.

Stations and Groups.	Average annual strength.	1. Admission-rate. Influenza.	Cholera.	Small-pox.	Enteric Fever.	Intermittent Fever.	Remittent Fever.	Simple Continued Fever.	Rheumatic Fever.	Heat-stroke.	Circulatory Diseases.	Tubercle of the lungs.	Pneumonia.	Other Respiratory Diseases.	Dysentery.	Diarrhœa.	Hepatic Abscess.	Hepatic Congestion and Inflammation.	Venereal Diseases.	All Causes.	Constantly Sick.	2. Death-rate. Primary Syphilis.	Soft Chancre.	Secondary Syphilis.	Gonorrhœa.
A																									
Shahjahanpur.	232	...	...	...	64·7	482·8	...	12·9	...	8·6	17·2	...	...	4·3	17·2	21·6	4·3	125·9	926·7	2000·0	118·3	362·1	103·4	181·0	280·2
		...	...	...	17·24	...	...	...	...	4·31	...	...	...	...	...	...	...	...	...	34·48		...	...	...	...
Bareilly .	1,102	...	...	...	20·9	145·2	2·7	64·4	·9	1·8	13·6	3·6	5·4	20·9	41·7	14·5	2·7	52·6	569·9	1438·3	100·3	157·9	85·3	129·8	196·9
		...	...	...	5·44	...	...	...	...	...	...	...	...	...	·91	...	...	...	...	10·89		...	...	...	...
Roorkee .	355	...	...	...	8·5	174·6	2·8	5·6	...	...	...	...	...	8·5	16·9	2·8	5·6	11·3	397·2	952·1	81·2	50·7	36·6	123·9	185·9
		...	...	...	...	...	...	...	...	...	...	2·82	...	...	...	...	5·63	...	...	14·08		...	...	...	...
Meerut .	1,951	...	...	...	40·0	867·8	6·2	4·1	·5	6·7	10·8	5·1	1·5	31·3	21·5	27·7	2·1	9·2	350·6	1902·1	102·1	45·6	81·5	86·6	136·9
		...	...	...	9·74	·51	...	...	...	1·03	...	1·03	...	...	1·03	...	1·54	...	...	18·96		...	...	...	...
Delhi .	299	...	...	...	10·0	1454·8	63·5	...	...	13·4	3·3	10·0	...	10·0	16·7	3·3	...	33·4	364·5	2424·7	92·3	16·7	113·7	36·8	197·3
		...	...	...	6·69	3·34	...	...	...	6·69	...	3·34	...	...	...	...	...	...	...	30·10		...	...	...	...
Umballa .	1,896	...	5·3	...	35·3	361·3	5·3	7·9	2·6	9·5	9·5	2·6	1·6	15·3	30·6	51·7	·5	15·8	217·8	1215·2	77·3	71·7	20·6	53·3	72·3
		...	5·27	...	13·19	·53	·53	...	...	1·58	...	1·58	·53	·53	...	...	...	...	...	26·90		...	...	...	...
B																									
Jullundur .	952	...	...	...	48·3	401·3	12·6	3·2	1·1	9·5	9·5	6·3	8·4	20·0	22·1	17·9	1·1	12·6	384·5	1300·4	91·0	154·4	12·6	90·3	127·1
		...	...	...	11·55	...	...	...	...	1·05	...	...	1·05	...	2·10	...	...	2·10	2·10	19·95		...	...	2·10	...
Ferozepore .	861	1·2	...	...	33·7	771·2	5·8	109·2	2·3	27·9	69·7	2·3	1·2	44·1	22·1	39·5	2·3	23·2	444·8	2171·9	136·1	66·2	132·4	81·3	164·9
		...	...	...	23·23	1·16	...	2·32	...	3·48	1·16	...	...	...	2·32	...	1·16	...	...	37·17		...	...	...	...
Amritsar .	209	...	...	...	19·1	789·5	19·1	...	...	9·6	4·8	...	4·8	23·9	23·9	14·4	4·8	9·6	622·0	1885·2	100·8	129·2	67·0	143·5	282·3
		...	...	...	4·78	...	...	...	...	...	...	...	4·78	...	...	...	...	...	...	9·57		...	...	...	...
Mecan Meer	869	...	1·2	...	47·2	806·7	1·2	446·5	5·8	40·3	10·4	3·5	4·6	21·9	49·5	50·6	1·2	10·4	200·2	2212·9	118·3	51·8	31·1	41·4	75·9
		...	...	...	12·66	1·15	...	...	...	11·51	...	1·15	1·15	...	1·15	1·15	...	...	1·15	35·07		...	...	1·15	...
Fort Lahore	92	...	...	...	87·0	1913·0	87·0	...	...	21·7	10·9	...	10·9	10·9	32·6	21·7	...	10·9	293·5	2793·5	134·1	32·6	97·8	32·6	130·4
		...	...	...	54·35	...	...	...	...	10·87	10·87	...	10·87	...	10·87	...	...	...	...	97·83		...	...	...	...
Sialkot .	1,184	...	...	·8	17·7	508·4	15·2	4·2	...	8·4	13·5	·8	4·2	57·4	24·5	38·9	·8	11·8	189·2	1422·4	73·0	31·3	27·0	56·6	74·3
		...	...	...	8·45	...	·84	...	...	1·69	·84	·84	1·69	...	·84	...	·84	...	...	17·74		...	...	...	...
Rawalpindi .	2,375	...	...	...	51·8	394·9	21·1	6·3	2·5	10·9	7·6	·8	3·4	48·8	31·6	25·7	2·9	18·5	390·7	1497·7	93·0	149·9	35·8	66·5	138·5
		...	...	...	10·95	·42	·42	...	...	·42	...	...	·84	...	1·26	...	3·37	...	·84	20·21		...	...	·84	...
Campbellpur	211	...	...	...	14·2	677·7	...	9·5	...	19·0	9·5	4·7	19·0	33·2	19·0	23·7	...	14·2	379·1	1768·0	82·1	80·6	85·3	66·4	146·9
		...	...	...	4·74	...	...	...	...	...	...	...	4·74	...	...	...	...	...	...	18·96		...	...	...	...
Attock .	163	...	...	...	18·4	607·4	73·6	...	...	79·8	...	...	6·1	12·3	18·4	18·4	...	12·3	257·7	1625·8	64·0	36·8	49·1	61·3	110·4
		...	...	...	12·27	...	...	...	...	...	...	...	...	...	...	...	...	...	...	18·40		...	...	...	...
Group VI.—Upper Sub-Himalaya.	* 12,751	·1	·9	·1	36·6	550·3	12·2	47·5	1·6	12·9	13·7	2·9	3·5	31·0	28·5	30·6	2·2	18·0	356·4	1622·4	† 95·3	94·2	53·5	77·2	131·5
		...	·78	...	11·21	·47	·24	·16	...	2·04	·24	·71	·78	·08	1·02	·08	1·33	...	·39	22·82		...	...	·39	...
A																									
Nowshera .	361	...	...	...	47·1	371·2	72·0	...	...	36·0	...	...	16·6	5·5	55·4	11·1	2·8	19·4	315·8	1257·6	76·5	44·3	55·4	58·2	157·9
		...	...	...	19·39	...	...	...	...	13·85	...	...	2·77	...	...	...	2·77	...	...	41·55		...	...	...	...
Peshawar .	1,961	...	...	...	52·0	662·9	551·2	5·1	2·0	20·4	11·2	2·0	13·3	53·0	29·1	34·7	2·0	8·7	267·2	2220·8	119·3	37·7	73·9	43·9	111·7
		...	...	...	24·48	...	3·57	...	...	6·63	1·02	·51	3·57	...	1·02	...	2·04	·51	...	48·95		...	...	...	...
Mooltan .	886	...	...	...	13·5	883·7	14·7	3·4	...	14·7	21·4	3·4	1·1	40·6	15·8	15·8	1·1	9·0	251·7	1705·4	84·5	50·8	28·2	37·2	135·4
		...	...	...	5·64	2·26	...	...	...	1·13	1·13	2·26	1·13	...	1·13	...	1·13	1·13	...	25·90		...	...	...	...
C																									
Hyderabad	502	...	...	...	4·0	878·5	4·0	15·9	...	8·0	2·0	...	...	12·0	21·9	27·9	2·0	13·9	354·6	1802·8	87·2	97·6	99·6	63·7	93·6
		...	...	...	3·98	...	...	...	...	...	...	...	...	...	...	...	1·99	...	...	11·95		...	...	...	...
Kurrachee .	1,027	...	...	...	6·8	946·4	2·9	1·0	...	1·0	3·9	4·9	2·9	21·4	11·7	21·4	1·0	22·4	271·7	1682·6	68·9	58·4	71·1	75·0	67·2
		...	...	...	3·89	·97	...	...	...	·97	...	·97	·97	...	...	...	...	...	...	11·68		...	...	...	...
Group VII.—N.-W. Frontier, Indus Valley, and N.-W. Rajputana.	* 4,737	...	...	...	29·6	766·3	237·5	4·6	·8	15·0	9·7	2·5	7·6	35·9	24·1	25 8	1·9	12·9	278·2	1890·0	† 95·2	51·5	66·1	52·6	108·1
		...	...	...	13·93	·63	1·48	...	...	4·22	·63	·84	2·11	...	·63	...	1·69	·21	...	32·09		...	...	...	...
A																									
Deesa .	299	...	...	...	33·4	411·4	20·1	50·2	...	6·7	...	...	...	13·4	23·4	56·9	3·3	26·8	377·9	1451·5	85·0	26·8	150·5	50·2	150·5
		...	...	...	13·38	...	...	...	...	...	...	...	...	...	...	...	3·34	...	...	10·72		...	...	...	...
Ahmedabad	235	...	...	...	4·3	923·4	42·6	...	...	12·8	12·8	...	4·3	55·3	17·0	59·6	...	29·8	519·1	2425·5	108·4	21·3	131·9	136·2	229·8
		...	...	...	4·26	...	...	...	...	...	4·26	...	...	...	...	...	...	...	...	8·51		...	...	...	...
B																									
Neemuch .	294	...	...	...	10·2	741·5	40·8	...	6·8	...	3·4	10·2	10·2	74·8	47·6	30·6	...	20·4	367·3	1911·6	95·7	23·8	57·8	102·0	183·7
		...	...	...	3·40	...	3·40	...	...	...	...	...	3·40	...	...	...	...	...	...	10·20		...	...	...	...
Nasirabad .	668	3·0	...	...	41·9	262·0	24·0	7·5	...	3·0	22·5	1·5	1·5	22·5	15·0	19·5	...	24·0	245·5	1221·6	64·7	29·9	15·0	82·3	118·3
		...	...	...	16·47	...	...	...	...	...	...	...	...	...	...	...	...	...	...	17·90		...	...	...	...
Muttra .	474	...	...	...	94·3	386·8	...	169·8	2·4	28·3	9·4	4·7	9·4	18·9	14·2	47·2	2·4	9·4	356·1	1818·4	93·4	125·0	7·1	37·7	186·3
		...	...	...	23·58	...	...	...	...	2·36	...	...	...	...	...	...	2·36	...	...	35·38		...	...	...	...
Agra .	1,197	7·5	...	...	73·5	300·8	19·3	27·6	...	4·2	3·3	1·7	·8	9·2	30·1	5·8	3·3	5·0	427·7	1179·6	89·5	69·3	110·3	66·0	182·1
		...	...	...	16·71	...	...	...	...	1·67	...	...	...	...	·84	...	1·67	·84	...	23·39		...	...	...	...

* Derived from the aggregates. † Worked on the aggregates.

1. Admission-rate. 2. Death-rate.

Stations and Groups.	Average annual strength.	Influenza.	Cholera.	Small-pox.	Enteric Fever.	Intermittent Fever.	Remittent Fever.	Simple Continued Fever.	Rheumatic Fever.	Heat-stroke.	Circulatory Diseases.	Tubercle of the lungs.	Pneumonia.	Other Respiratory Diseases.	Dysentery.	Diarrhœa.	Hepatic Abscess.	Hepatic Congestion and Inflammation.	Venereal Diseases.	All Causes.	Constantly Sick.	Primary Syphilis.	Soft Chancre.	Secondary Syphilis.	Gonorrhœa.
Jhansi	742	39·1	...	...	40·4	535·0	...	1·3	...	5·4	25·6	13·5	5·4	33·7	41·7	33·7	4·0	20·2	432·6	1734·5	119·9	70·1	60·6	133·4	168·5
		...	...	...	17·52	1·35	...	...	...	5·39	...	2·70	4·04	...	1·35	...	4·04	...	...	37·74		...	...	...	...
Nowgong	386	...	...	...	18·1	852·3	18·1	2·6	...	13·0	5·2	...	2·6	25·0	33·7	15·5	2·6	7·8	471·5	1792·7	123·0	189·1	49·2	90·7	142·5
		...	...	...	15·54	2·59	2·59	...	...	...	...	...	...	...	...	...	2·59	...	...	25·91		...	...	...	...
Indore	101	...	...	...	...	505·0	...	9·9	...	...	...	...	...	...	9·9	...	...	...	346·5	1287·1	53·9	49·5	99·0	118·8	79·2
		...	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...
Mhow	1,665	1·8	...	...	45·6	580·2	8·4	49·2	2·4	1·2	3·6	...	1·8	37·2	18·6	47·4	1·2	19·2	441·4	1812·6	111·1	99·7	69·7	141·1	130·9
		...	...	...	12·01	...	...	...	...	...	...	...	...	...	·60	...	·60	...	...	18·02		...	...	...	...
Group VIII.—South-East Rajputana, Central India, and Gujarat.	* 6,011	7·2	...	...	47·1	499·1	14·6	34·9	1·2	5·8	9·9	3·0	3·0	28·3	25·5	31·6	2·0	16·1	406·4	1612·4	† 99·1	78·5	71·2	101·1	155·5
		...	...	...	14·31	·33	·33	...	...	1·16	·17	·33	·67	...	·50	...	1·50	·17	...	22·13		...	...	...	...
A Saugor	238	8·4	...	...	...	735·3	113·4	...	...	...	...	...	4·2	8·4	16·8	46·2	4·2	12·6	651·3	2079·8	114·3	147·1	92·4	138·7	273·1
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4·20	...	...	8·40		...	...	...	...
Jubbulpore	461	2·2	...	...	86·8	695·2	15·2	...	2·2	8·7	15·2	8·7	2·2	21·7	56·4	32·5	2·2	47·7	488·1	1919·7	167·5	67·2	128·0	136·7	156·2
		...	...	...	28·20	2·17	...	...	...	...	...	2·17	...	...	8·68	...	2·17	...	...	43·38		...	...	...	...
Kamptee	762	...	...	...	21·0	279·5	6·6	45·9	...	1·3	3·9	1·3	1·3	23·6	11·8	22·5	...	2·6	364·8	1294·0	94·4	40·7	107·6	85·3	131·2
		...	...	...	2·62	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5·25		...	...	...	...
Sitabaldi	53	...	...	...	...	264·2	...	18·9	...	...	...	...	...	18·9	18·9	...	...	18·9	264·2	1113·2	15·5	...	150·9	37·7	75·5
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...
B Secunderabad	2,126	15·1	...	...	17·4	132·2	7·5	13·2	·9	·9	11·3	1·9	...	43·3	45·6	4·7	3·8	22·1	477·0	1247·4	96·4	132·2	63·5	90·8	190·5
		...	...	...	4·70	...	...	...	...	...	·94	...	...	...	1·41	...	1·88	...	·47	10·82		...	...	·47	...
Belgam	1,027	249·3	...	...	1·9	465·4	...	...	1·9	1·0	9·7	...	...	30·2	27·3	...	1·0	49·7	355·4	1500·5	87·1	40·9	107·1	88·6	118·8
		·97	...	...	·97	...	...	...	...	...	·97	...	...	...	...	...	...	...	·97	5·84		...	...	·97	...
Satara	173	...	...	...	11·6	578·0	...	...	...	...	...	...	...	5·8	...	5·8	...	28·9	549·1	1508·7	92·1	121·4	104·0	104·0	219·7
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...			...	...	...	...
Poona	1,904	2·6	...	...	24·2	206·9	1·1	177·0	...	1·1	12·6	2·6	·5	16·8	28·4	33·1	2·1	11·0	444·9	1339·3	82·4	46·7	183·3	58·3	156·5
		...	...	...	4·73	...	...	...	...	...	·53	...	...	...	·53	...	1·58	...	...	9·45		...	...	...	...
Kirkee	749	...	...	...	37·4	459·3	17·4	...	2·7	1·3	6·7	1·3	2·7	9·3	8·0	5·3	1·3	12·0	443·3	1466·0	83·2	20·0	112·1	80·1	231·0
		...	...	...	6·68	...	...	...	...	...	1·34	...	...	...	1·34	...	1·34	...	...	16·02		...	...	...	...
Ahmednagar	763	83·9	...	...	53·7	483·6	3·9	14·4	3·9	3·9	7·9	2·6	1·3	35·4	11·8	62·9	1·3	19·7	567·5	1862·4	131·3	97·0	146·8	149·4	174·3
		...	...	...	6·55	...	...	...	...	1·31	2·62	...	1·31	...	...	...	...	...	...	15·73		...	...	...	...
Group IX.—Deccan.	* 8,256	43·6	...	...	25·7	320·6	8·8	49·9	1·2	1·7	9·6	2·1	·8	26·8	28·3	20·5	2·1	21·3	455·2	1447·2	† 97·7	75·0	118·6	90·8	170·8
		·12	...	...	5·45	·12	...	...	...	·12	·85	·12	·12	...	1·09	...	1·21	...	·24	11·75		...	...	...	...
Colaba	1,200	...	...	...	2·5	140·0	11·7	75·8	·8	·8	6·7	3·3	5·0	30·0	18·3	26·7	·8	7·5	332·5	1105·8	85·6	58·3	72·5	69·2	132·5
		...	...	...	·83	...	...	...	...	·83	·83	·83	·83	·83	...	...	1·67	·83	1·67	13·33		...	...	1·67	...
Cannanore	75	...	...	...	...	...	...	40·0	...	...	...	...	...	66·7	...	...	...	...	440·0	1053·3	70·1	133·3	53·3	133·3	120·0
		...	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...
Calicut	99	...	...	...	...	50·5	...	40·4	...	...	10·1	...	...	10·1	30·3	20·2	...	20·2	636·4	1313·1	80·0	10·1	373·7	30·3	222·2
		...	...	...	...	...	...	...	...	...	...	...	...	...	10·10	...	...	...	...	10·10		...	...	...	...
Mallapuram	148	...	...	...	6·8	13·5	27·0	33·8	6·8	...	...	...	...	6·8	20·3	...	...	6·8	297·3	858·1	67·7	20·3	27·0	67·6	182·4
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...
Group X.—Western Coast.	* 1,522	...	...	...	2·6	115·0	11·8	67·7	1·3	·7	5·9	2·6	3·9	28·3	18·4	22·3	1·3	7·2	354·1	1092·6	† 82·7	55·2	86·7	69·6	142·6
		...	...	...	·66	...	...	...	...	·66	·66	·66	·66	·66	·66	...	1·97	...	1·31	11·17		...	...	1·31	...
A Bellary	719	2·8	...	...	8·3	917·9	1·4	51·5	2·8	2·8	7·0	4·2	...	25·0	15·3	...	...	20·9	497·9	1980·5	101·1	72·3	141·9	123·8	159·9
		...	...	...	2·78	1·39	...	...	...	1·39	1·39	...	...	...	1·39	...	...	...	1·39	11·13		...	...	...	...
Bangalore	1,880	14·4	...	...	30·3	101·1	9·6	25·0	·5	...	10·1	·5	1·1	12·2	34·6	4·8	3·7	47·3	501·1	1261·2	93·2	158·5	53·7	107·4	181·4
		...	...	...	4·26	...	...	...	...	...	·53	...	...	...	·53	...	2·13	·53	...	10·64		...	...	...	...
Pallavaram	46	...	...	...	...	...	...	65·2	...	...	...	...	...	...	87·0	43·5	...	...	521·7	1087·0	56·1	152·2	108·7	87·0	173·9
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...
St. Thomas' Mount	309	...	...	...	6·5	197·4	197·4	74·4	...	9·7	9·7	9·7	...	32·4	19·4	...	...	38·8	326·9	1404·5	75·3	71·2	100·3	58·3	97·1
		...	...	...	...	...	3·24	...	...	9·71	3·24	3·24	...	...	...	...	...	...	...	19·42		...	...	...	...
Madras	564	1·8	3·5	...	5·3	120·6	...	232·3	...	3·5	8·9	1·8	1·8	35·5	30·1	1·8	...	47·9	569·1	1684·4	56·2	67·4	157·8	70·9	273·0
		...	1·77	...	1·77	...	...	...	...	...	1·77	...	...	...	...	...	...	...	...	8·87		...	...	...	...
Group XI.—Southern India.	* 3,520	8·5	·6	...	19·3	278·1	22·7	68·5	·9	2·0	9·1	12·3	·9	20·2	29·3	3·4	2·0	40·6	496·0	1488·4	† 86·8	118·5	93·2	100·3	184·1
		...	·28	...	3·12	·28	·28	...	...	1·14	1·14	·28	...	...	·57	...	1·14	·28	·28	11·08		...	...	·28	...

* Derived from the aggregates. † Worked on the aggregates.

TABLE III —*continued.*

RATIOS of STATIONS, GROUPS, and COMMANDS. For actuals see Table IV.

Stations and Groups.	Average annual strength.	1. Admission-rate. Influenza.	Cholera.	Small-pox.	Enteric Fever.	Intermittent Fever.	Remittent Fever.	Simple Continued Fever.	Rheumatic Fever.	Heat-stroke.	Circulatory Diseases.	Tubercle of the lungs.	Pneumonia.	Other Respiratory Diseases.	Dysentery.	Diarrhœa.	Hepatic Abscess.	Hepatic Congestion and Inflammation.	Venereal Diseases.	All Causes.	2. Death-rate. Constantly Sick.	Primary Syphilis.	Soft Chancre.	Secondary Syphilis.	Gonorrhœa.
Bernardmyo	189	...	...	...	...	285·7	...	...	...	...	10·6	...	...	10·6	42·3	...	...	...	164·0	735·4	44·6	52·9	...	31·7	79·4
		...	...	...	...	...	...	...	...	...	5·29	...	...	...	...	...	...	...	...	5·29		...	...	...	...
Ranikhet	834	...	...	...	68·3	99·5	22·8	81·5	1·2	...	2·4	2·4	1·2	26·4	27·6	43·2	3·6	28·8	425·7	1328·5	105·3	211·0	...	140·3	74·3
		...	...	...	11·99	...	...	...	...	...	...	...	...	...	...	...	3·60	...	1·20	17·99		...	...	1·20	...
Chaubuttia	312	...	...	...	12·8	573·7	...	12·8	...	...	28·8	...	...	...	35·3	6·4	25·6	...	9·6	1987·2	105·8	57·7	118·6	205·1	125·0
		...	...	...	3·21	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3·21		...	...	...	...
Chakrata	953	4·2	...	...	75·6	60·9	3·1	31·5	3·1	...	19·9	2·1	1·0	5·2	4·2	4·2	1·0	7·3	465·9	1015·7	79·8	75·6	185·7	59·8	144·8
		...	...	...	7·35	...	...	...	...	...	...	...	...	...	...	...	1·05	...	...	9·44		...	...	...	...
Lebong	238	...	...	...	...	134·5	16·8	4·2	...	...	12·6	...	...	12·6	42·0	8·4	4·2	21·0	159·7	705·9	52·3	33·6	4·2	75·6	46·2
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4·20	...	...	8·40		...	...	...	...
Solon	210	...	...	...	...	1242·9	9·5	...	...	...	14·3	9·5	19·0	23·8	...	123·8	...	4·8	271·4	2047·6	104·9	181·0	...	71·4	19·0
		...	...	...	...	...	...	...	...	...	...	4·76	4·76	...	...	...	...	...	...	14·29		...	...	...	...
Dagshai	38	...	...	...	26·3	52·6	...	...	...	...	...	...	...	52·6	...	26·3	...	...	184·2	947·4	41·3	105·3	26·3	26·3	26·3
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...
Subathu	534	20·6	...	...	22·5	131·1	18·7	3·7	9·4	...	1·9	...	...	5·6	3·7	33·7	...	5·6	260·3	923·2	57·9	33·7	99·3	65·5	61·8
		...	...	...	...	...	...	...	1·87	...	...	...	...	...	...	...	...	...	...	3·75		...	...	...	...
Jutogh	162	...	...	...	24·7	253·1	...	...	6·2	...	37·0	...	...	...	18·5	148·1	...	18·5	197·5	1654·3	89·1	104·9	...	24·7	67·9
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...
Khyragully	40	...	...	...	25·0	250·0	50·0	...	...	...	...	...	...	50·0	...	50·0	50·0	100·0	325·0	1125·0	66·8	75·0	100·0	50·0	100·0
		...	...	...	25·00	...	...	...	...	...	...	...	...	...	...	...	...	...	...	50·00		...	...	...	...
Baragully	56	...	...	...	17·9	107·1	...	17·9	35·7	...	...	...	...	53·6	17·9	...	...	...	214·3	714·3	46·6	107·1	...	53·6	53·6
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	17·86		...	...	...	...
Kuldunnah	418	...	...	...	14·4	251·2	14·4	9·6	2·4	...	2·4	2·4	2·4	21·5	26·3	...	...	12·0	272·7	921·1	52·4	43·1	90·9	64·6	74·2
		...	...	...	7·18	...	...	...	...	...	2·39	...	...	2·39	...	...	...	...	...	14·35		...	...	...	...
Kalabagh	51	...	...	...	...	294·1	...	19·6	...	...	...	...	...	...	...	156·9	...	19·6	313·7	1098·0	42·5	19·6	78·4	137·3	78·4
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...
Camp Gharial	392	...	...	...	28·1	183·7	2·6	...	...	...	2·6	...	...	2·6	10·2	7·7	2·6	...	329·1	918·4	50·4	188·8	...	68·9	71·4
		...	...	...	5·10	...	...	...	...	...	...	...	...	...	...	...	...	...	...	7·65		...	...	...	...
Camp Thobba	305	...	...	...	32·8	242·6	3·3	9·8	6·6	...	...	3·3	...	36·1	16·4	13·1	3·3	13·1	367·2	1072·1	73·0	114·8	85·2	75·4	91·8
		...	...	...	9·84	...	...	...	...	...	...	...	...	3·28	...	...	3·28	...	...	16·39		...	...	...	...
Camp Lower Topa..	75	...	...	...	40·0	573·3	...	...	...	...	...	...	...	13·3	13·3	40·0	13·3	13·3	466·7	1773·3	82·4	306·7	...	80·0	80·0
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	13·33	...	...	26·67		...	...	...	...
Ghora Dhaka	171	...	...	...	5·8	210·5	17·5	...	29·2	...	11·7	...	5·8	...	...	29·2	...	5·8	356·7	1052·6	70·9	35·1	29·2	187·1	105·3
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5·85		...	...	...	...
Cherat	487	...	...	...	82·1	308·0	16·4	244·4	...	...	10·3	...	2·1	4·1	14·4	110·9	...	4·1	98·6	1410·7	91·0	18·3	24·6	24·6	30·8
		...	...	...	14·37	...	...	...	...	...	...	...	...	...	...	...	...	...	2·05	16·43		...	...	2·05	...
Quetta	2,138	...	...	...	108·5	196·0	13·1	14·5	·5	...	4·2	·9	15·0	35·5	22·5	21·0	1·9	14·5	184·8	1037·9	80·4	9·8	34·1	38·4	102·4
		...	...	...	35·08	·47	1·40	...	...	...	...	1·40	1·40	·47	1·40	...	2·34	...	...	44·43		...	...	...	...
Ramandrug	21	...	...	...	...	190·5	...	...	...	...	...	...	...	...	...	...	...	47·6	285·7	1190·5	45·7	...	95·2	190·5	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...
Group XII *a*—Hill Stations.	* 7,625	2·0	...	...	59·7	224·8	11·4	34·6	2·8	...	8·3	1·3	5·4	20·7	16·9	31·9	1·8	12·6	288·8	1139·3	† 77·9	73·0	56·8	71·1	87·9
		...	...	...	14·30	·13	·39	...	·13	...	·26	·52	·52	·39	·39	...	1·57	...	·26	20·46		...	...	·26	...
Darjeeling	399	...	...	...	5·0	330·8	...	...	...	...	10·0	...	2·5	37·6	32·6	50·1	7·5	25·1	218·0	1155·4	63·6	37·6	32·6	80·2	67·7
		...	...	...	...	...	...	...	...	...	...	...	...	...	2·51	...	5·01	...	2·51	15·04		...	...	2·51	...
Naini Tal	108	37·9	...	...	18·5	185·2	...	...	18·5	9·3	18·5	...	...	27·8	27·8	46·3	...	18·5	231·5	1111·1	72·2	55·6	...	111·1	64·8
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	27·78		...	...	...	...
Landour	157	12·7	...	...	31·8	847·1	...	12·7	...	...	12·7	25·5	...	31·8	12·7	12·7	6·4	6·4	216·6	1668·8	85·7	57·3	38·2	76·4	44·6
		...	...	...	...	...	...	...	...	...	...	6·39	...	...	...	...	...	...	...	19·11		...	...	...	...
Kasauli	373	...	...	...	29·5	924·9	2·7	2·7	...	...	61·7	2·7	...	80·4	26·8	75·1	2·7	56·3	249·3	2244·0	154·7	18·8	8·0	115·3	107·2
		...	...	...	2·68	...	...	...	...	...	5·36	5·36	...	...	2·68	...	2·68	...	...	18·77		...	...	...	...
Dalhousie	582	...	...	...	41·2	826·5	...	6·9	3·4	...	8·6	1·7	3·4	22·3	27·5	73·9	1·7	1·7	383·2	1998·3	119·0	147·8	1·7	135·7	97·9
		...	...	...	8·59	3·44	...	...	...	...	...	...	...	...	1·72	...	...	...	...	15·46		...	...	...	...
Murree	88	...	...	...	45·5	227·3	22·7	...	...	...	...	...	...	11·4	...	11·4	...	11·4	204·5	727·3	148·3	56·8	11·4	90·9	45·5
		...	...	...	11·36	...	11·36	...	...	...	...	...	11·36	...	...	...	...	...	...	34·09		...	...	...	...
Taragarh	43	...	...	...	23·3	232·6	23·3	...	...	...	...	...	...	23·3	23·3	23·3	...	23·3	581·4	1674·4	165·8	116·3	...	418·6	46·5
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	23·26		...	...	...	...
Mount Abu	91	...	...	...	11·0	230·8	...	33·0	...	...	44·0	11·0	...	22·0	33·0	33·0	...	65·9	120·9	967·0	56·6	22·0	...	65·9	33·0
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	21·98		...	...	...	...
Pachmarhi	117	...	...	...	8·5	316·2	25·6	...	...	...	...	...	...	17·1	...	...	...	25·6	752·1	1615·4	83·9	230·8	51·3	265·0	205·1
		...	...	...	8·55	...	...	...	...	...	...	...	...	...	...	...	...	...	...	8·55		...	...	...	...
Purandhur	92	...	...	...	...	456·5	...	...	...	...	...	...	...	43·5	...	21·7	...	...	184·8	1141·3	68·6	...	76·1	76·1	32·6
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...

* Derived from the aggregates. † Worked on the aggregates.

STATIONS, GROUPS, AND COMMANDS.	Average annual strength.	1. ADMISSION-RATE. Influenza.	Cholera.	Small-pox.	Enteric Fever.	Intermittent Fever.	Remittent Fever.	Simple Continued Fever.	Rheumatic Fever.	Heat-stroke.	Circulatory Diseases.	Tubercle of the lungs.	Pneumonia.	Other Respiratory Diseases.	Dysentery.	Diarrhœa.	Hepatic Abscess.	Hepatic Congestion and Inflammation.	Venereal Diseases.	ALL CAUSES.	CONSTANTLY SICK.	2. DEATH-RATE. Primary Syphilis.	Soft Chancre.	Secondary Syphilis.	Gonorrhœa.
Chandalla .	60	...	...	...	...	466·7	16·7	...	...	16·7	...	...	...	...	33·3	33·3	16·7	...	350·0	1300·0	60·0	...	100·0	183·3	66·7
		...	...	...	...	...	...	...	...	16·67	...	...	...	...	...	...	...	...	...	16·67		...	...	...	...
Wellington .	1,052	31·4	...	...	12·4	124·5	1·9	36·1	1·9	...	4·8	1·9	8·6	34·2	14·3	...	1·0	15·2	250·0	1034·2	78·5	49·4	15·2	113·1	72·2
		...	...	...	2·85	...	·95	...	...	...	...	...	1·90	...	...	...	...	...	·95	6·65		...	...	·95	...
GROUP XII δ— Hill Convalescent Depôts, and Sanitaria.	3,160 *	12·3	...	...	20·3	443·0	3·2	15·2	1·9	·6	14·2	2·8	3·8	35·4	20·6	33·9	2·5	19·6	286·4	1432·6	†	67·7	18·7	119·6	80·4
		...	...	...	3·48	·63	·63	...	...	·32	·63	·95	·95	...	·95	...	·95	...	·63	13·61	95·6	...	...	·63	...
Troops marching, Bengal.	488	...	...	...	26·6	225·4	14·3	12·3	...	...	4·1	...	...	14·3	28·7	14·3	...	30·7	366·8	1079·9	11·6	92·2	73·8	65·6	135·2
		...	...	...	...	...	...	...	...	...	...	...	...	2·05	...	...	...	...	...	4·10		...	...	...	...
Troops marching, Punjab.	399	...	...	...	10·0	157·9	17·5	...	2·5	5·0	...	...	7·5	12·5	30·1	15·0	...	20·1	127·8	573·9	6·0	32·6	15·0	17·5	62·7
		...	...	...	...	...	...	...	...	2·51	2·51	...	2·51	...	...	...	...	...	...	10·03		...	...	...	...
Troops marching, Madras.	47	...	...	...	21·3	42·6	...	148·9	...	...	...	...	...	...	106·4	21·3	...	...	361·7	1255·3	8·9	...	234·0	...	127·7
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...
Troops marching, Bombay.	82	...	...	...	...	573·2	12·2	...	...	...	...	...	...	61·0	73·2	24·4	...	...	122·0	1024·4	10·2	36·6	...	12·2	73·2
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...
Cochi Field Force.	26	...	...	...	...	461·5	38·5	...	38·5	...	...	38·5	...	38·5	38·5	76·9	...	38·5	...	1346·2	122·3	...	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...
Malakand Field Force.	4	...	...	...	...	...	...	...	...	...	...	...	...	...	250·0	...	...	...	750·0	1500·0	860·0	...	...	250·0	500·0
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...
Sirah Field Force.	2,192	·5	...	...	56·1	183·9	33·3	5·5	3·2	...	5·9	1·4	11·9	30·2	32·4	73·4	·5	10·0	131·4	966·2	70·9	32·4	9·1	56·1	33·8
		...	...	...	15·97	·46	·46	·46	...	...	·46	·46	1·37	·91	·91	·46	·46	...	...	38·78		...	...	...	...
Tuner Field Force.	123	...	...	...	...	325·2	16·3	...	...	...	...	...	...	16·3	...	16·3	...	...	65·9	626·0	11·1	16·3	16·3	24·4	8·1
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	8·13		...	...	...	...
Malakand Force.	503	...	...	...	93·4	481·1	37·8	180·9	...	2·0	2·0	...	...	13·9	37·8	39·8	...	33·8	59·6	1314·1	64·0	9·9	4·0	25·8	19·9
		...	...	...	31·81	...	3·98	...	...	...	...	...	...	...	...	...	...	...	...	35·79		...	...	...	...
Khyber Force and Brigade.	1,483	1·3	...	...	160·5	457·2	188·1	70·1	4·7	4·7	11·5	2·0	5·4	17·3	47·2	54·6	·7	18·9	85·0	1395·8	78·3	14·2	8·8	41·8	20·2
		...	...	...	40·46	...	·67	...	...	2·70	·67	·67	·67	·67	2·70	...	·67	...	...	53·94		...	...	...	...
Deolali Depôt.	697	...	...	...	7·2	337·2	4·3	21·5	2·9	7·2	93·3	54·5	1·4	12·9	81·8	33·0	14·3	15·8	420·4	1489·2	62·9	53·1	27·3	249·6	90·4
		...	...	...	...	1·43	...	...	...	...	1·43	5·74	...	...	1·43	1·43	4·30	...	...	22·96		...	...	...	...
Poonamallee Depôt.	155	...	...	...	...	212·9	...	25·8	...	...	19·4	45·2	...	19·4	129·0	12·9	6·5	135·5	503·2	1664·5	451·4	45·2	12·9	419·4	25·8
		...	...	...	...	6·45	...	6·45	...	...	...	...	...	...	...	...	6·45	...	...	25·81		...	...	...	...
Aden . .	1,014	...	...	...	10·8	191·3	29·6	17·8	...	3·0	13·8	1·0	...	25·6	47·3	28·0	6·9	15·8	242·6	1183·4	74·5	13·8	53·3	84·8	90·7
		...	...	...	4·93	...	·99	...	...	1·97	·99	·99	...	...	1·97	...	4·93	...	...	18·74		...	...	...	...
India .	67,741 *	8·3	·3	·03	36·9	394·0	32·9	42·5	1·5	5·2	11·0	3·0	3·3	26·0	29·8	27·3	2·4	18·6	362·9	1436·9	†	79·1	65·6	87·1	130·9
		·01	·21	...	10·17	·30	·37	·06	·01	1·17	·47	·58	·61	·16	·78	·04	1·52	·07	·25	20·05		...	...	·25	...
		·4	...	...	4·7	13·2	1·6	1·8	·1	·3	1·2	·5	·2	1·4	2·1	·9	·2	1·2	32·5	85·45	90·0	7·5	5·5	9·2	10·3
BENGAL .	20,060 *	5·2	·2	...	41·1	423·3	10·6	38·4	·7	4·3	10·9	3·5	1·8	19·7	33·9	22·5	3·1	20·4	437·9	1483·5	†	95·5	78·5	101·3	162·7
		...	·15	...	10·47	·30	·10	...	...	1·15	·15	·75	·23	·15	·85	...	2·09	·10	·23	19·54	96·2	...	...	·23	...
PUNJAB .	18,388 *	·8	·6	·1	48·7	515·9	86·0	47·0	2·7	11·9	13·1	2·0	4·8	30·8	27·8	39·5	1·8	14·4	268·9	1558·0	†	73·7	39·0	61·0	95·2
		...	·54	...	14·74	·44	·76	·11	·05	2·45	·60	·65	1·25	·22	1·03	·05	1·25	·05	·33	27·63	89·8	...	...	·33	...
MADRAS .	12,337 *	30·1	·2	·1	11·6	202·1	15·6	46·8	1·1	1·0	8·3	2·1	1·2	24·0	32·3	5·1	2·3	27·1	438·3	1292·6	†	106·6	72·7	104·7	154·3
		·08	·08	...	2·27	·16	·24	·08	...	·41	·73	·08	·24	...	·49	...	1·13	·16	·32	8·59	89·2	...	...	·32	...
BOMBAY .	14,612 *	5·1	...	...	35·1	394·3	11·2	44·8	1·0	2·1	11·5	4·4	3·8	26·6	24·4	30·1	2·4	15·4	352·5	1420·0	†	48·0	85·6	90·7	128·0
		...	...	...	9·92	·21	·34	...	...	·41	·55	·63	·48	·14	·62	·07	1·57	...	·14	18·20	85·7	...	...	·14	...
Lucknow‡ .	2,348	·2	...	...	10·0	5·1	·1	4·4	...	·1	1·2	·9	·1	1·6	4·7	·4	·7	2·6	45·6	98·7	98·7	10·2	2·1	20·7	12·7
Rawalpindi .	2,375	...	...	...	6·3	13·6	1·5	·4	·3	·2	·7	·1	·2	2·1	1·7	·8	·1	·7	34·7	93·6	93·6	12·7	3·3	8·1	10·7
Quetta .	2,138	...	...	...	16·5	10·6	1·0	·5	·1	...	1·1	·7	1·0	2·1	2·5	·6	·1	1·0	19·9	80·4	80·4	1·7	3·3	5·0	10·0
Secunderabad .	2,120	1·0	...	...	3·8	5·8	·9	1·2	·1	...	3·0	1·1	...	3·2	3·0	·1	·5	1·2	47·3	96·4	96·4	13·2	6·0	10·0	18·1

* Derived from the aggregates. † Worked on the aggregates. § Excluding Field Forces, Malakand Force, and Khyber Force and Brigade.
‡ Constantly sick-rate per 1,000 by diseases at the largest stations.

TABLE IV.

ACTUALS of STATIONS, GROUPS, and COMMANDS, on which the ratios in Tables I—III have been calculated.

Stations and Groups.	Average annual strength.	1. Admissions.												2. Deaths.						3. Constantly sick.					
		Influenza.	Cholera.	Small-pox.	Enteric Fever.	Intermittent Fever.	Remittent Fever.	Simple Continued Fever.	Rheumatic Fever.	Heat-stroke.	Circulatory Diseases.	Tubercle of the lungs.	Pneumonia.	Other Respiratory Diseases.	Dysentery.	Diarrhœa.	Hepatic Abscess.	Hepatic Congestion and Inflammation.	Venereal Diseases.	All Causes.	Primary Syphilis.	Soft Chancre.	Secondary Syphilis.	Gonorrhœa.	Tænia.	Other Entozoa.
Port Blair	143	...	...	...	...	9	...	7	...	...	...	...	...	...	3	10	...	3	17	99	2	...	8	7	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		...	...	...	...	·24	...	·13	...	...	...	...	...	...	·11	·25	...	·20	1·56	4·25	·23	·20	·44	·69	...	...
Rangoon	1,083	1	...	1	9	60	10	102	...	...	4	2	...	18	36	10	3	20	593	1,333	194	90	106	203	...	...
		...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	3	...	...	5	...	...	...	...	...	...
		·02	...	·13	2·46	2·09	1·07	4·08	...	...	·53	·12	...	·94	1·90	·25	·12	1·65	54·91	101·70	18·31	6·18	12·72	17·70	...	...
Group I.—Burma Coast and Bay Islands.	1,226*	1	...	1	9	69	10	109	...	...	4	2	...	18	39	20	3	23	610	1,632	195	90	111	210	...	...
		...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	3	...	...	5	...	...	...	...	...	...
		·02	...	·13	2·46	2·33	1·07	4·21	...	...	·53	·12	...	·94	2·01	·50	·12	1·85	55·47	105·93	18·54	6·38	13·16	18·39	...	...
Thayetmyo	627	...	...	...	...	4	...	125	...	1	2	1	1	6	9	4	...	7	354	784	100	69	71	134	...	...
		...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	4	...	...	...	...	...	...
		...	...	...	...	·11	...	2·82	...	·20	·17	·38	·09	·22	·45	·09	...	·24	30·44	50·08	16·56	4·56	6·19	9·13	...	...
Meiktila	382	17	...	...	...	13	...	5	...	...	2	...	...	3	9	1	1	...	164	354	54	19	38	53	...	...
		·40	...	...	...	·28	...	·32	...	...	·05	...	...	·17	·26	·01	·33	...	13·98	33·90	5·70	1·84	3·64	3·84	...	...
Fort Dufferin	912	...	...	...	4	292	79	7	3	2	14	1	1	21	31	10	1	16	430	1,436	113	35	163	119	5	...
		...	...	...	...	...	1	...	1	1	1	...	...	...	...	...	1	1	...	9	...	...	...	...	...	...
		...	...	...	·76	7·87	5·83	·28	·12	...	·80	·13	·01	·82	1·07	·22	·25	·49	36·56	89·91	10·53	3·66	12·56	9·81	·86	...
Shwebo	428	2	...	...	7	50	2	1	1	...	4	1	1	3	25	1	5	6	131	398	21	30	31	49	2	...
		...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	3	...	...	5	...	...	...	...	...	...
		·18	...	...	1·00	3·06	·20	·05	·45	...	·18	·06	·18	·18	2·20	·11	·36	·43	17·60	34·50	2·72	3·62	6·14	5·12	·08	...
Bhamo	305	...	...	...	1	96	...	...	...	...	...	...	...	3	3	...	...	...	58	216	8	5	21	24	...	...
		...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...
		...	...	...	·03	3·07	...	...	...	...	...	...	...	·09	·10	...	...	...	4·58	10·20	·80	·61	1·57	1·60	...	...
Group II.—Burma Inland.	2,654*	19	...	...	13	455	81	138	4	3	32	3	3	36	77	16	7	30	1,137	3,178	306	158	324	359	7	...
		...	...	...	2	...	1	...	...	1	1	...	1	...	...	...	3	1	...	20	...	...	...	...	...	...
		·58	...	...	1·79	13·29	6·03	3·47	·57	·10	1·20	·57	·28	1·47	4·68	·43	·81	1·10	103·16	208·59	30·31	14·29	29·10	29·46	·24	...
Fort William	1,127	...	1	...	15	256	...	1	...	2	9	2	1	24	58	30	4	23	401	1,171	48	79	39	238	3	...
		...	1	...	1	...	...	...	...	1	2	...	...	...	1	...	3	...	...	9	...	...	...	...	...	...
		...	·20	...	2·31	7·11	·40	·07	...	·03	1·36	·53	·14	1·50	3·01	·86	·23	1·73	39·20	78·12	5·91	6·66	6·03	20·60	·05	...
Fort Fulta	13	...	...	...	...	4	...	1	...	1	...	...	...	...	...	...	...	...	...	11	...	...	...	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		...	...	...	...	·02	...	...	...	...	...	...	...	...	...	...	...	...	...	·08	...	...	...	...	...	...
Fort Chingrikhal	34	...	...	...	...	21	...	...	...	...	...	...	...	...	3	3	...	2	6	40	...	2	1	3	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	9	...	...	...	...	...	...
		...	...	...	...	·11	...	...	...	...	...	...	...	...	·02	·03	...	·01	·03	·22	...	·01	·01	·01	...	...
Dum-Dum	874	...	1	...	18	535	2	44	...	...	5	1	3	23	59	25	8	12	204	1,234	18	51	38	107	...	...
		...	1	...	4	1	...	...	...	...	...	2	2	...	2	...	5	...	...	21	...	...	...	...	...	...
		...	...	...	3·21	28·82	·49	3·99	...	...	·54	·57	·13	1·18	3·79	·72	·95	·72	17·21	77·42	1·64	5·22	3·42	7·93	...	...
Barrackpore	334	4	...	...	13	621	1	...	·2	1	2	3	...	4	41	6	2	11	108	984	4	36	11	57	1	...
		...	...	...	2	...	...	...	...	1	...	...	...	...	...	1	...	...	...	5	...	...	...	...	...	...
		·21	...	...	1·67	14·95	·07	...	·42	·01	·25	·43	...	·14	2·47	...	·12	·68	7·51	35·46	·24	2·57	1·12	3·58	·02	...
Group IV.—Bengal and Orissa.	3,381*	4	2	...	46	1,437	3	46	2	4	16	5	4	52	161	64	14	48	719	3,440	71	168	76	405	4	...
		...	2	...	7	1	...	...	...	2	2	2	2	...	3	...	9	...	...	33	...	...	...	...	...	...
		·31	·20	...	3·19	51·02	·36	2·05	·42	·04	2·15	1·33	·27	2·82	9·29	1·78	1·30	3·13	63·95	192·30	7·79	14·46	9·58	32·12	·07	...
B.																										
Dinapore	651	...	...	...	9	257	6	...	...	2	5	6	2	11	11	11	4	11	443	1,110	149	60	88	146	...	...
		...	...	...	6	...	...	...	...	...	...	1	...	...	...	...	3	...	2	15	...	...	1	...	...	...
		...	...	...	·86	7·34	·50	...	...	·09	·25	1·81	·25	·65	·85	·55	·36	·73	37·40	68·56	13·74	4·44	9·36	9·80	...	...
Benares	381	...	...	...	6	167	24	41	...	1	...	...	...	8	5	9	...	5	241	649	9	68	37	127	1	...
		...	...	...	1	...	1	...	...	1	...	...	...	...	...	...	...	...	...	3	...	...	...	...	...	...
		...	...	...	1·55	4·70	1·40	1·15	...	...	...	...	·07	·33	1·18	·29	...	·34	22·26	48·20	1·61	6·36	3·39	11·00	·12	...
Allahabad	924	...	1	...	44	344	...	113	1	3	14	3	2	12	41	39	1	20	521	1,414	67	175	117	162	1	...
		...	...	...	17	...	...	...	...	...	...	...	...	...	...	...	...	...	1	20	...	...	1	...	...	...
		...	·02	...	5·74	9·49	...	4·65	·10	·50	2·06	·99	·48	·50	3·68	1·67	·15	1·30	51·21	107·72	9·56	14·75	13·00	13·90	·04	...
Fort Allahabad	193	...	...	...	5	139	2	34	...	...	...	...	...	2	1	4	...	...	109	345	13	34	24	38	2	...
		...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...
		...	...	...	·70	3·13	·09	1·25	...	...	·09	·38	...	·07	·07	·16	...	...	9·27	28·65	1·12	2·60	2·24	3·31	·05	...
Fyzabad	652	...	1	...	31	230	29	...	...	4	21	1	...	13	30	20	1	12	251	944	33	54	46	118	2	...
		...	1	...	5	...	...	...	...	2	...	...	...	...	1	...	...	...	...	9	...	...	...	...	...	...
		...	·01	...	4·18	8·54	2·74	...	...	·10	2·78	·52	...	·78	3·05	·49	·35	·58	26·22	67·46	4·03	6·33	5·25	10·60	·05	...
Sitapur	532	39	...	...	6	76	7	2	...	7	1	...	...	2	13	2	3	10	174	477	10	49	57	58	...	...
		...	...	...	2	...	...	...	...	3	...	...	...	...	...	...	2	...	...	7	...	...	...	...	...	...
		·89	...	...	·89	2·40	·72	·08	...	·45	·23	·13	...	·08	1·17	·07	·59	·50	29·73	38·31	1·53	6·06	7·58	4·66	...	...
Lucknow	2,348	...	...	...	174	598	...	162	1	6	23	11	3	36	106	41	9	74	950	2,954	256	64	301	329	4	...
		...	...	...	53	...	...	...	...	...	1	3	...	1	2	...	4	...	1	72	...	...	1	...	...	...
		·46	...	...	23·48	12·03	·13	10·41	·05	·10	2·87	2·17	·12	3·72	11·07	1·00	1·71	4·71	107·09	231·75	23·90	4·82	43·62	29·75	·13	...
Cawnpore	794	10	...	...	20	252	3	71	1	3	11	1	...	28	20	14	1	6	492	1,170	199	15	130	148	1	...
		...	...	...	6	...	...	...	...	...	...	1	...	1	...	...	1	...	...	13	...	...	...	...	...	...
		·63	...	...	2·96	10·61	·57	1·90	·07	·34	1·35	·22	...	1·97	1·90	·53	·25	·52	30·45	90·08	20·08	1·08	16·72	12·57	·02	...
Fatehgarh	202	...	...	...	...	152	3	...	...	5	7	1	1	2	2	3	...	5	154	459	37	7	47	63	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	2	...	...	...	...	...	...
		...	...	...	...	3·81	·83	...	...	·14	·40	·07	·09	·15	·06	·04	...	·37	10·09	20·08	3·12	·27	2·92	3·78	...	...
Group V.—Gangetic Plain and Chutia Nagpur.	6,686*	49	2	...	295	2,205	74	423	3	31	82	23	8	114	229	143	19	143	3,335	9,531	773	526	843	1,189	13	...
		...	1	...	91	...	1	...	...	9	1	5	...	2	4	...	12	1	3	141	...	...	3	...	...	...
		1·98	·03	...	40·37	61·05	6·68	10·44	·22	1·58	10·03	6·29	·93	8·85	23·03	4·80	3·41	8·95	334·72	684·87	78·69	47·52	109·09	99·43	·39	...

* Derived from the aggregates.

Stations and Groups.	Average annual strength.	1. Admissions.												2. Deaths.										3. Constantly sick.											
		Influenza.	Cholera.	Small-pox.	Enteric Fever.	Intermittent Fever.	Remittent Fever.	Simple Continued Fever.	Rheumatic Fever.	Heat-stroke.	Circulatory Diseases.	Tubercle of the lungs.	Pneumonia.	Other Respiratory Diseases.	Dysentery.	Diarrhœa.	Hepatic Abscess.	Hepatic Congestion and Inflammation.	Venereal Diseases.	All Causes.	Primary Syphilis.	Soft Chancre.	Secondary Syphilis.	Gonorrhœa.	Tænia.	Other Entozoa.	Influenza.	Cholera.	Small-pox.	Enteric Fever.	Intermittent Fever.	Remittent Fever.	Simple Continued Fever.	Rheumatic Fever.	Heat-stroke.	Circulatory Diseases.	Tubercle of the lungs.	Pneumonia.
A																																			
Shahjahanpur	232	...	...	...	15	112	...	3	...	2	4	...	...	...	4	5	1	6	215	464	84	24	42	65	5	...	...	...	...	...	...	...	...	...	...	...	...
		...	...	...	4	...	...	1	...	1	...	...	...	...	...	...	...	...	...	8	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		...	...	...	2·04	4·20	...	·34	...	·03	·20	...	...	·14	·27	·26	·12	·51	14·93	27·44	6·14	1·31	3·26	4·22	·10	...	...	...	...	...	...	...	...	...	...	...
Bareilly	1,102	...	...	...	23	160	3	71	1	2	15	4	6	23	46	16	3	58	628	1,585	174	94	143	217	6	...	...	...	...	...	...	...	...	...	...	...
		...	...	...	6	...	...	...	...	...	...	...	...	...	1	...	...	...	...	12	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		...	...	...	4·12	7·70	·17	4·01	·32	·16	1·55	·35	·55	1·17	3·30	·88	·19	3·65	53·21	110·54	14·20	6·14	16·07	16·90	·10	...	...	...	...	...	...	...	...	...	...	...	...
Moorkee	355	...	...	...	3	62	1	2	...	...	...	...	...	...	6	1	2	4	141	338	18	13	44	66	...	...	...	...	...	...	...	...	...	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	2	...	...	5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		...	...	...	·64	2·14	·09	·07	...	...	...	·20	...	·28	...	·05	·22	·28	15·65	28·83	1·97	·98	6·14	6·55	...	...	...	...	...	...	...	...	...	...	...	...
Meerut	1,951	...	...	...	78	1,693	12	8	1	13	21	10	3	61	41	54	4	18	684	3,711	89	159	169	267	5	1	...	...	...	...	...	...	...	...	...	...	1
		...	...	...	19	1	...	...	...	2	...	2	...	...	2	...	...	3	...	37	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		...	...	...	11·57	53·42	·90	·44	·22	·57	1·85	1·70	·22	2·43	3·03	2·07	·23	1·41	69·19	199·14	10·89	14·66	17·90	25·68	·15	...	...	...	...	...	...	...	...	...	...	...	·06
Delhi	299	...	...	...	3	435	19	...	...	4	1	3	...	3	5	1	...	10	109	725	5	34	11	59	1	...	...	...	...	...	...	...	...	...	...	...	...
		...	...	...	2	1	...	...	...	2	...	1	...	...	...	...	...	...	...	9	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		...	...	...	·16	12·40	·94	...	...	·19	·05	·40	...	·04	·26	·05	...	·60	6·79	27·61	·41	2·30	·86	3·22	·04	...	...	...	...	...	...	...	...	...	...	...	...
Umballa	1,896	...	19	...	67	685	10	15	5	18	18	5	3	29	53	98	1	30	413	2,304	136	39	101	137	11	...	...	...	...	...	...	...	...	...	...	...	...
		...	10	...	25	1	1	...	...	3	...	3	3	...	...	...	...	...	...	51	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		...	·05	...	1·88	27·83	·99	·35	·61	1·49	1·83	·70	·35	3·45	4·17	3·97	·07	1·90	41·37	146·57	15·00	4·49	11·18	9·70	·48	...	...	...	...	...	...	...	...	...	...	...	...
B																																			
Allundur	952	...	...	...	46	382	12	3	1	9	9	6	8	19	21	17	3	10	366	1,238	147	13	86	121	1	...	...	...	...	...	...	...	...	...	...	...	...
		...	...	...	11	...	...	...	...	1	...	...	1	...	2	...	...	2	3	19	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		...	...	...	4·98	17·58	1·29	·13	·08	·51	1·30	·50	·69	1·38	1·80	·91	·42	·86	33·83	80·62	13·93	1·89	7·13	10·88	·04	...	...	...	...	...	...	...	...	...	...	...	...
Ferozepore	861	1	...	...	29	664	5	94	2	24	60	2	1	38	19	34	2	20	383	1,870	57	114	50	142	7	...	...	...	...	...	...	...	...	...	...	...	...
		...	...	...	20	1	...	3	...	3	1	...	...	...	2	...	1	...	...	32	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		·04	...	...	3·74	30·96	·41	3·92	·35	1·16	5·19	·34	·09	2·27	1·39	1·71	·33	1·19	34·15	117·16	5·66	9·47	6·74	12·28	·30	...	...	...	...	...	...	...	...	...	...	...	...
Amritsar	209	...	...	...	4	165	4	...	...	2	1	...	1	5	5	3	1	2	130	394	27	14	30	58	...	...	...	...	...	...	...	...	...	...	...	...	...
		...	...	...	1	...	...	...	...	...	...	...	1	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		...	...	...	·63	3·77	·53	...	...	·19	·20	...	·03	·84	·43	·30	·31	·84	10·32	21·07	2·10	1·10	2·32	4·80	...	...	...	...	...	...	...	...	...	...	...	...	...
Deccan Meer	869	...	1	...	41	701	1	388	5	35	9	3	4	19	42	44	1	9	174	1,933	45	27	36	66	2	...	...	...	...	...	...	...	...	...	...	...	...
		...	...	...	11	...	...	...	...	10	...	1	1	...	1	1	...	1	5	31	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		...	·04	...	7·74	28·60	·42	11·49	·65	2·10	1·45	·42	·37	·86	2·95	1·87	·26	·26	17·93	102·78	5·26	2·95	4·26	5·46	·02	...	...	...	...	...	...	...	...	...	...	...	...
Fort Lahore	92	...	...	...	8	176	8	...	...	2	1	...	1	1	3	2	...	1	27	257	3	9	3	12	1	...	...	...	...	...	...	...	...	...	...	...	...
		...	...	...	5	...	...	...	...	1	1	...	1	...	1	...	...	...	...	9	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		...	...	...	·56	6·25	·70	...	...	·03	·05	...	·02	·10	·50	·17	...	·03	2·36	12·34	·34	·68	·23	1·11	·02	...	...	...	...	...	...	...	...	...	...	...	...
Sialkot	1,184	...	...	1	21	602	18	5	...	10	16	1	5	68	29	46	1	14	224	1,684	37	32	67	88	6	...	...	...	...	...	...	...	...	...	...	...	...
		...	...	...	10	...	1	...	...	2	1	1	2	...	1	...	1	...	...	21	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		...	...	·09	2·47	32·42	1·03	·26	...	·21	1·75	·02	·35	3·09	1·55	1·36	...	·94	20·13	88·44	5·71	2·30	6·21	5·91	·14	...	...	...	...	...	...	...	...	...	...	...	...
Rawalpindi	2,375	...	...	...	123	938	50	15	6	26	18	3	8	116	75	61	7	44	928	3,537	356	85	158	329	2	...	...	...	...	...	...	...	...	...	...	...	...
		...	...	...	26	1	1	...	...	1	...	...	2	...	3	...	8	...	2	46	...	...	2	5	...	...	...	...	...	...	...	...	...	...	...	...	...
		...	...	...	14·97	32·37	3·07	·87	·13	·59	1·55	·32	·38	4·91	3·99	1·82	·13	1·77	82·51	220·99	30·05	7·78	19·25	25·43	·03	...	...	...	...	...	...	...	...	...	...	...	...
Campbellpur	211	...	...	...	3	143	...	2	...	4	2	1	4	7	4	5	2	1	80	372	17	18	14	31	1	...	...	...	...	...	...	...	...	...	...	...	...
		...	...	...	1	...	...	...	...	...	...	...	1	...	...	...	...	...	...	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		...	...	...	·49	4·29	·04	·18	...	·17	·25	·09	·45	·35	·19	·12	·28	·02	4·92	17·32	1·18	·79	·81	2·14	·02	...	...	...	...	...	...	...	...	...	...	...	...
Attock	163	...	...	...	3	99	12	..	...	13	...	...	1	...	3	3	...	2	42	265	6	8	10	18	...	...	...	...	...	...	...	...	...	...	...	...	...
		...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		...	...	...	·17	2·62	·63	...	...	·43	...	...	·05	·05	·15	·13	...	·13	2·62	10·43	·34	·66	·76	·86	...	...	...	...	...	...	...	...	...	...	...	...	...
Group VI.—Upper Sub-Himalaya.	* 12,751	1	11	1	467	7,017	155	606	21	164	175	37	45	395	363	390	28	239	4,544	20,687	1,301	682	984	1,677	48	1	...	...	...	...	...	...	...	...	...	...	...
		...	10	...	143	6	3	31	3	26	3	9	10	1	13	1	7	...	5	221	...	...	5	...	...	...	...	...	...	...	...	...	...	...	...	...
		...	·09	·03	65·26	250·45	11·86	31·99	2·96	7·74	17·22	5·04	3·45	21·36	24·88	15·67	3·54	13·75	409·91	1,213·28	114·08	57·50	103·18	133·15	1·36	...	...	...	...	...	...	...	...	...	...	...	·06
A																																			
Nowshera	361	...	...	...	17	134	26	...	...	13	...	...	6	2	20	4	1	7	114	454	16	20	21	57	...	...	...	...	...	...	...	...	...	...	...	...	...
		...	...	...	7	...	...	...	...	5	...	...	1	...	...	...	1	...	...	15	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		...	...	...	1·83	5·03	1·19	·14	·05	·46	·23	...	·50	·08	1·29	·08	·03	·78	10·21	27·62	1·64	1·48	3·60	3·49	...	...	...	...	...	...	...	...	...	...	...	...	...
Peshawar	1,961	...	...	...	102	1,300	1,081	10	4	40	22	4	26	104	57	68	4	17	524	4,355	74	145	86	219	...	...	...	...	...	...	...	...	...	...	...	...	...
		...	...	...	48	...	7	...	...	13	2	1	7	...	2	...	4	1	...	96	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		...	...	...	25·31	46·49	43·53	·32	·14	2·29	1·55	·83	1·88	3·60	6·67	1·29	·30	1·01	48·54	233·88	7·27	14·23	10·72	16·32	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Mooltan	885	...	...	...	12	783	13	3	...	15	19	3	1	36	14	14	3	7	223	1,511	45	25	33	120	2	...	...	...	...	...	...	...	...	...	...	...	...
		...	...	...	5	2	...	...	...	1	1	2	1	...	1	...	2	...	...	25	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		...	...	...	1·09	35·88	·80	·11	...	·62	1·49	·73	·01	1·70	1·32	·85	·04	·30	19·84	74·83	3·50	2·41	4·24	9·69	·02	...	...	...	...	...	...	...	...	...	...	...	...	...
C																																			
Hyderabad	502	...	...	...	2	441	3	8	...	4	1	...	...	6	11	14	1	7	178	905	49	50	32	47	...	...	...	...	...	...	...	...	...	...	...	...	...
		...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	1	...	...	6	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		...	...	...	·13	10·85	·28	·75	...	·09	·04	...	...	·59	·63	·34	·03	·45	17·03	43·77	6·10	3·79	2·62	4·32	...	...	...	...	...	...	...	...	...	...	...	...	...
Kurrachee	1,037	...	...	...	7	972	3	1	...	1	4	5	3	22	12	22	1	23	279	1,728	60	73	77	69	...	...	...	...	...	...	...	...	...	...	...	...	...
		...	...	...	4	1	...	...	...	1	...	1	1	...	...	...	...	...	12	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		...	...	...	·43	32·50	·21	·03	...	·08	·34	·51	·13	1·12	·37	·59	·42	1·26	19·14	70·75	4·96	3·59	6·41	4·18	...	...	...	...	...	...	...	...	...	...	...	...	...
Group VII.—N. W. Frontier, Indus Valley, and N.-W. Rajputana.	4,737*	...	...	...	140	3,630	1,135	22	4	71	46	12	35	170	114	122	0	61	1,318	8,953	244	313	249	513	2	...	...	...	...	...	...	...	...	...	...	...	...
		...	...	...	66	3	7	...	...	20	3	4	10	...	3	...	1	...	153	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		...	...	...	29·77	130·75	45·95	1·35	·89	3·54	3·65	1·47	2·52	11·09	10·28	3·15	·82	3·89	114·70	450·84	23·42	25·50	27·79	38·00	·02	...	...	...	...	...	...	...	...	...	...	...	...	...

* Derived from the aggregates.

TABLE IV—*continued.*

ACTUALS of STATIONS, GROUPS, and COMMANDS, on which the ratios in Tables I—III have been calculated.

| Stations and Groups. | Average annual strength. | 1. Admissions. | | | | | | | | | | | | 2. Deaths. | | | | | | | | | | 3. Constantly sick. | | | | | | | | | | | |

1. Admissions. 2. Deaths. 3. Constantly sick.

Stations and Groups.	Average annual strength.	Influenza.	Cholera.	Small-pox.	Enteric Fever.	Intermittent Fever.	Remittent Fever.	Simple Continued Fever.	Rheumatic Fever.	Heat-stroke.	Circulatory Diseases.	Tubercle of the lungs.	Pneumonia.	Other Respiratory Diseases.	Dysentery.	Diarrhœa.	Hepatic Abscess.	Hepatic Congestion and Inflammation.	Venereal Diseases.	All Causes.	Primary Syphilis.	Soft Chancre.	Secondary Syphilis.	Gonorrhœa.	Tænia.	Other Entozoa.
A																										
lary . . .	719	3	...	...	6	666	1	37	...	2	5	3	...	18	11	...	...	15	358	1,424	52	102	89	115	5	...
		...	...	...	1	1	...	...	...	2	1	...	...	...	1	...	...	...	1	8	...	...	1	...	...	...
		·04	...	...	1·01	19·53	·68	1·67	·20	·05	1·22	·35	...	·59	·54	...	...	·80	31·15	72·70	5·28	8·21	9·67	7·99	·14	...
galore . .	1,880	27	...	...	57	190	18	47	...	1	19	1	2	23	63	9	7	89	943	2,375	298	101	302	348	...	...
		...	...	...	8	...	...	...	...	...	1	...	...	...	1	...	4	1	...	20	...	...	1	...	...	...
		·83	...	...	7·95	9·27	1·09	2·03	·07	...	1·37	·14	·09	1·11	4·60	·29	·40	5·28	68·68	175·11	23·36	5·97	18·55	20·80	...	...
B																										
lavaram . .	48	...	...	...	...	...	...	3	...	...	...	...	...	...	4	2	...	...	24	50	7	5	4	8	1	...
		...	...	...	...	...	...	·09	...	...	...	...	...	...	·19	·03	...	...	1·62	2·58	·44	·31	·22	·63	·04	...
Thomas' Mount	309	...	...	...	2	61	61	23	...	...	3	3	3	...	10	6	...	...	101	434	22	31	18	30	1	...
		...	...	...	...	...	1	...	...	...	3	1	1	...	...	...	...	...	...	6	...	...	...	...	...	...
		...	...	...	·57	1·68	1·18	·57	...	·01	·47	·14	...	·23	·30	...	...	·48	9·27	23·28	1·68	3·24	3·03	2·32	·02	...
dras . . .	564	1	2	...	3	65	...	131	...	2	5	1	1	20	17	1	...	27	321	960	38	89	40	154	...	...
		...	1	...	1	...	...	...	...	...	1	...	...	...	...	...	...	...	...	5	...	...	...	...	...	...
		·02	·11	...	·10	1·68	...	4·05	...	·06	·28	·05	·06	·60	·99	·01	...	1·11	9·32	31·71	1·18	2·43	1·84	3·85	...	...
oup XI.—South-ern India.	* 3,520	30	2	...	68	979	80	241	...	2	7	32	8	3	71	103	12	7	145	1,746	5,230	417	328	353	648	7	...
		...	1	...	11	1	1	...	...	...	4	4	...	...	...	4	...	...	1	1	39	...	...	1	...	...	...
		·89	·11	...	9·63	32·16	3·35	8·41	...	·27	·13	3·34	·69	·15	2·55	6·62	·33	·40	7·67	120·04	305·48	31·94	20·18	32·31	35·61	·20	...
nardmyo . .	189	...	...	...	...	54	...	...	...	...	2	...	...	...	8	...	...	...	31	139	10	...	6	15	...	...
		...	...	...	...	2·72	...	...	...	...	·02	...	...	·13	·48	...	...	·06	2·64	8·42	·73	...	·42	1·49	...	...
ikhet . .	834	...	...	...	57	83	19	68	1	...	2	2	1	22	23	36	3	24	355	1,108	176	...	117	62	1	...
		...	...	...	10	...	...	...	...	...	...	...	...	...	...	...	3	1	1	15	...	...	1	...	...	...
		...	...	...	9·50	4·27	1·93	3·84	·25	...	·45	·30	·13	1·66	2·34	1·81	·07	2·12	36·43	87·78	18·74	·02	12·87	4·80	·02	...
aubuttia . .	312	...	...	...	4	179	...	4	...	...	9	...	...	11	2	8	...	3	158	620	18	37	64	39	1	...
		...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	13	...	...	...	...	...	...
		...	...	...	·82	7·01	...	·07	...	...	·09	...	...	·48	·07	·17	...	·17	12·03	33·02	1·36	2·81	5·47	2·98	·01	...
akrata . .	953	4	...	...	72	58	3	30	...	3	19	2	1	5	4	4	1	7	444	968	72	177	57	138	1	...
		...	...	...	7	...	...	...	...	...	...	...	...	...	...	...	1	1	...	9	...	...	...	...	...	...
		·09	...	...	11·74	2·52	·19	1·11	·38	...	2·05	·28	·06	·48	·39	·26	·10	·48	39·93	79·05	7·31	14·05	5·16	10·41	·07	...
bong . .	238	...	...	...	...	38	4	1	...	...	3	...	...	3	10	2	1	5	38	168	8	1	18	11	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	2	...	...	...	...	...	...
		...	...	...	...	2·94	·40	·03	...	...	·15	...	...	·07	1·16	·05	·04	·35	3·96	12·44	·80	·11	1·98	1·07	...	...
ion . . .	210	...	...	...	...	261	2	...	...	...	...	...	1	1	...	...	...	...	57	430	38	...	15	4	1	...
		...	...	...	...	...	...	...	...	...	...	1	1	1	...	...	...	...	...	3	...	...	...	...	...	...
		...	...	...	...	10·10	·18	...	...	...	·26	·47	·24	·38	...	·80	...	·04	5·83	22·03	3·88	...	1·80	·35	·07	...
gshai . .	38	...	...	...	1	2	...	...	...	...	...	...	...	1	...	1	...	...	7	36	4	1	1	1	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	·03	...	...	·48	1·57	·24	·04	·14	·05	·03	...
		...	...	...	·13	·04	...	...	...	...	...	...	...	·05	...											
abatho . .	534	11	...	...	12	70	10	3	5	...	1	...	...	3	3	18	...	3	139	493	18	53	35	33	3	...
		...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...
		·27	...	...	1·99	3·11	·71	·12	·54	...	·03	...	...	·23	·13	·52	...	·17	11·91	30·91	2·37	4·34	2·67	2·53	·04	...
togh . . .	162	...	...	...	4	41	...	...	1	...	6	...	...	...	3	24	...	3	32	258	17	...	4	11	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		...	...	...	·89	1·08	...	...	·29	...	·61	...	...	...	·20	·50	...	·09	3·85	14·43	1·91	...	·71	1·22	...	...
hyragudy . .	40	...	...	...	1	10	2	...	...	...	...	...	...	2	...	2	2	4	13	41	3	4	2	4	...	...
		...	...	...	1	...	...	...	...	...	...	...	...	...	...	·07	·05	·19	·75	2·67	·22	·20	·11	·16	...	...
		...	...	...	·12	·69	·09	...	...	...	...	...	...	·09	...											
aragully . .	56	...	...	...	1	6	...	1	2	...	...	...	...	3	1	...	...	...	12	40	6	...	3	3	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...
		...	...	...	·15	·35	...	·04	·13	...	...	...	...	·11	·02	...	...	...	·92	2·61	·44	...	·30	·18	...	...
uldunnah . .	418	...	...	...	6	105	6	4	1	...	1	1	1	9	11	...	...	5	114	385	18	31	27	31	1	...
		...	...	...	3	...	...	...	...	...	1	...	...	1	...	...	...	...	...	6	...	...	...	...	...	...
		...	...	...	·97	3·40	·51	·24	·07	...	·11	·05	·01	·48	1·27	...	...	·37	9·20	21·91	1·53	3·31	2·25	3·11	·01	...
alabagh . .	51	...	...	...	...	15	...	1	...	...	...	...	...	...	...	...	8	1	15	55	1	4	7	4	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	·41	...	·04	1·03	2·17	·20	·24	·40	·19	...	...
		...	...	...	...	·21	...	·07	...	...	...	...	...	...	...											
amp Gharial .	392	...	...	...	11	72	1	...	...	...	2	...	...	1	4	3	1	...	129	360	74	...	27	25	2	...
		...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	...	...	...	...	...	...
		...	...	...	1·85	1·58	·10	...	...	...	·20	...	...	·10	·36	·04	·10	...	10·79	19·75	6·01	...	2·80	1·93	·04	...
„ Thobba .	305	...	...	...	10	74	1	3	3	...	...	1	...	11	5	4	1	4	112	327	35	26	23	28	...	...
		...	...	...	3	...	...	...	...	...	...	...	...	1	...	...	1	...	...	5	...	...	...	...	...	...
		...	...	...	1·39	2·80	·13	·12	·06	...	...	...	...	·39	·35	·26	·01	·29	9·53	22·28	3·27	2·51	1·84	1·91	...	...
„ Lower Topa .	75	...	...	...	3	43	...	...	...	...	...	...	...	1	1	3	1	1	35	133	23	...	6	6	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	2	...	...	...	...	...	...
		...	...	...	·50	1·13	...	...	...	...	...	...	...	·01	·04	·06	·07	·13	2·36	6·18	1·62	...	·58	·36	...	...
Ghora Dhaka . .	171	...	...	...	1	30	3	...	5	...	2	...	1	...	...	5	...	1	61	180	6	5	32	18	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...
		...	...	...	·22	1·74	·35	...	·63	...	·24	...	·07	...	...	·35	...	·09	4·61	12·12	·81	·32	2·40	1·02	...	...
Cherat . . .	487	...	...	...	40	150	8	119	...	...	5	...	1	3	7	54	...	2	48	687	9	12	12	15	...	...
		...	...	...	7	...	...	...	...	...	...	...	...	...	...	...	...	...	...	8	...	...	...	...	...	...
		...	...	...	5·43	7·00	1·22	6·24	...	...	·58	...	·31	·17	1·31	2·20	...	·37	6·67	44·01	·10	1·20	3·10	1·23	...	...

* Derived from the aggregates.

TABLE IV—*continued.*

ACTUALS of STATIONS, GROUPS, and COMMANDS, on which the ratios in Tables I—III have been calculated.

Stations and Groups.	Average annual strength.	1. Admissions.																													
		Influenza.	Cholera.	Small-pox.	Enteric Fever.	Intermittent Fever.	Remittent Fever.	Simple Continued Fever.	Rheumatic Fever.	Heat-stroke.	Circulatory Diseases.	Tubercle of the lungs.	Pneumonia.	Other Respiratory Diseases.	Dysentery.	Diarrhœa.	Hepatic Abscess.	Hepatic Congestion and Inflammation.	Venereal Diseases.	All Causes.	Primary Syphilis.	Soft Chancre.	Secondary Syphilis.	Gonorrhœa.	Tænia.	Other Entozoa.
Quetta	2,138	...	...	...	232	419	28	31	1	...	9	2	32	76	48	45	4	31	395	2,219	21	73	82	219	...	...
		...	...	...	75	1	3	1	...	...	...	3	3	1	2	...	5	...	...	95	...	...	...	...	...	...
		...	...	...	35·38	21·37	2·22	1·09	·15	...	2·38	1·52	2·09	4·54	5·25	1·33	·31	2·05	42·58	178·97	3·64	7·03	10·61	21·30	...	...
Ramasdrug	21	...	...	...	...	4	...	...	...	...	...	...	...	...	...	...	...	1	6	25	...	2	4	...	...	...
		...	...	...	...	·11	...	...	...	...	...	...	...	...	...	...	...	·03	·47	·96	...	·17	·30	...	...	...
Group XIIa.—Hill Stations.	*	15	...	...	455	1,714	87	364	21	...	63	10	41	158	139	243	14	96	2,202	8,687	557	433	542	670	11	...
	7,625	...	...	...	109	1	3	...	1	...	3	4	4	3	3	...	13	...	3	136	...	...	2	...	...	...
		·36	...	...	71·08	74·23	8·07	12·97	·60	...	7·75	2·81	2·91	9·36	13·39	8·66	·86	6·94	203·55	593·89	56·19	36·41	55·62	55·34	·29	...
Darjeeling	399	...	...	...	2	132	...	...	...	...	4	...	1	15	13	20	3	10	87	461	15	13	32	27	1	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	2	...	1	6	...	...	1	...	...	...
		...	...	...	·72	5·99	·19	·08	...	...	·41	·02	·07	·65	·75	·86	·52	·89	6·07	26·17	1·35	1·12	2·58	1·62	·05	...
Naini Tal	108	4	...	...	2	20	...	...	1	1	2	...	...	3	3	5	...	2	25	120	6	...	12	7	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	...	...	...	...	...	...
		·09	...	...	·39	·83	...	...	·17	·04	·17	...	...	·05	·26	·09	...	·06	2·57	7·80	·38	·01	1·43	·75	...	...
Landour	157	2	...	...	5	133	...	2	...	...	2	4	...	5	2	2	1	1	34	262	9	6	12	7	...	...
		...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	3	...	...	...	...	...	...
		·05	...	...	·88	3·50	...	·22	...	...	·10	·34	...	·28	·05	·03	·08	·22	4·10	13·46	1·41	·62	1·33	·74	...	...
Kasauli	373	...	...	...	11	343	1	1	...	...	23	1	...	30	10	28	1	21	93	837	7	3	43	40	2	...
		...	...	...	1	...	...	...	...	...	2	2	...	...	1	...	1	...	...	7	...	...	...	...	...	...
		...	...	...	4·56	14·84	·22	·07	...	·06	2·38	·21	...	4·40	1·62	2·11	·69	2·03	5·77	57·71	·31	·14	3·12	2·20	·04	...
Dalhousie	582	...	...	...	24	481	...	4	2	...	5	1	3	13	16	43	1	1	223	1,163	86	1	79	57	...	...
		...	...	...	5	2	...	...	...	...	...	...	...	...	1	...	...	...	...	9	...	...	...	...	...	...
		...	...	...	4·07	16·12	·03	·47	·26	...	·52	·24	·12	1·34	1·39	1·39	·08	·05	24·71	69·28	9·70	·14	10·21	4·66	...	...
Murree	88	...	...	...	4	26	2	...	...	...	...	...	1	1	...	1	...	1	18	64	5	1	8	4	...	...
		...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	3	...	...	...	...	...	...
		...	...	...	2·39	1·13	·62	·04	...	·14	...	...	·06	·13	·07	·02	·11	·04	4·61	13·05	·44	·22	3·17	·78	...	...
Taragarh	43	...	...	...	1	21	1	...	...	...	...	...	...	1	1	1	...	1	25	72	5	...	18	3	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...
		...	...	...	30	·36	24	...	...	...	...	...	...	·08	·02	·02	...	·04	2·37	7·13	·35	...	1·72	·30	...	...
Mount Abu	91	...	...	...	1	23	...	3	...	...	4	1	...	2	3	3	...	6	11	88	2	...	6	3	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...
		...	...	...	·18	·64	·01	·28	...	...	·19	·16	·02	·07	·12	·09	...	·35	1·03	5·15	·29	...	...	·24	...	...
Pachmarhi	117	...	...	...	1	32	3	...	...	...	...	...	...	2	...	...	...	3	88	189	27	6	31	24	...	...
		...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...
		...	...	...	·08	·85	·10	...	...	...	...	...	...	·02	...	...	...	·18	6·16	9·82	1·79	·37	2·61	1·39	...	...
Purandhur	92	...	...	...	...	42	...	...	...	...	...	...	...	4	...	2	...	...	17	105	...	7	7	3	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		...	...	...	·08	1·54	...	·03	...	...	...	...	...	·12	·09	·04	...	...	2·30	6·21	...	1·20	·87	·23	...	...
Khandalla	60	...	...	...	...	25	1	...	...	1	...	...	...	...	2	2	1	...	21	78	...	6	11	4	...	...
		...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...
		...	...	...	...	·90	·12	...	...	...	...	...	...	...	·03	·06	·01	...	1·39	3·60	·25	·44	·54	·16	...	...
Wellington	1,053	33	...	...	13	131	2	38	2	...	5	2	9	36	15	...	1	16	263	1,088	52	16	119	76	6	...
		...	...	...	3	...	1	...	...	...	...	...	3	...	...	...	...	...	1	7	...	...	1	...	...	...
		1·81	...	...	2·19	6·99	·04	2·51	·45	...	·70	·50	·68	1·34	1·02	...	·16	1·60	28·45	82·56	5·07	1·54	16·17	5·67	·16	·2
Group XIIb.—Hill Convalescent Depôts, and Sanitaria.	*	39	...	...	64	1,400	10	48	6	2	45	9	12	112	65	107	8	62	905	4,527	214	59	378	254	9	...
	3,160	...	...	...	11	2	2	...	...	1	2	3	3	...	3	...	2	...	43	...	...	...	2	...	...	...
		1·95	...	...	16·44	53·78	1·39	3·70	·88	·24	4·47	1·37	·95	8·55	5·42	4·71	1·66	5·26	90·13	302·04	21·34	5·80	44·25	18·74	·25	·2
Troops marching, Bengal.	488	...	...	...	13	110	7	6	...	...	2	...	...	3	14	7	...	15	179	547	45	30	32	66	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	2	...	...	...	...	...	...
		...	...	...	·10	1·10	·04	·04	...	...	·01	...	...	·07	·14	·02	...	·10	2·20	5·85	·49	·85	·34	·52	...	...
Troops marching, Punjab.	399	...	...	...	4	63	7	...	1	2	...	...	3	5	12	6	...	8	51	229	13	6	7	25	...	...
		...	...	...	...	...	...	...	...	1	1	...	1	...	...	...	...	...	...	4	...	...	...	...	...	...
		...	...	...	·03	·42	·09	...	...	...	·01	·01	·02	·03	·12	·03	...	·08	·91	2·39	·33	·19	·28	·21	...	...
Troops marching, Madras.	47	...	...	...	1	2	...	7	...	...	...	...	...	...	5	1	...	...	17	59	...	11	...	6	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		...	...	...	·04	...	...	·04	...	...	...	...	...	...	·04	...	...	...	·02	·42	...	...	...	·03	...	...
Troops marching, Bombay.	82	...	...	...	...	47	1	...	...	...	...	...	...	5	6	2	...	...	10	84	3	...	1	6	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		...	...	...	...	·33	...	...	...	...	...	...	...	·04	·03	·01	...	...	·10	·64	·02	...	·01	·07	...	...
Tochi Field Force	26	...	...	...	...	12	1	...	1	...	...	1	...	1	1	2	...	1	...	35	...	...	...	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Malakand Field Force.	4	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	3	6	...	...	1	2	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Tirah Field Force	2,192	1	...	...	123	403	73	12	7	...	13	3	26	110	71	161	1	22	288	2,115	71	20	123	74	5	...
		...	...	...	35	1	1	1	...	...	1	1	3	2	2	1	1	...	...	85	...	...	...	...	...	...
Buner Field Force	123	...	...	...	...	40	3	...	...	...	...	...	...	2	...	3	...	...	8	77	2	2	3	1	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...
Malakand Force	503	...	...	...	48	242	19	91	...	1	1	...	...	7	19	30	...	17	39	661	5	2	13	10	3	...
		...	...	...	16	...	2	...	...	...	...	...	...	...	...	...	...	...	...	18	...	...	...	...	...	...
Khyber Force and Brigade.	1,483	2	...	...	238	678	279	104	7	7	17	3	8	26	70	81	1	28	125	2,030	21	13	62	36	5	...
		...	...	...	60	...	1	...	...	4	1	1	1	1	4	...	1	...	...	80	...	...	...	...	...	...
Deolali Depôt	697	...	...	...	5	235	3	15	2	5	65	38	1	9	57	23	10	11	293	1,035	37	19	174	63	...	...
		...	...	...	...	1	...	...	...	...	1	4	...	...	1	1	1	...	...	16	...	...	...	...	...	...
		...	...	...	·65	5·25	·07	·68	·00	·17	6·57	1·46	·16	·27	2·07	·07	·05	·82	13·80	43·81	2·20	1·03	8·90	2·57	...	...
Poonamallee Depôt	155	...	...	...	...	33	...	4	...	...	3	7	...	3	20	2	2	21	78	258	7	2	65	4	...	...
		...	...	...	...	1	...	1	...	...	...	...	...	...	1	...	1	...	...	4	...	...	...	...	...	...
		...	...	...	·01	3·40	·02	·84	...	...	·89	·58	...	·71	1·05	·05	·24	4·89	37·45	69·05	4·44	5·27	12·68	15·07	...	...

* Derived from the aggregates.

Stations and Commands.	Average annual strength.	1. Admissions. 2. Deaths. 3. Constantly sick.	Influenza.	Cholera.	Small-pox.	Enteric Fever.	Intermittent Fever.	Remittent Fever.	Simple Continued Fever.	Rheumatic Fever.	Heat-stroke.	Circulatory Diseases.	Tubercle of the lungs.	Pneumonia.	Other Respiratory Diseases.	Dysentery.	Diarrhœa.	Hepatic Abscess.	Hepatic Congestion and Inflammation.	Venereal Diseases.	All Causes.	Primary Syphilis.	Soft Chancre.	Secondary Syphilis.	Gonorrhœa.	Tænia.	Other Entozoa.
. . .	1,014	1. Admissions.	...	...	...	11	194	30	18	...	3	14	1	...	26	48	29	7	16	246	1,200	14	54	86	91	5	...
		2. Deaths.	...	...	...	5	...	1	...	...	2	1	1	...	...	3	...	5	...	...	19	...	...	...	...	...	...
		3. Constantly sick.	...	...	...	1·33	9·48	2·63	1·18	...	·05	1·05	·10	...	1·10	2·55	1·07	·46	1·19	21·19	75·57	1·47	4·41	7·86	7·41	·14	...
† Remaining from 1897.			2	...	...	351	1,401	116	28	10	3	107	72	37	139	293	132	24	76	1,929	6,415	456	352	611	500	5	...
Admitted .			564	17	2	2,498	26,687	2,226	2,879	101	349	743	201	221	1,760	2,019	1,845	169	1,257	24,585	97,339	5,361	4,481	5,898	8,865	173	6
Died . .	*		1	14	...	689	20	25	4	1	79	32	39	44	11	53	3	103	5	17	1,358	...	...	17	...	...	1
Died out of Hospital.			...	...	...	1	...	...	...	...	12	12	...	1	...	...	...	...	...	...	104	...	...	...	...	...	...
**Constantly sick.	67,741		23·24	·43	·22	320·68	893·18	105·07	119·99	9·74	17·01	80·34	31·83	13·96	94·47	140·54	59·08	16·38	81·59	2,201·81	5,780·65	508·56	373·36	621·65	698·24	4·51	·37
**Average duration of a case in days.			16·42	9·23	40·15	55·02	12·88	20·71	16·39	41·34	18·21	41·24	58·57	27·25	21·36	27·62	13·65	37·84	25·33	33·31	22·87	35·28	39·80	39·84	29·13	10·22	23·51
GAL . . .	20,060	*	104	4	...	824	8,492	212	771	15	87	218	71	35	395	680	452	63	410	8,785	29,759	1,916	1,574	2,032	3,263	54	2
			...	3	...	210	6	2	...	...	23	3	15	5	3	17	...	42	3	5	392	...	...	5	...	...	1
			4·79	·23	...	119·65	288·88	18·10	37·77	2·09	5·15	24·74	13·77	2·74	21·35	56·18	18·41	7·38	29·22	880·08	1,030·69	186·34	133·88	235·21	264·63	1·67	·08
JAB . . .	18,388	*	14	11	1	895	9,486	1,581	855	49	219	240	36	89	567	512	726	33	255	4,944	28,648	1,355	717	1,121	1,751	50	...
			...	10	...	271	8	14	2	1	45	11	12	23	4	19	1	23	1	6	508	...	...	6	...	...	...
			·31	·09	·09	92·25	319·95	59·53	25·11	4·59	10·36	21·78	4·52	6·00	34·58	33·30	23·27	3·37	13·36	432·66	1,503·72	127·37	63·14	123·04	139·21	1·23	...
DRAS . . .	12,337	*	373	2	1	143	2,493	193	577	14	12	103	26	15	296	398	63	28	334	5,407	15,947	1,315	897	1,292	1,903	28	1
			1	1	...	28	2	3	1	...	5	9	1	3	...	6	...	14	2	4	106	...	...	4	...	...	...
			17·78	·11	·13	24·68	89·04	22·87	28·73	1·90	·35	14·26	5·18	1·11	15·26	27·36	1·56	2·85	22·77	492·27	1,100·01	123·86	73·08	137·30	158·03	·81	·23
BAY . . .	14,612	*	74	...	...	513	5,761	164	654	15	31	168	64	55	389	356	440	35	225	5,150	20,749	702	1,251	1,326	1,871	36	3
			...	...	...	145	3	5	...	...	6	8	10	7	2	9	1	23	...	3	266	...	...	2	...	...	...
			2·36	...	...	84·03	395·31	14·57	34·38	1·16	1·15	19·56	7·66	4·11	23·38	23·70	15·84	2·78	17·15	456·80	1,252·23	70·99	103·26	136·80	145·35	·81	·06

Groups.	1. Strength. 2. Constantly sick.	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Group I.—Burma Coast and Bay Islands.	1. Strength.	1,108	1,148	1,230	1,253	1,252	1,251	1,231	1,244	1,242	1,267	1,204	1,280	14,710
	2. Constantly sick.	151·51	120·07	96·71	92·30	110·32	119·60	86·03	78·09	100·63	118·36	98·64	99·10	1,271·36
,, II.—Burma Inland .	1. Strength.	2,526	2,366	2,434	2,587	2,808	2,832	2,834	2,815	2,821	2,457	2,437	2,927	31,844
	2. Constantly sick.	274·00	242·76	208·19	193·61	221·97	229·80	217·88	199·33	202·37	175·52	169·04	168·55	2,503·02
,, IV.—Bengal and Orissa	1. Strength.	1,836	2,763	2,485	2,335	2,338	2,359	2,376	2,375	2,345	2,343	2,487	2,535	28,577
	2. Constantly sick.	209·91	243·96	193·33	185·20	187·30	173·33	166·68	178·16	186·67	165·01	200·53	217·55	2,307·63
,, V.—Gangetic Plain and Chutia Nagpur.	1. Strength.	5,633	6,610	6,329	6,238	6,158	6,644	7,033	7,016	7,024	6,803	7,415	7,334	80,237
	2. Constantly sick.	750·43	794·68	759·76	670·78	667·03	666·08	645·68	647·06	675·62	652·91	644·89	643·46	8,218·38
,, VI.—Upper Sub-Himalaya.	1. Strength.	15,044	15,286	14,407	12,574	11,811	10,603	10,115	10,062	10,124	11,587	15,102	16,299	153,014
	2. Constantly sick.	1,786·57	1,651·80	1,368·58	1,055·45	1,093·82	1,142·45	990·06	1,016·64	942·68	1,034·65	1,239·93	1,260·58	14,383·21
,, VII.—N.-W. Frontier, Indus Valley, and North-Western Rajputana.	1. Strength.	4,830	5,637	5,629	4,968	4,244	4,178	4,237	4,188	4,225	4,164	5,053	5,487	56,840
	2. Constantly sick.	674·71	605·85	472·62	443·70	425·00	427·04	468·38	434·64	335·37	300·31	433·45	389·08	5,410·15
,, VIII.—South-Eastern Rajputana, Central India, and Gujarat.	1. Strength.	5,426	5,111	5,488	5,979	6,377	6,341	6,388	6,353	6,218	6,352	6,193	5,902	72,128
	2. Constantly sick.	607·87	526·14	555·99	560·66	602·58	629·70	614·90	619·08	699·76	644·91	543·66	544·93	7,150·18
,, IX.—Deccan . .	1. Strength.	7,460	7,233	7,465	7,692	8,078	8,173	8,253	8,311	8,257	8,892	9,700	9,558	99,072
	2. Constantly sick.	736·33	720·70	733·15	736·33	810·47	831·84	846·59	911·89	906·78	803·72	834·07	812·01	9,683·88

* Derived from the aggregates.
† Remaining + admitted = total treated; Remaining + admitted + died out of hospital = total cases.
** Excluding Field Forces, Malakand Force, and Khyber Force and Brigade.

TABLE IV—*concluded.*

Groups and Commands.	1. Strength. 2. Constantly sick.												Total.
	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	
Group X.—Western Coast	1,538	1,542	1,481	1,465	1,454	1,476	1,460	1,464	1,513	1,581	1,678	1,617	18,269
	137·75	153·00	139·64	126·12	116·80	103·66	106·13	95·06	106·53	141·14	147·00	138·68	1,511·51
„ XI.—Southern India	3,411	3,575	3,460	3,281	3,231	3,198	3,269	3,286	3,333	3,611	4,256	4,324	42,235
	255·09	293·90	302·00	288·23	287·41	280·06	296·78	311·76	285·83	310·55	378·43	375·70	3,665·74
„ XIIa.—Hill Stations	2,181	1,951	2,646	7,211	10,852	12,660	12,995	12,993	12,615	8,927	3,835	2,629	91,495
	175·38	160·46	161·64	524·01	883·66	1,006·48	1,013·76	1,039·18	980·87	685·21	311·72	184·18	7,126·55
„ XIIb.—Hill Convalescent Depôts, and Sanitaria.	749	983	1,649	3,899	4,789	4,815	4,919	4,979	4,755	3,530	1,645	1,208	37,920
	67·50	75·78	103·68	296·16	431·58	510·97	550·63	483·57	456·29	364·74	171·81	111·86	3,624·57
INDIA	65,296	66,261	67,047	68,077	69,016	68,679	68,721	68,639	68,287	67,278	67,838	67,758	812,897
	6,821·18	6,481·65	5,807·55	5,681·89	6,309·07	6,598·36	6,425·80	6,422·95	6,212·80	5,721·03	5,490·41	5,205·53	73,178·22
Bengal	16,465	18,024	17,995	19,539	20,363	21,125	21,563	21,556	21,345	21,140	20,767	20,835	240,717
	1,962·54	1,894·53	1,811·57	1,816·44	2,043·57	2,129·60	1,981·79	2,020·09	2,096·60	1,936·55	1,731·64	1,741·19	23,166·11
Punjab	15,388	13,789	14,935	19,885	21,321	20,279	19,893	19,833	19,739	18,099	17,837	17,658	220,656
	1,816·74	1,691·12	1,321·07	1,567·25	1,914·89	2,061·39	2,014·77	1,904·27	1,611·86	1,352·48	1,352·97	1,214·40	19,823·25
Madras	10,783	10,912	11,353	12,301	12,774	12,693	12,687	12,669	12,566	12,224	13,303	13,783	148,048
	1,106·11	1,070·37	1,009·57	1,020·33	1,146·91	1,185·86	1,147·17	1,107·94	1,098·79	1,070·54	1,128·24	1,108·10	13,199·93
Bombay	13,157	13,585	14,246	14,191	14,558	14,582	14,578	14,581	14,637	15,815	15,931	15,482	175,343
	1,166·89	1,197·08	1,202·84	1,178·36	1,203·70	1,221·51	1,282·07	1,390·65	1,405·55	1,361·46	1,277·56	1,141·84	15,029·51

TABLE V.

ABSTRACT of the CANTONMENT SANITARY REPORTS of the most UNHEALTHY STATIONS.

The ratios of sickness and mortality will be found in Table III.

STATIONS.	COMMAND.	Sanitary defects, improvements, suggestions, etc.
Dinapore	Bengal	There was no unusual sickness during the year. With the exception of venereal, which is not confined to any season of the year, no particular disease has been prevalent. Its prevalence was due to the present unsatisfactory way of dealing with the prevention of venereal disease. All lands in which deposits from latrines were buried, have been brought under cultivation. The drainage in the cantonment is fairly satisfactory. The water-supply is abundant and of good quality, except that drawn from the wells in the permanent barracks. The latter has not been used for cooking and drinking purposes. The drinking water for British troops has been boiled, with beneficial results.
Allahabad	,, ...	The prevalence of malaria was of climatic origin. Venereal disease was contracted chiefly in the city. The water-supply is good and sufficient.
Lucknow	,, ...	Enteric fever was prevalent for the first four months and the last month of the year, and malarial fevers and venereal disease were prevalent throughout the year. No cause of enteric fever can be given except that it was found to prevail among new arrivals of young soldiers. All the trenches but one are now under grass-cultivation. Only one place is under crops. Owing to insufficient fall, the surface drainage in the station is unsatisfactory. The system of absorption pits to wash-houses is also unsatisfactory. The water-supply was not deficient in quantity, storage or distribution. The supply was chemically of sufficient purity, but the source was suspicious. The drainage from the *sadar* bazar passes under the railway and crosses the main road from cantonments to Lucknow. It is difficult to keep it sweet and clean. A diversion is under consideration. *The Cantonment Committee propose* :— The putting of the drainage of the *sadar* bazar in better order, for which estimates and plans are in preparation ; stalls for the sale of milk and butter, so as to close the insanitary houses at present in use ; the removal of *ekka* ponies from the dwellings in the bazar and the erection of stables ; a washing tank for *dhobies*, to prevent the present conditions under which washing of clothes is carried on ; the reconstruction of urinals in the bazar ; the disuse of the filth pits and the removal of the filth to a safe distance, a measure which has been carried out since the close of the year. *The District Principal Medical Officer desires* :— A water-supply above suspicion ; the establishment of a government dairy, on the same lines as as at Allahabad, to ensure a good and wholesome supply of milk and butter, the present supply not being above suspicion ; the abolition of absorption pits, which do not absorb, and which become concealed cess-pits ; the getting rid of sullage water either by properly constructed brick drains or in carefully supervised and cultivated gardens ; improvement of the drainage of the north native infantry lines both for storm water and wastage. *The Lieutenant-General Commanding the Forces* :— Much is being done to improve the sanitary state of the cantonment, but, so long as the water-supply is from an impure source, the death-rate and sickness must be high amongst the troops. The water-supply question is being considered. *The Executive Engineer* :— For the flood water, on account of the flatness of the site, no improvement of the surface drainage appears practicable. Taking next the waste water from standposts, I can suggest nothing better than absorption pits. There seems no danger of water-logging of the soil, the spring level being now lower than it was formerly. As to the more important question of the disposal of bath room water and water used by natives for ablutionary purposes, four methods are suggested. (1) Running into surface drains — expensive. (2) The removal by carts—expensive. (3) The use of absorption pits. This, which was recommended in former years, is now discredited by the medical authorities. It is open to doubt, however, whether absorption pits do not answer the purpose, and whether or not they are a source of danger. At all events they prevent the water from lying about. It seems probable that when properly constructed and taken down to sufficient depth or to a permeable stratum, they would give satisfactory results.

TABLE V—*continued.*

ABSTRACT of the CANTONMENT SANITARY REPORTS of the most UNHEALTHY STATIONS.

The ratios of sickness and mortality will be found in Table III.

STATIONS.	COMMAND.	Sanitary defects, improvements, suggestions, etc.
Lucknow—*contd.*	Bengal	(4) The running of water into gardens. This appears to be open to the fewest objections, but in this case the gardens should be sufficiently large. It would probably be best to have the garden simply a patch of grass of varying size. Such patches would however require to be properly supervised, and a special establishment for their care and maintainance kept up. The proposal to divert the drainage of sullage water from the *sadar* bazar is unfortunately not feasible, as levels show that the fall that could be obtained is practically *nil*, and any duct for sullage water would interfere with the existing surface drainage.
Shajahanpur	"	There was no unusual sickness: venereal disease has been most prevalent. The meat supplied was somewhat underfed and lean, due to very great difficulty in obtaining fairly well-fed beef and mutton for the troops. *The Lieutenant-General Commanding the Forces* :— The orders of government under the new cantonment rules are being carried out; but with no effect in this station.
Meerut	"	Venereal disease was due to the usual causes. Ague was, as usual, climatic. The special cause of enteric fever could not be traced. It occurs about the same periods yearly, irrespective of special causes as to water or otherwise. The trenches are all in government farm land, and are under cultivation. The drainage within cantonments is good. The water-supply is good and abundant, and there is no source from which it is likely to be contaminated. *The General Officer Commanding the District* :— The cantonment of Meerut is inhabited by about 4,000 troops, and by a civil population, both European and native, which I have heard estimated at as high as 70,000 persons. The bazars inhabited by the greater part of the native portion of this large population are separated from the barracks and lines of the troops by spaces of no great extent, which are themselves overcrowded with the houses occupied by the officers of the garrison and others; many of which houses are in an insanitary state, owing to the smallness of the compounds and the consequent crowding together of servants' huts, stables, etc. The filth and refuse of the bazars, in addition to that of the barracks and neighbouring houses, have to a great extent to be carried through the lines occupied by the troops, before they can be disposed of. It will be understood that the above described state of affairs has occupied the anxious care and attention of the authorities concerned for many years past; but, in spite of everything they have been able to do, it still exists. In such circumstances it naturally results that Meerut is unhealthy; and as the overgrown populations of the bazars goes on increasing, so does the sick-rate of the troops. Something has been done by the introduction of arrangements for boiling drinking water, providing good milk and butter, etc., etc.; but these measures only touch the fringe of the mischief, and so long as the troops live close to a great crowd of natives, no improvement of much consequence can be expected. The measures necessary to get rid of the evils pointed out would be :— Drastic remodelling of the bazars, which very possibly, if well and comprehensively carried out, might pay financially; similar measures regarding many of the houses in the regimental lines, specially those of the British infantry; improved arrangements for the removal of sewage and refuse, in connexion with which a tramway would probably be wanted; the introduction of an improved water-supply, and this is in progress. *The Lieutenant-General Commanding the Forces* :— To clear out the bazars would involve the expenditure of many *lakhs*. The bazars are well kept but are overcrowded. I have directed the General Officer Commanding the District to take up the question of a tramway for the removal of filth, and to arrange for the tramway to go into the country by some other route than through the British lines. The health of the British troops in Meerut is most unsatisfactory as a general rule, but with the introduction of a new water-supply from the Ganges canal an improvement is hoped for.

Stations.	Command.	Sanitary defects, improvements, suggestions, etc.
Delhi	Bengal	Malarial fevers prevailed most during the latter part of May and June, and to a less extent during July and August. This is unusual; August, September, and October being considered the malarious season here. The heat at the time was excessive, but this in itself is hardly sufficient to account for the great prevalence of sickness at a period of the year that is usually healthy. Further, the comparative freedom of the troops from ague during September and October was unexpected. West winds were experienced at this time when east winds as a rule prevail. The prevalence of malarial fever was due to the proximity of the swampy bed of the river Jumna, which is very malarious during the drying up after the rains. The admissions from malarial fevers are one-third above the average. This may to some extent be attributed to the fact that the troops, both infantry and artillery, have been two years in the station; many of them being in consequence saturated with malaria, as shown by frequent enlargement of the spleen. Drainage within cantonments is good. Except the marshy bed of the river Jumna, there are no *jheels* or marshes. The water is supplied from the municipal reservoir. Its quality is good and its quantity sufficient. It is efficiently protected from contamination in storage and distribution. The dry-earth system is in use, and the sewage is disposed of in the municipal filth pits about a mile from cantonments. There is no sewage land in cantonments. *The General Officer Commanding the District*:— The unhealthiness of the quarters in the Delhi fort is well known. The fort adjoins the bed of the Jumna, and the British soldiers' barracks are shut off from every free current of air by its high walls, so that the heat in the barracks in summer is unusually trying. The bad effect on the health of the British battalion at Delhi is marked, and it is possible to pick out from its ranks at sight any of the men who have been quartered there during the hot weather. The Dariaganj cantonment is also notoriously unhealthy, though probably not as bad as the fort. The remedy for this state of things is receiving thorough consideration in accordance with orders received.
Muttra	,, ...	Malarial fever has been prevalent, but not to so great an extent as in last year. Venereal disease has also been prevalent. No cause could be discovered for the cases of enteric fever. Cases of malarial fever were more numerous during, and soon after, the rains. Enteric fever was more prevalent than usual, but this might be accounted for by the fact that the regiment had but just arrived in India from South Africa, where it also suffered a great deal from enteric fever. The surface drainage is good and there is a steady fall towards the river. There is a *jheel* near the public gardens. The water-supply is good and sufficient. All water for drinking purposes is boiled before use. Nightsoil is deposited in regulation shallow trenches on the grass farm of about three acres.
Jhansi	,, ...	There has been much less sickness during this year as compared with the previous 3 or 4 years among the British troops. There has also been a great decrease in venereal disease among these troops. Enteric fever prevailed in the early part of the year till the end of May. Ague and venereal disease prevailed throughout the year, and diphtheria at the end of the year. No definite cause can be assigned for the prevalence of enteric fever. Venereal disease is due to want of control over the native population in and around the cantonment. The project of surface drains for the *sadar* bazar is awaiting provision of funds for the purpose. There was nearly a water famine in the early part of the year till the rains came on. The quality of the water has been good, and every precaution has been taken to prevent contamination in drawing and distribution. No *mussacks* are allowed, except for the ablution room cisterns and *tatties*. The system of conservancy is satisfactory. The scheme of night-soil removal submitted and referred to in last year's report has been carried out with complete success. Thirty-two *bighas*, or about 15 acres, are under cultivation.
Nowgong	,, ...	There has been great improvement in the health of the British troops. The cause of ague is climatic, the district being very malarious during the rainy season. Seven cases of enteric fever occurred during the year; but the cause is unknown, the water and milk being of very good quality. The water-supply used by the British troops is abundant in quantity and good in quality, drawn from wells the parapets of which are raised from the ground-level and free from contamination. The mode of drawing and distributing the drinking water is by zinc buckets.

TABLE V—*continued.*

ABSTRACT of the CANTONMENT SANITARY REPORTS of the most UNHEALTHY STATIONS.

The ratios of sickness and mortality will be found in Table III.

Stations.	Command.	Sanitary defects, improvements, suggestions, etc.
Nowgong—*contd.*	Bengal	*The District Principal Medical Officer* :— In view of the malarious nature of the country and soil, every care should be taken during the autumn months to restrain rank vegetation, etc., as well as to pay attention to every sanitary detail connected with the barracks, as well as with the dairy. At the date of my last inspection of the station there was room for improvement in these respects. *The General Officer Commanding the District* :— I have inspected the cantonments and bazars of Nowgong, and was struck by the cleanliness of both. Every precaution was taken to keep the place clean and in a sanitary condition. The abnormal rainfall of last year may have caused the great sickness from ague.
Jubbulpore	„	Malarial fevers are due to climatic conditions, but the cause of the prevalence of enteric fever is not known. Enteric fever was more prevalent among the British infantry than in the 52nd Field Battery, Royal Artillery. The excess of admissions from this disease is to a great extent to be accounted for by the 2nd Battalion, South Lancashire Regiment, contracting the disease previous to its arrival at the station. This regiment arrived at Jubbulpore on the 26th October 1897, and fourteen admissions occurred up to the end of December. The outbreak in the spring months was apparently due to a recrudescence of the disease. The quantity of the water is sufficient and its quality good. European supervision of the vicinity of the municipal reservoir is desirable. Barrack accommodation is somewhat limited on account of No. 10 barrack block being appropriated for hospital use. *The General Officer Commanding the District* :— With a due regard to the financial interests of the cantonment, I have been unable to stop as much rice cultivation as the medical officer would wish. Action has been taken as to the increase of hospital accommodation. *The Lieutenant-General Commanding the Forces* :— Action will be taken regarding European supervision of the water supply.
Jullundur	Punjab	There was no unusual sickness during the year. Venereal diseases and malarial fevers have been the most prevalent diseases amongst the European troops, and the chief cause of mortality has been enteric fever. The prevalence of venereal disease is due to the need of a cantonment hospital, malarial fevers are due to climate, and the causes of enteric fever are unknown. The rain-water drains are very fair. Some of the ground is low-lying, but water only lodges there during rainy weather. *The District Principal Medical Officer* :— The filtering of the water-supply for the British infantry regiment through sand, brought from an unguarded river bed, seems to me of doubtful utility, and to be possibly dangerous. An analysis of the water in the well used should be made. The water in its original condition is apparently very pure, and if proved so, the filtration might cease. For its distribution metal carts are wanted to replace the wooden ones at present in use, which continually leak and are repaired anyhow. They would also save the great labour entailed by the use of small buckets. The milk-supply for the hospital is not satisfactory, as the feeding of the cows is not under control. A separate dairy is much wanted for the sick. *The General Officer Commanding the District* :— The water has been analysed both before and after filtration without any appreciable difference being detected in the quality "before" and "after." The principal medical officer's suggestion may therefore be carried out. The hospital dairy has been ordered to be discontinued.
Ferozepore	„	Enteric fever has caused a larger number of admissions and a much larger number of deaths than had ever occurred in this station. The source of contagion could not be traced. The well-water in barracks could not have been the cause, as all drinking water was boiled and pinked for the first time throughout the whole year. All corps suffered nearly equally. The wing of the 1st Bedfordshire Regiment suffered very much from malarial diseases contracted largely at Fort Lahore. No *jheels* or marshes exist within the cantonment.

Stations.	Command.	Sanitary defects, improvements, suggestions, etc.
rozepore—*contd.* . . .	Punjab	The water-supply is from wells, and is not deficient in quantity or quality. The water for drinking and cooking purposes is drawn in zinc buckets, and was boiled and pinked for the British troops throughout the year. The Allahabad system of conservancy is used throughout the cantonment. Of trenched land in cantonments, eight acres are under cultivation. A proper system of drainage for the station is required. A scheme for pipe water is now before the authorities. *The General Officer Commanding the District* :— The "drainage" suggested by the cantonment committee refers to a scheme for the *sadar* bazar only. The pipe water scheme is under preparation, but as the source of supply originally contemplated is now found to be "doubtful," some time must elapse before it is ready for consideration.
Meean Meer	,, ...	The cause of enteric fever is unknown. Ague and simple continued fever are due to climatic causes. The unusual amount of heat-apoplexy was due to the excessive and prolonged high temperature. The water-supply is liable to pollution before entering the water-works. The water after filtration is conveyed by pipes to cantonments, and is of good quality and sufficient in quantity *The District Principal Medical Officer* :— With the exception of the water-supply, which for the British troops is drawn from a canal, and though filtered, must always therefore remain of doubtful purity, and for natives is obtained from wells, some of which are brackish, the sanitary condition of Meean Meer is about as good as it can be made. The unhealthiness of the station is due to its site and climate. The present water-supply is inadequate for all the troops; it is expensive to be maintained, while it is not above suspicion; and it should be changed as soon as possible for a delivery, sufficient for the need of the whole cantonment, from the Lahore water-works. *The General Officer Commanding the District* :— Meean Meer is undoubtedly an unhealthy cantonment, but since the introduction of the canal water-supply, the outbreaks of cholera which previously decimated the garrison have ceased. The change from the present system which gives canal water to the British troops only, has been brought under the consideration of the Government of India, and is a large and expensive project. Even if adopted, the present state of sickness will not be much affected. The only course to pursue is to make Meear Meen a one-year station for British troops, and as short as possible a station for native troops other than the Pioneer regiments, who seem to be more acclimatized to it than other native regiments. *The Lieutenant-General Commanding the Forces* :— I fully endorse the remarks of the Principal Medical Officer and of the General Officer Commanding the District. I have moved in the matter of providing the native troops with a supply of pipe-water; and am informed by the Director General, Military Works, that a scheme to connect Meean Meer with Lahore water-works is under consideration. The recommendation to make Meean Meer a one-year station for all troops has been submitted to army head quarters.
Fort Lahore	,, ...	Ague was most prevalent during the year, specially during September and October. Malarial fevers were extremely prevalent all over the Punjab during the latter months of the year. There was much sickness in the Bedfordshire Regiment. The land used for trenches is about a mile and a half from the fort, across the railway line, and it is under cultivation. The drainage of the fort itself is excellent, but the land to the north and west is low-lying and marshy owing to its close proximity to the river Ravi; but it is well wooded and most extensively cultivated. The water-supply for drinking purposes is obtained from the municipal water-works, and is neither deficient in quantity nor inferior in quality. It is also boiled and pinked. Water for gardening purposes is obtained from wells within the fort. Zinc buckets are used for bringing water for drinking, cooking, and ablution purposes; and *mussacks* have been done away with. No change has been made in the British main guard building since last year's report, the evils then complained of being still present. Two of the deaths during the year are traceable to the guard room, one being due to heat-apoplexy, and the other to clots in the heart from hyperpyrexia.

TABLE V—*continued.*

ABSTRACT of the CANTONMENT SANITARY REPORTS of the most UNHEALTHY STATIONS.

The ratios of sickness and mortality will be found in Table III.

Stations.	Command.	Sanitary defects, improvements, suggestions, etc.
Fort Lahore—*contd.*	Punjab	*The District Principal Medical Officer :—* The position of the main guard rooms and cells renders them intensely hot and close in the summer. There would seem to be no remedy rendering them safely inhabitable in the warmer months, short of removing them to some other site. The latrine now used by the commissariat clerks requires abolition. It is old fashioned, filthy, and unnecessary. There is not sufficient accommodation in the building allotted to the detachment of native troops located in the fort. *The General Officer Commanding the District :—* The position of the main guard at the Hathu Pao is under consideration, but I do not at present see any possibility, on account of great expense, of moving it to any place where the same objections could not be urged, nor of materially alleviating the heat. The latrine has been demolished. *The Lieutenant-General Commanding the Forces :—* The condition of the main guard barracks is being dealt with.
Khyragully	,,	There was no unusual sickness. The trench in which the deposit from the latrines has been buried is under cultivation. The water supply is sufficient in quantity and good in quality. There is no source of contamination. A prostitute's camp for about a month was situated between Khyragully and Thobba, and occasioned venereal disease. It would be advisable to have Thobba and Khyragully cantonments made continuous with each other, so that unauthorized persons would not be enabled to inhabit the space between the two cantonments.
Rawalpindi	,,	The prevalence of malarial fevers is probably due to the great diurnal range of temperature. The water-supply is very good. The dry-earth system is used in the latrines, and the sewage is carried away in carts to the trenching grounds which are subsequently put under cultivation. *The Lieutenant-General Commanding the Forces :—* The improvement of the drainage system of the cantonment is being carried out, and certain alterations in the *sadar* and *lal kurti* bazars which, it is hoped, will have the effect of reducing overcrowding, are under consideration.
Nowshera	,,	No disease has been prevalent during the year [The chief causes of mortality were enteric fever (7) and heat-apoplexy (5)]. There are no *jheels* or marshes within cantonments. The water-supply from wells is sufficient and of good quality.
Peshawar	,,	The prevailing diseases amongst the British troops have been malarial and enteric fevers. The chief causes of mortality were enteric fever and heat-stroke. Malarial fevers were due to climate. The cause of enteric fever is doubtful. There seems to have been less sickness than usual. The excess of enteric fever seems to be accounted for by the fact that most of the corps had to endure the fatigue and exposure of field service. These conditions seem to have had more effect on the Northampton and Yorkshire regiments than on other corps. There are no *jheels* or marshes in cantonments. The drainage, on the whole, is good. The race course lies low and is very marshy. There is no defect in the water-supply, which comes into the station direct from the Bara river in pipes, through filtering beds. The project for the construction of *dhobies'* tanks for washing has been taken in hand. Over two thousand young trees have been planted in the cantonment, and within barrack limits. The Allahabad trenching system is now in force for the disposal of all latrine filth, and has been found to work admirably. The dairy farm is still in existence, but is crippled for want of funds, and the general officer commanding the district has recommended to the government that this concern be wound up. *The District Principal Medical Officer :—* A bacillus having the cultural characters of the enteric bacillus has recently been detected in water from the taps in the lines of the Royal Inniskilling Fusiliers. The pipes from the water-works pass in several places through the water of a very dirty irrigation channel, which passes through cantonment; and, although it is said that the pipes are carefully protected by outer pipes, I think they should be altered so as to pass under or over the channel and not through the water. The taps in question were closed, and then flushed with permanganate solution. The irrigation canal above referred to is liable to pollution (before entering the cantonment) where it passes through the village of Nou Deh Paian and in close proximity to a Mahommedan cemetery. Of course the water of this canal is not used for drink-

Stations.	Command.	Sanitary defects, improvements, suggestions, etc.
eshawar—*contd.*	Punjab	ing purposes or otherwise by the troops; but, in my opinion, it is possible that, if pipes leak, it may pollute the drinking water. This canal also gives off branches which run through the *sadar* bazar, where, I have no doubt, it is sometimes used for drinking and other purposes, and is thus a possible source of danger. It is also used for irrigating cantonment lands, but not in the vicinity of barracks; and I cannot say that in this way it is any more injurious to health than irrigation with clean water. *The General Officer Commanding the District* :— The laying of pipes through drainage channels is being altered so as to prevent any possible contamination. The station has been healthy, and the number of British sick this winter was less than before.
asauli	„	There was no unusual sickness. Malarial fevers were due to climate, and venereal diseases were due to the utter absence of any control over prostitutes. There are no *jheels* or marshes in the cantonment. The water-supply is sufficient and of good quality. The mode of distribution is very bad. The sewage is burnt in incinerators, and the urine is buried in shallow trenches outside the cantonment. It is suggested that there should be a pipe water-supply. The neighbouring cantonment of Subathu has already been supplied with water, and Dagshai will shortly be so supplied. The Kasauli cantonment in the summer contains more soldiers and infinitely more European residents and visitors than Subathu. Moreover there are two excellent springs, one actually in the cantonment from which water might be obtained and pumped up to reservoirs made on the St. Cloud estate, which is about the highest point in Kasauli. This supply of water is the more desirable, as the present system of distribution of water is the worst possible — the old system of *pakhals*. Roughly speaking, to create water-works and distribute throughout cantonments would cost two and a half *lakhs* of rupees, and it is to be hoped that something may at last be done in this matter, which has been mooted for some years without any result. In addition to the residents of Kasauli helping to pay for the water, the neighburing station of Sanawar which is of less elevation, might receive a supply from the same source. *The District Principal Medical Officer* :— I endorse the suggestions of the cantonment committee, and consider it very advisable to have a supply of pipe water. Solon has benefited very much by having it, and so has Subathu. Much of the cost could be recovered by a water-tax on residents, and the doing away with the *pakhal*, mules, and drivers. *The General Officer Commanding the District* :— I consider the introduction of a pipe water-supply a very necessary reform, and would press its urgency on the attention of the Lieutenant-General Commanding the Forces.
urree	„	No special disease has been prevalent. The surface drainage is generally satisfactory. A drain from the termination of the present surface drain from the hospital cook-house down to the mall, was recommended in the last annual report, but is still under the consideration of the Military Works Department. Several *pucca* drains, which are necessary in cantonments, are under consideration. There are no *jheels* or marshes in the vicinity of the cantonment. The water-supply is abundant and satisfactory. The distribution in summer is from pipe lines, and in winter from springs. Contamination in either case is impossible. *Pakhals* and tin canisters are used, and these are regularly and efficiently disinfected. It is recommended that the Tonley reservoirs be covered in owing to the possibility of contamination from the adjoining roadway. The dry-earth system is in use. The nightsoil is removed by a wire tramway and buried in trenches at a safe distance. No part of the cantonment land is manured by station sewage. As regards the masonry drains in the vicinity of the Club of Upper India mentioned last year, it appears that no action has been taken by the Murree municipality. The municipal authorities have been addressed by the government on the subject. It is expected that the work in question within municipal limits will now be carried out, as suggested last year, by the cantonment committee. The partly constructed house "Rose Mount" is in the same state as mentioned last year, and nothing has yet been settled definitely about it; but it is understood that the matter is under the consideration of the military authorities, to meet the wishes of the cantonment committee as expressed last year.

TABLE V —*continued.*

ABSTRACT of the CANTONMENT SANITARY REPORTS of the most UNHEALTHY STATIONS.

The ratios of sickness and mortality will be found in Table III.

STATIONS.	COMMAND.	Sanitary defects, improvements, suggestions, etc.
Murree—contd.	Punjab	*The Lieutenant-General Commanding the Forces* :— With reference to the drain in the vicinity of the club, the municipality have expressed their inability to carry out the work. Further representations have been made to them, but it seems improbable that anything will be done, since the municipality have no funds available and the Punjab Government refuse to provide them, or to allow the municipality to reduce their balance for the purpose. Other drainage works are under consideration.
Poonamallee	Madras	The sickness among the European troops was imported from other stations and could not be attributed to local causes. The drainage within the cantonment is good and efficient. Paddy cultivation takes place within the boundaries, but it does not appear to be prejudicial to health. The well water is good and sufficient. There is no source of contamination in barracks, where drinking water is now raised by hand-pumps. The wells in the native quarters generally require supervision. The dry-earth and removal system is employed, the sewage being deposited in trenches about three quarters of a mile outside cantonment limits, and being sold as manure after the period prescribed by regulations. We would suggest that certain houses that are insanitary on account of their position or ruinous state, should be removed, and open spaces created. Several of these buildings are unoccupied. *The District Principal Medical Officer* :— If the houses that are in a ruinous state were removed and open spaces created, the ventilation of the town would be greatly improved. A copy of the above recommendation has been communicated to the Commandant, Depôt, Poonamallee, for necessary action. He proposes to level such houses as fall into a ruinous state, or on the decease of the occupants, according to paragraph 31, Chapter IV of the cantonment rules and regulations framed under clauses 4 to 11 of section XIX of Act I of 1866.
Mhow	Bombay	The prevailing diseases among the British troops have been enteric fever, ague, and venereal diseases. The chief cause of mortality has been enteric fever. Ague and venereal diseases prevail throughout the year, but more specially at the end of the rains. There were, as usual, two distinct outbreaks of enteric fever—in April, and in July and August. Some cases were evidently imported from Deolali in January. Enteric fever has prevailed mostly among the men of the 20th Hussars; and malarial fever among the men of the Royal Irish Regiment, who suffered most at Jubbulpore and on the North-West Frontier. The figures do not differ materially from those of the previous year. An extensive area of ground is now under cultivation on the Allahabad system and gives a fair return and excellent crops. The nightsoil was not deposited in trenches except in the rainy season, when it was found difficult to carry out the Allahabad system. These trenches are carefully attended to. Several surface drains are required in each sanitary district. There are no *jheels* or marshes in the cantonment. The water-supply is ample. The necessity for filtration at the Baircha tank is urgent. In two water-borne outbreaks reported in Ireland, *viz.*, Belfast and Lurgan, the water presented exactly the same culture analysis as that at Mhow, *viz.*, the *bacillus coli* was present in each case, but in addition at Mhow the enteric microbe, or one closely resembling it, was demonstrated in the Baircha water at the premonsoon and monsoon periods. This indicates the necessity for filtration. The filter beds should be at Baircha and the loss of head overcome by hydraulic lifts, turbines or pumps. *The Cantonment Committee propose* :— General filtration of the water at Baircha; the covering in of the water tank at the European infantry quarters or, if possible, its abandonment of its use, as at present it is a fæcal dust trap; the surface drainage in the bazar; continuation of the flagging at the main drain under the railway bridge; the relief of the nuisance caused by this main drain by the formation of shallow wells for percolation and irrigation of the garden; the sludge to be used as manure; improvements in the meat market and slaughter-house; sinking of wells at the manure farm for purposes of irrigation and growing of dry weather crops; opening out air spaces and the general relief of congested districts in the bazar; improvement of the *dhobi* ghât by the erection of huts for drying and ironing clothes; further improvement of the cantonment dairy by the erection of sheds for the cattle and young stock, and the allotment of more grazing ground. *The District Principal Medical Officer suggests* :— Installation of filter tanks at Baircha; construction of two new wells at the filth yard; improvement of the meat market; relaying the old surface drains where required; construction of more surface drains in the bazar; construction of flushers for drains; conver-

Stations.	Command.	Sanitary defects, improvements, suggestions, etc.
ow—*contd.*	Bombay	of old pattern latrines to the new system, as already done in some sections; improvement of the *dhobi* ghat; construction of a new *dhobi* ghat for the infantry, the royal artillery, and the station hospital; the renting of the laundry house at the ghat to regiments at a small rate to pay interest on outlay; purchase of new filth carts; enclosure of the sheep market and construction of sheds and a water tank; construction of a poultry market; consideration of the question of the removal of nightsoil and rubbish; the planting of trees along the side of the wall where they are now deficient, and the opening out of the roots of many old trees which owing to imperfect planting are now dying of inannition. The reasons why the enteric microbe has been and is present in the Baircha tank are that the tank and part of the catch-water area are situated on the site of the old village of Baircha, and therefore on foul soil, and that the surface soil was in part used for the embankment. This soil should have been collected and burned. The large surface of water is exposed during the dry weather to fæcal dust pollution. Two other striking facts point to the water as the source of this epidemic: the unusual number of women and children attacked, and the complete rupture of the monthly incidence of the diseases. Cases occurred in every month except May, November and December. As a rule, April, May, July, and August are enteric months, and the others are non-enteric months.
		In 1895 a report was submitted for the information of the general officer commanding, and the formation of filter beds at the tank was recommended, to prevent loss of head pressure, and to obviate the liability of fæcal dust contamination. In the early part of 1896 the medical officer in charge of the station hospital was instructed to send samples of the water to Agra for culture analyses, with the result that practically during the entire premonsoon epidemic period of 1896 the enteric bacillus was demonstrated in the Baircha water. In 1895 the installation of filter beds at the Baircha tank was recommended; and a brief outline of what this method of filtration should be was given in the report on the 1897 outbreak. The ordinary boiling of water for soldiers, even under the most careful supervision, is open to so many fallacies that, although theoretically it is perfect, yet practically it is of little use. But Larymore boilers have now been introduced. The use of permanganate, although an excellent preventive against cholera and dysentery, has not proved to be so effectual against enteric fever. Such is the experience gained in the Mhow and Deesa districts. The Baircha water during the outbreak of enteric fever affords exactly the same cultures as the public water-supply at Belfast, Lurgan, and Maidstone during the epidemic of enteric fever at these towns. The culture is, if anything, more typical. The necessary cost of the filter beds might be borrowed from government at three per cent. As a protection against milk- and butter-borne disease, all milk and cream should be pasteurized, and a scheme for this has been submitted. Galvanized iron latrines and urinals for the British troops should be substituted for the present brick and mortar ones.
		The General Officer Commanding the District:— Detailed estimates for making beds at Baircha will shortly be submitted. I consider most of the works referred to by the principal medical officer desirable; and, as far as funds permit, they shall be carried out.
etta	"	Enteric fever was very prevalent amongst the British troops and their families. Dust-borne germs of the disease, probably from the filth pits (now removed) which were to windward of the barracks, were probably the cause of the enteric fever.
		Climatic causes would account for ague and chest affections. The occurrence of stronger dry winds this year blowing from the filth pits would account for the unusual severity of the enteric epidemic. The position of the Wiltshire and Royal Artillery lines being to the west and nearer the filth pits, would appear to account for the troops in those lines suffering more severely than those to the east—the Border Regiment. All land used for burying filth has been duly cultivated, but at present a system of depositing nightsoil in deep pits has been inaugurated, which system does away with the trenches. Excavations exist close to cantonments and in some parts of the cantonments, from which earth for brick-making has been excavated. The drainage is excellent.
		Both drinking and irrigation water were deficient last year on account of the dry winter in 1897-8.

TABLE V—*concluded.*

ABSTRACT of the CANTONMENT SANITARY REPORTS of the most UNHEALTHY STATIONS.

The ratios of sickness and mortality will be found in Table III.

STATIONS.	COMMAND.	Sanitary defects, improvements, suggestions, etc.
Quetta—*contd.*	Bombay	A special committee to inquire into the prevalence of enteric fe was assembled in autumn, and their recommendations for int ducing a new system of dealing with nightsoil, etc., have been f warded to government. These recommendations entail a cost nearly a *lakh* of rupees. An increased supply of drinking water is most essential, as present supply is scanty and non-continuous. Recommendatio for a station dairy were sent in some time ago, but nothing h been done in the way of providing funds yet. Command he quarters have been asked for a grant in aid for providing proper *dhobies'* ghat, but this money has not yet been placed at disposal of the cantonment committee, who are greatly in need funds. An increased supply of irrigation water is wanted, this would cost about ten thousand rupees to complete, and wo bring in an increase in land revenue of about two thousand rup yearly. *The District Principal Medical Officer* :— The measures necessary in order to remedy the insanitary conditio which exist at present have been very fully dealt with by a spec sanitary committee, recently held on "enteric fever causation a prevention," and its very exhaustive report and recommendatio have been duly forwarded to head-quarters. The chief measu necessary are a better system of conservancy, including dispo of nightsoil, and a continuous water-supply, and that water sho be laid on to barracks and cook-houses direct, thus doing aw with *mussacks* and tanks for its carriage and storage. There many other recommendations too numerous to mention. *The General Officer Commanding the District* :— Owing to a serious ontbreak of enteric fever in cantonments l summer, a special committee was assembled to go thoroughly i the cause of the outbreak and all sanitary defects in the cant ment. Their recommendations were briefly as follows :—The filth pits to be disused and their site cultivated (already carr out) ; incineration of filth and litter ; removal to fresh sites of latrines of the British troops and of the followers' quarters ; creased water-supply ; drinking water to be connected w barracks and cook-houses ; cooking ranges to be provided, a all cooking done by the troops ; institution of a cantonment dair *dhobi* ghats to be built for British and native troops, etc., These recommendations are now before government, and detai plans and estimates of their cost are being prepared.
Taragarh	,,	The diseases most prevalent among men of the British troops w secondary syphilis (mostly old standing cases) and ague. Th was no sickness among women and children. Contagion was cause of the venereal diseases. The increase was due to the de litated state of a number of the men sent up for change of air, a to the severity of the symptoms of syphilis in some of their cas No land used for trenches has been placed under cultivation. trench latrines are used. There are no defects in drainage wit the cantonment which are prejudicial to health, nor do any *jhe* marshes, etc., exist in it or its vicinity. The drinking water been sufficient and of good quality. The water used for lavato purposes by the troops, taken from a tank on the hill, is liable contamination by cattle soiling the ground in the vicinity of t tank. *The Cantonment Committee propose* :— That the owners of cattle be warned to keep their cattle from str ing about near the barracks and tanks, as the animals soil t ground and in the monsoon the water passing over the fo ground runs into the tanks, water from which is used by the troo for lavatory and by the natives for domestic purposes ; that sweepers engaged for the village be under the control and p of the Ajmere municipality, as they are very poorly paid at pres by the villagers themselves, and are very indifferent to their wor that surprise visits be paid by some authorized person to houses, barracks, and the village, to see the sanitary state wh the sanitarium is not occupied by the troops ; that the out-hous attached to the *bungalows* on the hill be locked when unoccupi to prevent them from being used as latrine places ; that tempora accommodation, such as thatched huts, be erected for the hospi servants till their quarters are built. *The District Principal Medical Officer* :— The chief sanitary blot at Taragarh is the dangerous nature of t water-supply. In 1895 a serious outbreak of enteric fe

Stations.	Command.	Sanitary defects, improvements, suggestions, etc.
agarh—*contd.* . . .	Bombay . . .	occurred, which was due to defects in the carriage of the water. It is therefore absolutely necessary that all the water should be most carefully boiled. I consider the system of boiling water in *degchies* to be absolutely futile. The strength of the garrison is not sufficient to require the ordinary Larymore boiler. Therefore I recommend the use of a *samovar* boiler fitted with a Larymore whistle. The sanitary state of the village is bad, and requires constant attention. More accommodation is required for the hospital servants. *The General Officer Commanding the District* :— A reference is now before the Government of India for the provision of boilers required for this sanitarium. A latrine has been erected, which is beneficial, as the villagers do not foul the surrounding ground indiscriminately. The village appears to be in a cleaner state than it was at my last inspection.

TABLE VI.

INFLUENZA by months, stations, groups, and commands.

TABLE VII.

CHOLERA by months, stations, groups, and commands.

Stations* and Groups.	Admissions from Influenza in each month.													Admissions from Cholera in each month.											
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Rangoon	...	...	...	...	...	1	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
Group I.—Burma Coast and Bay Islands	...	...	...	...	...	1	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
Meiktila	...	...	...	1	...	...	...	...	...	...	8	8	17	...	...	...	...	...	...	...	...	...	...	...	...	...
Shwebo	...	1	...	...	1	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...
Group II.—Burma Inland	..	1	...	1	1	...	...	...	...	...	8	8	19	...	...	...	...	...	...	...	...	...	...	...	...	...
Fort William	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	
Dum-Dum	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	1
Barrackpore	...	...	2	2	...	...	...	...	...	...	...	...	4	...	...	...	...	...	...	...	...	...	...	...	...	...
Group IV.—Bengal and Orissa	...	...	2	2	...	...	...	...	...	...	...	...	4	...	...	1	1	...	...	...	...	...	...	...	...	2
B																										
Allahabad	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1	...	1
Fyzabad	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1
Sitapur	...	...	7	2	6	24	...	...	...	...	...	...	39	...	...	...	...	...	...	...	...	...	...	...	...	...
Cawnpore	...	...	...	5	5	...	...	...	...	...	...	...	10	...	...	...	...	...	...	...	...	...	...	...	...	...
Group V.—Gangetic Plain and Chutia Nagpur	...	...	7	7	11	24	...	...	...	...	...	...	49	...	...	1	...	...	...	...	...	...	...	1	...	2
A																										
Umballa	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	10	...	...	...	...	...	...	...	10
B																										
Ferozepore	...	...	...	...	1	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
Mecan Meer	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1
Group VI.—Upper Sub-Himalaya	...	...	...	...	1	...	...	...	...	...	...	...	1	...	...	...	...	11	...	...	...	...	...	...	...	11
B																										
Nasirabad	...	1	...	...	1	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...
Agra	...	...	4	4	1	...	...	...	...	...	...	...	9	...	...	...	...	...	...	...	...	...	...	...	...	...
Jhansi	...	...	3	18	7	1	...	...	...	...	...	...	29	...	...	...	...	...	...	...	...	...	...	...	...	...
Mhow	3	...	...	...	...	...	...	...	...	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...
Group VIII.—South-Eastern Rajputana, Central India, and Gujarat	3	1	7	22	9	1	...	...	...	...	...	...	43	...	...	...	...	...	...	...	...	...	...	...	...	...
A																										
Saugor	...	...	...	2	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...
Jubbulpore	...	...	...	1	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
B																										
Secunderabad	2	...	24	4	2	...	...	...	...	...	...	...	32	...	...	...	...	...	...	...	...	...	...	...	...	...
Belgam	...	...	11	127	112	6	...	...	...	...	...	...	256	...	...	...	...	...	...	...	...	...	...	...	...	...
Poona	...	1	...	1	...	1	2	...	...	...	...	...	5	...	...	...	...	...	...	...	...	...	...	...	...	...
Ahmednagar	...	...	16	35	10	2	1	...	...	...	...	...	64	...	...	...	...	...	...	...	...	...	...	...	...	...
Group IX.—Deccan	2	1	51	170	124	9	3	...	...	...	...	...	360	...	...	...	...	...	...	...	...	...	...	...	...	...
A																										
Bellary	2	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...
Bangalore	...	15	9	3	...	...	...	...	...	...	...	...	27	...	...	...	...	...	...	...	...	...	...	...	...	...
B*																										
Madras	...	...	...	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	...	2	...	2
Group XI.—Southern India	2	15	9	3	...	...	...	...	...	...	1	...	30	...	...	...	...	...	...	...	...	...	...	2	...	2

* Stations where neither Influenza nor Cholera occurred are not shown in these tables. For the annual ratios see Table III.

Stations, Groups, and Commands.	Admissions from Influenza in each month.													Admissions from Cholera in each month.											
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Chakrata	...	...	...	...	...	4	...	...	...	...	...	...	4	...	...	...	...	...	...	...	...	...	..	...	...	...
Subathu	...	...	4	5	2	...	...	...	...	...	...	...	11	...	...	...	...	...	...	...	...	...	...	...	...	...
Group XIIa.—Hill Stations	...	...	4	5	2	4	...	...	...	...	...	...	15	...	...	...	...	...	...	...	...	...	...	...	...	...
Naini Tal	...	...	2	2	...	...	...	...	...	...	...	...	4	...	...	...	...	...	...	...	...	...	...	...	...	...
Landour	...	...	...	1	1	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...
Wellington	...	...	...	...	12	17	3	...	1	...	...	...	33	...	...	...	...	...	...	...	...	...	...	...	...	...
Group XIIb.—Hill Convalescent Depôts, and Sanitaria	...	...	2	3	13	17	3	...	1	...	...	...	39	...	...	...	...	...	...	...	...	...	...	...	...	...
Tirah Field Force	...	1	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
Khyber Force and Brigade	...	...	...	...	1	1	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...
INDIA	7	19	82	213	162	57	6	...	1	...	9	8	564	...	...	2	1	11	...	...	...	...	...	3	...	17
Bengal	...	...	18	37	20	29	...	...	...	...	...	...	104	...	...	2	1	...	...	...	...	...	...	1	...	4
Punjab	...	...	4	5	4	1	...	...	...	...	...	...	14	...	...	...	...	11	...	...	...	...	...	...	...	11
Madras	4	16	44	135	127	24	3	...	1	...	9	8	371	...	...	...	...	...	...	...	...	...	...	2	...	2
Bombay	3	2	16	36	11	3	3	...	...	...	...	...	74	...	...	...	...	...	...	...	...	...	...	...	...	...

TABLE VIII.

ENTERIC FEVER by months, stations, groups, and commands.

TABLE IX.

SIMPLE CONTINUED FEVER by months, stations, groups, and commands.

Stations* and Groups.	Admissions from Enteric Fever in each month.													Admissions from Simple Continued Fever in each month.											
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Port Blair	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	1	4	...	...	...	...	...	7
Rangoon	...	...	2	4	1	...	...	1	1	...	...	...	9	3	...	3	10	37	9	8	4	9	5	8	6	102
Group I.—Burma Coast and Bay Islands	...	...	2	4	1	...	...	1	1	...	...	...	9	3	...	3	10	39	10	12	4	9	5	8	6	109
Thayetmyo	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	2	26	64	6	4	3	...	4	10	4	125
Meiktila	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	2	...	...	...	...	...	...	5
Fort Dufferin	...	...	...	...	...	...	1	...	...	...	3	...	4	1	1	1	1	...	...	...	...	...	...	2	1	7
Shwebo	1	1	...	1	1	1	...	1	...	...	...	1	7	...	...	...	...	...	...	...	...	...	...	1	...	1
Bhamo	...	...	...	...	...	1	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
Group II.—Burma Inland	1	1	...	1	1	2	1	1	...	...	3	1	12	2	2	3	27	67	8	4	3	...	4	13	5	138
Fort William	3	10	...	...	1	...	...	...	...	...	1	...	15	...	...	1	...	...	...	...	...	...	...	...	...	1
Fort Fulta	...	...	...	...	2	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	1
Dum-Dum	...	6	1	4	1	3	2	1	...	...	...	...	18	...	...	...	...	...	1	1	8	19	14	...	1	44
Barrackpore	...	1	2	1	...	...	1	1	2	3	1	1	13	...	...	...	...	...	...	...	...	...	...	...	...	...
Group IV.—Bengal and Orissa	3	17	3	5	2	3	3	2	2	3	2	1	46	...	1	1	...	...	1	1	8	19	14	...	1	46
B																										
Dinapore	...	...	1	1	2	...	...	3	1	...	...	1	9	...	...	...	...	...	...	...	...	...	...	...	...	...
Benares	1	...	...	2	2	...	...	1	...	...	...	...	6	1	3	7	6	8	14	1	...	...	...	...	1	41
Allahabad	5	2	1	13	9	...	...	1	...	1	4	8	44	2	...	3	32	29	19	2	9	5	4	3	5	113
Fort Allahabad	2	...	...	2	1	...	...	...	...	...	...	...	5	1	3	1	6	3	9	6	4	1	...	...	...	34
Fyzabad	...	...	1	4	1	5	7	1	...	1	9	2	31	...	...	...	...	...	...	...	...	...	...	...	...	...
Sitapur	3	1	...	1	...	...	...	1	...	...	...	...	6	...	...	...	2	...	...	...	...	...	...	...	...	2
Lucknow	40	23	42	16	9	3	...	3	2	...	17	19	174	6	15	13	20	26	29	8	19	4	2	10	10	162
Cawnpore	4	1	1	7	2	...	...	3	...	...	2	...	20	...	...	2	8	11	37	9	2	...	...	...	2	71
Group V.—Gangetic Plain and Chutia Nagpur	55	27	46	46	26	8	7	13	3	2	32	30	295	10	21	26	74	77	108	26	34	10	6	13	18	423
A																										
Shahjahanpur	...	...	...	9	3	...	...	...	2	1	...	...	15	...	...	...	...	3	...	...	...	...	...	...	...	3
Bareilly	1	1	...	2	15	1	...	1	...	1	...	1	23	...	...	2	14	23	8	5	5	1	3	5	5	71
Roorkee	...	...	...	2	1	...	...	...	...	...	...	...	3	...	...	1	...	1	...	...	...	...	...	...	...	2
Meerut	17	5	5	7	20	9	2	5	2	2	2	2	78	1	1	1	...	...	...	1	1	...	...	3	8
Delhi	...	...	...	...	1	1	...	1	...	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...
Umballa	8	5	4	4	12	1	...	...	...	4	16	13	67	...	1	1	...	...	...	1	6	...	1	...	5	15
B																										
Jullundur	2	...	...	9	13	5	1	5	2	1	2	6	46	...	...	...	...	...	...	3	...	...	...	...	...	3
Ferozepore	...	...	1	8	12	1	...	1	3	...	2	1	29	2	1	2	25	20	20	9	7	6	1	1	...	94
Amritsar	...	...	...	...	2	...	1	1	...	...	...	...	4	...	...	...	...	...	...	...	...	...	...	...	...	...
Meean Meer	...	9	5	1	10	6	4	...	2	...	1	3	41	...	...	...	...	35	157	41	137	17	1	...	...	388
Fort Lahore	...	4	1	...	...	...	...	2	...	...	1	...	8	...	...	...	...	...	...	...	...	...	...	...	...	...
Sialkot	4	...	...	...	5	4	2	1	...	2	2	1	21	...	1	1	1	1	...	...	...	...	...	1	...	5
Rawalpindi	12	4	1	10	46	17	2	4	2	3	9	13	123	2	2	3	1	4	2	1	...	...	...	...	...	15
Campbellpur	...	...	...	1	1	...	...	1	...	...	...	...	3	...	...	...	...	...	1	...	1	...	...	...	...	2
Attock	...	...	...	...	1	1	...	...	...	...	...	1	3	...	...	...	...	...	...	...	...	...	...	...	...	...
Group VI.—Upper Sub-Himalaya	44	28	17	53	142	46	12	22	13	14	35	41	467	5	6	11	41	87	188	61	157	24	6	7	13	606
A																										
Nowshera	...	...	...	4	2	5	1	1	1	1	...	2	17	...	...	...	...	...	...	...	...	...	...	...	...	...
Peshawar	25	9	6	17	15	9	7	4	1	...	8	1	102	...	...	...	...	6	...	...	2	...	1	1	...	10
Mooltan	1	1	1	2	2	1	...	...	...	...	3	1	12	...	...	...	3	...	...	...	...	...	...	...	...	3
C																										
Hyderabad	...	2	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	4	...	1	2	1	8
Kurrachee	...	4	2	1	...	...	...	...	...	...	...	...	7	...	...	...	1	...	...	...	...	...	...	...	...	1
Group VII.—North-Western Frontier, Indus Valley, and North-Western Rajputana	26	16	9	24	19	15	8	5	2	1	11	4	140	...	...	...	4	6	...	...	6	...	2	3	1	22
A																										
Deesa	1	...	3	1	...	...	...	1	...	1	1	2	10	1	...	1	4	1	5	2	...	...	1	...	...	15
Ahmedabad	...	...	...	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...

* Stations where neither Enteric Fever nor Simple Continued Fever occurred are not shown in these tables. For the annual ratios see Table III.

Stations and Groups.	Admissions from Enteric Fever in each month.													Admissions from Simple Continued Fever in each month.											
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
B																									
Neemuch	...	...	1	1	...	...	...	...	...	...	...	1	3	...	...	...	...	...	...	...	...	...	...	...	...
Nasirabad	...	...	2	...	2	...	...	2	8	6	5	3	28	...	...	...	...	...	...	1	3	1	...	...	...	5
Muttra	...	2	3	7	12	8	1	1	3	1	1	1	40	...	...	...	16	7	26	...	7	7	2	7	...	72
Agra	5	1	7	23	13	1	1	11	15	6	4	1	88	...	...	...	...	3	19	11	...	...	...	...	...	33
Jhansi	5	3	1	9	3	...	1	...	...	4	2	2	30	...	...	...	...	...	...	...	...	...	1	...	...	1
Nowgong	...	...	1	1	1	...	...	4	...	...	...	...	7	...	...	...	...	...	...	1	...	...	...	...	...	1
Indore	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1
Mhow	8	8	3	17	6	1	17	9	3	1	3	..	76	4	3	18	15	15	5	4	10	6	...	1	1	82
Group VIII.—South-Eastern Rajputana, Central India, and Gujarat	19	14	21	59	37	10	20	28	29	19	17	10	283	5	3	20	35	26	55	19	20	14	3	9	1	210
A																									
Jubbulpore	...	...	5	12	4	1	1	1	1	...	11	4	40	...	...	...	...	...	...	...	...	...	...	...	...
Kamptee	...	...	1	3	...	3	2	...	2	2	2	1	16	1	...	2	10	5	2	...	1	6	3	2	3	35
Sitabaldi	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	1
B																									
Secunderabad	1	3	4	2	1	1	3	12	4	2	3	1	37	2	...	1	...	...	1	1	4	10	4	2	3	28
Belgam	1	...	...	...	...	...	1	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...
Satara	...	...	...	...	2	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...
Poona	1	2	5	2	...	1	2	16	7	3	4	3	45	2	1	1	...	1	37	107	67	30	36	43	12	337
Kirkee	..	2	2	3	2	...	4	6	5	1	3	...	28	...	...	...	...	...	...	...	...	...	...	...	...	...
Ahmednagar	...	1	...	4	8	...	10	6	5	1	5	1	41	4	5	...	...	..	...	1	...	...	1	...	...	11
Group IX.—Deccan	3	8	17	26	17	6	23	41	24	9	28	10	212	9	6	4	11	6	40	109	72	46	44	47	18	412
Colaba	...	...	...	1	...	...	...	1	...	1	...	...	3	2	3	12	13	13	9	11	4	...	10	10	4	91
Cannanore	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	1	...	...	...	3
Calicut	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	1	...	...	...	1	...	4
Mallapuram	...	...	...	...	...	1	...	...	...	...	...	...	1	1	2	...	...	1	1	...	...	...	...	...	...	5
Group X.—Western Coast	...	...	...	1	...	1	...	1	...	1	...	...	4	3	5	12	14	17	10	12	4	1	10	11	4	103
A																									
Bellary	...	...	...	2	...	...	...	...	1	...	2	1	6	...	...	...	6	11	4	6	2	3	4	...	1	37
Bangalore	3	...	1	2	...	3	2	17	4	9	7	9	57	9	4	5	2	1	7	4	6	2	2	4	1	47
B																									
Pallavaram	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	2	3
St. Thomas' Mount	...	1	...	...	...	1	...	...	...	...	...	...	2	...	...	...	...	...	...	...	16	2	5	...	...	23
Madras	...	...	...	...	...	...	...	...	...	...	...	3	3	1	...	6	30	46	20	2	...	...	1	11	14	131
Group XI.—Southern India	3	1	1	4	...	4	2	17	5	9	9	13	68	10	4	11	38	58	31	12	24	7	13	15	18	241
Ranikhet	...	...	5	23	8	15	3	3	...	...	..	...	57	...	...	5	23	7	10	10	4	9	...	...	...	68
Chaubattia	...	...	...	2	1	...	1	...	...	...	...	...	4	...	...	...	3	...	...	...	...	...	1	...	...	4
Chakrata	...	1	4	29	25	7	3	1	2	...	...	...	72	...	...	...	6	14	4	2	4	...	...	...	...	30
Lebong	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	1
Dagshai	1	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
Subathu	...	...	...	1	4	1	...	1	4	1	...	...	12	...	...	...	1	...	...	...	1	...	...	...	...	2
Jutogh	...	...	...	...	...	1	1	1	1	...	...	...	4	...	...	...	...	...	...	...	..	...	...	...	...	...
Khyragully	...	...	...	...	...	...	1	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
Baragully	...	...	...	...	1	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	1	...	...	...	1
Kuldunnah	...	...	...	...	4	2	...	...	...	...	...	...	6	...	...	...	...	4	...	...	...	...	...	...	...	4
Kalabagh	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	1
Camp Gharial	...	...	...	...	4	1	3	3	...	...	...	...	11	...	...	...	...	...	...	...	...	...	...	...	...	...
,, Thobba	...	...	...	...	2	6	1	...	...	1	...	...	10	...	...	...	...	1	...	1	...	...	1	...	...	3
,, Lower Topa	...	...	...	...	2	...	...	1	...	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...
Ghora Dhaka	...	...	...	...	...	...	1	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
Cherat	...	...	...	...	8	3	7	13	9	...	...	...	40	...	...	...	...	30	19	16	19	28	7	...	...	119
Quetta	2	...	...	...	2	5	37	39	48	60	21	1	232	...	...	1	...	...	2	7	8	9	3	1	...	31
Group XIIa.—Hill Stations	3	1	9	55	61	41	58	79	64	62	21	1	455	...	...	6	34	56	36	36	36	47	12	1	...	264
Darjeeling	...	...	...	2	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...
Naini Tal	...	...	...	1	...	...	...	...	1	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...
Landour	...	...	...	3	2	...	...	...	...	...	...	...	5	...	...	...	...	...	1	1	...	...	...	...	...	2
Kasauli	...	...	...	6	3	...	...	1	...	1	...	...	11	...	...	...	1	...	...	...	...	...	...	...	...	1
Dalhousie	...	...	...	8	9	3	1	2	1	...	...	...	24	...	...	...	...	...	2	1	1	...	...	...	...	4
Murree	...	...	...	...	2	...	...	1	1	...	...	...	4	...	...	...	...	...	...	...	...	...	...	...	...	...
Taragarh	...	...	...	...	...	...	...	1	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
Mount Abu	...	...	1	...	...	...	...	...	...	...	...	...	1	...	...	1	1	1	...	...	...	...	...	...	...	3
Pachmarhi	...	...	...	...	...	...	...	1	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
Wellington	...	...	1	3	4	...	1	...	1	1	1	1	13	1	2	2	2	8	4	9	6	1	...	1	2	38
Group XIIb.—Hill Convalescent Depôts, and Sanitaria	...	...	2	23	20	3	2	6	4	2	1	1	64	1	2	3	4	10	7	10	7	1	...	1	2	48

TABLE VIII—*continued.*

ENTERIC FEVER by months, stations, groups, and commands.

Stations and Commands.	Admissions from Enteric Fever in each month.												
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Troops marching, Bengal	...	1	2	1	1	...	...	...	...	...	2	6	13
Troops marching, Punjab	...	...	...	...	...	...	...	...	1	...	3	...	4
Troops marching, Madras	...	...	1	...	...	...	...	...	...	...	...	...	1
Tirah Field Force	40	50	33	...	...	...	...	...	...	...	...	...	123
Malakand Force	...	...	1	...	13	14	6	6	8	...	...	...	48
Khyber Force and Brigade	...	...	...	29	59	66	55	15	5	2	3	4	238
Deolali Depôt	...	...	...	...	...	...	...	1	...	...	3	1	5
Poonamallee ,,	...	...	...	...	...	...	...	...	...	...	...	...	...
Aden	4	1	...	1	1	...	...	...	2	...	1	1	11
INDIA	201	165	164	332	400	219	197	238	163	124	171	124	2,498
Bengal	86	58	82	184	138	54	23	44	31	20	56	48	824
Punjab	53	32	20	100	232	147	94	64	41	16	50	46	895
Madras	6	5	9	14	8	7	8	31	11	12	16	16	143
Bombay	16	20	20	34	23	10	72	99	80	76	49	14	513

TABLE IX—*continued.*

SIMPLE CONTINUED FEVER by months, stations, groups, and commands.

Admissions from Simple Continued Fever in each month.													
January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
...	...	1	1	...	...	...	...	...	...	4	...	6
...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	2	...	...	...	...	...	...	5	...	...	7
1	4	7	...	...	...	...	...	...	...	...	...	12
...	...	...	...	27	26	21	14	3	...	...	...	91
...	...	...	5	23	14	25	24	13	...	...	...	104
1	1	3	2	1	...	1	1	...	...	3	2	15
1	...	...	...	1	...	1	...	...	1	...	...	4
2	...	1	1	1	5	4	3	1	...	...	...	18
53	55	114	301	502	539	354	417	195	125	135	89	2,879
11	23	37	137	136	178	57	63	46	26	30	27	771
4	5	7	38	151	241	119	212	68	12	3	5	865
20	10	22	78	177	55	40	41	28	32	40	34	577
17	13	41	48	38	65	138	101	53	55	62	23	654

TABLE X.

INTERMITTENT FEVER by months, stations, groups, and commands.

TABLE XI.

REMITTENT FEVER by months, stations, groups, and commands.

Stations* and Groups.	Admissions from Intermittent Fever in each month.													Admissions from Remittent Fever in each month.											
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Port Blair	1	...	...	...	...	1	1	3	1	...	2	...	9	...	...	...	...	...	...	...	...	...	...	...	...	...
Rangoon	5	8	7	1	5	13	4	3	3	6	4	1	60	...	...	1	5	3	1	...	...	...	...		...	10
Group I.—Burma Coast and Bay Islands	6	8	7	1	5	14	5	6	4	6	6	1	69	...	...	1	5	3	1	...	...	...	...	...	...	10
Thayetmyo	...	...	1	...	...	...	...	...	1	...	1	1	4	...	...	...	...	...	...	...	...	...	...	...	...	...
Meiktila	1	2	...	...	...	1	...	1	...	1	1	6	13	...	...	...	...	...	...	...	...	...	...	...	...	...
Fort Dufferin	101	48	33	16	13	12	6	14	20	6	13	10	292	21	8	11	8	17	5	1	2	1	...	3	2	79
Shwebo	7	9	5	2	1	8	3	2	3	4	...	6	50	...	...	...	...	...	...	...	...	...	2	...	...	2
Shamo	3	5	...	...	1	3	21	13	5	9	23	13	96	...	...	...	...	...	...	...	...	...	...	...	...	...
Group II.—Burma Inland	112	64	30	18	15	24	30	30	29	20	38	36	455	21	8	11	8	17	5	1	2	1	2	3	2	81
Fort William	11	12	7	9	14	10	29	64	27	32	33	8	256	...	...	...	...	...	...	...	...	...	...	...	...	...
Fort Fulta	2	2	...	...	...	...	...	...	...	...	...	...	4	...	...	...	...	...	...	...	...	...	...	...	...	...
Fort Chingrikhal	2	4	...	...	...	...	...	...	...	...	...	15	21	...	...	...	...	...	...	...	...	...	...	...	...	...
Dum-Dum	29	20	37	36	58	45	23	59	7	21	125	75	535	...	...	...	...	...	1	...	1	...	...	...	...	2
Barrackpore	15	20	48	41	39	32	33	51	61	74	130	77	621	...	...	...	...	1	...	...	...		...	...	...	1
Group IV.—Bengal and Orissa	59	58	92	86	111	87	85	174	95	127	288	175	1,437	...	...	...	...	1	1	...	1	...	...	...	...	3
B																										
Dinapore	12	13	22	21	27	44	19	16	24	27	22	10	257	...	...	...	1	...	...	1	3	1	...	...	...	6
Benares	2	2	...	1	1	16	17	22	40	45	15	6	167	1	...	...	4	2	2	1	1	5	5	3	...	24
Allahabad	20	15	24	17	11	5	3	5	26	60	56	2	244	...	...	...	...	...	...	...	...	...	...	...	...	...
Fort Allahabad	7	8	1	2	3	...	6	4	14	36	35	13	129	...	...	...	...	...	...	...	...	1	1	...	...	2
Fyzabad	...	1	5	6	10	24	19	21	20	55	61	14	236	...	...	...	...	...	...	8	9	2	3	5	2	29
Sitapur	4	4	1	...	6	22	12	12	9	3	2	1	76	2	1	...	...	...	...	...	1	...	3	...	...	7
Lucknow	24	15	57	39	17	33	29	59	127	81	63	48	592	...	...	...	...	...	...	...	...	...	...	...	...	...
Cawnpore	36	22	15	5	22	11	20	33	32	19	32	5	252	...	...	...	...	2	...	...	...	...	...	1	...	3
Fatehgarh	6	2	12	7	16	13	19	19	27	27	3	1	152	...	...	...	...	...	...	...	...	...	...	1	2	3
Group V.—Gangetic Plain and Chutia Nagpur	111	82	137	98	113	168	144	191	319	353	289	100	2,105	3	1	...	5	4	2	10	14	9	12	10	4	74
A																										
Shahjahanpur	...	2	7	17	9	12	20	19	12	10	3	1	112	...	...	...	...	...	...	...	...	...	...	...	...	...
Bareilly	30	24	13	7	9	10	9	14	16	18	2	8	160	...	...	...	...	2	...	...	...	1	...	...	...	3
Roorkee	8	...	3	1	8	10	6	5	5	5	9	2	62	...	...	...	...	...	...	...	...	...	1	...	...	1
Meerut	94	51	90	41	159	174	102	210	288	223	192	69	1,693	...	...	...	1	1	4	2	3	...	...	...	1	12
Delhi	9	7	13	28	105	111	18	79	31	17	7	10	435	...	1	1	4	5	3	...	...	2	2	1	...	19
Umballa	100	78	64	42	45	58	45	70	45	77	37	24	685	1	1	...	1	2	...	...	...	1	1	1	2	10
B																										
Jullundur	34	55	51	52	34	38	51	32	9	7	8	11	382	...	1	...	2	4	...	...	...	1	1	1	2	12
Ferozepore	74	41	40	82	55	26	54	93	55	97	37	10	664	...	...	...	...	...	...	...	5	...	...	...	...	5
Amritsar	...	3	6	6	10	8	11	37	24	13	28	13	165	...	...	...	1	...	...	...	1	1	1	...	...	4
Meean Meer	59	36	27	44	73	4	18	8	65	175	112	80	701	...	...	...	...	...	1	...	...	...	...	...	...	1
Fort Lahore	11	2	2	5	9	17	9	22	34	35	17	13	176	1	...	2	2	...	...	...	1	1	..	1	...	8
Sialkot	101	48	46	70	86	75	28	29	18	31	52	18	602	4	3	1	...	...	2	2	1	...	1	2	2	18
Rawalpindi	104	89	79	67	98	39	17	57	40	55	170	63	938	...	2	...	3	15	2	3	1	...	5	17	2	50
Campbellpur	11	5	10	22	33	13	12	11	2	5	6	7	143	...	...	...	...	...	...	...	...	...	...	...	...	...
Attock	4	1	4	6	1	10	1	12	6	9	31	8	99	...	...	...	...	...	1	1	1	...	...	6	3	12
Group VI.—Upper Sub-Himalaya	699	442	461	490	740	611	401	698	650	777	711	337	7,017	6	8	4	14	29	13	8	13	7	12	29	12	155
A																										
Nowshera	14	2	5	1	19	34	14	23	5	1	9	7	134	...	...	1	1	3	...	...	4	1	4	12	...	26
Peshawar	161	76	65	140	20	71	62	92	111	188	235	79	1,300	7	6	5	19	289	162	172	205	97	68	28	23	1,081
Mooltan	45	20	29	35	67	44	56	40	47	56	272	72	783	...	...	...	...	1	1	3	2	...	2	2	2	13
C																										
Hyderabad	6	18	58	36	58	66	49	39	25	39	42	14	441	2	...	...	...	...	...	...	...	...	...	...	...	2
Kurrachee	122	89	49	29	119	151	105	96	70	59	53	30	972	...	...	...	2	...	...	1	...	...	...	...	...	3
Group VII.—N.-W. Frontier, Indus Valley, and N.-W. Rajputana	348	205	206	241	283	366	286	290	258	334	611	202	3,630	9	6	6	22	293	163	176	211	98	74	42	25	1,125

* Stations where neither Intermittent Fever nor Remittent Fever occurred are not shown in these tables. For the annual ratios see Table III.

TABLE X—*concluded.*

INTERMITTENT FEVER by months, stations, groups, and commands.

TABLE XI—*concluded.*

REMITTENT FEVER by months, stations, groups, and commands.

Stations and groups.	Admissions from Intermittent Fever in each month.												Admissions from Remittent Fever in each month.											
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
A																									
Deesa	4	2	11	7	5	4	9	38	14	9	11	9	123	...	...	...	3	...	...	1	2	...	...	...	...	6
Ahmedabad	8	6	5	11	16	18	19	7	38	42	32	11	217	1	...	...	1	2	1	...	3	...	...	2	...	10
B																										
Neemuch	11	7	17	17	9	9	16	24	22	56	26	10	218	...	...	2	1	2	...	1	1	3	1	1	...	12
Nasirabad	6	4	5	8	13	13	20	21	20	32	18	15	175	...	...	...	...	...	...	...	5	9	1	1	...	16
Muttra	13	1	1	...	...	8	6	16	37	43	29	10	164	...	...	...	...	...	...	...	...	...	...	...	...	...
Agra	17	14	17	19	44	31	15	77	54	28	27	17	360	1	...	...	...	...	...	...	3	15	2	1	1	23
Jhansi	12	15	30	18	41	42	36	48	52	60	27	16	397	...	...	...	...	...	...	...	...	...	...	...	...	...
Nowgong	19	12	17	15	32	31	22	43	50	63	18	7	329	...	...	...	1	1	4	...	...	1	...	...	...	7
Indore	1	1	1	7	6	3	1	10	5	6	7	3	51	...	...	...	...	...	...	...	...	...	...	...	...	...
Mhow	26	27	59	95	80	65	86	107	102	131	116	72	966	...	...	...	1	...	1	2	2	2	3	1	2	14
Group VIII.—S.-E. Rajputana, Central India, and Gujarat	117	89	167	197	246	224	230	391	394	464	311	170	3,000	2	...	2	7	5	6	4	16	30	7	6	3	88
A																										
Saugor	17	11	5	15	25	10	9	24	25	14	12	8	175	...	1	...	...	...	1	1	7	6	7	3	1	27
Jubbulpore	21	10	15	14	21	25	14	35	28	37	38	18	279	...	...	...	...	3	...	...	...	...	...	3	1	7
Kamptee	11	10	11	8	21	15	13	17	29	32	28	18	213	...	...	...	1	1	...	1	...	...	1	...	1	5
Sitabaldi	2	...	1	1	1	3	...	...	...	2	3	1	14	...	...	...	...	...	...	...	...	...	...	...	...	...
B																										
Secunderabad	19	18	30	12	24	19	22	24	26	20	21	26	281	...	1	...	...	...	...	...	6	5	2	...	2	16
Belgam	24	15	3	5	23	51	79	92	50	54	57	23	478	...	...	...	...	...	...	...	...	...	...	...	...	...
Satara	3	...	1	1	2	5	6	20	15	10	24	11	100	...	...	...	...	...	...	...	...	...	...	...	...	...
Poona	12	15	30	21	43	39	34	40	49	29	38	44	394	...	...	1	...	...	...	...	...	1	...	...	...	2
Kirkee	10	12	35	20	18	25	61	47	36	36	29	15	344	...	...	...	4	...	1	3	2	1	...	..	2	13
Ahmednagar	2	1	5	11	36	60	59	65	59	38	22	11	369	...	...	...	...	...	...	1	1	...	...	1	...	3
Group IX.—Deccan	123	92	161	108	214	252	297	364	317	272	272	175	2,647	...	2	1	5	4	2	6	16	14	9	8	6	73
Colaba	29	21	5	2	13	8	8	9	15	31	13	14	168	...	1	...	...	2	2	1	1	3	2	1	1	14
Calicut	...	...	...	...	...	3	...	...	1	...	1	...	5	...	...	...	...	...	...	...	...	...	...	...	...	...
Mallapuram	...	1	...	...	...	...	1	...	...	...	...	...	2	...	...	...	...	1	...	1	1	...	...	...	1	4
Group X.—Western Coast	29	22	5	2	13	11	9	9	16	31	14	14	175	...	1	...	...	3	2	2	2	3	2	1	2	18
A																										
Bellary	7	13	32	42	22	9	20	22	30	68	222	173	660	...	...	...	...	...	...	...	...	...	...	1	...	1
Bangalore	20	3	4	12	35	13	14	9	20	29	24	7	190	...	...	...	1	1	...	3	10	2	...	1	...	18
B																										
St. Thomas' Mount	...	1	1	2	9	24	16	5	...	...	3	...	61	...	...	...	1	...	16	33	8	...	1	2	...	61
Madras	5	9	12	1	4	5	5	9	7	7	4	...	68	...	...	...	...	...	...	...	...	...	...	...	...	...
Group XI.—Southern India	32	26	49	57	70	51	55	45	57	104	253	180	979	...	...	...	2	1	16	36	18	2	1	4	...	80
Bernardmyo	29	7	3	...	2	6	5	1	...	1	...	...	54	...	...	...	...	...	...	...	...	...	...	...	...	...
Ranikhet	...	...	3	4	19	18	18	10	8	3	...	...	83	...	...	...	...	4	3	5	1	2	4	...	...	19
Chaubattia	...	...	...	19	44	22	29	27	22	16	...	...	179	...	...	...	...	...	...	...	...	...	...	...	...	...
Chakrata	...	...	3	25	14	6	2	5	3	...	...	...	58	...	...	...	...	1	...	...	...	...	...	2	...	3
Lebong	...	...	...	5	4	6	2	3	3	8	1	...	32	...	...	...	...	1	...	1	...	...	1	1	...	4
Solon	...	...	16	20	78	54	37	34	21	1	...	...	261	...	...	...	...	...	...	...	1	1	...	...	...	2
Dagshai	...	2	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...
Subathu	...	...	1	5	9	5	4	16	19	9	2	...	70	...	...	...	1	3	...	...	4	1	...	1	...	10
Jutogh	...	...	1	4	3	12	4	9	7	1	...	...	41	...	...	...	...	...	...	...	...	...	...	...	...	...
Khyragully	...	...	...	...	...	2	5	1	1	1	...	...	10	...	...	...	...	...	2	...	...	...	...	...	...	2
Baragully	...	...	...	2	2	...	...	2	...	...	...	...	6	...	...	...	...	...	...	...	...	...	...	...	...	...
Kuldunnah	...	...	...	9	33	33	15	13	2	...	...	...	105	...	...	...	1	1	...	2	...	...	2	...	...	6
Kalabagh	...	...	...	...	4	3	4	2	1	1	...	...	15	...	...	...	...	...	...	...	...	...	...	...	...	...
Camp Gharial	...	...	...	2	32	12	16	5	5	...	...	...	72	...	...	...	...	...	...	...	1	...	...	...	...	1
,, Thobba	...	...	...	9	31	12	9	11	2	...	...	...	74	...	...	...	...	1	...	...	...	...	...	...	...	1
,, Lower Topa	...	...	...	7	18	8	...	6	4	...	...	...	43	...	...	...	...	...	...	...	...	...	...	...	...	...
Ghora Dhaka	...	...	...	2	10	4	3	9	6	2	...	...	36	...	...	...	...	...	2	...	1	...	...	...	...	3
Cherat	...	...	...	...	22	17	25	39	28	19	...	...	150	...	...	...	...	3	3	1	1	...	...	...	...	8
Quetta	24	17	24	61	41	24	38	59	34	43	37	17	419	...	...	...	...	1	1	4	13	2	2	5	...	28
Ramandrug	...	...	2	1	1	...	...	...	...	...	...	...	4	...	...	...	...	...	...	...	...	...	...	...	...	...
Group XIIa.—Hill Stations	53	26	53	175	367	244	216	252	166	105	40	17	1,714	...	...	...	2	15	11	13	22	6	9	9	...	87

Stations, Groups, and Commands.	Admissions from Intermittent Fever in each month.													Admissions from Remittent Fever in each month.											
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
arjeeling	2	...	23	26	18	11	19	17	8	8	...	...	132	...	...	...	...	...	...	...	...	...	...	...	...	...
aini Tal	...	...	1	1	4	5	...	6	2	1	...	...	20	...	...	...	...	...	...	...	...	...	...	...	...	...
andour	...	...	...	17	38	17	26	20	15	.	...	...	133	...	...	...	...	...	...	...	...	...	...	...	...	...
asauli	...	...	4	34	84	67	62	50	30	14	...	...	345	...	...	...	...	...	...	1	...	...	...	...	...	1
albousie	...	...	...	36	111	92	103	67	47	21	4	...	481	...	...	...	...	...	...	...	...	...	...	...	...	...
urree	1	...	1	1	2	4	2	7	2	...	...	...	20	...	...	...	...	...	...	...	1	1	...	...	...	2
aragarh	...	...	...	4	1	...	...	2	...	...	3	...	10	...	...	...	...	...	...	1	...	...	...	...	...	1
ount Abu	2	...	...	...	1	4	3	1	1	3	3	3	21	...	...	...	...	...	...	...	...	...	...	...	...	...
achmarhi	...	...	1	2	5	3	5	9	3	7	2	...	37	...	...	...	1	...	...	...	2	...	...	...	...	3
arandhur	2	...	2	8	9	3	1	...	2	6	8	1	42	...	...	...	...	...	...	...	...	...	...	...	...	...
handalla	...	3	2	...	1	...	...	...	...	...	15	7	28	...	...	...	...	...	...	...	...	...	...	1	...	1
ellington	1	2	5	11	12	30	17	13	22	8	6	4	131	...	...	...	...	1	...	1	...	...	...	...	...	2
roup XIIIδ.—Hill Convalescent Depôts, and Sanitaria	8	5	39	140	286	236	238	192	132	68	41	15	1,400	...	...	...	1	1	1	2	3	1	...	1	...	10
roops marching, Bengal	31	13	5	12	...	...	...	...	2	12	15	20	110	1	...	...	...	...	...	...	...	...	...	2	4	7
roops marching, Punjab	1	3	1	5	...	...	...	...	...	12	34	7	63	1	...	...	...	...	...	...	...	...	1	5	...	7
roops marching, Madras	...	...	...	...	...	...	...	...	...	1	...	1	2	...	...	...	...	...	...	...	...	...	...	...	...	...
roops marching, Bombay	18	5	2	...	...	...	...	...	...	1	16	5	47	...	...	...	...	...	...	...	...	...	...	1	...	1
ochi Field Force	12	...	...	...	...	...	...	...	...	...	...	...	12	1	...	...	...	...	...	...	...	...	...	...	...	1
rah „ „	164	130	95	14	...	...	...	...	...	...	...	...	403	18	20	33	2	...	...	...	...	...	...	...	...	73
uner „ „	40	...	...	...	...	...	...	...	...	...	...	...	40	2	...	...	...	...	...	...	...	...	...	...	...	2
alakand „	7	15	23	30	34	28	16	48	38	3	...	...	242	...	...	1	1	8	7	1	...	1	...	...	...	19
hyber Force and Brigade	...	...	...	59	124	111	48	112	74	53	75	22	678	...	...	...	22	61	47	61	54	32	...	1	1	273
eolali Depôt	7	15	19	6	12	19	29	25	24	27	40	12	235	...	...	2	...	...	...	...	...	...	1	...	...	9
oonamallee Depôt	2	2	...	1	...	4	2	2	6	8	5	1	33	...	...	...	...	...	...	...	...	...	...	...	...	...
den	10	8	22	8	17	28	16	2	9	8	47	19	194	5	1	3	1	6	4	...	2	2	1	5	...	30
INDIA	1,989	1,310	1,583	1,748	2,650	2,748	2,107	2,831	2,590	2,786	3,106	1,509	26,687	69	47	64	97	451	281	320	374	206	131	127	59	2,226
ENGAL	443	300	479	470	823	807	587	1,032	1,078	1,053	959	461	8,492	5	3	1	12	23	18	19	31	36	29	23	12	212
UNJAB	787	476	481	797	1,153	907	731	957	748	886	1,129	434	9,486	14	13	10	54	391	230	247	284	138	86	77	37	1,581
ADRAS	225	143	160	106	152	202	216	213	195	222	387	272	2,493	21	9	12	15	23	22	39	27	8	5	7	5	193
OMBAY	318	261	368	361	522	562	573	629	569	625	631	342	5,701	8	2	8	14	14	11	15	32	24	11	20	5	164

TABLE XII.

PNEUMONIA by months, stations, groups, and commands.

TABLE XIII.

DYSENTERY by months, stations, groups, and commands.

Stations* and Groups.	Admissions from Pneumonia in each month.													Admissions from Dysentery in each month.											
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Port Blair	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	1	...	...	...	...	3
Rangoon	...	...	...	...	...	...	...	...	...	...	...	...	...	3	...	2	1	4	2	4	3	2	6	5	4	36
Group I.—Burma Coast and Bay Islands	...	...	...	...	...	...	...	...	...	...	...	...	...	3	...	2	3	4	2	4	4	2	6	5	4	39
Thayetmyo	..	...	...	...	...	...	...	...	...	...	1	...	1	...	...	1	...	1	4	1	1	...	1	...	...	9
Meiktila	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	1	1	2	1	...	...	...	1	9
Fort Dufferin	...	...	...	1	...	...	...	...	...	...	...	...	1	3	3	2	4	3	1	7	3	3	1	...	1	31
Shwebo	...	...	...	1	...	...	...	...	...	...	...	...	1	2	1	5	6	3	2	1	2	1	1	1	...	25
Bhamo	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	2	...	...	...	...	...	3
Group II.—Burma Inland	...	...	...	2	...	...	...	...	...	...	1	...	3	5	4	10	10	9	8	13	7	5	3	1	2	77
Fort William	...	...	...	...	...	...	...	...	...	...	1	...	1	3	2	3	1	9	2	3	10	3	8	6	8	58
Fort Chingrikhal	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	3
Dum-Dum	...	2	...	...	1	...	...	...	...	...	...	...	3	...	6	3	2	2	3	14	7	9	4	6	3	59
Barrackpore	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	1	...	...	3	10	9	4	4	6	2	41
Group IV.—Bengal and Orissa	...	2	...	...	1	...	...	...	...	...	1	...	4	4	9	7	3	11	8	27	26	16	16	18	16	161
B																										
Dinapore	...	...	...	...	...	1	...	...	...	...	1	...	2	1	2	...	...	...	...	2	2	...	1	2	1	11
Benares	...	...	...	...	...	...	...	...	...	...	1	...	1	...	1	...	...	...	...	...	...	1	...	2	1	5
Allahabad	...	...	...	...	...	...	1	1	...	...	...	...	2	3	7	3	7	2	5	2	4	1	2	3	2	41
Fort Allahabad	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1
Fyzabad	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	2	3	2	3	1	3	3	...	8	4	30
Sitapur	...	...	...	...	...	...	...	...	...	...	...	...	...	1	2	2	1	3	...	1	1	...	2	...	...	13
Lucknow	...	...	1	...	1	...	...	...	...	...	...	...	2	10	15	21	8	11	1	11	8	5	2	9	5	106
Cawnpore	...	...	...	...	...	...	...	...	...	...	...	...	...	4	2	3	2	1	1	1	...	1	2	1	2	20
Fatehgarh	...	...	...	...	...	...	...	...	...	...	1	...	1	...	1	...	...	...	...	...	...	...	...	1	...	2
Group V.—Gangetic Plain and Chutia Nagpur	...	...	1	...	1	1	1	1	...	...	3	...	8	21	30	31	21	19	10	18	18	11	9	26	15	229
A																										
Shahjahanpur	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	2	...	...	...	...	1	...	...	...	4
Bareilly	...	1	...	2	...	...	1	...	1	...	...	...	6	5	4	3	4	5	1	2	1	4	5	5	7	46
Roorkee	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	1	1	...	...	...	1	1	...	...	6
Meerut	...	...	2	...	...	...	...	...	...	...	...	1	3	4	2	3	3	6	5	2	1	2	6	2	6	42
Delhi	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1	...	...	1	...	2	...	...	5
Umballa	1	2	...	...	...	...	...	...	...	...	...	...	3	5	2	5	6	7	3	3	5	1	11	2	8	58
B																										
Jullundur	4	1	1	1	...	...	...	...	...	...	...	1	8	4	1	...	1	3	3	...	...	4	1	4	...	21
Ferozepore	1	...	...	...	...	...	...	...	...	...	...	...	1	1	2	2	...	...	1	1	7	2	1	1	1	19
Amritsar	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...	...	...	2	1	...	...	1	...	1	...	5
Mecan Meer	...	...	...	1	...	...	...	...	...	1	1	1	4	6	8	3	...	5	2	3	1	5	2	7	1	43
Fort Lahore	...	...	...	...	...	...	...	...	...	...	1	...	1	...	...	1	...	...	...	...	1	...	1	...	...	3
Sialkot	...	1	1	...	...	...	...	...	1	2	...	...	5	2	3	...	1	1	2	...	2	...	5	11	2	29
Rawalpindi	...	...	...	...	...	...	...	1	...	2	2	3	8	14	9	1	7	13	4	4	8	...	3	9	3	75
Campbellpur	...	...	...	...	...	...	...	...	...	...	2	2	4	...	...	...	...	...	3	...	...	...	1	...	...	4
Attock	...	...	1	...	...	...	...	...	...	...	...	...	1	...	1	1	1	...	...	...	...	...	...	...	...	3
Group VI.—Upper Sub-Himalaya	7	4	6	4	...	...	1	1	2	5	6	9	45	43	33	20	26	44	25	15	27	21	39	42	28	363
A																										
Nowshera	...	...	1	...	1	...	...	...	...	1	1	2	6	6	...	3	4	1	...	1	1	...	1	2	1	20
Peshawar	11	3	2	...	2	2	...	...	1	1	1	3	26	17	10	2	7	5	5	1	3	3	2	1	1	57
Mooltan	1	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...	...	1	...	1	1	3	4	2	1	14
C																										
Hyderabad	...	...	...	...	...	...	...	...	...	...	...	...	...	1	3	2	2	...	...	...	...	2	...	1	...	11
Kurrachee	1	...	...	1	...	...	...	...	1	...	...	...	3	1	1	5	...	...	2	...	...	1	2	...	...	12
Group VII.—N.-W. Frontier, Indus Valley, and N.-W. Rajputana	13	3	3	1	3	2	...	...	2	2	2	5	36	25	15	12	13	7	7	3	5	9	9	6	3	114
A																										
Deesa	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	2	3	...	...	1	7
Ahmedabad	...	...	1	...	...	...	...	...	...	...	...	...	1	...	...	1	...	...	1	...	...	...	1	1	...	4
B																										
Neemuch	...	3	...	...	...	...	...	...	...	...	...	...	3	...	3	1	2	...	...	4	1	1	...	...	2	14
Nasirabad	...	...	...	...	...	...	...	...	...	...	...	1	1	1	...	1	...	...	...	1	2	2	1	1	1	10
Muttra	1	...	...	...	...	...	...	...	...	...	2	1	4	...	...	...	...	...	1	1	2	...	...	2	...	6
Agra	...	...	...	...	...	...	...	...	...	...	...	...	1	3	2	4	5	1	1	...	9	5	1	3	2	36
Jhansi	2	...	...	...	...	...	...	...	...	...	...	2	4	2	2	5	2	2	1	1	5	1	7	2	1	31
Nowgong	...	..	1	...	..	...	...	...	...	...	...	...	1	...	1	2	1	1	1	2	1	3	1	...	...	13
Indore	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	1
Mhow	1	...	1	...	...	...	...	...	...	...	...	1	3	3	4	3	1	2	3	7	5	1	1	1	...	31
Group VIII.—S. E. Rajputana, Central India, and Gujarat	4	3	3	...	...	...	...	...	...	...	2	6	18	9	13	17	11	6	8	17	27	16	12	10	7	153

* Stations where neither Pneumonia nor Dysentery occurred are not shown in these tables. For the annual ratios see Table III

Stations, Groups, and Commands.	Admissions from Pneumonia in each month.													Admissions from Dysentery in each month.											
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October	November.	December.	Total.
A																									
Augor	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...	...	...	...	1	1	1	1	...	...	...	4
Jubbulpore	...	...	...	...	...	...	...	...	...	...	...	1	1	...	1	8	...	1	2	1	2	1	...	6	4	26
Kamptee	...	1	...	...	...	...	...	...	...	...	...	...	1	...	...	1	...	1	...	3	2	1	1	...	...	9
Mitabaldi	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	..	...	...	...	...	1
B																									
Secunderabad	...	...	...	...	...	...	...	...	...	...	...	...	...	10	13	10	5	10	5	10	14	8	1	8	3	97
Belgam	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5	3	1	3	4	2	3	1	3	2	1	28
Poona	...	...	...	...	...	...	...	...	1	...	...	...	1	1	4	4	1	...	1	4	16	6	7	8	2	54
Sirkee	...	2	...	...	...	...	...	...	...	...	...	...	2	...	...	1	1	...	...	3	...	...	...	1	...	6
Ahmednagar	...	...	...	...	1	...	...	...	...	...	...	...	1	...	...	1	...	1	...	2	1	2	2	...	...	9
Group IX.—Deccan	...	3	...	...	1	...	...	...	1	...	...	2	7	11	23	28	9	16	13	26	39	20	14	25	10	234
Colaba	...	...	2	1	1	...	...	...	...	1	...	1	6	...	3	3	2	1	1	2	6	...	1	1	2	22
Calicut	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	1	...	...	...	...	3
Mallapuram	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...	1	...	...	3
Group X.—Western Coast	...	...	2	1	1	...	...	...	...	1	...	1	6	...	3	3	2	2	2	4	7	...	2	1	2	28
A																									
Bellary	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	2	...	...	2	2	1	...	1	2	...	11
Bangalore	...	...	...	...	1	...	...	...	1	...	...	...	2	5	4	...	...	5	12	14	8	5	3	2	7	65
B																									
Pallavaram	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	2	1	...	4
St. Thomas' Mount	...	...	...	...	...	...	...	...	...	...	...	...	...	2	1	...	...	1	...	...	...	...	...	1	1	6
Madras	...	...	...	...	...	...	...	...	...	...	1	...	1	...	2	1	1	2	2	2	3	...	2	1	1	17
Group XI.—Southern India	...	...	...	...	1	...	...	...	1	...	1	...	3	8	8	3	1	8	16	18	12	5	8	7	9	103
Bernardmyo	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	2	3	2	...	...	...	...	...	8
Kanikhet	...	...	...	...	...	1	...	...	...	...	...	...	1	...	...	...	3	4	3	2	4	4	2	1	...	23
Chaubuttia	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	1	...	...	...	...	...	2
Chakrata	...	...	...	1	...	...	...	...	...	...	...	...	1	...	...	...	...	1	1	...	1	...	1	...	...	4
Lebong	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	4	...	1	2	1	...	...	...	10
Solon	...	...	1	...	1	2	...	...	...	...	...	...	4	...	...	...	...	...	...	...	...	...	...	...	...	...
Subathu	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	1	...	...	...	2
Jutogh	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	1	1	...	...	...	3
Baragully	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1
Kuldunnah	...	...	...	...	...	...	...	...	...	1	...	...	1	...	...	...	3	1	3	1	2	...	1	...	...	11
Camp Gharial	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	2	1	...	...	...	...	4
„ Thobba	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	2	...	1	...	...	...	...	5
„ Lower Topa	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..	...	1	...	...	...	...	...	...	...	...	1
Ghora Dhaka	...	...	...	...	...	1	...	...	...	...	...	...	1	...	..	...	...	...	...	...	...	...	...	...	...	...
Cherat	...	...	...	...	...	1	...	...	...	...	...	...	1	...	...	...	...	1	1	3	1	...	1	...	...	7
Quetta	1	...	7	...	2	...	1	1	...	...	4	16	32	2	...	1	4	8	1	6	8	8	6	3	1	48
Group XII *a*.—Hill Stations	1	...	8	1	3	5	1	1	...	1	4	16	41	3	...	2	14	25	15	18	21	15	11	4	1	129
Darjeeling	...	...	...	...	...	...	...	...	1	...	...	...	1	1	...	2	2	...	1	2	...	3	2	...	...	13
Naini Tal	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	1	...	...	...	...	3
Landour	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1	...	...	...	...	2
Kasauli	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	3	...	...	1	3	...	...	...	10
Dalhousie	...	...	...	...	1	...	...	...	...	1	...	...	2	...	...	...	3	4	3	1	2	...	3	...	...	16
Taragarh	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	1
Mount Abu	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	1	3
Khandalla	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	2	2
Wellington	1	3	2	...	...	1	...	1	1	...	...	...	9	...	...	...	...	3	3	4	1	2	...	1	1	15
Group XII *b*.—Hill Convalescent Depôts, and Sanitaria	1	3	2	...	1	1	...	1	2	1	...	...	12	1	...	2	9	11	8	9	7	8	5	1	4	65
Troops marching, Bengal	...	...	...	...	...	...	...	...	...	...	...	...	...	2	3	...	2	...	...	...	...	...	...	...	7	14
„ „ „ Punjab	...	...	...	...	...	...	...	...	...	...	3	...	3	2	2	...	...	...	...	...	...	...	...	5	3	12
„ „ „ Madras	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	2	...	2	5
„ „ „ Bombay	...	...	...	...	...	...	...	...	...	...	...	...	...	3	1	...	...	...	...	...	...	...	1	1	...	6
Tochi Field Force	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1
Malakand „ „	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1
Tirah „ „	6	7	11	2	...	...	...	...	...	...	...	...	26	32	15	19	5	...	...	...	...	...	...	...	...	71
Malakand Force	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	5	6	1	3	3	...	...	...	19
Khyber Force and Brigade	...	...	...	...	3	...	1	...	...	...	1	3	8	...	...	...	11	18	15	8	11	2	3	1	1	70
Deolali Depôt	...	1	...	...	...	...	...	...	...	...	...	...	1	6	9	16	...	...	...	2	2	5	11	5	1	57
Poonamallee Depôt	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	6	6	3	3	20
Aden	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	4	...	3	2	1	7	2	5	17	6	48
INDIA	32	26	36	11	15	9	4	4	8	10	24	42	221	180	170	176	141	188	145	184	225	146	162	178	124	2,019
Bengal	4	2	5	3	2	2	2	1	2	...	6	7	36	44	55	66	53	58	37	61	76	54	53	65	58	680
Punjab	18	7	7	2	8	6	1	1	2	9	12	16	89	57	40	19	48	74	55	30	52	29	40	46	22	512
Madras	1	3	2	2	1	1	...	1	2	...	2	...	15	27	30	28	21	40	42	55	44	29	30	27	25	398
Bombay	3	7	11	2	4	...	1	1	2	1	4	19	55	18	30	44	14	16	11	38	53	34	39	40	19	356

TABLE XIV.

STATISTICS OF REGIMENTS.

CORPS.	Average annual strength.	Admissions and ratio per 1,000.	Deaths and ratio per 1,000.	Invalids and ratio per 1,000.	Constantly sick and ratio per 1,000.	Admissions and admission-rates.		Deaths and death-rates.								Arrivals in India in 1898.	Stations occupied during the year.	Period of service in India.
						Cholera.	Enteric Fever.	Cholera.	Enteric Fever.	Intermittent Fever.	Remittent Fever.	Heat-stroke.	Tubercle of the lungs.	Pneumonia.	Dysentery.	Hepatic Abscess.			Y. M
CAVALRY.																		
4th Dragoon Guards.	568	835 1,470·1	10 17·61	22 38·73	47·35 83·36	... ...	33 58·1	... ...	6 10·56	... ...	... ...	... ...	... ...	... ...	1 1·76	1 1·76	100	Rawalpindi, 12 months.	4 3
5th „ „	532	1,198 2,251·9	5 9·40	73 137·22	66·36 124·74	... ...	19 35·7	... ...	3 5·64	1 1·88	... ...	1 1·88	... ...	... ...	... ...	... ...	121	Meerut, 11⅔ months; marching, ⅓ month.	5 2
3rd Hussars .	91	164 1,802·2	3 32·97	... ...	9·00 98·90	... ...	30 329·7	... ...	3 32·97	... ...	... ...	... ...	... ...	... ...	... ...	... ...	599	Lucknow, 2⅓ months; (arrived from England on the 21st October).	0 3
4th „ .	514	722 1,404·7	6 11·67	34 66·15	54·76 106·54	... ...	14 27·24	... ...	2 3·89	... ...	... ...	... ...	... ...	... ...	... ...	3 5·84	89	Bangalore, 12 months.	2 3
5th Lancers .	43	57 1,325·6	... ...	5 116·28	1·90 44·19	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	...	Muttra, 1 month; (left for Natal on the 30th January).	9 1
9th „ .	428	760 1,775·7	18 42·06	5 11·68	40·64 94·95	... ...	46 107·5	... ...	13 30·37	... ...	... ...	1 2·34	... ...	... ...	... ...	1 2·34	561	Muttra, 8⅔ months; (arrived from Natal on the 10th April).	0 9
11th Hussars .	584	870 1,489·7	15 25·68	25 42·81	45·99 78·75	... ...	13 22·3	... ...	5 8·56	... ...	... ...	1 1·71	... ...	1 1·71	1 1·71	2 3·42	66	Sialkot, 11 months; marching, 1 month.	6 1
16th Lancers .	567	582 1,026·5	10 17·64	16 28·22	36·65 64·64	1 1·8	18 31·7	1 1·76	5 8·82	... ...	... ...	... ...	1 1·76	1 1·76	... ...	... ...	47	Umballa, 12 months.	8 3
18th Hussars .	416	491 1,180·3	16 38·46	25 60·10	35·78 86·01	... ...	28 67·3	... ...	9 21·63	... ...	... ...	... ...	1 2·40	... ...	1 2·40	3 7·21	...	Lucknow, 9 months; (left for S. Africa on the 4th October).	8 9
19th „ .	560	692 1,235·7	9 16·07	12 21·43	48·16 86·00	... ...	14 25·0	... ...	3 5·36	... ...	... ...	... ...	... ...	... ...	1 1·79	3 5·36	31	Secunderabad, 12 months.	7 3
20th „ .	552	650 1,177·5	14 25·36	17 30·80	49·64 89·93	... ...	48 87·0	... ...	9 16·30	... ...	... ...	... ...	... ...	... ...	1 1·81	1 1·81	84	Mhow, 12 months.	3 3
TOTAL .	4,855	7,021 1,446·1	106 21·83	234 48·20	436·23 89·85	1 ·2	263 54·2	1 ·21	58 11·95	1 ·21	... ...	3 ·62	2 ·41	2 ·41	5 1·03	14 2·88			
ARTILLERY.																			
A Battery, Royal Horse Artillery.	138	211 1,529·0	6 43·48	3 21·74	10·73 77·75	1 7·2	2 14·5	1 7·25	2 14·49	... ...	... ...	... ...	2 14·49	... ...	... ...	... ...	18	Umballa, 11½ months; marching, ½ month.	9 2
B „ „	144	151 1,048·6	4 27·78	5 34·72	9·28 64·44	... ...	6 41·7	... ...	3 20·83	... ...	... ...	1 6·94	... ...	... ...	... ...	... ...	34	Lucknow, 10 months; marching, 2months.	9 2
C „ „	142	215 1,514·1	2 14·08	1 7·04	9·85 69·37	... ...	4 28·2	... ...	2 14·08	... ...	... ...	... ...	... ...	... ...	... ...	... ...	40	Meerut, 11½ months; marching, ½ month.	9 2
D „ „	17	18 1,058·8	... ...	... ...	·46 27·06	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	87	Umballa, 1½ month; (arrived from England on the 17th November).	0 1½
F „ „	142	229 1,612·7	4 28·17	14 98·59	9·96 70·14	... ...	4 28·2	... ...	2 14·08	... ...	... ...	1 7·04	... ...	... ...	... ...	1 7·04	22	Sialkot, 10½ months; marching, 1½ month.	3 3
H „ „	134	194 1,447·8	4 29·85	6 44·78	11·07 82·61	... ...	6 44·8	... ...	2 14·93	... ...	... ...	... ...	... ...	... ...	... ...	1 7·46	20	Umballa, 3 months; Meerut, 8½ months; marching, ½ month.	9 2
I „ „	145	194 1,337·9	3 20·69	2 13·79	11·14 76·83	... ...	5 34·5	... ...	3 20·69	... ...	... ...	... ...	... ...	... ...	... ...	... ...	18	Mhow, 10½ months; marching, 1½ month.	5 2½
J „ „	134	147 1,097·0	4 29·85	11 82·09	11·25 83·96	... ...	15 111·9	... ...	2 14·93	... ...	... ...	... ...	... ...	... ...	... ...	... ...	27	Bangalore, 12 months.	1 2
K „ „	145	176 1,213·8	4 27·59	6 41·38	10·26 70·76	... ...	8 55·2	... ...	2 13·79	... ...	1 6·90	... ...	... ...	... ...	... ...	... ...	21	Peshawar, 2½ months; Rawalpindi, 8½ months; marching, 1 month.	7 2
L „ „	151	181 1,198·7	3 19·87	7 46·36	11·25 74·50	... ...	6 39·7	... ...	2 13·25	... ...	... ...	... ...	... ...	... ...	... ...	... ...	23	Kirkee, 12 months.	6 2
N „ „	135	193 1,429·6	5 37·04	6 44·44	9·81 72·67	1 7·4	4 29·6	1 7·41	3 22·22	... ...	... ...	... ...	... ...	... ...	... ...	... ...	12	Meerut, 2½ months; Umballa, 7½ months; marching, 1 month; (left for England on the 16th November).	13 0

CORPS.	Average annual strength.	Admissions and ratio per 1,000.	Deaths and ratio per 1,000.	Invalids and ratio per 1,000.	Constantly sick and ratio per 1,000.	Admissions and admission-rates.		Deaths and death-rates.								Arrivals in India in 1898.	Stations occupied during the year.	Period of service in India.
						Cholera.	Enteric Fever.	Cholera.	Enteric Fever.	Intermittent Fever.	Remittent Fever.	Heat-stroke.	Tubercle of the lungs.	Pneumonia.	Dysentery.	Hepatic Abscess.		Y. M.
, Battery, Royal Horse Artillery.	156	170 1,089·7	... ...	2 12·82	13·37 85·71	... ...	1 6·4	... ...	... ...	... ...	.. ...	... ...	... ...	... ...	... ...	... ...	12	Secunderabad, 12 months.	13 0
st Field Battery, Royal Artillery.	158	229 1,449·4	2 12·66	4 25·32	13·70 86·71	... ...	2 12·7	... ...	1 6·33	.. ...	... ...	... ...	... ...	... ...	... ...	... ...	13	Kirkee, 12 months.	3 0
rd „ „	110	321 2,918·2	6 54·55	3 27·27	13·09 119·00	... ...	9 81·8	... ...	1 9·09	... ...	... ...	2 18·18	1 9·09	... ...	... ...	... ...	3	Meean Meer, 8½ months; (returned from north-western frontier field service, on the 24th April).	2 3
th „ „	138	242 1,753·6	2 14·49	5 36·23	15·39 110·80	... ...	3 21·7	... ...	1 7·25	... ...	... ...	... ...	... ...	... ...	... ...	... ...	31	Dinapore, 10½ months; marching, 1½ months.	7 2
oth „ „	116	192 1,655·2	4 34·48	3 25·86	10·55 90·95	... ...	8 69·0	... ...	3 25·86	... ...	... ...	... ...	... ...	... ...	... ...	... ...	11	Rawalpindi, 8½ months; marching, 1 month; (returned from north-western frontier field service, on the 29th January, and left for England on the 15th November).	14 2
11th „ „	146	226 1,547·9	7 47·95	2 13·70	11·81 80·89	... ...	9 61·6	... ...	6 41·10	... ...	... ...	... ...	... ...	... ...	... ...	... ...	1	Meean Meer, 2 months; Ferozepore, 9 months; marching, 1 month.	1 1
12th „ „	10	18 1,800·0	... ...	... ...	·68 68·00	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	92	Jullundur, ⅔ month; (arrived from England on the 12th December).	0 1
13th „ „	147	222 1,510·2	2 13·61	5 34·01	10·35 70·41	... ...	3 20·4	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	1 6·80	31	Meerut, 11⅓ months; marching, ⅔ month.	11 0
16th „ „	147	216 1,469·4	3 20·41	7 47·62	13·04 88·71	... ...	8 54·4	... ...	1 6·80	... ...	... ...	... ...	... ...	... ...	... ...	... ...	17	Kirkee, 12 months.	2 11
21st „ „	143	146 1,021·0	2 13·99	7 48·95	9·93 69·44	... ...	2 14·0	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	1 6·99	12	Bangalore, 12 months.	13 0
22nd „ „	142	237 1,669·0	1 7·04	5 35·21	16·16 113·80	... ...	3 21·1	... ...	1 7·04	... ...	... ...	... ...	... ...	... ...	... ...	... ...	39	Mhow, 12 months.	12 0
23rd „ „	136	161 1,183·8	1 7·35	4 29·41	13·55 99·63	... ...	1 7·4	... ...	1 7·35	... ...	... ...	... ...	... ...	... ...	... ...	... ...	20	Secunderabad, 12 months.	7 2
24th „ „	148	130 878·4	1 6·76	4 27·03	10·00 67·57	... ...	8 54·1	... ...	1 6·76	... ...	... ...	... ...	... ...	... ...	... ...	... ...	21	Agra, 10 months; marching, 2 months.	8 2
25th „ „	145	154 1,062·1	2 13·79	1 6·90	12·42 85·66	... ...	10 69·0	... ...	2 13·79	... ...	... ...	... ...	... ...	... ...	... ...	... ...	8	Bangalore, 12 months.	1 1
26th „ „	125	155 1,240·0	... ...	4 32·00	10·16 81·28	... ...	2 16·0	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	15	Kamptee, 11 months; (left for England on the 2nd December).	15 1
27th „ „	130	201 1,546·2	1 7·69	18 138·46	11·15 85·77	... ...	3 23·1	... ...	1 7·69	... ...	.. ...	... ...	... ...	... ...	... ...	... ...	28	Nasirabad, 11 months; marching, 1 month.	11 2

TABLE XIV—*continued.*

STATISTICS OF REGIMENTS.

CORPS.	Average annual strength.	Admissions and ratio per 1,000.	Deaths and ratio per 1,000.	Invalids and ratio per 1,000.	Constantly sick and ratio per 1,000.	Admissions and admission-rates.		Deaths and death-rates.								Arrivals in India in 1898.	Stations occupied during the year.	Period of service in India.
						Cholera.	Enteric Fever.	Cholera.	Enteric Fever.	Intermittent Fever.	Remittent Fever.	Heat-stroke.	Tubercle of the lungs.	Pneumonia.	Dysentery.	Hepatic Abscess.			Y. M.
29th Field Battery, Royal Artillery.	151	256 1,695·4	4 26·49	10 66·23	14·49 95·96	... ...	10 66·2	... ...	2 13·25	... ...	... ...	... ...	... ...	... ...	1 6·62	1 6·62	31	Kirkee, 12 months	5 2
30th „ „	147	227 1,544·2	2 13·61	8 54·42	17·35 118·03	... ...	8 54·4	... ...	1 6·80	... ...	... ...	... ...	... ...	... ...	... ...	... ...	28	Lucknow, 2½ months; Fyzabad, 7½ months; marching, 2 months.	2 2
31st „ „	158	402 2,544·3	3 18·99	5 31·65	16·80 106·33	... ...	... ...	... ...	... ...	... ...	... ...	... ...	1 6·33	... ...	... ...	... ...	27	Hyderabad, 10¾ months; marching, 1¼ month.	10 2
32nd „ „	14	24 1,714·3	... ...	... ...	·81 57·86	... ...	2 142·9	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	89	Jhansi, 1¼ month (arrived from England on the 25th November).	0 1¼
33rd „ „	163	212 1,300·6	5 30·67	2 12·27	12·40 76·07	... ...	3 18·4	... ...	1 6·13	1 6·13	1 6·13	2 12·27	... ...	... ...	... ...	... ...	20	St. Thomas' Mt., 12 months.	7 2
34th „ „	143	359 2,510·5	1 6·99	7 48·95	13·58 94·97	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	14	Ahmedabad, 11 months; marching, 1 month.	8 2
35th „ „	154	348 2,259·7	1 6·49	8 51·95	14·69 95·39	... ...	2 13·0	... ...	1 6·49	... ...	... ...	... ...	... ...	... ...	... ...	... ...	28	Deesa, 1½ month; Kurrachee, 9½ months; Hyderabad, ½ month; marching, 1 month.	10 2
36th „ „	141	289 2,049·6	1 7·09	12 85·11	14·47 102·62	... ...	1 7·1	... ...	... ...	... ...	... ...	... ...	... ...	1 7·09	... ...	... ...	39	Neemuch, 11½ months; marching, ½ month.	11 2
40th „ „	146	214 1,465·8	2 13·70	1 6·85	12·99 88·97	... ...	8 54·8	... ...	1 6·85	... ...	... ...	... ...	... ...	... ...	... ...	... ...	24	Ahmednagar, 10½ months; Kirkee, 1½ month.	5 2½
41st „ „	138	251 1,818·8	6 43·48	14 101·45	17·08 123·77	... ...	8 58·0	... ...	4 28·99	... ...	... ...	... ...	... ...	... ...	1 7·25	1 7·25	23	Lucknow 10½ months; marching, 1½ month.	3 2½
42nd „ „	140	147 1,050·0	2 14·29	7 50·00	12·19 87·07	... ...	2 14·3	... ...	1 7·14	... ...	... ...	.. ...	... ...	... ...	... ...	... ...	28	Secunderabad, 12 months.	12 0
45th „ „	149	208 1,396·0	1 6·71	6 40·27	9·86 66·17	... ...	... ...	... ...	... ...	... ...	... ...	1 6·71	... ...	... ...	... ...	... ...	16	Bellary, 1 month; St. Thomas' Mount, 11 months.	5 2
46th „ „	136	178 1,308·8	1 7·35	13 95·59	11·65 85·66		4 29·4	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	27	Cawnpore, 10 months; marching, 2 months.	8 2
47th „ „	147	342 2,326·5	8 54·42	4 27·21	16·39 111·50	... ...	8 54·4	... ...	3 20·41	1 6·80	... ...	1 6·80	... ...	1 6·80	... ...	... ...	5	Meean Meer, 10 months; marching, 2 months.	7 1
48th „ „	139	334 2,402·9	1 7·19	4 28·78	11·96 86·04	... ...	4 28·8	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	1 7·19	33	Barrackpore, 11½ months; marching, ½ month.	11 2
49th „ „	150	151 1,006·7	2 13·33	6 40·00	11·13 74·20	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	31	St. Thomas' Mount, 1½ months; Belgam, 10½ months.	7 2
50th „ „	152	166 1,092·1	6 39·47	4 26·32	10·86 71·45	... ...	7 46·1	... ...	4 26·32	... ...	... ...	... ...	... ...	1 6·58	1 6·58	... ...	19	Rawalpindi, 1 month; Jullundur, 9 months; marching, 2 months.	12 0
51st „ „	142	306 2,154·9	9 63·38	9 63·38	22·50 158·45	... ...	5 35·2	... ...	3 21·13	... ...	1 7·04	... ...	... ...	2 14·08	1 7·04	... ...	22	Peshawar, 11 months; marching, 1 month.	8 2
52nd „ „	149	253 1,698·0	3 20·13	8 53·69	23·75 159·40	... ...	8 53·7	... ...	2 13·42	... ...	... ...	... ...	... ...	... ...	... ...	... ...	11	Jubbulpore, 10 months; marching, 2 months.	1 2
53rd „ „	148	278 1,878·4	2 13·51	5 33·78	14·43 97·50	... ...	5 33·8	... ...	1 6·76	... ...	... ...	... ...	... ...	... ...	... ...	1 6·76	18	Kurrachee, 1½ month; Deesa, 10½ months.	12 10½
54th „ „	143	225 1,573·4	4 27·97	8 55·94	12·53 87·62	... ...	5 35·0	... ...	3 20·98	... ...	... ...	... ...	... ...	... ...	... ...	... ...	28	Meerut, 11 months; marching, 1 month.	8 2

CORPS.	Average annual strength.	Admissions and ratio per 1,000.	Deaths and ratio per 1,000.	Invalids and ratio per 1,000.	Constantly sick and ratio per 1,000.	ADMISSIONS AND ADMISSION-RATES.		DEATHS AND DEATH-RATES.									Arrivals in India in 1898.	Stations occupied during the year.	Period of service in India.
						Cholera.	Enteric Fever.	Cholera.	Enteric Fever.	Intermittent Fever.	Remittent Fever.	Heat-stroke.	Tubercle of the lungs.	Pneumonia.	Dysentery.	Hepatic Abscess.			Y. M.
h Field Battery, Royal Artillery.	146	274 1,876·7	1 6·85	13 89·04	12·87 88·15	... ...	1 6·8	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	1 6·8	27	Ahmedabad, 1 month; Saugor 8 months; marching, 3 months.	10 2
h „ „	108	182 1,685·2	2 18·52	7 64·81	7·74 71·67	... ...	1 9·3	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	8	Campbellpur, 8 months; marching, 1 month; (returned from north-western frontier field service on the 6th April).	2 1
th „ „	12	13 1,083·3	... ...	... ...	·55 45·83	... ...	1 83·3	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	86	Kamptee, ⅔ month; (arrived from England on the 7th December).	0 1
th „ „	136	248 1,823·5	2 14·71	2 14·71	16·16 118·82	... ...	3 22·1	... ...	2 14·71	... ...	... ...	... ...	... ...	... ...	... ...	... ...	10	Nowgong, 10⅔ months; (left for England on the 21st November).	14 1
th „ „	143	242 1,692·3	4 27·97	5 34·97	10·72 74·97	1 7·0	10 69·9	... ...	4 27·97	... ...	... ...	... ...	... ...	... ...	... ...	1 ...	18	Allahabad, 8⅔ months; marching, 3⅓ months.	12 0
th „ „	134	151 1,126·9	2 14·93	12 89·55	10·07 75·15	... ...	3 22·4	... ...	1 7·46	... ...	... ...	... ...	... ...	... ...	... ...	... ...	22	Bareilly, 11 months; marching, 1 month.	12 1½
st „ „	150	187 1,246·7	... ...	4 26·67	10·00 66·67	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	24	Ferozepore, 2 months; Mooltan, 9⅔ months; marching, ⅔ month.	11 0
nd „ „	149	218 1,463·1	1 6·71	6 40·27	14·31 96·04	... ...	1 6·7	... ...	... ...	... ...	... ...	1 6·71	... ...	... ...	... ...	... ...	21	Kirkee, 1 month; Bellary, 11 months.	10 2
th „ „	138	329 2,384·1	3 21·74	19 137·68	23·91 173·26	... ...	7 50·7	... ...	1 7·25	... ...	... ...	1 7·25	... ...	... ...	... ...	1 7·25	38	Jhansi, 10⅔ months; Nowgong, ⅔ month; marching, ⅔ month.	2 1½
o. 1 Mountain Battery, Royal Artillery	80	116 1,450·0	2 25·00	2 25·00	5·20 65·00	... ...	6 75·0	... ...	2 25·00	... ...	... ...	... ...	... ...	... ...	... ...	... ...	12	Ali Masjid, 1⅓ month; Rawalpindi, 2⅓ months; Khyragully, 4 months; marching, ⅓ month; (returned from north-western frontier field service on the 9th April).	15 2
„ 2 „ „	110	117 1,063·6	1 9·09	1 9·09	8·51 77·36	... ...	9 81·8	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	1 9·09	1	Quetta, 11 months; Rawalpindi, 1 month.	12 11
„ 3 „ „	77	49 636·4	... ...	... ...	1·72 22·34	... ...	3 39·0	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	3	Lundi Kotal, 8⅔ months; (returned from north-western frontier field service on the 9th April).	20 1
„ 5 „ „	112	130 1,160·7	4 35·71	6 53·57	8·45 75·45	... ...	6 53·6	... ...	1 8·93	... ...	... ...	... ...	... ...	... ...	... ...	... ...	57	Rawalpindi, 5⅓ months; Baragully, 6 months; marching, ⅓ month.	20 1
„ 6 „ „	88	142 1,613·6	1 11·36	10 113·64	7·41 84·20	... ...	2 22·7	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	33	Mandalay, 10 months; Maymyo, 1⅔ month; marching, ⅓ month.	13 2

TABLE XIV—*continued.*

STATISTICS OF REGIMENTS.

CORPS.	Average annual strength.	Admissions and ratio per 1,000.	Deaths and ratio per 1,000.	Invalids and ratio per 1,000.	Constantly sick and ratio per 1,000.	Admissions and admission-rates.		Deaths and death-rates.								Arrivals in India in 1898.	Stations occupied during the year.	Period of service in India.
						Cholera.	Enteric Fever.	Cholera.	Enteric Fever.	Intermittent Fever.	Remittent Fever.	Heat-stroke.	Tubercle of the lungs.	Pneumonia.	Dysentery.	Hepatic Abscess.		
																		Y. M
No. 7 Mountain Battery, Royal Artillery.	96	117 1,218·7	1 10·42	1 10·42	4·73 49·27	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	1 10·42	23	Rawalpindi, 4 months; Kalabagh, 6 months; Quetta, ⅔ month; marching, ½ month; (returned from north-western frontier field service on the 29th January).	12 10
„ 8 „ „	59	109 1,847·5	... ...	3 50·85	4·80 81·36	... ...	1 16·9	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	2	Camp Bara, 1 month; Rawalpindi, ⅔ month; Jutogh, 5 months; Darjeeling, 1 month; marching, 1 month; (returned from north-western frontier field service on the 9th April).	11
„ 9 „ „	70	88 1,257·1	... ...	3 42·86	1·23 60·43	... ...	1 14·3	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	7	Darjeeling, 7⅔ months; Mandalay ⅓ month; marching, ⅔ month; (returned from north-western frontier field service on the 15th April).	14
No. 1 Company, Eastern Division, Royal Artillery.	123	143 1,162·6	4 32·52	4 32·52	8·11 65·93	... ...	1 8·1	... ...	1 8·13	... ...	... ...	1 8·13	... ...	... ...	1 8·13	... ...	30	Fort Chingrikhal, 1⅔ month; Calcutta, 10⅓ months.	10
„ 3 „	131	101 771·0	1 7·63	4 30·53	9·06 69·16	... ...	3 22·9	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	1 7·63	22	Rangoon, 12 months.	4
„ 4 „ „	136	98 720·6	1 7·35	2 14·71	4·46 32·79	... ...	... ...	... ...	... ...	... ...	... ...	... ...	1 7·35	... ...	... ...	... ...	26	Kurrachee, 12 months.	10
„ 8 „ „	114	230 2,017·5	4 35·09	13 114·03	11·99 105·18	... ...	2 17·5	... ...	2 17·54	1 8·77	... ...	... ...	1 8·77	... ...	... ...	... ...	56	Bombay, 2 months; Delhi, 7⅓ months; Aden, 2 months; marching, ⅔ month; Detachment, Chakrata, 5 months.	11
„ 9 „ „	122	173 1,418·0	... ...	3 24·59	9·58 78·52	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	29	Fort Allahabad, 11⅓ months; Fort Chingrikhal, ⅓ month.	3
„ 12 „ „	91	103 1,131·9	5 54·95	8 87·91	5·45 59·89	... ...	5 54·9	... ...	1 10·99	... ...	... ...	... ...	... ...	... ...	1 10·99	2 21·98	24	Campbellpur, ⅔ month; Mooltan, 9⅔ months; marching, 2 months.	4
„ 13 „ „	135	123 911·1	3 22·22	5 37·04	10·11 74·89	... ...	1 7·4	... ...	... ...	... ...	1 7·41	... ...	... ...	... ...	... ...	1 7·41	32	Aden, 10 months; Bombay, 1⅔ month; marching, ⅓ month.	12
„ 24 „ „	122	104 852·5	... ...	4 32·79	6·54 53·61	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	26	Bombay, 10⅓ months; Delhi, 1⅔ month.	4
„ 26 „ „	142	154 1,084·5	3 21·13	6 42·25	11·46 80·70	... ...	1 7·0	... ...	1 7·04	... ...	... ...	... ...	... ...	... ...	... ...	2 14·08	30	Aden, 10 months; Bombay, 1⅔ month; marching, ⅓ month.	4
No. 5 Company, Southern Division.	127	192 1,511·8	4 31·50	2 15·75	12·73 100·24	... ...	5 39·4	... ...	1 7·87	... ...	... ...	... ...	... ...	... ...	... ...	1 7·87	20	Bombay, 2 months; Agra, 10 months.	11
„ 7 „ „	3	1 333·3	... ...	... ...	·14 46·66	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	...	Quetta, ⅓ month; (left for England on the 9th January).	12
„ 9 „ „	120	161 1,341·7	2 16·67	10 83·33	11·99 99·92	... ...	3 25·0	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	1 8·33	15	Roorkee, 10⅔ months; Practice Camp, Pur, 1⅓ month	11

CORPS.	Average annual strength.	Admissions and ratio per 1,000.	Deaths and ratio per 1,000.	Invalids and ratio per 1,000.	Constantly sick and ratio per 1,000.	Admissions and admission-rates.		Deaths and death-rates.								Arrivals in India in 1898.	Stations occupied during the year.	Period of service in India.
						Cholera.	Enteric Fever.	Cholera.	Enteric Fever.	Intermittent Fever.	Remittent Fever.	Heat-stroke.	Tubercle of the lungs.	Pneumonia.	Dysentery.	Hepatic Abscess.		Y. M.
. 11 Company, outhern Division.	124	115 927·4	2 16·13	7 56·45	9·09 73·31	... ...	1 8·1	... ...	1 8·66	... ...	... ...	... ...	... ...	... ...	... ...	... ...	25	Roorkee, 11 months; Practice Camp, Pur, ½ month; marching, ½ month.	9 1½
18 „ „	110	221 2,009·1	5 45·45	4 36·36	11·62 105·64	... ...	1 9·1	... ...	2 18·18	... ...	... ...	1 9·09	... ...	... ...	... ...	... ...	28	Ferozepore, 9½ months; Aden, 2 months; marching, ½ month.	9 1½
21 „ „	125	86 688·0	1 8·00	7 56·00	7·70 61·00	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	23	Aden, 10½ months; (left for England on the 15th November).	9 0
23 „ „	126	157 1,246·0	9 71·43	3 23·81	14·15 112·30	... ...	13 103·2	... ...	5 39·68	... ...	1 7·94	... ...	1 7·94	... ...	1 7·94	... ...	26	Bombay, 11½ months; Quetta, ½ month.	4 3½
24 „ „	71	134 1,887·3	2 28·17	5 70·42	5·88 82·82	... ...	2 28·2	... ...	1 14·08	... ...	1 14·08	... ...	... ...	... ...	... ...	... ...	11	Campbellpur, 11 months; marching, 1 month.	11 1
28 „ „	132	129 977·3	6 45·45	7 53·03	8·47 64·17	... ...	1 7·6	... ...	1 7·58	... ...	1 7·58	... ...	1 7·58	... ...	... ...	... ...	19	Quetta, 1½ month; Bombay, 10½ months.	15 2
29 „ „	27	100 3,703·7	1 37·04	... ...	2·57 95·19	... ...	2 74·1	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	140	Barrackpore, 2 months; Fort Chingrikhal, ½ month; (arrived from England on the 18th October).	0 1
33 „ „	111	150 1,351·4	3 27·03	4 36·04	7·31 65·86	... ...	8 72·1	... ...	2 18·02	... ...	... ...	1 9·01	... ...	... ...	... ...	... ...	13	Peshawar, 1½ month; Fort Attock, 1½ month; Rawalpindi, 8½ months.	2 ½
. 4 Company, Western Division.	125	136 1,088·0	1 8·00	7 56·00	9·25 74·00	... ...	1 8·0	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	1 8·00	7	Roorkee, 11 months; Kurrachee, 1 month.	4 1
5 „ „	114	165 1,447·4	1 8·77	3 26·32	6·94 60·88	... ...	2 17·5	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	30	Rawalpindi, 3½ months; Camp Thobba, 5½ months; Fort Attock, 2½ months; marching, ½ month; Detachment, Fort Attock, 6 months.	6 1
7 „ „	80	55 687·5	... ...	3 37·50	6·27 78·38	... ...	1 12·5	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	11	Secunderabad, 11½ months; marching, ½ month.	4 1
9 „ „	79	103 1,303·8	1 12·66	11 139·24	6·31 80·13	... ...	1 12·7	... ...	... ...	... ...	... ...	... ...	... ...	... ...	1 12·66	... ...	16	Jhansi, 11½ months; marching, ½ month.	4 1
11 „ „	130	184 1,415·4	... ...	2 15·38	5·64 43·38	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	17	Madras, 12 months.	11 1
16 „ „	110	307 2,790·9	3 27·27	16 145·45	15·66 142·36	... ...	4 36·4	... ...	1 9·09	... ...	... ...	... ...	... ...	... ...	2 18·18	... ...	16	Fort Chingrikhal, 1½ month; Barrackpore, 8 months; Aden, 1½ month; marching, ½ month.	11 1
18 „ „	129	135 1,046·5	... ...	7 54·26	9·65 74·81	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	19	Bombay, 12 months.	4 1
22 „ „	122	140 1,147·5	1 8·20	5 40·98	7·86 64·43	... ...	2 16·4	... ...	... ...	... ...	... ...	... ...	1 8·20	... ...	... ...	... ...	13	Rangoon, 11 months; marching, ½ month.	13 2½
25 „ „	129	153 1,186·1	11 85·27	2 15·50	12·15 94·19	... ...	23 178·3	... ...	10 77·52	... ...	... ...	... ...	... ...	... ...	... ...	1 7·75	57	Quetta, 11½ months; (arrived from Capetown on the 11th January).	1 0
TOTAL	11,492	16,864 1,467·5	235 20·45	524 45·60	981·86 85·44	3 ·3	360 31·3	2 ·17	109 9·48	3 ·26	7 ·61	13 1·13	9 ·78	5 ·44	10 ·87	22 1·91			

TABLE XIV —*continued.*

STATISTICS OF REGIMENTS.

CORPS.	Average annual strength.	Admissions and ratio per 1,000.	Deaths and ratio per 1,000.	Invalids and ratio per 1,000.	Constantly sick and ratio per 1,000.	Admissions and admission-rates.		Deaths and death-rates.									Arrivals in India in 1898.	Stations occupied during the year.	Period of service in India.
						Cholera.	Enteric Fever.	Cholera.	Enteric Fever.	Intermittent Fever.	Remittent Fever.	Heat-stroke.	Tubercle of the lungs.	Pneumonia.	Dysentery.	Hepatic Abscess.			Y. M
H. COMPANY, ROYAL ENGINEERS.	99	33 333·3	1 10·10	3 30·30	2·18 22·02	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	12	Calcutta, Roorkee, Bangalore, Rangoon, Secunderabad, and Kirkee.	31 0
INFANTRY.																			
2nd Royal Scots	890	1,434 1,611·2	6 6·74	59 66·29	92·62 104·07	... ...	7 7·9	... ...	... ...	... ...	1 1·12	1 1·12	... ...	... ...	... ...	1 1·12	204	Mandalay, 12 months; Wing, Poona, 2½ months.	6 9
1st Royal West Surrey Regiment.	751	1,032 1,374·2	12 15·98	21 27·96	53·30 70·97	... ...	25 33·3	... ...	4 5·33	1 1·33	... ...	... ...	... ...	... ...	2 2·66	2 2·66	195	Jamrud, 1 month; Rawalpindi, 7½ months; (returned from north-western frontier field service on the 9th April); Wing, Camp Thobba, 4½ months; Detachment, Jullundur, 1½ month.	3 11
1st East Kent Regiment.	876	1,188 1,356·2	30 34·25	28 31·96	62·64 71·51	... ...	55 62·8	... ...	19 21·69	... ...	3 3·42	1 1·14	1 1·14	1 1·14	1 1·14	... ...	150	Malakand, 8½ months; Kamptee, 2½ months; marching, ½ month; (returned from north-western frontier field service on the 21st January).	11
1st Royal Warwickshire Regiment.	99	182 1,838·4	1 10·10	... ...	6·16 62·22	... ...	4 40·4	... ...	1 10·10	... ...	... ...	... ...	... ...	... ...	... ...	... ...	623	Bellary, 1 month; Madras, 1 month; (arrived from Egypt on the 3rd November); Wing, Bellary, 1 month.	0
1st Royal Fusiliers.	939	1,205 1,283·3	20 21·30	27 28·75	69·76 74·29	... ...	40 42·6	... ...	16 17·04	... ...	1 1·06	... ...	... ...	... ...	... ...	... ...	134	Mhow, 3½ months; Nasirabad, 8½ months; Detachment, Neemuch 12 months.	11
1st Norfolk Regiment.	937	1,500 1,600·9	19 20·28	34 36·29	108·08 115·35	... ...	41 43·8	... ...	15 16·01	... ...	... ...	... ...	... ...	... ...	... ...	1 1·07	105	Allahabad, 12 months; Detachments, Cawnpore, 3½ months; Fort Allahabad, 12 months.	9 1
1st Lincolnshire Regiment.	117	133 1,136·8	1 8·55	... ...	7·22 61·71	... ...	3 25·6	... ...	... ...	... ...	... ...	... ...	... ...	... ...	1 8·55	... ...	821	Secunderabad, 2 months; (arrived from Egypt on the 3rd November).	0
1st Devonshire Regiment.	943	1,336 1,416·8	16 16·97	34 36·06	86·06 91·26	... ...	52 55·1	... ...	11 11·66	1 1·06	... ...	1 1·06	... ...	1 1·06	... ...	... ...	170	Jullundur, 12 months; Detachment, Dalhousie, 12 months.	6
2nd Suffolk Regiment.	914	1,161 1,270·2	6 6·56	35 38·29	80·34 87·90	... ...	8 8·8	... ...	3 3·28	... ...	... ...	... ...	... ...	... ...	... ...	2 2·19	306	Rangoon, 12 months; Detachments, Port Blair, 12 months; Quetta, 2½ months.	7 1
1st Somersetshire Light Infantry.	932	988 1,060·1	16 17·17	29 31·12	56·87 61·02	... ...	25 26·8	... ...	8 8·58	... ...	1 1·07	... ...	... ...	2 2·15	... ...	1 1·07	125	Rawalpindi, 5½ months; Kuldunnah, 6 months; marching, ½ month; Detachment, Fort Attock, 5 months.	5
1st East Yorkshire Regiment	998	1,512 1,515·0	4 4·01	54 54·11	86·62 86·79	... ...	3 3·0	... ...	1 1·00	... ...	... ...	... ...	... ...	... ...	... ...	... ...	80	Belgam, 12 months; Detachments, Ahmedabad, 3½ months; Satara, 3½ months.	3

CORPS.	Average annual strength.	Admissions and ratio per 1,000.	Deaths and ratio per 1,000.	Invalids and ratio per 1,000.	Constantly sick and ratio per 1,000.	Admissions and admission-rates.		Deaths and death-rates.									Arrivals in India in 1898.	Stations occupied during the year.	Period of service in India.
						Cholera.	Enteric Fever.	Cholera.	Enteric Fever.	Intermittent Fever.	Remittent Fever.	Heat-stroke.	Tubercle of the lungs.	Pneumonia.	Dysentery.	Hepatic Abscess.			Y. M.
Bedfordshire Regiment.	913	2,446 2,679·1	40 43·81	56 61·34	140·22 153·58	... ...	43 47·1	... ...	19 20·81	3 3·29	... ...	6 6·57	1 1·10	1 1·10	2 2·19	... ...	237	Meean Meer, 10 months; Mooltan, 2 months; Wing, Ferozepore, 10 months.	8 0
d Royal Irish Regiment.	823	1,980 2,405·8	15 18·23	38 46·17	103·04 125·20	... ...	20 24·3	... ...	7 8·51	... ...	... ...	1 1·22	1 1·22	1 1·22	... ...	1 1·22	210	Rawalpindi, 1½ month; Mhow, 8½ months; (on north-western frontier field service, 2½ months; Detachment, Indore, 8½ months.	13 11
d Yorkshire Regiment.	699	1,601 2,290·4	45 64·38	19 27·18	66·15 94·64	1 1·4	37 52·9	... ...	20 28·61	... ...	1 1·43	14 20·03	1 1·43	1 1·43	1 1·43	2 2·86	18	Ali Masjid, 2½ months; Peshawar, 6½ months; (returned from north-western frontier field service on the 9th April); Detachments, Nowshera, 4 months; Cherat, 5 months; Jullundur, 1½ month.	8 11
d Lancashire Fusiliers.	18	16 888·9	1 55·56	11 611·11	1·34 74·44	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	1 55·56	...	Quetta, ½ month; (left for Egypt on the 9th January).	16 2
t Royal Scots Fusiliers.	954	1,254 1,314·5	9 9·43	35 36·69	76·33 80·01	... ...	15 15·7	... ...	4 ·19	... ...	1 1·05	... ...	1 1·05	... ...	1 1·05	... ...	170	Sialkot, 9½ months; Lundi Kotal, 2½ months; marching, ½ month; Detachments, Ghora Dhaka, 5½ months; Amritsar, 9½ months; Depôt, Rawalpindi, 2½ months.	2 2
t Cheshire Regiment.	942	1,338 1,420·4	11 11·68	48 50·96	107·19 113·79	... ...	14 14·9	... ...	5 5·31	... ...	... ...	... ...	... ...	... ...	1 1·06	3 3·18	95	Secunderabad, 12 months; Detachment, Wellington, 12 months.	11 2
t South Wales Borderers.	947	915 966·2	9 9·50	18 19·01	71·24 75·23	... ...	75 79·2	... ...	6 6·34	... ...	... ...	... ...	... ...	... ...	1 1·06	1 1·06	120	Meerut, 4 months; Chakrata, 7½ months; marching, ½ month.	1 ½
nd King's Own Scottish Borderers.	818	1,449 1,771·4	11 13·45	41 50·12	93·89 114·78	... ...	18 22·0	... ...	4 4·89	... ...	... ...	... ...	1 1·22	... ...	... ...	1 1·22	62	Cawnpore, 12 months; Detachment, Fatehgarh, 8½ months.	8 11½
t Scottish Rifles	850	1,103 1,297·6	19 22·35	59 69·41	76·97 90·55	... ...	35 41·2	... ...	10 11·76	... ...	... ...	2 2·35	1 1·18	... ..	1 1·18	... ...	101	Bareilly, 1 month; Lucknow, 11 months.	4 0
nd Royal Inniskilling Fusiliers.	766	1,758 2,295·0	21 27·42	38 49·61	76·86 100·34	... ...	28 36·6	... ...	7 9·14	... ...	1 1·31	6 7·83	... ...	1 1·31	1 1·31	1 1·31	329	Lundi Kotal, 1½ month; Peshawar, 7½ months; (returned from north-western frontier field service on the 9th April); Depôt Meean Meer, 5 months.	10 0
st Gloucestershire Regiment.	1,015	1,051 1,035·5	11 10·84	30 29·56	68·23 67·22	... ...	19 18·7	... ...	2 1·97	... ...	... ...	... ...	... ...	... ...	2 1·97	3 2·96	200	Calcutta, 12 months; Detachment, Dum-Dum, 12 months.	1 10½
nd East Lancashire Regiment.	926	1,240 1,339·1	29 31·32	25 27·00	108·35 117·01	... ...	92 99·4	... ...	22 23·76	... ...	... ...	... ...	... ...	... ...	... ...	3 3·24	81	Lucknow, 2⅔ months; Ranikhet, 7½ months; Bareilly, 1⅔ month; marching, ½ month.	1 2⅔

TABLE XIV —*continued.*

STATISTICS OF REGIMENTS.

CORPS.	Average annual strength.	Admissions and ratio per 1,000.	Deaths and ratio per 1,000.	Invalids and ratio per 1,000.	Constantly sick and ratio per 1,000.	Admissions and admission-rates.		Deaths and death-rates.								Arrivals in India in 1898.	Stations occupied during the year.	Period of service in India.
						Cholera.	Enteric Fever.	Cholera.	Enteric Fever.	Intermittent Fever.	Remittent Fever.	Heat-stroke.	Tubercle of the lungs.	Pneumonia.	Dysentery.	Hepatic Abscess.		Y. M.
1st East Surrey Regiment.	872	1,532 1,756·9	26 29·82	61 69·95	99·90 114·56	... ...	27 31·0	... ...	14 16·06	1 1·15	1 1·15	2 2·29	2 2·29	1 1·15	2 2·29	1 1·15	258	Jhansi, 12 months; Detachment, Nowgong, 12 months.	13 11
1st Duke of Cornwall's Light Infantry.	747	1,014 1,357·4	24 32·13	30 40·16	65·66 87·90	... ...	59 79·0	... ...	19 25·44	... ...	... ...	... ...	1 1·34	... ...	... ...	2 2·68	184	Camp Bara, 1 month; Rawalpindi, ½ month; Lucknow, 7 months; (returned from north-western frontier field service on the 9th April); Detachment, Standing Camp, Ranikhet, 4½ months.	10 10
2nd West Riding Regiment.	938	1,215 1,295·3	9 9·59	28 29·85	87·11 92·87	... ...	20 21·3	... ...	2 2·13	... ...	... ...	... ...	... ...	... ...	1 1·07	1 1·07	1,153	Bangalore, 11⅝ months; (arrived from Natal on the 6th January); Detachment, Wellington, 11⅝ months.	1 0
2nd Border Regiment.	948	851 897·7	14 14·77	19 20·04	59·18 62·43	... ...	49 51·7	... ...	10 10·55	... ...	1 1·05	... ...	1 1·05	1 1·05	1 1·05	... ...	149	Quetta, 12 months; Detachment, Bareilly, 2½ months.	8 10
2nd Royal Sussex Regiment.	654	1,241 1,897·6	32 48·93	29 44·34	68·74 105·11	... ...	75 114·7	... ...	23 35·17	... ...	... ...	1 1·53	1 1·53	2 3·06	3 4·59	2 3·06	104	Camp Bara, 1 month; Lundi Kotal, 5½ months; Sialkot, 2½ months; (returned from north-western frontier field service on the 9th April); Wing, Jamrud, ½ month; Detachments, Fyzabad, 12 months; Amritsar, 2½ months.	13 0
1st Hampshire Regiment.	926	1,424 1,537·8	20 21·60	10 10·80	67·81 73·23	... ...	14 15·1	... ...	5 5·40	1 1·08	... ...	1 1·08	1 1·08	2 2·16	1 1·08	... ...	275	Mooltan, 9½ months; Lundi Kotal, 2 months; marching, ½ month; Detachments, Mecan Meer; 2½ months; Dalhousie, 12 months.	12 11
2nd South Staffordshire Regiment.	1,053	1,205 1,144·3	4 3·80	30 28·49	81·31 77·22	... ...	... ...	... ...	... ...	... ...	... ...	... ...	1 ·95	1 ·95	... ...	... ...	61	Thayetmyo, 12 months; Wing, Meiktila, 12 months; Detachment, Calicut, 3½ months.	3 1
1st Dorsetshire Regiment.	845	1,075 1,272·2	27 31·95	60 71·01	72·19 85·43	... ...	71 84·0	... ...	17 20·12	... ...	2 2·37	3 3·55	... ...	2 2·37	... ...	1 1·18	443	Peshawar, 4 months; Cherat, 5⅝ months; Nowshera, 2 months; marching, ½ month; Detachment, Peshawar, 1½ month.	5 3
2nd South Lancashire Regiment.	913	1,594 1,745·9	20 21·91	16 17·52	116·56 127·67	... ...	45 49·3	... ...	13 14·24	1 1·10	... ...	1 1·10	... ...	... ...	3 3·29	1 1·10	100	Kamptee, 9½ months; Jubbulpore, 2½ months, Detachment, Saugor, 12 months.	3 10
2nd Welsh Regiment.	885	1,861 2,102·8	10 11·30	63 71·19	84·42 95·39	2 2·3	4 4·5	1 1·13	2 2·26	1 1·13	... ...	... ...	... ...	... ...	1 1·13	... ...	171	Madras, 11 months; Bellary, 1 month; Wing, Bellary, 11 months.	6 2

CORPS.	Average annual strength.	Admissions and ratio per 1,000.	Deaths and ratio per 1,000.	Invalids and ratio per 1,000.	Constantly sick and ratio per 1,000.	Admissions and admission-rates.		Deaths and death-rates.									Arrivals in India in 1898.	Stations occupied during the year.	Period of service in India.
						Cholera.	Enteric Fever.	Cholera.	Enteric Fever.	Intermittent Fever.	Remittent Fever.	Heat-stroke.	Tubercle of the lungs.	Pneumonia.	Dysentery.	Hepatic Abscess.			Y. M.
Royal Highanders.	935	1,143 1,222·5	12 12·83	15 16·04	76·35 81·66	... ...	14 15·0	... ...	4 4·28	... ...	1 1·07	4 4·28	... ...	... ...	... ...	2 2·14	217	Umballa, ½ month; Sitapur, 11½ months, Wing, Benares, 11½ months.	2 10
Oxfordshire ight Infantry.	777	1,229 1,581·7	40 51·48	44 56·63	68·82 88·57	... ...	94 121·0	... ...	33 42·47	1 1·29	... ...	... ...	... ...	1 1·29	2 2·57	1 1·29	249	Lundi Kotal, 6½ months; Ferozepore, 2 months; (returned from north-western frontier field service on the 9th April); Detachment, Meean Meer, 2 months.	12 9
Essex Regiment.	916	754 823·1	11 12·01	24 26·20	52·99 57·85	... ...	10 10·9	... ...	2 2·18	... ...	... ...	... ...	... ...	... ...	... ...	2 2·18	174	Shwebo, 12 months; Wing, Bhamo, 12 months; Detachment, Bernardmyo, 11 months.	6 2
Derbyshire Regiment.	670	967 1,443·3	11 16·42	41 61·19	68·20 101·79	... ...	21 31·3	... ...	7 10·45	... ...	... ...	... ...	... ...	... ...	... ...	1 1·49	206	Bareilly, 10 months; Aden, 1½ month; marching, ½ month; Detachment, Standing Camp Ranikhet, 5 months.	16 2
Northamptonshire Regiment.	889	1,509 1,697·4	32 36·00	28 31·50	90·25 101·52	1 1·1	59 66·4	1 1·12	22 24·75	... ...	2 2·25	3 3·37	... ...	1 1·12	1 1·12	1 1·12	280	Peshawar, 5½ months; Fyzabad, 6½ months; Detachment, Cherat, 5 months.	6 2
Royal West Kent Regiment.	869	1,510 1,737·6	48 20·71	13 14·96	71·66 82·46	1 1·2	19 21·9	1 1·15	5 5·75	... ...	... ...	1 1·15	1 1·15	1 1·15	2 2·30	5 5·75	110	Dum-Dum, 12 months; Detachment, Barrackpore, 10½ months; Peshawar, 1 month.	6 11
King's Own Yorkshire Light Infantry.	707	1,410 1,994·3	14 19·80	54 76·38	99·90 141·30	... ...	37 52·3	... ...	5 7·07	... ...	... ...	1 1·41	... ...	1 1·41	... ...	2 2·83	118	Ahmednagar, 12 months; Detachment, Satara, 8 months.	11 10
King's Shropshire Light Infantry.	872	1,178 1,350·9	11 12·61	26 29·82	78·39 89·90	... ...	9 10·3	... ...	4 4·59	1 1·15	... ...	1 1·15	... ...	... ...	... ...	1 1·15	211	Sitapur, ½ month; Bombay, 11½ months; marching, ½ month; Wing, Benares, ½ month; Detachments, Deesa, 11½ months; Ahmedabad, 11½ months.	4 0
Middlesex Regiment.	795	796 1,001·3	5 6·29	11 13·84	51·84 65·21	... ...	5 6·3	... ...	1 1·26	... ...	1 1·26	... ...	... ...	2 2·52	1 1·26	... ...	449	Wellington, 8½ months; (arrived from the Cape at Calicut on 8th April); Detachments, Cannanore, Mallapuram, and Calicut, 8½ months.	0 9
Middlesex Regiment.	33	35 1,060·6	1 30·30	10 303·03	2·80 84·85	... ...	1 30·3	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	1 30·30	...	Bombay, ½ month; (left for England on the 21st January); Detachments, Ahmedabad and Deesa.	17 4
Wiltshire Regiment.	958	1,342 1,400·8	61 63·67	31 32·36	96·19 100·41	... ...	142 148·2	... ...	52 54·28	2 2·09	... ...	... ...	... ...	3 3·13	1 1·04	2 2·09	200	Kurrachee, 3 months; Quetta, 9 months; Detachment, Hyderabad, 3 months.	3 3
Manchester Regiment.	479	632 1,319·4	9 18·79	13 27·14	35·38 73·86	... ...	8 16·7	... ...	4 8·35	... ...	... ...	... ...	1 2·09	... ...	... ...	3 6·26	...	Aden, 10½ months; (left for England on the 15th November).	15 ½

TABLE XIV—*continued.*

STATISTICS OF REGIMENTS.

CORPS.	Average annual strength.	Admissions and ratio per 1,000.	Deaths and ratio per 1,000.	Invalids and ratio per 1,000.	Constantly sick and ratio per 1,000.	Admissions and admission-rates.		Deaths and death-rates.									Arrivals in India in 1898.	Stations occupied during the year.	Period of service in India.
						Cholera.	Enteric Fever.	Cholera.	Enteric Fever.	Intermittent Fever.	Remittent Fever.	Heat-stroke.	Tubercle of the lungs.	Pneumonia.	Dysentery.	Hepatic Abscess.			Y. M
1st North Staffordshire Regiment.	952	882 926·5	10 10·50	3 3·15	59·32 62·31	... ...	30 31·5	... ...	6 6·30	... ...	... ...	... ...	... ...	... ...	... ...	... ...	30	Umballa, 4 months; Subathu, 8 months; Detachments, Jutogh, 7½ months; Dagshai, 1½ month.	1
2nd York and Lancaster Regiment.	964	1,233 1,279·0	23 23·86	18 18·67	92·46 95·91	... ...	78 80·9	... ...	18 18·67	... ...	... ...	... ...	... ...	... ...	1 1·04	1 1·04	142	Agra, 12 months.	1 1
2nd Durham Light Infantry.	915	1,132 1,237·2	13 14·21	29 31·69	71·27 77·89	... ...	29 31·7	... ...	4 4·37	... ...	... ...	... ...	... ...	1 1·09	1 1·09	2 2·19	275	Poona, 9½ months; Mandalay, 1½ month; Sea voyage, 5½ months.	12
2nd Highland Light Infantry.	889	1,426 1,604·0	6 6·75	33 37·12	58·83 66·18	... ...	2 2·2	... ..	1 1·12	... ...	... ...	1 1·12	... ...	... ...	... ...	... ...	297	Kurrachee, 11 months; (returned from north-western frontier field service on the 1st February); Detachment, Hyderabad, 9 months; Depôt, Cawnpore, 1 month.	14
1st Gordon Highlanders.	589	661 1,122·2	4 6·79	21 35·65	39·28 66·69	... ...	19 32·3	... ...	3 5·09	... ...	... ...	... ...	... ...	... ...	... ...	... ...	51	Rawalpindi, 4 months; Camp Gharial, 5 months; (left for England on the 28th September).	6 8
2nd Gordon Highlanders.	217	321 1,479·3	2 9·22	... ...	16·02 73·82	... ...	15 69·1	... ...	2 9·22	... ...	... ...	... ...	... ...	... ...	... ...	... ...	477	Umballa, 2¾ months; (arrived from England on the 8th October).	0 2
2nd Royal Irish Rifles.	865	1,405 1,624·3	5 5·78	29 33·53	78·03 90·21	... ...	2 2·3	... ...	... ...	... ...	.. ...	... ...	... ...	... ...	... ...	1 1·16	117	Poona, 12 months; Detachment, Kirkee, 9¾ months.	4 1
2nd Connaught Rangers.	1,007	2,289 2,273·1	22 21·85	33 32·77	103·60 102·88	... ...	29 28·8	... ...	7 6·95	... ...	... ...	3 2·98	3 2·98	... ...	1 ·99	... ...	161	Meerut, 12 months; Detachments, Delhi, 12 months; Chakrata, 6½ months.	11
2nd Argyll and Sutherland Highlanders.	862	1,552 1,800·5	10 11·60	18 20·88	87·21 101·17	... ...	21 24·4	... ...	6 6·96	... ...	... ...	1 1·16	... ...	... ...	... ...	... ...	74	Bareilly, 4 months; Chaubatia, 6¾ months; marching, ¾ month; (returned from north-western frontier field service on the 22nd January); Wing, Shahjahanpur, 8 months; Detachments, Standing Camp, Ranikhet, 3¾ months; Nowshera, 1½ month.	7 4
2nd Royal Munster Fusiliers.	890	1,246 1,400·0	21 23·60	77 86·52	85·67 96·20	... ...	7 7·9	... ...	5 5·62	1 1·12	.. ...	... ...	4 4·49	... ...	... ...	6 6·74	200	Dum-Dum, 1½ month; Dinapore, 10½ months; Detachments, Lebong, 8¾ months; Barrackpore, 1½ month.	14 5
3rd Rifle Brigade	914	1,451 1,587·5	29 31·73	112 122·54	81·58 89·26	7 7·7	16 17·5	7 7·66	6 6·56	1 1·09	... ...	4 4·38	2 2·19	1 1·09	... ...	3 3·28	316	Umballa, 9½ months; Rawalpindi, 1½ month; marching, 1 month; Wing, Solon, 6¾ months.	9 1
TOTAL .	44,812	66,037 1,493·7	968 20·26	1,768 39·45	4,068·40 90·79	12 ·3	1,690 37·7	10 ·22	486 10·85	15 ·33	17 ·38	59 1·32	23 ·56	28 ·62	36 ·80	65 1·45			
Garrison Staff and Departments.	4,043	4,173 1,032·2	20 4·95	51 12·61	445·44 110·18	1 ·2	62 15·3	1 ·25	1 ·25	... ...	... ...	4 ·99	2 ·49	3 ·74	... ...	1 ·25	...	Various.	
Men of various corps marching.	96	75 781·2	2 20·83	... ...	·75 8·23	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	...	Various.	
GRAND TOTAL	65,397	95,103 1,454·2	1,272 19·45	2,580 39·45	5,934·90 90·75	17 ·3	2,375 36·3	14 ·21	654 10·00	19 ·29	24 ·37	79 1·21	38 ·58	38 ·58	51 ·78	102 1·56			

N.B.—This table excludes statistics for periods of field service, as such statistics cannot be obtained by corps.

TABLE XV.

A.—STRENGTH, ADMISSIONS from ALL CAUSES, ADMISSIONS from ENTERIC FEVER, of the Army of India in 1898, in relation to AGE and LENGTH of RESIDENCE in INDIA.

	By Age.						By length of residence.						
	Under 20.	20 and less than 25.	25 and less than 30.	30 and less than 35.	35 and less than 40.	40 and upwards.	Under 1 year.	1 and less than 2.	2 and less than 3.	3 and less than 4.	4 and less than 5.	5 and less than 10.	10 years and upwards.
Strength	2,147	31,796	22,035	4,688	1,414	409	11,551	11,215	11,066	9,558	7,760	9,408	1,931
Per cent. of total	3	51	35	8	2	1	18	18	18	15	12	15	3
1893-97	3	52	35	7	2	1	18	18	18	15	13	16	3
Admissions from all causes	2,119	55,799	29,587	2,748	692	237	19,627	17,699	15,922	12,774	10,336	13,779	1,045
Admissions from Enteric Fever	52	1,542	426	49	6	...	959	395	260	202	138	110	2
All causes per 1,000	987·0	1,754·9	1,342·7	586·2	489·4	579·5	1,699·2	1,578·2	1,438·8	1,336·5	1,332·0	1,464·6	541·2
Enteric Fever per 1,000	24·2	48·5	19·3	8·5	4·2	...	83·0	35·2	23·5	21·1	17·8	11·7	1·0
Liability to Enteric Fever	25·11	46·32	18·43	8·12	4·01	...	42·94	18·21	12·16	10·92	9·21	6·05	·52
Enteric Fever per cent. of all causes	2·45	2·76	1·44	1·46	·87	...	4·89	2·23	1·63	1·58	1·34	·80	·19

Note.—Marching returns and returns wherein the classification by age and service was omitted have been excluded. Details of age and service of men admitted for enteric fever on the march are not available.

B.—CHANGE of PERSONNEL, YOUTHFULNESS, RECENT ARRIVAL, and MARRIAGE, in relation to VENEREAL DISEASE and ENTERIC FEVER.

Year.	Arrived in India.*		Year.	Men.							
				Per cent. of Strength.			Strength.	Ratio per 1,000.			Ratio per cent of total admission.	
				Age.	Length of residence.			Admissions.				
	Men.	Women.		Under 25 years.	Under 5 years.	Married. ‡		All causes.	Venereal Diseases.	Enteric Fever.	Venereal Diseases.	Enteric Fever.
1870-71	8,805	826	1870	...	...	...	54,578	1,645·4	191·2	3·1	11·62	·19
1871-72	9,134	920	1871	40	...	11·19	56,806	1,449·6	196·8	3·6	13·58	·25
1872-73	8,271	809	1872	39	...	11·32	58,870	1,497·0	179·0	3·8	11·96	·25
1873-74	8,680	816	1873	39	...	11·26	58,769	1,328·1	166·7	3·6	12·55	·27
1874-75	7,840	673	1874	38	...	11·10	59,308	1,357·7	192·7	4·1	14·20	·30
1875-76	7,568	752	1875	36	...	10·80	58,409	1,337·8	205·1	2·8	15·33	·21
1876-77	8,170	591	1876	33	...	10·37	57,858	1,361·5	189·9	4·6	13·95	·34
1877-78	9,113	482	1877	33	56	9·70	57,260	1,257·3	208·5	4·1	16·59	·32
1878-79	13,113	575	1878	35	60	7·59	56,475	1,651·3	271·3	8·5	16·43	·51
1879-80	13,342	612	1879	39	61	6·63	59,082	1,871·2	234·8	8·0	12·55	·43
1880-81	13,165	664	1880	41	65	6·36	59,717	1,754·2	249·7	7·9	14·23	·45
1881-82	9,895	349	1881	43	70	5·94	58,728	1,604·6	260·5	5·6	16·23	·35
1882-83	9,748	325	1882	41	72	5·43	57,269	1,444·9	265·2	6·2	18·35	·43
1883-84	12,525	433	1883	41	75	5·20	55,525	1,335·7	270·3	7·7	20·23	·58
1884-85	11,822	393	1884	45	75	5·05	54,996	1,513·4	293·9	11·7	19·42	·77
1885-86	17,706	508	1885	48	73	4·23	56,967	1,532·7	342·7	11·2	22·36	·73
1886-87	11,645	372	1886	52	75	3·90	61,015	1,513·9	389·5	18·1	25·73	1·20
1887-88	11,729	459	1887	52	73	3·84	63,515	1,369·7	361·2	12·7	26·37	·93
1888-89	12,407	506	1888	50	76	3·65	68,887	1,381·7	370·6	13·6	26·82	·99
1889-90	12,270	532	1889	49	78	3·60	69,266	1,498·0	481·5	22·9	32·14	1·53
1890-91	14,046	542	1890	50	80	3·70	67,823	1,520·2	503·5	18·5	33·12	1·22
1891-92	15,456	529	1891	51	79	3·36	67,030	1,379·1	400·7	20·4	29·06	1·48
1892-93	15,894	540	1892	51	80	3·29	68,137	1,517·3	469·9	22·1	27·01	1·46
1893-94	15,090	482	1893	53	79	3·29	70,091	1,414·9	466·0	20·0	32·94	1·41
1894-95	15,957	517	1894	54	81	...†	71,082	1,508·0	511·4	20·9	33·91	1·38
1895-96	14,346	654	1895	55	83	...	71,031	1,461·8	522·3	26·3	35·73	1·80
1896-97	14,805	545	1896	56	82	...	70,484	1,386·7	511·6	25·5	36·89	1·84
1897-98	16,227	543	1897	55	84	...	68,395	1,556·9	485·7	32·4	31·20	2·08
1898-99	16,911	648	1898	54	81	...	67,741	1,436·9	362·9	36·9	25·26	2·57

* In ordinary years the departures *plus* the deaths nearly balance the arrivals. † Return abolished. ‡ On the 1st May of each year.

TABLE XVI.

RELATION of MORTALITY to AGE and LENGTH of RESIDENCE in INDIA.

A.—AGE.

(a) Died per 1,000.

Causes of Death.	Under 20.	20 and less than 25.	25 and less than 30.	30 and less than 35.	35 and less than 40.	40 and upwards.
Enteric Fever	6·05	13·46	5·45	2·77	2·83	...
Cholera	...	·22	·18	·43	·71	...
Dysentery	·93	·82	·50	1·07	·71	2·44
Intermittent and Remittent Fevers	·47	·63	·59	1·07	...	...
Alcoholism	...	·09	·18	·21	...	...
Tubercle of the lungs	·93	·47	·41	1·07	·71	2·44
Nervous Diseases	·47	·22	·27	...	...	2·44
Circulatory Diseases	...	·41	·32	·85	·71	9·78
Pneumonia	·47	·57	·04	...	·71	4·89
Other Respiratory Diseases	...	·06	·14	·21	...	...
Abscess of the liver	...	1·45	2·09	1·49	2·12	2·44
Urinary Diseases	...	·16	·05	·21	...	...
All Diseases	10·25	19·04	12·07	12·16	8·49	29·34
Heat-stroke	·47	1·10	1·00	1·71	4·24	4·89
Suicide	...	·31	·27	·64	2·83	4·89
Other injuries	1·86	·75	·91	·43	·71	...
All Causes	12·58	22·11	14·25	14·93	16·27	39·12

(b) Liability in percentages.

Causes of Death.	Under 20.	20 and less than 25.	25 and less than 30.	30 and less than 35.	35 and less than 40.	40 and upwards.
Enteric Fever	20	44	18	9	9	...
Cholera	...	14	12	28	46	...
Dysentery	14	13	8	17	11	38
Intermittent and Remittent Fevers	17	23	21	39	...	...
Alcoholism	...	19	37	44	...	...
Tubercle of the lungs	15	8	7	18	12	40
Nervous Diseases	14	6	8	...	...	72
Circulatory Diseases	...	3	3	7	6	81
Pneumonia	6	8	9	...	10	67
Other Respiratory Diseases	...	15	34	51	...	...
Abscess of the liver	...	15	22	16	22	25
Urinary Diseases	...	38	12	50	...	...
All Diseases	11	22	13	13	9	32
Heat-stroke	4	8	7	13	32	36
Suicide	...	3	3	7	32	55
Other injuries	40	16	20	9	15	...
All Causes	11	19	12	13	14	33

(c) Number of deaths.

Causes of Death.	Under 20.	20 and less than 25.	25 and less than 30.	30 and less than 35.	35 and less than 40.	40 and upwards.
Enteric Fever	13	428	120	13	4	...
Cholera	...	7	4	2	1	...
Dysentery	2	26	11	5	1	1
Intermittent and Remittent Fevers	1	20	13	5	...	...
Alcoholism	...	3	4	1	...	...
Tubercle of the lungs	2	15	9	5	1	1
Nervous Diseases	1	7	6	...	...	1
Circulatory Diseases	...	13	7	4	1	4
Pneumonia	1	18	14	...	1	2
Other Respiratory Diseases	...	2	3	1	...	...
Abscess of the liver	...	46	46	7	3	1
Urinary Diseases	...	5	1	1	...	...
All Diseases	22	634	266	57	12	12
Heat-stroke	1	35	22	8	6	2
Suicide	...	10	6	3	4	2
Other injuries	4	24	20	2	1	...
All Causes	27	703	314	70	23	16

(d) Composition of 100 deaths at each age.

Causes of Death.	Under 20.	20 and less than 25.	25 and less than 30.	30 and less than 35.	35 and less than 40.	40 and upwards.
Enteric Fever	48	61	38	19	17	...
Cholera	...	1	1	3	4	...
Dysentery	7	4	4	7	4	6
Intermittent and Remittent Fevers	4	3	4	7	...	...
Alcoholism	...	...	1	1	...	...
Tubercle of the lungs	7	2	3	7	4	6
Nervous Diseases	4	1	2	...	...	6
Circulatory Diseases	...	2	2	6	4	25
Pneumonia	4	3	4	...	4	13
Other Respiratory Diseases	...	...	1	1	...	...
Abscess of the liver	...	7	15	10	13	6
Urinary Diseases	...	1	...	1	...	...
All Diseases	...	...	...	...	...	...
Heat-stroke	4	5	7	11	26	13
Suicide	...	1	2	4	17	13
Other injuries	15	3	6	3	4	...
All Causes	100	100	100	100	100	100

(e) Number of deaths.

Causes of Death.	Under 20.	20 and less than 25.	25 and less than 30.	30 and less than 35.	35 and less than 40.	40 and upwards.
Enteric Fever	13	428	120	13	4	...
Cholera	...	7	4	2	1	...
Abscess of the liver	...	46	46	7	3	1
Suicide	...	10	6	3	4	2
All Causes	27	703	314	70	23	16

(f) Percentage at each age to total number.

Causes of Death.	Under 20.	20 and less than 25.	25 and less than 30.	30 and less than 35.	35 and less than 40.	40 and upwards.
Enteric Fever	2	74	21	2	1	...
Cholera	...	50	29	14	7	...
Abscess of the liver	...	45	45	7	3	1
Suicide	...	40	24	12	16	8
All Causes	2	61	27	6	2	...

B.—LENGTH OF RESIDENCE IN INDIA.

(g) Died per 1,000.

Causes of Death.	Under 1 year.	1 and less than 2.	2 and less than 3.	3 and less than 4.	4 and less than 5.	5 and less than 10.	10 and upwards.
Enteric Fever	20·43	9·63	7·59	7·43	5·67	3·72	...
Cholera	·26	·18	·36	·10	·13	·32	...
Dysentery	1·04	·80	·72	·63	·39	·85	...
Intermittent and Remittent Fevers	·35	·80	·63	·63	·26	1·17	...
Alcoholism	...	·27	·18	·10	13	·11	...
Tubercle of the lungs	·69	·62	·36	·31	·39	·74	·52
Nervous Diseases	·26	·18	·27	·10	...	·43	1·04
Circulatory Diseases	·26	·53	·27	·31	·26	·74	2·59
Pneumonia	·17	·45	·45	·63	1·03	·96	·52
Other Respiratory Diseases	...	·09	...	·10	·13	·32	...
Abscess of the liver	·87	1·25	1·36	2·51	1·93	2·66	...
Urinary Diseases	·17	·09	...	·21	...	·11	·52
All Diseases	26·40	15·87	13·46	14·86	11·34	13·61	6·73
Heat-stroke	·87	1·69	1·17	·63	1·16	1·49	1·55
Suicide	·35	·18	·09	·31	·52	·74	2·07
Other injuries	1·30	·80	·27	·63	·52	1·49	...
All Causes	28·92	18·51	15·00	16·43	13·53	17·33	10·36

(h) Liability in percentages.

Causes of Death.	Under 1 year.	1 and less than 2.	2 and less than 3.	3 and less than 4.	4 and less than 5.	5 and less than 10.	10 and upwards.
Enteric Fever	38	18	13	14	10	7	...
Cholera	19	13	27	7	10	24	...
Dysentery	23	18	16	14	9	19	...
Intermittent and Remittent Fevers	9	21	16	16	7	30	...
Alcoholism	...	34	23	13	16	14	...
Tubercle of the lungs	19	17	10	9	11	20	1
Nervous Diseases	11	8	12	4	...	19	4
Circulatory Diseases	5	11	5	6	5	15	5
Pneumonia	4	11	11	15	24	23	1
Other Respiratory Diseases	...	14	...	16	20	50	...
Abscess of the liver	8	12	13	24	18	25	...
Urinary Diseases	15	8	...	19	...	10	4
All Diseases	26	16	13	15	11	13	
Heat-stroke	10	20	14	7	14	17	1
Suicide	8	4	2	7	12	17	4
Other injuries	26	16	5	13	10	30	...
All Causes	24	15	12	14	11	14	

(i) Number of deaths.

Causes of Death.	Under 1 year.	1 and less than 2.	2 and less than 3.	3 and less than 4.	4 and less than 5.	5 and less than 10.	10 and upwards.
Enteric Fever	236	108	84	71	44	35	...
Cholera	3	2	4	1	1	3	...
Dysentery	12	9	8	6	3	8	...
Intermittent and Remittent Fevers	4	9	7	6	2	11	...
Alcoholism	...	3	2	1	1	1	...
Tubercle of the lungs	8	7	4	3	3	7	1
Nervous Diseases	3	2	3	1	...	4	2
Circulatory Diseases	3	6	3	3	2	7	5
Pneumonia	2	5	5	6	8	9	1
Other Respiratory Diseases	...	1	...	1	1	3	...
Abscess of the liver	10	14	15	24	15	25	...
Urinary Diseases	2	1	...	2	...	1	1
All Diseases	305	178	149	142	88	128	13
Heat-stroke	10	19	13	6	9	14	3
Suicide	4	2	1	3	4	7	4
Other injuries	15	9	3	6	4	14	...
All Causes	334	208	166	157	105	163	20

(j) Composition of 100 deaths in each period of residence.

Causes of Death.	Under 1 year.	1 and less than 2.	2 and less than 3.	3 and less than 4.	4 and less than 5.	5 and less than 10.	10 and upwards.
Enteric Fever	70	52	51	45	42	21	...
Cholera	1	1	2	1	1	2	...
Dysentery	4	4	5	4	3	5	...
Intermittent and Remittent Fevers	1	4	4	4	2	7	...
Alcoholism	...	1	1	1	1	1	...
Tubercle of the lungs	2	3	2	2	3	4	
Nervous Diseases	1	1	2	1	...	2	
Circulatory Diseases	1	3	2	2	2	4	
Pneumonia	1	2	3	4	8	6	
Other Respiratory Diseases	...	...	...	1	1	2	...
Abscess of the liver	3	7	9	15	14	15	...
Urinary Diseases	1	...	...	1	...	1	
All Diseases	...	...	...	...	...	...	...
Heat-stroke	3	9	8	4	9	9	
Suicide	1	1	1	2	4	4	
Other injuries	4	4	2	4	4	9	...
All Causes	100	100	100	100	100	100	1

(k) Number of deaths.

Causes of Death.	Under 1 year.	1 and less than 2.	2 and less than 3.	3 and less than 4.	4 and less than 5.	5 and less than 10.	10 and upwards.
Enteric Fever	236	108	84	71	44	35	...
Cholera	3	2	4	1	1	3	...
Abscess of the liver	10	14	15	24	15	25	...
Suicide	4	2	1	3	4	7	4
All Causes	334	208	166	157	105	163	20

(l) Percentage in each period of residence to total number.

Causes of Death.	Under 1 year.	1 and less than 2.	2 and less than 3.	3 and less than 4.	4 and less than 5.	5 and less than 10.	10 and upwards.
Enteric Fever	41	19	15	12	8	6	.
Cholera	21	14	29	7	7	21	.
Abscess of the liver	10	14	15	23	15	24	.
Suicide	16	8	4	12	16	28	
All Causes	29	18	14	14	9	14	

NOTE.—Marching returns and returns wherein the classification by age and service was omitted have been excluded.

TABLE XVII.

RELATION of INVALIDING to AGE and LENGTH of RESIDENCE in INDIA.

A.—AGE.

(a) Invalided per 1,000.

Causes of Invaliding.	Under 20.	20 and less than 25.	25 and less than 30.	30 and less than 35.	35 and less than 40.	40 and upwards.
Dysentery	2·33	2·52	1·50	·85	1·41	2·44
Intermittent and Remittent Fevers	5·12	9·21	7·03	3·63	4·24	2·44
Venereal Diseases	·93	11·16	8·76	3·20	2·12	2·44
Debility	2·33	2·96	2·54	2·77	4·95	17·11
Rheumatism	...	1·20	·82	·43	3·54	4·89
Tubercle of the lungs	1·40	1·76	1·91	1·07	...	...
Mental Diseases	·47	·94	1·00	1·28	·71	...
Epilepsy	·47	·75	·45	·21	...	...
Other Nervous Diseases	...	·69	·41	·64	2·12	2·44
Eye, ear, and nose Diseases	1·40	2·17	·91	·64	·71	...
Palpitation	1·86	2·83	1·09	·21	...	4·89
Valvular disease of the heart	·93	1·89	1·32	1·07	...	...
Other Circulatory Diseases	...	·41	·95	...	...	4·89
Respiratory Diseases	...	·53	·50	1·71	·71	2·44
Hepatitis and Abscess of the liver	·47	1·20	1·50	1·71	2·83	7·33
Locomotive Diseases	·93	1·35	·86	·85	1·41	...
Injuries	...	1·73	1·68	1·07	1·41	...
All Causes	20·96	48·25	36·67	24·53	31·12	58·68

(b) Liability in percentages.

Causes of Invaliding.	Under 20.	20 and less than 25.	25 and less than 30.	30 and less than 35.	35 and less than 40.	40 and upwards.
Dysentery	21	23	14	8	13	22
Intermittent and Remittent Fevers	16	29	22	11	13	8
Venereal Diseases	3	39	31	11	7	9
Debility	7	9	8	8	15	52
Rheumatism	...	11	8	4	33	45
Tubercle of the lungs	23	29	31	17	...	...
Mental Diseases	11	21	23	29	16	...
Epilepsy	25	40	24	11	...	...
Other Nervous Diseases	...	11	7	10	34	39
Eye, ear, and nose Diseases	24	37	16	11	12	...
Palpitation	17	26	10	2	...	45
Valvular disease of the heart	18	36	25	21	...	...
Other Circulatory Diseases	...	7	15	...	...	78
Respiratory Diseases	...	9	8	29	12	41
Hepatitis and Abscess of the liver	3	8	10	11	19	49
Locomotive Diseases	17	25	16	16	26	...
Injuries	...	29	29	18	24	...
All Causes	10	22	17	11	14	27

(c) Number invalided.

Causes of Invaliding.	Under 20.	20 and less than 25.	25 and less than 30.	30 and less than 35.	35 and less than 40.	40 and upwards.
Dysentery	5	80	33	4	2	1
Intermittent and Remittent Fevers	11	293	155	17	6	1
Venereal Diseases	2	353	193	15	3	1
Debility	5	94	50	13	7	7
Rheumatism	...	38	18	2	5	2
Tubercle of the lungs	3	56	42	5	...	...
Mental Diseases	1	30	22	6	1	...
Epilepsy	1	24	10	1	...	...
Other Nervous Diseases	...	22	9	3	3	1
Eye, ear, and nose Diseases	3	69	20	3	1	...
Palpitation	4	90	24	1	...	2
Valvular disease of the heart	2	60	29	5	...	...
Other Circulatory Diseases	...	13	21	...	...	2
Respiratory Diseases	...	17	11	8	1	1
Hepatitis and Abscess of the liver	1	38	33	8	4	3
Locomotive Diseases	2	43	19	4	2	...
Injuries	...	55	37	5	2	...
All Causes	45	1,534	808	115	44	24

(d) Composition of 100 invalidings at each age.

Causes of Invaliding.	Under 20.	20 and less than 25.	25 and less than 30.	30 and less than 35.	35 and less than 40.	40 and upwards.
Dysentery	11	5	4	3	5	4
Intermittent and Remittent Fevers	24	19	19	15	14	4
Venereal Diseases	4	23	24	13	7	4
Debility	11	6	7	11	16	29
Rheumatism	...	2	2	2	11	8
Tubercle of the lungs	7	4	5	4	...	...
Mental Diseases	2	2	3	5	2	...
Epilepsy	2	2	1	1	...	...
Other Nervous Diseases	...	1	1	3	7	4
Eye, ear, and nose Diseases	7	4	2	3	2	...
Palpitation	9	6	3	1	...	8
Valvular disease of the heart	4	4	4	4	...	...
Other Circulatory Diseases	...	1	3	...	...	8
Respiratory Diseases	...	1	1	7	2	4
Hepatitis and Abscess of the liver	2	2	4	7	9	13
Locomotive Diseases	4	3	2	3	5	...
Injuries	...	4	5	4	5	...
All Causes	100	100	100	100	100	100

(e) Number invalided.

Causes of Invaliding.	Under 20.	20 and less than 25.	25 and less than 30.	30 and less than 35.	35 and less than 40.	40 and upwards.
Intermittent and Remittent Fevers	11	293	155	17	6	1
Venereal Diseases	2	353	193	15	3	1
Debility	5	94	50	13	7	7
All Causes	45	1,534	808	115	44	24

(f) Percentage at each age to total number.

Causes of Invaliding.	Under 20.	20 and less than 25.	25 and less than 30.	30 and less than 35.	35 and less than 40.	40 and upwards.
Intermittent and Remittent Fevers	2	60	32	4	1	...
Venereal Diseases	...	62	34	3	1	...
Debility	3	52	31	7	4	4
All Causes	2	60	31	4	2	1

B.—LENGTH OF RESIDENCE IN INDIA.

(g) Invalided per 1,000.

Causes of Invaliding.	Under 1 year.	1 and less than 2.	2 and less than 3.	3 and less than 4.	4 and less than 5.	5 and less than 10.	10 and upwards.
Dysentery	1·04	3·12	2·35	2·30	1·55	1·59	1·55
Intermittent and Remittent Fevers	1·82	8·92	9·40	9·42	10·70	8·08	4·66
Venereal Diseases	3·12	11·45	11·30	11·93	11·21	7·97	1·04
Debility	1·73	3·57	2·71	3·24	2·71	3·40	4·14
Rheumatism	·61	1·43	1·17	1·05	1·16	·64	2·07
Tubercle of the lungs	1·04	1·69	1·99	2·09	1·93	1·91	...
Mental Diseases	·61	·98	·99	1·36	1·16	·85	1·04
Epilepsy	1·13	·62	·27	·73	·26	·43	...
Other Nervous Diseases	·78	·62	·54	·84	...	·43	2·07
Eye, ear, and nose Diseases	2·08	2·67	1·81	·84	1·03	·53	·52
Palpitation	1·99	3·03	1·72	3·14	1·03	·64	·52
Valvular disease of the heart	2·42	1·87	1·17	1·67	1·16	·96	...
Other Circulatory Diseases	·52	·62	·72	·42	·64	·64	...
Respiratory Diseases	·35	·98	·54	·42	·52	·85	·52
Hepatitis and Abscess of the liver	·52	1·96	·90	1·36	1·16	2·34	2·59
Locomotive Diseases	1·39	1·25	·99	·94	·64	1·28	1·55
Injuries	1·04	1·60	1·08	1·88	2·00	2·34	·52
All Causes	25·54	31·09	43·65	49·17	43·17	38·69	25·89

(h) Liability in percentages.

Causes of Invaliding.	Under 1 year.	1 and less than 2.	2 and less than 3.	3 and less than 4.	4 and less than 5.	5 and less than 10.	10 and upwards.
Dysentery	8	23	17	17	11	12	11
Intermittent and Remittent Fevers	3	17	18	18	20	15	9
Venereal Diseases	5	20	19	21	19	14	2
Debility	8	17	13	15	13	16	19
Rheumatism	7	18	14	13	14	8	25
Tubercle of the lungs	10	16	19	20	18	18	...
Mental Diseases	9	14	13	20	17	12	15
Epilepsy	33	18	8	21	8	13	...
Other Nervous Diseases	15	12	10	16	...	8	39
Eye, ear, and nose Diseases	22	28	19	9	11	6	5
Palpitation	16	25	14	26	9	5	4
Valvular disease of the heart	26	20	13	18	13	10	...
Other Circulatory Diseases	15	17	20	12	18	18	...
Respiratory Diseases	8	23	13	10	12	20	10
Hepatitis and Abscess of the liver	5	18	8	13	11	22	24
Locomotive Diseases	17	16	12	12	8	16	19
Injuries	10	15	10	18	20	22	5
All Causes	9	18	16	18	16	14	9

(i) Number invalided.

Causes of Invaliding.	Under 1 year.	1 and less than 2.	2 and less than 3.	3 and less than 4.	4 and less than 5.	5 and less than 10.	10 and upwards.
Dysentery	12	35	26	22	12	15	3
Intermittent and Remittent Fevers	21	100	104	90	83	76	9
Venereal Diseases	36	128	125	114	87	75	2
Debility	20	40	30	31	21	32	8
Rheumatism	7	16	13	10	9	6	4
Tubercle of the lungs	12	19	22	20	15	18	...
Mental Diseases	7	11	10	13	9	8	2
Epilepsy	13	7	3	7	2	4	...
Other Nervous Diseases	9	7	6	8	...	4	4
Eye, ear, and nose Diseases	24	30	20	8	8	5	1
Palpitation	23	34	19	30	8	6	1
Valvular disease of the heart	28	21	13	16	9	9	...
Other Circulatory Diseases	6	7	8	4	5	6	...
Respiratory Diseases	4	11	6	4	4	8	1
Hepatitis and Abscess of the liver	6	22	10	13	9	22	5
Locomotive Diseases	16	14	11	9	5	12	3
Injuries	12	18	12	18	16	22	1
All Causes	295	573	483	470	335	364	50

(j) Composition of 100 invalidings in each period of residence.

Causes of Invaliding.	Under 1 year.	1 and less than 2.	2 and less than 3.	3 and less than 4.	4 and less than 5.	5 and less than 10.	10 and upwards.
Dysentery	4	6	5	5	4	4	6
Intermittent and Remittent Fevers	7	17	22	19	25	21	18
Venereal Diseases	12	22	26	24	26	21	4
Debility	7	7	6	7	6	9	16
Rheumatism	2	3	3	2	3	2	8
Tubercle of the lungs	4	3	5	4	4	5	...
Mental Diseases	2	2	2	3	3	2	4
Epilepsy	4	1	1	1	1	1	...
Other Nervous Diseases	3	1	1	2	...	1	8
Eye, ear, and nose Diseases	8	5	4	2	2	1	2
Palpitation	8	6	4	6	2	2	2
Valvular disease of the heart	9	4	3	3	3	2	...
Other Circulatory Diseases	2	1	2	1	1	2	...
Respiratory Diseases	1	2	1	1	1	2	2
Hepatitis and Abscess of the liver	2	4	2	3	3	6	10
Locomotive Diseases	5	2	2	2	1	3	6
Injuries	4	3	2	4	5	6	2
All Causes	100	100	100	100	100	100	100

(k) Number invalided.

Causes of Invaliding.	Under 1 year.	1 and less than 2.	2 and less than 3.	3 and less than 4.	4 and less than 5.	5 and less than 10.	10 and upwards.
Intermittent and Remittent Fevers	21	100	104	90	83	76	9
Venereal Diseases	36	128	125	114	87	75	2
Debility	20	40	30	31	21	32	8
All Causes	295	573	483	470	335	364	50

(l) Percentage in each period of residence to total number.

Causes of Invaliding.	Under 1 year.	1 and less than 2.	2 and less than 3.	3 and less than 4.	4 and less than 5.	5 and less than 10.	10 and upwards.
Intermittent and Remittent Fevers	4	21	22	19	17	16	2
Venereal Diseases	6	23	22	20	15	13	...
Debility	11	22	16	17	12	18	4
All Causes	11	22	19	18	13	14	2

NOTE.—Marching returns and returns wherein the classification by age and service was omitted have been excluded.

TABLE XVIII.

STATISTICS OF OFFICERS.

A.—SICKNESS and MORTALITY among OFFICERS of the BRITISH ARMY in 1898. (From the medical returns of the army).

	Ratios per 1,000 of strength.						Actuals.					
	Bengal.	Punjab.	Madras.	Bombay.	Field.	India.	Bengal.	Punjab.	Madras.	Bombay.	Field.	India.
Strength	...	...	...	...	...	...	574	508	335	440	102	1,959
Invalids	67·9	70·9	71·6	61·4	...	64·3	39	36	24	27	...	126
Cases remaining from 1897	...	...	...	...	...	...	12	21	1	8	32	74
Admissions	824·0	881·9	1,017·9	806·8	882·4	871·4	473	448	341	355	90	1,707
Influenza	12·2	9·8	20·9	11·4	29·4	13·8	7	5	7	5	3	27
Cholera	1·7	...	6·0	...	...	1·5	1	...	2	...	...	3
Small-pox	...	...	...	...	...	...	...	...	...	...	...	...
Enteric Fever	45·3	49·2	17·9	43·2	107·8	44·4	26	25	6	19	11	87
Intermittent Fever	196·9	218·5	197·0	177·3	176·5	197·0	113	111	66	78	18	386
Remittent Fever	19·2	124·0	17·9	22·7	19·6	47·0	11	63	6	10	2	92
Simple Continued Fever	57·5	70·9	86·6	65·9	29·4	66·4	33	36	29	29	3	130
Tubercle of the lungs	...	...	...	...	...	...	...	...	...	...	...	...
Pneumonia	3·5	...	...	...	9·8	1·5	2	...	...	...	1	3
Other Respiratory Diseases	13·9	15·7	17·9	13·6	29·4	15·8	8	8	6	6	3	31
Dysentery	20·9	23·6	29·9	36·4	19·6	26·5	12	12	10	16	2	52
Diarrhœa	20·9	33·5	14·9	38·6	39·2	28·1	12	17	5	17	4	55
Hepatic Abscess	1·7	...	...	...	...	·5	1	...	...	...	...	1
„ Congestion and Inflammation	40·1	41·3	44·8	45·5	49·0	42·9	23	21	15	20	5	84
Venereal Diseases	12·2	...	29·9	15·9	...	12·3	7	...	10	7	...	24
Deaths	19·16	19·69	8·96	20·45	88·24	21·44	11	10	3	9	9	42
Cholera	1·74	...	2·99	...	...	1·02	1	...	1	...	...	2
Small-pox	...	...	...	...	...	...	...	...	...	...	...	...
Enteric Fever	10·45	3·94	2·99	9·09	39·22	8·68	6	2	1	4	4	17
Intermittent Fever	...	...	...	...	...	...	...	...	...	...	...	...
Remittent Fever	...	...	...	...	...	...	...	...	...	...	...	...
Simple Continued Fever	...	...	...	...	...	...	...	...	...	...	...	...
Heat-stroke	...	...	...	...	...	...	...	...	...	...	...	...
Circulatory Diseases	...	3·94	...	...	...	1·02	...	2	...	...	...	2
Tubercle of the lungs	...	...	...	...	...	...	...	...	...	...	...	...
Pneumonia	...	...	...	...	...	...	...	...	...	...	...	...
Other Respiratory Diseases	...	...	...	...	...	...	...	...	...	...	...	...
Dysentery	1·74	1·97	...	4·55	...	2·04	1	1	...	2	...	4
Diarrhœa	...	...	...	...	...	...	...	...	...	...	...	...
Hepatic Abscess	...	...	...	...	...	...	...	...	...	...	...	...
Deaths out of hospital	1·74	...	2·99	...	29·41	2·55	1	...	1	...	3	5

B.—CAUSES of DEATH among OFFICERS of the BRITISH and INDIAN ARMIES in 1898. (From a Statement issued by the Adjutant-General in India).

Armies.	Strength in India, whether on leave or not, on the 1st of July.	Strength in Europe or beyond sea on 1st July 1898, whether on furlough or sick leave.	In India.																Deaths in England and other countries.	Deaths at sea.	Grand Total.	Ratio per 1,000.
			Cholera.	Small-pox.	Enteric Fever.	Fever, not defined.	Remittent Fever.	Simple Continued Fever.	Heat-stroke.	Circulatory Diseases.	Tubercle of the lungs.	Pneumonia.	Other Respiratory Diseases.	Dysentery.	Diarrhœa.	Hepatic Abscess.	Total.					
British	2,461	553	2	...	19	...	...	...	...	2	...	1	...	4	...	...	47*		1	1	49	16·7
Indian	2,481	662	...	...	6	...	1	...	1	1	...	1	1	1	...	...	26		5	1	32	10·1

* Including 5 deaths not shown in medical returns.

C.—CHOLERA by months, stations, groups, and commands.

Stations,* Groups, and Commands.	Average annual strength.	Number of admissions from Cholera in each month.												Total admissions.	Admission-rate per 1,000 of strength.	Total deaths.	Death-rate per 1,000 of strength.
		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.				
Thayetmyo	11	...	...	...	...	2	...	...	...	...	...	...	...	2	181·8	1	90·91
Group II.—Burma Inland	52	...	...	...	...	2	...	...	...	...	...	...	...	2	38·5	1	19·23
B																	
Lucknow	63	...	...	...	...	...	1	...	...	...	...	...	...	1	15·9	1	15·87
Group V.—Gangetic Plain and Chutia Nagpur	168	...	...	...	...	...	1	...	...	...	...	...	...	1	6·0	1	5·95
INDIA	1,059	...	...	...	...	2	1	...	...	...	...	...	...	3	1·5	2	1·02
Bengal	574	...	...	...	...	...	1	...	...	...	...	...	...	1	1·7	1	1·74
Punjab	508	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Madras	335	...	...	...	...	2	...	...	...	...	...	...	...	2	6·0	1	2·99
Bombay	440	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

* Stations where Cholera did not occur are not shown in this table.

TABLE XVIII—*continued.*

STATISTICS OF OFFICERS.

D.—ENTERIC FEVER by months, stations, groups, and commands.

Stations* and Groups.	Average annual strength.	Number of admissions from Enteric Fever in each month.												Total admissions.	Admission-rate per 1,000 of strength.	Total deaths.	Death-rate per 1,000 of strength.
		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.				
Rangoon	33	1	1	...	1	...	...	...	...	...	...	...	...	3	90·9	...	...
Group I.—Burma Coast and Bay Islands	36	1	1	...	1	...	...	...	...	...	...	...	...	3	83·3	...	...
Dum-Dum	21	...	...	1	1	...	...	...	...	...	...	...	...	2	95·2	...	...
Barrackpore	13	...	...	...	...	...	...	...	...	...	...	...	1	1	76·9	...	...
Group IV.—Bengal and Orissa	72	...	...	1	1	...	...	...	...	...	...	...	1	3	41·7	...	...
B																	
Allahabad	24	...	...	...	1	...	...	...	...	...	...	...	...	1	41·7	...	...
Fyzabad	14	...	...	...	...	1	...	...	...	...	...	...	...	1	71·4	...	...
Lucknow	63	2	4	...	...	...	...	...	...	...	...	1	...	7	111·1	2	31·75
Cawnpore	20	...	...	...	1	...	...	...	...	...	...	...	...	1	50·0	...	...
Group V.—Gangetic Plain and Chutia Nagpur	168	2	4	...	2	1	...	...	...	...	...	1	...	10	59·5	2	11·90
A																	
Shahjahanpur	6	...	...	...	1	...	...	...	...	...	...	...	...	1	166·7	...	...
Bareilly	26	1	1	...	...	...	...	...	...	...	...	...	...	2	76·9	1	38·46
Meerut	53	...	1	...	1	...	1	...	...	...	...	1	...	4	75·5	2	37·74
Umballa	48	...	...	...	...	...	...	...	...	...	1	4	...	5	104·2	2	41·67
B																	
Ferozepore	22	...	...	...	...	1	...	...	...	...	...	...	...	1	45·5	...	...
Mecan Meer	21	...	...	...	...	...	...	...	...	...	...	1	...	1	47·6	...	...
Attock	5	...	...	...	...	1	...	...	...	...	...	...	...	1	200·0	...	...
Group VI.—Upper Sub-Himalaya	338	1	2	...	2	2	1	...	...	...	1	6	...	15	44·4	5	14·79
A																	
Peshawar	47	1	...	...	...	...	...	...	...	...	...	1	...	2	42·6	...	...
Mooltan	22	...	...	...	1	...	...	...	...	...	...	...	...	1	45·5	...	...
C																	
Kurrachee	36	1	...	...	...	...	...	...	...	...	...	...	...	1	27·8	...	...
Group VII.—North-Western Frontier, Indus Valley, and North-Western Rajputana	120	2	...	...	1	...	...	...	...	...	...	1	...	4	33·3	...	...
B																	
Agra	26	...	1	...	...	...	...	...	...	...	...	...	...	1	38·5	...	...
Mhow	51	...	1	...	...	...	...	1	...	...	...	1	1	4	78·4	2	39·22
Group VIII.—South-East Rajputana, Central India, and Gujarat	165	...	2	...	...	...	...	1	...	...	...	1	1	5	30·3	2	12·12

* Stations where Enteric Fever did not occur are not shown in this table.

D.—ENTERIC FEVER by months, stations, groups, and commands—concluded.

Stations, Groups, and Commands.	Average annual strength.	Number of admissions from Enteric Fever in each month.												Total admissions.	Admission-rate per 1,000 of strength.	Total deaths.	Death-rate per 1,000 of strength.
		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.				
B																	
Secunderabad	70	...	...	...	...	...	...	...	...	...	1	1	1	3	42·9	1	14·29
Satara	3	...	...	...	...	1	...	...	...	...	...	...	...	1	333·3	...	...
Poona	70	1	...	...	...	...	...	...	1	1	...	...	...	3	42·9	1	14·29
Group IX.—Deccan	264	1	...	...	...	1	...	...	1	1	1	1	1	7	26·5	2	7·58
Chakrata	29	...	...	...	3	...	...	...	...	...	...	...	...	3	103·4	1	34·48
Khyragully	1	...	...	..	...	...	1	...	...	...	...	...	...	1	1000·0	...	...
Camp Gharial	7	...	...	...	...	1	...	...	...	...	...	...	...	1	142·9	...	...
„ Thobba	5	...	...	...	...	...	...	...	2	...	...	...	...	2	400·0	...	...
Quetta	55	...	...	...	...	2	1	1	2	1	1	...	...	8	145·5	1	18·18
Group XII *a*.—Hill Stations	214	...	...	...	3	3	2	1	4	1	1	...	...	15	70·1	2	9·35
Naini Tal	12	...	...	...	...	...	1	1	...	...	...	...	...	2	166·7	...	...
Murree	10	...	...	...	...	2	1	1	3	...	...	...	...	7	700·0	...	...
Mount Abu	3	...	...	...	...	1	...	...	...	...	...	...	...	1	333·3	...	...
Group XII *b*.—Hill Convalescent Depôts, and Sanitaria.	118	...	...	...	...	3	2	2	3	...	...	...	...	10	84·7	...	...
Tirah Field Force	94	5	3	2	1	...	...	...	...	...	...	...	...	11	117·0	4	42·55
Malakand „	16	...	...	...	1	...	...	...	...	...	...	...	...	1	62·5	...	...
Khyber Force and Brigade	49	...	...	...	...	1	1	...	...	...	...	...	...	2	40·8	...	...
Deolali Depôt	16	...	...	...	1	...	...	...	...	...	...	...	...	1	62·5	...	...
INDIA	1,959	12	12	3	13	11	6	4	8	2	3	10	3	87	44·4	17	8·68
Bengal	574	3	7	1	8	1	2	1	...	...	...	2	1	26	45·3	6	10·45
Punjab	508	1	...	...	2	6	3	1	5	...	1	6	...	25	49·2	2	3·94
Madras	335	1	1	...	1	...	...	...	...	...	1	1	1	6	17·9	1	2·99
Bombay	440	2	1	...	1	4	1	2	3	2	1	1	1	19	43·2	4	9·09

TABLE XVIII—*concluded.*

STATISTICS OF OFFICERS.

E.—DETAIL of DISEASES.

Diseases.	India.*			Field Service.		Diseases.	India.*			Field Service	
	Admissions.	Deaths.	Invaliddings.	Admissions.	Deaths.		Admissions.	Deaths.	Invaliddings.	Admissions.	Deaths
Chicken-pox	2	...	...	...	...	Colic	12	...	...	...	...
Measles	4	...	...	...	...	Diarrhœa	51	...	1	4	...
Rubella	1	...	...	2	...	Periproctitic abscess	1	...	...	...	...
Scarlet fever	2	...	...	...	...	Ulceration of the rectum and anus	1	...	...	...	...
Dengue	2	...	...	...	...	Fissure of the anus	1	...	...	...	...
Influenza	24	...	...	3	...	Fistula in ano	4	...	1	...	...
Mumps	3	...	...	...	...	Piles	9	...	...	...	...
Diphtheria	1	...	...	...	1	Hepatitis	23	1	8	3	...
Simple continued fever	127	...	2	3	...	Abscess of the liver	1	...	1	...	...
Enteric fever	76	13	31	11	4	Congestion of the liver	55	...	8	2	...
Cholera	3	2	...	...	...	Passive congestion of the liver	1	...	1	...	...
Dysentery	50	4	7	2	...	Jaundice	14	...	...	6	...
Intermittent fever	368	...	16	18	...	Gallstones	1	1	...	...	...
Remittent fever	90	...	6	2	...	Biliary colic	3	...	...	...	...
Erysipelas	1	...	...	...	...	Splenitis	2	...	...	...	...
Primary syphilis	1	...	...	...	...	Inflammation of lymph-glands	18	...	...	...	...
Secondary ,,	5	...	1	...	...	Suppuration of ,,	1	...	...	...	...
Gonorrhœa	17	...	...	...	...	Inflammation of lymphatics	1	...	...	...	...
Ringworm	2	...	...	...	...	Acute nephritis	2	1	...	...	...
Alcoholism	2	...	...	...	...	Bright's disease, not defined	1	...	...	...	...
Rheumatic fever	1	...	...	...	...	Chronic nephritis	1	...	1	...	...
Rheumatism	18	...	...	...	...	Granular kidney	1	...	...	...	...
Gout	8	...	1	...	...	Calculus in kidney	1	...	...	...	...
Cyst	3	...	...	...	...	Lithuria	1	...	...	...	...
Anæmia	2	...	2	...	...	Cystitis	3	...	...	1	...
Purpura	1	1	...	...	...	Calculus in the bladder	1	...	...	...	...
Diabetes mellitus	2	1	1	...	...	Stricture of urethra, organic	1	...	1	...	...
Debility	23	1	8	2	...	,, ,, spasmodic	1	...	...	...	...
Neuritis	2	...	...	...	...	Inflammation of the prostate	1	...	...	...	...
Pachymeningitis	1	1	...	...	...	Soft chancre	1	...	...	...	...
Epilepsy	1	...	...	...	...	Varicocele	1	...	...	...	...
Megrim	1	...	...	...	...	Inflammation of the tunica vaginalis	1	...	...	...	...
Neuralgia	7	...	...	...	...	Orchitis	3	...	...	...	...
Mania	2	1	1	...	...	Epididymitis	2	...	...	...	...
Melancholia	1	...	1	...	...	Periostitis, circumscribed	2	...	1	...	...
Delusional insanity	1	...	...	...	...	,, diffuse	1	...	1	...	...
Conjunctivitis, catarrhal	11	...	...	1	...	Synovitis	23	...	1	4	...
Iritis	1	...	...	...	...	Myalgia	2	...	...	...	...
Retinitis	2	...	2	...	...	Inflammation of connective tissue	16	...	...	...	...
Lenticular cataract	1	...	1	...	...	Abscess of connective tissue	21	...	...	...	...
Capsular cataract	...	...	1	...	...	Urticaria	3	...	...	...	...
Inflammation of external ear	1	...	...	...	...	Eczema	6	...	...	1	...
Abscess of external ear	...	...	...	1	...	Impetigo	1	...	...	...	...
Inflammation of the middle ear	2	...	1	...	...	Zona	1	...	...	...	...
Rhinitis	1	...	1	...	...	Pemphigus	1	...	...	...	...
Inflammation of the accessory sinuses	1	...	...	...	...	Ulcer	15	...	...	1	...
Valvular disease of the heart	2	1	...	1	...	Boil	29	...	...	...	...
Syncope	...	1	...	...	...	Whitlow	1	...	...	...	...
Phlebitis	1	...	...	...	...	Onychia	1	...	...	...	...
Laryngitis	1	...	...	...	...	Carbuncle	1	...	...	...	...
Bronchitis	23	...	...	3	...	Heat-stroke	9	...	2	...	...
Pneumonia	2	...	1	...	...	Sunstroke	6	...	2	...	...
Broncho-pneumonia	...	...	...	1	...	Heat-apoplexy	1	...	...	...	...
Pleurisy	2	...	...	...	...	Suffocation from submersion	...	1	...	...	...
Empyema	1	...	1	...	...	Contusions	73	1	1	4	...
Adhesions, including thickening of pleura	1	...	1	...	...	Strains and sprains	64	...	1	3	...
Caries of dentine	1	...	...	...	...	Rupture of muscles	1	...	...	...	...
Inflammation of the dental periosteum	5	...	1	...	...	Gunshot wounds	4	1	2	6	1
Gum-boil	5	...	...	...	...	Other wounds	34	...	...	...	...
Sore-throat	20	...	...	1	...	Abrasions	8	...	...	...	...
Ulceration of the palate and fauces	1	...	...	1	...	Fractures of the base of the skull	2	1	...	...	...
Tonsillitis, follicular	16	...	...	1	...	,, other bones	27	...	...	1	...
Quinsy	5	...	...	...	...	Dislocations	11	...	...	...	...
Inflammation of the salivary glands	1	...	...	...	...	Concussion of the brain	11	...	1	...	...
Gastritis	15	...	...	...	...	,, ,, spinal cord	2	...	...	...	...
Indigestion	16	...	2	1	...	In action	...	...	...	...	3
Enteritis	5	...	1	...	...	No appreciable disease	1	...	...	...	...
Typhlitis	4	...	2	...	...						
Colitis	2	...	...	...	...						
Inflammation of the intestines, catarrhal	14	...	...	...	...	TOTAL	1,617	33	126	90	9

* Excluding Field Service.

B. WOMEN.

TABLE XIX.

RATIOS AND ACTUALS OF COMMANDS.

	Bengal Command.		Punjab Command.		Madras Command.		Bombay Command.		India.*		
Strength	977		747		704		690		3,118		
	Ratios.	Actuals.	Ratios.	Actuals.	Ratios.	Actuals.	Ratios.	Actuals.	Ratios.	Actuals.	Remaining from 1897.
Constantly sick	35·5	34·69	36·7	27·42	52·1	36·65	28·2	19·43	37·9	118·19	
ADMISSIONS:—											
Influenza	5·1	5	...	...	12·8	9	1·4	1	4·8	15	1
Cholera	...	...	...	...	...	...	...	...	...	...	...
Small-pox	...	...	2·7	2	2·8	2	...	...	1·3	4	...
Enteric Fever	14·3	14	13·4	10	2·8	2	17·4	12	12·2	38	3
Intermittent Fever	169·9	166	160·6	120	71·0	50	165·2	114	144·3	450	21
Remittent Fever	5·1	5	26·8	20	8·5	6	20·3	14	14·4	45	1
Simple Continued Fever	22·5	22	26·8	20	22·7	16	13·0	9	21·5	67	3
Tubercle of the lungs	2·0	2	1·3	1	8·5	6	2·9	2	3·5	11	3
Pneumonia	2·0	2	1·3	1	2·8	2	...	...	1·6	5	...
Other Respiratory Diseases	10·2	10	10·7	8	42·6	30	14·5	10	18·6	58	3
Dysentery	23·5	23	17·4	13	19·9	14	15·9	11	19·6	61	5
Diarrhœa	16·4	16	14·7	11	19·9	14	11·6	8	15·7	49	1
Anæmia and Debility	237·5	232	344·0	257	278·4	196	210·1	145	266·2	830	30
Abortion and Puerperal Affections	30·7	30	41·5	31	29·8	21	29·0	20	32·7	102	1
Other diseases peculiar to women	43·0	42	50·9	38	69·6	49	53·6	37	53·2	166	5
ALL CAUSES	720·6	704	864·8	646	850·9	599	668·1	461	772·9	2,410	99
DEATHS:—											*Deaths out of Hospital.*
Cholera	...	...	...	...	...	...	...	...	...	...	...
Small-pox	...	...	1·34	1	...	...	...	...	·32	1	...
Enteric Fever	5·12	5	5·35	4	1·42	1	7·25	5	4·81	15	...
Intermittent Fever	...	...	...	...	...	...	1·45	1	·32	1	...
Remittent Fever	...	...	2·68	2	...	...	1·45	1	·96	3	...
Simple Continued Fever	...	...	...	...	...	...	...	...	...	...	...
Tubercle of the lungs	1·02	1	1·34	1	...	...	...	...	·64	2	...
Pneumonia	1·02	1	...	...	...	...	...	...	·32	1	...
Other Respiratory Diseases	...	...	...	...	...	...	...	...	...	...	...
Dysentery	1·02	1	...	...	...	...	1·45	1	·64	2	...
Diarrhœa	...	...	...	...	...	...	...	...	...	...	...
Hepatic Abscess	2·05	2	...	...	...	...	...	...	·64	2	...
Childbirth and Abortion	2·05	2	2·68	2	...	...	4·35	3	2·25	7	...
ALL CAUSES	17·40	17	20·08	15	4·26	3	21·74	15	16·04	50	1
PERCENTAGE IN 100 ADMISSIONS:—											
Influenza	·71		...		1·50		·22		·62		
Cholera	...		...		...		...		...		
Small-pox	...		·31		·33		...		·17		
Enteric Fever	1·99		1·55		·33		2·60		1·58		
Intermittent Fever	23·58		18·58		8·35		24·73		18·67		
Remittent Fever	·71		3·10		1·00		3·04		1·87		
Simple Continued Fever	3·13		3·10		2·67		1·95		2·78		
Tubercle of the lungs	·28		·15		1·00		·43		·46		
Pneumonia	·28		·15		·33		...		·21		
Other Respiratory Diseases	1·42		1·24		5·01		2·17		2·41		
Dysentery	3·27		2·01		2·34		2·39		2·53		
Diarrhœa	2·27		1·70		2·34		1·74		2·04		
Anæmia and Debility	32·95		39·78		32·72		31·45		34·44		
Abortion and Puerperal Affections	4·26		4·80		3·51		4·34		4·23		
Other diseases peculiar to women	5·97		5·88		8·18		8·03		6·89		
PERCENTAGE IN 100 DEATHS:—											
Cholera	...		...		...		...		...		
Small-pox	...		6·7		...		...		2·0		
Enteric Fever	29·4		26·7		33·3		33·3		30·0		
Intermittent Fever	...		...		...		6·7		2·0		
Remittent Fever	...		13·3		...		6·7		6·0		
Simple Continued Fever	...		...		...		...		...		
Tubercle of the lungs	5·9		6·7		...		...		4·0		
Pneumonia	5·9		...		...		...		2·0		
Other Respiratory Diseases	...		...		...		...		...		
Dysentery	5·9		...		...		6·7		4·0		
Diarrhœa	...		...		...		...		...		
Hepatic Abscess	11·8		...		...		...		4·0		
Childbirth and Abortion	11·8		13·3		...		20·0		14·0		

* For complete detail of diseases see Table LIII.

TABLE XX.

CHOLERA by months, stations, groups, and commands.

Stations* and Groups.	Average annual strength.	Number of admissions from Cholera in each month.												Total admissions.	Admission-rate per 1,000 of strength.	Total deaths.	Death-rate per 1,000 of strength.
		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.				
INDIA .	3,118																
Bengal	977																
Punjáb	747																
Madras	704																
Bombay	690																

* Stations where Cholera did not occur are not shown in this table.

TABLE XXI.

ENTERIC FEVER by months, stations, groups, and commands.

Stations,* Groups, and Commands.	Average annual strength.	Number of Admissions from Enteric Fever in each month.												Total admissions.	Admission-rate per 1,000 of strength.	Total deaths.	Death-rate per 1,000 of strength.
		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.				
B																	
Allahabad	39	1	...	...	...	...	...	...	...	...	...	...	...	1	25·6	1	25·64
Fyzabad	45	...	...	...	1	...	...	...	...	...	...	...	...	1	22·2	...	...
Lucknow	100	...	...	...	...	...	...	...	...	...	...	...	3	3	30·0	1	10·00
Cawnpore	39	1	...	...	...	...	...	...	...	...	...	...	...	1	25·6	...	...
Group V.—Gangetic Plain and Chutia Nagpur	317	2	...	...	1	...	...	...	...	...	...	...	3	6	18·9	2	6·31
A																	
Umballa	58	...	...	...	...	1	...	...	...	...	...	...	1	2	34·5	1	17·24
B																	
Jullundur	37	...	...	...	1	...	...	...	...	...	...	...	...	1	27·0	1	27·03
Ferozepore	69	...	...	...	...	1	...	...	...	...	...	...	...	1	14·5	1	14·49
Rawalpindi	143	...	...	...	...	2	...	...	...	...	...	...	...	2	14·0	...	...
Group VI.—Upper Sub-Himalaya	627	...	...	...	1	4	...	...	...	...	...	...	1	6	9·6	3	4·78
B																	
Muttra	25	...	...	...	...	...	...	1	...	...	...	...	...	1	40·0	...	...
Agra	32	...	...	...	1	...	...	...	...	1	...	...	...	2	62·5	1	31·25
Mhow	105	...	1	...	...	...	...	...	1	1	...	...	...	3	28·6	1	9·52
Group VIII.—S. E. Rajputana, Central India, and Gujarat	271	...	1	...	1	...	...	1	1	2	...	...	...	6	22·1	2	7·38
A																	
Saugor	17	...	...	...	...	...	...	1	...	...	...	...	...	1	58·8	1	58·84
Jubbulpore	25	...	...	1	...	...	...	...	...	...	...	...	...	1	40·0	...	...
B																	
Kirkee	66	...	1	...	...	...	...	...	1	...	...	...	...	2	30·3	1	15·15
Group IX.—Deccan	432	...	1	1	...	...	...	1	1	...	...	...	...	4	9·3	2	4·63
A																	
Bangalore	151	1	...	...	...	...	...	...	...	...	...	...	1	2	13·2	1	6·62
Group XI.—Southern India	299	1	...	...	...	...	...	...	...	...	...	...	1	2	6·7	1	3·34
Ranikhet	49	...	...	...	...	...	1	...	1	...	...	...	...	2	40·8	1	20·41
Camp Gharial	10	...	...	...	...	...	...	1	...	...	...	...	...	1	100·0	...	...
„ Thobba	25	...	...	...	...	...	...	...	1	...	...	...	...	1	40·0	1	40·00
Cherat	24	...	...	...	...	...	1	...	...	...	1	...	...	2	83·3	...	...
Quetta	69	...	...	...	...	...	1	...	1	1	3	1	...	7	101·4	3	43·48
Group XIIa.—Hill Stations	304	...	...	...	...	...	3	1	3	1	4	1	...	13	42·8	5	16·45
Pachmarhi	10	...	...	...	...	1	...	...	...	...	...	...	...	1	100·0	...	...
Group XIIb.—Hill Convalescent Depôts, and Sanitaria	213	...	...	...	...	1	...	...	...	...	...	...	...	1	4·7	...	...
INDIA	3,118	3	2	1	3	5	3	3	5	3	4	1	5	38	12·2	15	12·19
Bengal	977	2	...	1	2	1	1	2	1	1	...	...	3	14	14·3	5	5·12
Punjáb	747	...	...	...	1	4	1	1	1	...	1	...	1	10	13·4	4	5·35
Madras	704	1	...	...	...	...	...	...	...	...	...	...	1	2	2·8	1	1·42
Bombay	690	...	2	...	...	...	1	...	3	2	3	1	...	12	17·4	5	17·25

* Stations where Enteric Fever did not occur are not shown in this table.

C. CHILDREN.

TABLE XXII.

RATIOS AND ACTUALS OF COMMANDS.

	Bengal Command.		Punjáb Command.		Madras Command.		Bombay Command.		India.*		
Strength	1,687		1,332		1,357		1,216		5,592		
	Ratios.	Actuals.	Ratios.	Actuals.	Ratios.	Actuals.	Ratios.	Actuals.	Ratios.	Actuals.	Remaining from 1897.
Constantly sick	23·5	39·63	24·2	32·26	48·5	65·86	19·0	23·12	28·8	160·87	
ADMISSIONS :—											
Influenza	1·8	3	·8	1	11·1	15	...	...	3·4	19	...
Cholera	...	...	·8	1	...	...	...	...	·2	1	...
Small-pox	...	...	...	...	...	...	...	...	...	...	...
Measles	20·7	35	20·3	27	86·2	117	41·9	51	41·1	230	18
Whooping Cough	19·0	32	19·5	26	19·2	26	2·5	3	15·6	87	...
Enteric Fever	5·9	10	6·8	9	3·7	5	12·3	15	7·0	39	2
Intermittent Fever	101·4	171	91·6	122	157·7	214	142·3	173	121·6	680	16
Remittent Fever	8·3	14	12·0	16	4·4	6	9·0	11	8·4	47	2
Simple Continued Fever	16·0	27	28·5	38	69·3	94	18·1	22	32·4	181	1
Tubercular Diseases	2·4	4	5·3	7	·7	1	...	...	2·1	12	1
Respiratory Diseases	51·6	87	43·5	58	145·9	198	37·0	45	69·4	388	15
Dysentery	15·4	26	8·3	11	22·1	30	11·5	14	14·5	81	1
Diarrhœa	36·2	61	75·8	101	41·3	56	33·7	41	46·3	259	6
Eye Diseases	32·0	54	38·3	51	72·2	98	38·7	47	44·7	250	4
ALL CAUSES	466·5	787	528·5	704	966·1	1,311	485·2	590	606·6	3,392	94
DEATHS :—											*Deaths out of hospital.*
Cholera	...	...	...	...	...	...	...	...	...	...	...
Small-pox	...	...	...	...	...	...	...	...	...	...	...
Diphtheria and Croup	·59	1	·75	1	...	...	1·64	2	·72	4	...
Enteric Fever	...	...	·75	1	...	...	1·64	2	·54	3	...
Intermittent Fever	2·37	4	·75	1	·74	1	·82	1	1·25	7	...
Remittent Fever	1·78	3	2·25	3	...	...	1·64	2	1·43	8	...
Simple Continued Fever	...	...	3·00	4	·74	1	·82	1	1·07	6	...
Tubercular Diseases	·59	1	3·00	4	·74	1	...	...	1·07	6	...
Convulsions	4·15	7	3·75	5	3·68	5	5·76	7	4·29	24	3
Respiratory Diseases	2·96	5	7·51	10	2·21	3	3·29	4	3·93	22	1
Teething	4·15	7	1·50	2	5·90	8	2·47	3	3·58	20	1
Dysentery	3·56	6	2·25	3	1·47	2	·82	1	2·15	12	...
Diarrhœa	7·11	12	18·77	25	2·21	3	9·05	11	9·12	51	...
Anæmia, Debility, and Immaturity	5·93	10	3·75	5	2·21	3	3·29	4	3·93	22	1
ALL CAUSES	40·90	69	60·06	80	25·06	34	38·65	47	41·13	230	7
PERCENTAGE IN 100 ADMISSIONS :—											
Influenza	·38		·14		1·14		...		·56		
Cholera	...		·14		...		...		·03		
Small-pox	...		...		...		...		...		
Measles	4·45		3·83		8·92		8·64		6·78		
Whooping Cough	4·07		3·69		1·98		·51		2·56		
Enteric Fever	1·27		1·28		·38		2·54		1·15		
Intermittent Fever	21·73		17·33		16·32		29·32		20·05		
Remittent Fever	1·78		2·27		·46		1·86		1·39		
Simple Continued Fever	3·43		5·40		7·17		3·73		5·34		
Tubercular Diseases	·51		·99		·08		...		·35		
Respiratory Diseases	11·05		8·24		15·10		7·63		11·44		
Dysentery	3·30		1·56		2·29		2·37		2·39		
Diarrhœa	7·75		14·35		4·27		6·95		7·64		
Eye Diseases	6·86		7·24		7·48		7·97		7·37		
PERCENTAGE IN 100 DEATHS :—											
Cholera	...		...		...		...		...		
Small-pox	...		...		...		...		...		
Diphtheria and Croup	1·4		1·3		...		4·3		1·7		
Enteric Fever	...		1·3		...		4·3		1·3		
Intermittent Fever	5·8		1·3		2·9		2·1		3·0		
Remittent Fever	4·3		3·8		...		4·3		3·5		
Simple Continued Fever	...		5·0		2·9		2·1		2·6		
Tubercular Diseases	1·4		5·0		2·9		...		2·6		
Convulsions	10·1		6·3		14·7		14·9		16·4		
Respiratory Diseases	7·2		12·5		8·8		8·5		9·6		
Teething	10·1		2·5		23·5		6·4		8·7		
Dysentery	8·7		3·8		5·9		2·1		5·2		
Diarrhœa	17·4		31·3		8·8		23·4		22·2		
Anæmia, Debility, and Immaturity	14·5		6·3		8·8		8·5		9·6		

* For complete detail of diseases see Table LIII.

TABLE XXIII.

CHOLERA by months, stations, groups, and commands.

Stations,* Groups, and Commands.	Average annual strength.	Number of Admissions from Cholera in each month.												Total admissions.	Admission-rate per 1,000 of strength.	Total deaths.	Death-rate per 1,000 of strength.
		Jan.	Feb.	Mar.	Apl.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.				
A																	
Umballa	86	...	...	...	...	1	...	...	...	...	...	...	...	1	11·6	...	...
Group V.—Upper Sub-Himalaya	1,064	...	...	...	...	1	...	...	...	...	...	...	...	1	·9	...	...
INDIA .	5,592	...	...	...	...	1	...	...	...	...	...	...	...	1	·2	...	...
Bengal	1,687	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Punjab	1,332	...	...	...	...	1	...	...	...	...	...	...	...	1	·8	...	...
Madras	1,357	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Bombay	1,216	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

* Stations where Cholera did not occur are not shown in this table.

TABLE XXIV.

ENTERIC FEVER by months, stations, groups, and commands.

Stations,* Groups, and Commands.	Average annual strength.	Number of Admissions from Enteric Fever in each month.												Total admissions.	Admission-rate per 1,000 of strength.	Total deaths.	Death-rate per 1,000 of strength.
		Jan.	Feb.	Mar.	Apl.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.				
Port Blair	10	...	...	...	...	...	...	...	...	...	...	...	1	1	100·0	...	...
Group I.—Burma Coast and Bay Islands.	138	...	...	...	...	...	...	...	...	...	...	...	1	1	7·2	...	...
Fort William	142	...	...	...	...	...	...	...	...	...	1	...	...	1	7·0	...	...
Group IV.—Bengal and Orissa.	255	...	...	...	...	...	...	...	...	...	1	...	...	1	3·9	...	...
B																	
Fyzabad	84	...	...	...	...	...	...	1	...	...	...	...	...	1	11·9	...	...
Lucknow	174	...	...	...	...	...	...	...	...	...	...	1	...	1	5·7	...	...
Group V.—Gangetic Plain and Chutia Nagpur.	553	...	...	...	...	...	...	1	...	...	...	1	...	2	3·6	...	...
A																	
Roorkee	82	...	...	...	...	...	...	...	...	...	...	...	1	1	12·2	...	...
Meerut	140	...	...	...	...	...	...	1	...	...	...	...	...	1	7·1	...	...
B																	
Ferozepore	137	...	...	...	...	2	...	...	...	...	...	...	...	2	14·6	...	...
Sialkot	85	...	...	...	...	...	...	...	...	...	...	...	1	1	11·8	...	...
Group VI.—Upper Sub-Himalaya.	1,064	...	...	...	...	2	...	1	...	...	...	...	2	5	4·7	...	...
B																	
Jhansi	64	2	...	...	...	...	...	...	...	...	...	...	...	2	31·3	...	...
Mhow	158	...	...	...	...	...	...	...	1	...	...	...	...	1	6·3	...	...
Group VIII.—South-East Rajputana, Central India, and Gujarat.	422	2	...	...	...	...	...	...	1	...	...	...	...	3	7·1	...	...
B																	
Secunderabad	284	...	...	...	...	...	...	...	1	...	...	...	...	1	3·5	...	...
Poona	161	...	...	...	...	...	...	1	...	...	...	...	...	1	6·2	...	...
Kirkee	126	...	...	...	...	1	...	...	...	...	...	...	...	1	7·9	1	7·9
Group IX.—Deccan	829	...	...	...	...	1	...	1	1	...	...	...	...	3	3·6	1	1·2
A																	
Bangalore	256	...	...	...	...	...	...	...	...	1	...	...	...	1	3·9	...	...
B																	
Madras	153	...	...	...	...	...	...	...	...	...	1	...	1	2	13·1	...	...
Group XI.—Southern India.	538	...	...	...	...	...	...	...	...	1	1	...	1	3	5·6	...	...
Chakrata	50	...	...	...	2	...	...	...	...	...	...	...	...	2	40·0	...	...
Cherat	41	...	...	...	...	...	...	...	1	...	...	...	...	1	24·4	...	...
Quetta	134	...	...	...	...	...	...	1	5	2	2	1	...	11	82·1	1	7·4
Group XIIa.—Hill Stations.	554	...	...	...	2	...	...	1	6	2	2	1	...	14	25·3	1	1·8
Landour	35	...	...	...	...	...	...	...	1	...	...	...	...	1	28·6	...	...
Kasauli	71	...	...	...	1	...	...	...	3	...	...	...	...	4	56·3	1	14·1
Murree	73	...	...	...	...	...	...	...	1	...	...	...	...	1	13·7	...	...
Group XIIb.—Hill Convalescent Depôts, and Sanitaria.	444	...	...	...	1	...	...	...	5	...	...	...	...	6	13·5	1	2·3
Deolali Depôt	56	...	...	...	...	...	...	...	...	...	...	1	...	1	17·9	...	...
INDIA	5,592	2	...	...	3	3	...	4	13	3	4	3	4	39	7·0	3	...
Bengal	1,687	2	...	...	2	...	...	2	1	...	1	1	1	10	5·9	...	...
Punjab	1,332	...	...	...	1	2	...	...	5	...	...	...	1	9	6·8	1	...
Madras	1,357	...	...	...	...	...	...	...	1	1	1	...	2	5	3·7	...	...
Bombay	1,216	...	...	...	...	1	...	2	6	2	2	2	...	15	12·3	2	1·6

* Stations where Enteric Fever did not occur are not shown in this table.

TABLE XXV.

DEATHS OF CHILDREN BY AGES AND CAUSES.

Age at Death.	Cholera.	Small-pox.	Diphtheria and Croup.	Enteric Fever.	Intermittent Fever.	Remittent Fever.	Simple Continued Fever.	Tubercular Diseases.	Convulsions.	Respiratory Diseases.	Teething.	Dysentery.	Diarrhœa.	Anæmia, Debility, and Immaturity at birth.	All Causes.	Strength on 1st July 1898.	Deaths per 1,000 of strength. (a)	Liability.
Under 6 months	...	...	...	...	1	1	3	1	13	7	1	2	16	22§	83	332	250·00	42·09
Between 6 and 12 months	...	...	...	1	1	3	3	...	7	4	12†	4	15	...	62	430	144·19	24·27
„ 12 and 18 „	...	...	1	...	2	2	...	4	3	4	5‡	...	11	...	40	388	103·09	17·35
„ 18 and 24 „	...	...	...	...	1	1	...	...	...	1	1‖	1	4	...	10	434	23·04	3·88
„ 2 years and 3 years	...	...	1*	...	1	...	...	...	...	3	...	1	3	...	12	621	19·32	3·25
„ 3 „ and 4 „	...	...	...	...	1	...	...	1	1	1	1‖	2	1	...	9	576	15·63	2·63
„ 4 „ and 5 „	...	...	...	1	...	...	...	...	...	1	...	1	1	...	5	492	10·16	1·71
„ 5 „ and 6 „	...	...	1	...	...	...	...	...	...	...	...	1	...	...	3	473	6·34	1·07
„ 6 „ and 7 „	...	...	1	...	...	...	...	...	...	...	...	...	...	...	2	414	4·83	·81
„ 7 „ and 8 „	...	...	...	...	...	1	...	...	...	1	...	...	...	...	2	341	5·87	·99
„ 8 „ and 9 „	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	273	...	...
„ 9 „ and 10 „	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	222	...	...
„ 10 „ and 11 „	...	...	...	1	...	...	...	...	...	...	...	...	...	...	2	173	11·56	1·95
„ 11 „ and 12 „	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	134	...	...
„ 12 „ and 13 „	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	126	...	...
„ 13 „ and 14 „	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	91	...	...
„ 14 „ and 15 „	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	97	...	...
15 and upwards	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	96	...	...
Total	...	...	4	3	7	8	6	6	24	22	20	12	51	22	230	5,713	40·26	100

* Croup.
† Three with convulsions and three with diarrhœa.
‡ One with convulsions.
‖ With convulsions.
§ Twelve immaturity at birth.
(a) On the supposition that the strength on 1st July represents the average annual strength.

II.—NATIVE TROOPS, 1898.

TABLE H.

STATIONS by COMMANDS.

Stations.	Height above the sea level in feet.*	Authority for height.†
Bengal Command :—		
Manipur	2,619	S. G.
Sadiya	...	...
Dibrugarh	342	S. G.
Silchar	104	M. D.
Fort William	17	S. G.
Alipore	...	...
Ballygunge	...	...
Dum-Dum	...	...
Barrackpore	24	S. G.
Buxa	2,457	,,
Cuttack	74	,,
Doranda	2,166	,,
Dinapore	...	...
Benares	256	S. G.
Allahabad	298	,,
Fyzabad	336	,,
Lucknow	400	,,
Cawnpore	417	,,
Fatehgarh	444	I. B.
Bareilly	560	S. G.
Roorkee	884	,,
Dehra Dun	2,229	,,
Meerut	739	,,
Delhi	715	,,
Agra	554	,,
Gwalior	...	...
Jhansi	860	S. G.
Nowgong	770	I. B.
Goona	1,617	S. G.
Agar	1,671	,,
Schore	1,617	,,
Saugor	1,753	,,
Sutna	1,040	M. D.
Jubbulpore	1,306	S. G.
Kohima	4,500	I. B.
Shillong	4,987	S. G.
Gantak	5,000	I. B.
Darjeeling	7,168	S. G.
Almora	5,494	,,
Ranikhet	5,983	,,
Naini Tal	6,400	,,
Lansdowne	...	...
Punjab Command :—		
Umballa	902	S. G.
Ludhiana	806	,,
Jullundur	900	,,
Ferozepore	645	,,
Meean Meer	706	,,
Amritsar	756	,,
Sialkot	829	,,
Jhelum	827	,,
Rawalpindi	1,707	,,
Attock	891	,,
Mardan	...	...
Nowshera	1,100	M. O.
Peshawar	1,165	S. G.
Hari Singh-Ka-Burj	1,280	I. B.
Fort Jamrud	1,610	S. G.
Bara	1,543	I. B.
Kohat	1,758	S. G.
Usterzai	2,189	I. B.
Bahadur Khel	1,873	,,
Edwardesabad	1,279	,,
Jani Khel	1,300	,,
Dera Ismail Khan	571	S. G.
Tank, Jatta, and Draband	1,000	I. B.
Mangrota	500	,,
Dera Ghazi Khan	395	S. G.

Stations.	Height above the sea level in feet.*	Authority for height.†
Punjab Command :—*contd.*		
Mooltan	402	S. G.
Idak	2,140	I. B.
Khajuri	2,080	,,
Saidgi	1,775	,,
Jandola	2,400	,,
Khajuri Kach	2,500	,,
Simla	7,230	S. G.
Jutogh	6,371	,,
Dharmsala	6,111	,,
Bakloh	4,385	,,
Murree	7,098	,,
Khyragully	8,746	,,
Baragul'y	...	...
Kalabagh	7,936	I. B.
Gilgit	4,890	S. G.
Chitral	4,980	,,
Kila Drosh	4,250	I. B.
Abbottabad	4,152	S. G.
Cherat	4,520	,,
Parachinar	5,146	I. B.
Miran Shah	3,050	,,
Boya	3,600	,,
Datta Khel	4,500	,,
Sarwekai	4,076	,,
Wana	4,500	,,
Madras Command :—		
Port Blair	85	S. G.
Rangoon	14	,,
Thayetmyo	145	,,
Loikaw	2,830	,,
Keng Tung	2,773	,,
Fort Stedman	2,900	,,
Thamakan	...	...
Meiktila	298	S. G.
Fort Dufferin	249	,,
Thabeitkyin	...	...
Bhamo	351	S. G.
Myingyan	243	,,
Secunderabad	1,732	,,
Belgam	2,473	,,
Cannanore	47	,,
Trichoor	29	,,
Quilon	...	...
Trivandrum	198	M. D.
Bellary	1,483	S. G.
Bangalore	3,021	,,
Trichinopoly	274	,,
St. Thomas' Mount	250	,,
Madras	15	,,
Vizianagram	191	,,
Berhampur	60	,,
Maymyo	3,600	,,
Bampon	4,000	I. B.
Toungyi	5,715	S. G.
Ootacamund	7,216	,,
Bombay Command :—		
Bikaner	828	S. G.
Sibi	495	,,
Jacobabad	181	,,
Hyderabad	134	I. B.
Kurrachee	28	S. G.
Bhuj	...	...
Rajkot	417	S. G.
Deesa	468	,,
Sadra	216	,,
Ahmedabad	170	,,

Stations.	Height above the sea level in feet.*	Authority for height.†
Bombay Command :—*contd.*		
Baroda	...	...
Barwani	609	S. G.
Alirajpore	977	,,
Sirdarpore	1,639	,,
Jhabwa	1,171	,,
Kherwara	1,050	,,
Kotra	1,033	,,
Udaipur	1,930	,,
Erinpura	869	,,
Neemuch	1,613	,,
Deoli	1,122	,,
Beawar	1,465	,,
Nasirabad	1,461	,,
Ajmer	1,627	,,
Sambhar	1,254	M. D.
Jaipur	1,582	S. G.
Jhalawar	1,242	,,
Indore	1,806	,,
Mhow	1,903	,,
Asirgarh	2,283	,,
Sambalpur	490	,,
Raipur	975	,,
Kamptee	941	,,
Sitabaldi	1,236	,,
Malegaon	1,387	,,
Ahmednagar	2,125	,,
Satara	2,183	,,
Poona	1,909	,,
Kirkee	1,837	,,
Sirur	...	...
Nasik	1,914	S. G.
Thana	24	,,
Bombay	20	,,
Butcher's Island	71	,,
Mir Ali Khel	3,650	I. B.
Fort Sandeman	4,700	,,
Hindubagh	5,675	S. G.
Khan Mohamed Kot	3,431	,,
Murgha	5,100	I. B.
Loralai	4,450	S. G.
Gumbaz	3,000	I. B.
Quetta	5,511	S. G.
Peshin	5,157	,,
Shelabagh	7,700	I. B.
Spinwana	7,800	,,
Chaman	5,488	S. G.
Mount Abu	3,960	,,
Indian Marine Ship *Lawrence*	...	...
Chabbar	...	...
Jask	...	...
Muscat	...	...
Bushire	40	I. B.
Bagdad	300	,,
Aden	26	S. G.
Khormaksar	50	I. B.
Sheikh Othman	50	,,
Perim	249	,,
Zaila	...	...
Bulhar	...	...
Berbera	...	...
Hyderabad Contingent :—		
Ellichpur	1,218	S. G.
Hingoli	...	...
Jalna	...	...
Aurangabad	1,865	M. D.
Mominabad	...	...
Bolarum	...	...
Raichur	1,310	S. G.

* These are usually the heights above sea-level of the survey-marks or of the mercury-surface in barometer-cisterns in the stations.

† S. G. = Surveyor-General of India ; I. B. = Intelligence Branch of the Quarter-Master-General's Department ; M. D. = Meteorological Department ; M. O. = Medical Officers in charge of Station Hospitals in their Sanitary Reports.

TABLE XXVI.

RATIOS of COMMANDS.

The ratios of admissions and deaths to strength are taken from Table XXVIII. The actuals will be found in Table XXIX.

	Ratio per 1,000 of the Average Strength.					
	Bengal Command.	Punjab Command.	Madras Command.	Bombay Command.	Hyderabad Contingent.	Army of India.*
I.—Average Annual Strength	25,036	42,515	22,575	24,520	6,304	126,036
II.—Constantly-sick-rate of each month—						
January	39·8	46·7	30·0	29·0	18·2	37·2
February	37·2	34·8	31·0	27·2	15·8	34·4
March	33·6	30·0	31·9	25·4	17·8	30·5
April	32·0	27·3	31·3	25·6	18·9	28·3
May	31·7	29·7	27·3	24·9	13·7	27·9
June	31·0	31·5	28·6	26·2	15·0	29·6
July	30·7	32·4	28·8	27·7	14·7	29·9
August	33·6	36·8	30·0	34·3	16·8	34·1
September	35·5	40·1	30·6	38·5	18·0	35·9
October	36·3	45·6	27·8	41·3	16·4	37·7
November	37·6	40·0	30·0	37·7	19·7	36·0
December	32·9	30·5	31·7	33·3	18·2	31·5
Of the year	34·5	35·4	30·0	31·1	17·0	32·9
III.—Admission-rate of the year—						
Influenza	9·4	8·0	14·6	5·0	1·7	8·3
Cholera	·7	...	·8	...	...	·3
Small-pox	·2	·3	·3	·1	·2	·2
Enteric Fever	·4	·5	·2	·1	...	·3
Intermittent Fever	309·7	409·1	253·2	365·5	199·4	335·0
Remittent Fever	10·4	36·5	7·9	14·4	12·2	20·0
Simple Continued Fever	5·4	1·4	13·6	11·7	1·4	6·4
Tubercle of the lungs	5·8	4·1	2·2	2·5	·6	3·5
Pneumonia	14·5	25·3	7·8	12·7	8·2	16·5
Other Respiratory Diseases	22·0	33·4	19·1	32·7	10·9	28·7
Dysentery	40·3	60·5	20·0	41·8	13·3	44·0
Diarrhœa	7·7	12·0	3·1	12·6	1·1	9·4
Hepatic {Abscess	·1	·1	·2	·2	·2	·1
Hepatic {Congestion and Inflammation	1·3	1·0	1·6	1·9	1·0	1·6
Scurvy	·8	4·0	·3	3·8	1·1	2·8
Venereal Diseases	53·7	28·9	49·7	43·8	28·2	40·0
All Causes	767·4	941·7	682·7	869·6	473·5	816·4
IV.—Death-rate of the year—						
Cholera	·68	·14	·84	...	...	·33
Small-pox	...	...	·04	...	...	·01
Enteric Fever	·16	·19	·13	...	...	·13
Intermittent Fever	1·04	·47	·75	·20	·16	·58
Remittent Fever	·68	1·62	·71	·77	·79	1·08
Simple Continued Fever	...	·02	...	·08	·16	·03
Circulatory Diseases	·16	·12	·35	·20	·16	·20
Tubercle of the lungs	1·00	·80	·49	·33	...	·63
Pneumonia	2·84	6·52	1·59	2·08	1·59	3·77
Other Respiratory Diseases	·28	·43	·31	·37	·16	·36
Dysentery	·40	·64	·22	·53	·16	·49
Diarrhœa	·40	·19	·04	·12	...	·20
Hepatic Abscess	...	·05	·04	·12	·16	·06
Anæmia and Debility	·16	·05	·18	·16	...	·12
All Causes	10·03	13·38	9·92	7·79	5·08	11·07
V.—Percentage in 100 Admissions—						
Influenza	1·22	·85	2·13	·57	·37	1·02
Cholera	·09	·02	·12	...	...	·04
Small-pox	·02	·03	·04	·01	·03	·03
Enteric Fever	·06	·04	·03	·01	...	·04
Intermittent Fever	40·35	43·44	37·08	42·03	42·11	41·03
Remittent Fever	1·35	3·87	1·16	1·65	2·58	2·45
Simple Continued Fever	·70	·15	1·99	1·35	·30	·78
Tubercle of the lungs	·78	·45	·32	·31	·13	·42
Pneumonia	1·90	2·69	1·14	1·46	1·74	2·02
Other Respiratory Diseases	2·85	3·54	2·80	3·74	2·31	3·51
Dysentery	5·25	6·43	2·93	4·81	2·81	5·39
Diarrhœa	1·01	1·28	·45	1·45	·23	1·16
Hepatic {Abscess	·01	·01	·03	·02	·03	·02
Hepatic {Congestion and Inflammation	·17	·11	·24	·22	·20	·19
Scurvy	·10	·43	·05	·43	·23	·35
Venereal Diseases	7·00	3·07	7·28	5·04	5·96	4·90
VI.—Percentage in 100 Deaths—						
Cholera	6·8	1·1	8·5	...	...	3·0
Small-pox	...	...	·4	...	...	·1
Enteric Fever	1·6	1·4	1·3	...	...	1·2
Intermittent Fever	10·4	3·5	7·6	2·6	3·1	5·2
Remittent Fever	6·8	12·1	7·1	9·9	15·6	9·7
Simple Continued Fever	...	·2	...	1·0	3·1	·3
Circulatory Diseases	1·6	·9	3·6	2·6	3·1	1·8
Tubercle of the lungs	10·0	6·0	4·9	3·1	...	5·7
Pneumonia	28·3	48·7	16·1	26·7	31·2	34·1
Other Respiratory Diseases	2·8	3·2	3·1	5·8	3·1	3·3
Dysentery	4·0	4·7	2·2	6·8	3·1	4·4
Diarrhœa	4·0	1·4	·4	1·6	...	1·8
Hepatic Abscess	...	·4	·4	1·6	3·1	·5
Anæmia and Debility	1·6	·4	1·8	2·1	...	1·1

* Including those Imperial Service Troops that went on field service. For complete detail of diseases—see Table LIII.

TABLE XXVII.

RATIOS of GEOGRAPHICAL GROUPS.

The ratios of admissions and deaths to strength are taken from Table XXVIII. The actuals will be found in Table XXIX.

	Ratio per 1,000 of the Average Strength.												
	I Burma Coast and Bay Islands.	II Burma Inland.	III Assam.	IV Bengal and Orissa.	V Gangetic Plain and Chutia Nagpur.	VI Upper Sub-Himalaya.	VII N.-W. Frontier, Indus Valley, and N.-W. Rajputana.	VIII S.-E. Rajputana, Central India, and Gujarat.	IX Deccan.	X Western Coast.	XI Southern India.	XII Hill Stations.	Army of India.*
I.—Average Annual Strength	1,391	4,389	1,547	2,905	5,620	13,857	15,492	11,310	18,428	2,796	7,920	18,913	126,036
II.—Constantly-sick-rate of each month—													
January	27·0	33·3	43·7	49·5	38·6	39·0	61·9	29·7	29·2	28·7	35·2	41·4	37·2
February	20·9	28·5	39·0	33·2	43·4	40·5	37·6	25·6	25·9	30·6	37·9	40·1	34·4
March	32·4	28·2	40·2	26·7	39·5	30·3	30·9	22·2	28·0	35·0	37·7	40·0	30·5
April	30·6	30·3	41·7	28·7	32·6	28·8	27·5	22·6	27·7	40·3	36·3	37·0	28·3
May	26·8	27·6	40·7	25·8	30·1	29·8	31·6	21·3	22·6	37·4	31·2	36·8	27·9
June	31·1	35·1	34·4	28·9	25·7	26·3	32·9	22·6	22·9	33·9	30·9	42·4	29·6
July	24·5	38·9	37·4	36·9	25·5	24·5	30·2	25·0	24·3	34·2	29·9	44·5	29·9
August	24·9	40·9	47·3	41·1	29·1	29·1	37·8	27·6	27·0	37·5	32·7	52·3	34·1
September	24·2	42·1	42·0	45·7	32·7	31·4	40·9	30·2	28·9	37·9	34·1	53·9	35·9
October	19·8	35·9	41·9	47·9	36·7	39·1	51·5	30·0	29·1	35·1	28·2	55·6	37·7
November	22·1	41·5	41·4	57·9	34·6	38·2	46·4	29·5	30·7	38·7	29·4	46·9	36·0
December	27·8	39·8	34·3	50·0	32·4	29·6	37·9	26·3	27·4	39·9	37·1	44·1	31·5
Of the Year	25·9	35·7	40·3	39·9	33·5	32·4	39·0	26·3	27·1	36·3	33·4	44·5	32·9
III.—Admission-rate of the Year—													
Influenza	35·2	10·7	...	38·2	2·5	5·2	·8	·4	7·5	...	16·8	19·5	8·3
Cholera	...	...	9·0	·3	·4	·3	...	...	...	...	2·0	·1	·3
Small-pox	...	...	...	...	·5	·3	·3	...	·2	...	·6	·2	·2
Enteric Fever	...	·2	2·6	·3	·2	·1	·1	...	·1	...	·5	1·0	·3
Intermittent Fever	156·0	538·4	296·7	521·2	256·4	316·7	499·5	259·6	272·6	176·3	190·5	525·1	335·0
Remittent Fever	...	16·2	14·9	23·1	4·4	31·2	33·2	7·9	10·7	13·9	4·5	26·5	20·0
Simple Continued Fever	5·8	·2	6·5	0·9	4·1	·4	3·0	9·2	9·0	30·0	22·0	5·0	6·4
Tubercle of the lungs	5·0	2·1	6·5	5·2	5·0	6·0	3·9	2·9	1·6	2·1	2·3	6·0	3·5
Pneumonia	·7	1·4	14·2	5·5	6·0	23·2	35·8	13·3	8·5	7·5	9·2	25·3	16·5
Other Respiratory Diseases	16·5	30·3	20·0	27·2	19·9	22·3	44·9	21·3	14·5	32·9	18·7	44·8	28·7
Dysentery	71·9	19·1	101·5	52·7	47·9	32·5	70·6	23·9	20·3	58·3	13·3	64·5	44·0
Diarrhœa	7·2	5·2	20·0	6·2	6·4	8·1	12·4	6·6	2·8	12·2	2·5	19·5	9·4
Hepatic {Abscess	...	...	...	·3	...	...	...	·1	·1	·4	·4	·3	·1
Hepatic {Congestion and Inflammation	·7	2·5	2·6	·7	·7	·9	·7	2·0	1·2	3·2	2·0	1·6	1·6
Scurvy	1·4	...	·6	1·7	·2	2·2	3·4	1·5	1·0	2·1	·1	3·4	2·8
Venereal Diseases	48·2	54·5	102·1	45·1	48·6	40·7	22·0	40·1	52·0	57·6	45·6	54·1	40·0
All Causes	649·9	951·3	875·9	1,037·9	694·5	802·4	1,119·0	691·9	689·3	775·0	635·4	1,148·8	816·4
IV.—Death-rate of the Year—													
Cholera	...	...	8·40	·34	·18	·22	...	...	...	...	1·77	·11	·33
Small-pox	...	...	...	...	...	...	...	...	...	...	·13	...	·01
Enteric Fever	...	...	1·94	...	·18	...	·13	...	...	...	·38	·21	·13
Intermittent Fever	...	1·59	1·29	3·44	·18	·43	·52	·18	·27	...	·51	·74	·58
Remittent Fever	...	1·59	1·94	1·72	·18	·87	2·07	·35	·87	2·15	·51	·63	1·08
Simple Continued Fever	...	...	...	...	...	...	·13	...	·05	...	...	·05	·03
Circulatory Diseases	...	·46	...	·34	·18	...	...	·18	·11	...	·63	·48	·20
Tubercle of the lungs	...	·68	1·29	·34	·71	1·08	·45	·09	·38	...	·38	1·80	·63
Pneumonia	...	·46	1·94	1·03	1·60	4·55	9·04	2·56	1·90	·72	2·15	5·39	3·77
Other Respiratory Diseases	·72	·46	1·29	·34	·18	·51	·58	·27	·11	·72	...	·26	·36
Dysentery	·72	·23	1·29	1·03	·36	·65	·71	·09	·16	1·07	·25	·37	·49
Diarrhœa	·72	...	3·88	...	...	·22	·32	·09	·11	...	...	·05	·20
Hepatic Abscess	...	...	...	...	...	...	...	...	·11	...	·13	·16	·06
Anæmia and Debility	...	...	...	...	·18	...	...	·09	·16	...	·25	·32	·12
All Causes	5·03	8·89	27·15	9·98	4·98	10·39	15·75	7·25	6·29	12·88	12·37	14·00	11·07
V.—Percentage in 100 Admissions—													
Influenza	5·42	1·13	...	3·68	·36	·65	·07	·06	1·09	...	2·64	1·69	1·02
Cholera	...	...	1·03	·03	·05	·04	...	...	...	...	·32	·01	·04
Small-pox	...	...	...	...	·08	·04	·03	...	·02	...	·10	·02	·03
Enteric Fever	...	·02	·30	·03	·03	·02	·01	...	·01	...	·08	·09	·04
Intermittent Fever	24·00	56·59	33·87	50·22	36·92	39·47	44·61	37·52	39·54	22·75	29·99	45·71	41·03
Remittent Fever	...	1·70	1·70	2·22	·64	3·89	2·97	1·14	1·56	1·75	·72	2·31	2·45
Simple Continued Fever	·88	·02	·74	·66	·59	·05	·27	1·33	1·30	3·83	3·46	·44	·78
Tubercle of the lungs	·77	·22	·74	·50	·72	·75	·35	·42	·24	·28	·36	·52	·42
Pneumonia	·11	·14	1·62	·53	·87	2·89	3·19	1·92	1·24	·97	1·45	2·20	2·02
Other Respiratory Diseases	2·54	3·18	2·29	2·62	2·87	2·78	4·01	3·08	2·10	4·25	2·94	3·90	3·51
Dysentery	11·06	2·01	11·59	5·07	6·89	4·06	6·31	3·45	2·95	7·52	2·09	5·61	5·39
Diarrhœa	1·11	·55	2·29	·60	·92	1·01	1·11	·96	·40	1·57	·40	1·70	1·16
Hepatic {Abscess	...	...	...	·03	...	...	...	·01	·02	·05	·06	·03	·02
Hepatic {Congestion and Inflammation	·11	·26	·30	·07	·10	·12	·06	·29	·17	·42	·32	·14	·19
Scurvy	·22	...	·07	·17	·03	·27	·30	·22	·15	·28	·02	·29	·35
Venereal Diseases	7·41	5·72	11·66	4·34	6·99	5·07	2·04	5·80	7·54	7·43	7·17	4·71	4·90
VI.—Percentage in 100 Deaths—													
Cholera	...	...	31·0	3·4	3·6	2·1	...	...	...	...	14·3	8	3·0
Small-pox	...	...	...	...	...	...	...	...	...	...	1·0	...	·1
Enteric Fever	...	...	7·1	...	3·6	...	·8	...	...	...	3·1	1·5	1·2
Intermittent Fever	...	17·9	4·8	34·5	3·6	4·2	3·3	2·4	4·3	...	4·1	5·3	5·2
Remittent Fever	...	17·9	7·1	17·2	3·6	8·3	13·1	4·9	13·8	16·7	4·1	4·5	9·7
Simple Continued Fever	...	...	...	...	...	...	·8	...	·9	...	...	·4	·3
Circulatory Diseases	...	5·1	...	3·4	3·6	...	...	2·4	1·7	...	5·1	3·4	1·8
Tubercle of the lungs	...	7·7	4·8	3·4	14·3	10·4	2·9	1·2	6·0	...	3·1	12·8	5·7
Pneumonia	...	5·1	7·1	10·3	32·1	43·7	57·4	35·4	30·2	5·6	17·3	38·3	34·1
Other Respiratory Diseases	14·3	5·1	4·8	3·4	3·6	4·9	3·7	3·7	1·7	5·6	...	1·9	3·3
Dysentery	14·3	2·6	4·8	10·3	7·1	6·2	4·5	1·2	2·6	8·3	2·0	2·6	4·4
Diarrhœa	14·3	...	14·3	...	...	2·1	2·0	1·2	1·7	...	...	·4	1·8
Hepatic Abscess	...	...	...	...	...	...	...	...	1·7	...	1·0	1·1	·5
Anæmia and Debility	...	...	...	...	3·6	...	...	1·2	2·6	...	2·0	2·3	1·1

* Including Group Extra-India. For complete detail of diseases—see Table LIII.

TABLE XXVIII.

RATIOS of STATIONS, GROUPS, and COMMANDS. For actuals see Table XXIX.

Stations and Groups.	Average annual strength.	1. Admission-rate.																		2. Death-rate, per 1,000 of strength.					
		Influenza.	Cholera.	Small-pox.	Enteric Fever.	Intermittent Fever.	Remittent Fever.	Simple Continued Fever.	Circulatory Diseases.	Tubercle of the lungs.	Pneumonia.	Other Respiratory Diseases.	Dysentery.	Diarrhœa.	Hepatic Abscess.	Hepatic Congestion and Inflammation.	Scurvy.	Anæmia and Debility.	Venereal Diseases.	All causes.	Constantly sick.	Primary Syphilis.	Soft Chancre.	Secondary Syphilis.	Gonorrhœa.
Port Blair	311	...	...	...	...	266·9	...	...	...	...	...	19·3	16·1	12·9	...	...	3·2	9·6	19·3	604·5	19·3	9·6	...	6·4	2·3
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...
Rangoon	1,080	45·4	...	...	...	124·1	...	7·4	7·4	6·5	·9	15·7	88·0	5·6	...	·9	·9	49·1	56·5	663·0	27·8	21·3	3·7	20·4	11·1
		...	...	...	...	...	...	...	...	...	...	·93	·93	·93	...	...	...	...	...	6·48		...	...	...	...
Group I.—Burma Coast and Bay Islands.	1,391	35·2	...	...	...	156·0	...	5·8	5·8	5·0	·7	16·5	71·9	7·2	...	·7	1·4	40·3	48·2	649·9	25·9	18·7	2·9	17·3	9·3
		...	...	...	...	...	...	...	...	...	...	·72	·72	·72	...	...	...	...	...	5·03		...	...	...	...
Thayetmyo	84	...	...	...	...	214·3	...	...	...	11·9	...	107·1	11·9	47·6	...	...	...	35·7	95·2	642·9	47·6	71·4	...	11·9	11·9
		...	...	...	...	...	...	...	...	...	...	11·90	...	...	...	...	...	...	...	11·90		...	...	...	...
Leikaw	80	100·0	...	...	...	2400·0	12·5	...	12·5	...	12·5	162·5	37·5	12·5	...	...	...	87·5	...	3262·5	75·0	...	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...
Keng Tung	577	...	...	...	...	2112·7	27·7	...	1·7	...	3·5	26·0	20·8	12·1	...	6·9	...	8·7	52·0	2643·0	76·3	6·9	...	36·4	8·7
		...	...	...	...	3·47	3·47	...	1·73	...	3·47	...	1·73	...	...	3·47	...	...	...	22·53		...	...	...	...
Fort Stedman	424	80·2	...	...	...	832·5	61·3	...	2·4	2·4	...	30·7	44·8	...	...	...	...	23·6	28·3	1488·2	66·0	2·4	...	14·2	11·8
		...	...	...	...	...	7·08	...	...	...	...	...	...	...	...	...	...	...	...	11·79		...	...	...	...
Thamakan	29	...	...	...	...	206·9	...	...	...	...	...	...	...	...	...	...	...	...	...	206·9	...	...	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...
Meiktila	682	7·3	...	...	...	117·3	13·2	1·5	...	4·4	...	41·1	23·5	2·9	...	2·9	...	10·3	71·8	535·2	22·0	11·7	14·7	26·4	19·1
		...	...	...	...	1·47	...	...	...	...	...	...	...	...	...	...	...	...	...	1·47		...	...	...	...
Fort Dufferin	1,653	...	...	...	...	119·8	11·5	...	1·8	1·8	1·2	29·0	13·9	1·8	...	3·0	...	17·5	73·2	493·0	25·4	5·4	23·6	21·1	23·0
		...	...	...	...	1·21	1·21	...	...	1·81	...	·60	...	...	...	...	...	...	...	8·47		...	...	...	...
Thabeitkyin	49	...	...	...	20·4	285·7	...	...	...	...	...	...	163·3	...	...	...	...	...	40·8	632·7	20·4	20·4	...	20·4	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...
Bhamo	805	...	...	...	...	351·6	...	...	1·2	1·2	1·2	8·7	2·5	7·5	...	...	...	6·2	19·9	601·2	21·1	2·5	1·2	11·2	5·0
		...	...	...	...	2·48	...	...	1·24	...	...	...	...	...	...	...	...	...	...	6·21		...	...	...	...
Myingyan	6	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	166·7	666·7	...	...	...	...	166·7
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...
Group II.—Burma Inland	4,389	10·7	...	...	·2	538·4	16·2	·2	1·6	2·1	1·4	30·3	19·1	5·2	...	2·5	...	15·0	54·5	951·5	35·7	7·1	11·4	20·7	15·3
		...	...	...	...	1·59	1·59	...	·46	·68	·46	·46	·23	...	...	·46	...	...	...	8·89		...	...	...	...
Manipur	808	...	17·3	...	3·7	236·4	18·6	12·4	5·0	5·0	17·3	18·6	110·1	23·5	...	3·7	1·2	64·4	158·4	980·5	45·8	27·2	24·8	33·4	73·0
		...	16·09	...	3·71	2·48	2·48	...	...	2·48	2·48	1·24	2·48	6·19	...	1·24	...	...	...	44·55		...	...	...	...
Sadiya	67	...	...	...	...	641·8	29·9	...	14·9	...	...	29·9	179·1	...	...	...	...	14·9	59·7	1119·4	29·9	44·8	...	...	14·9
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	14·93		...	...	...	...
Dibrugarh	293	...	...	...	...	468·2	6·8	...	...	13·7	13·7	20·5	64·8	10·2	...	3·4	...	6·8	61·4	911·3	34·1	17·1	...	30·7	13·7
		...	...	...	...	...	3·41	...	...	...	...	...	...	...	...	...	...	...	...	3·41		...	...	...	...
Silchar	379	...	...	...	2·6	268·4	10·6	...	2·6	5·3	10·6	21·1	97·6	23·7	...	...	...	15·8	21·1	646·4	34·3	10·6	...	2·6	7·9
		...	...	...	...	...	...	...	...	...	2·64	2·64	...	2·64	...	...	...	...	...	10·55		...	...	...	...
Group III.—Assam	1,547	...	9·0	...	2·6	296·7	14·9	6·5	3·9	6·3	14·2	20·0	101·5	26·0	...	2·6	·6	39·4	102·1	875·9	40·3	22·6	12·9	23·9	43·3
		...	8·40	...	1·94	1·29	1·94	...	...	1·29	1·94	1·29	1·29	3·88	...	·65	...	...	...	27·15		...	...	...	...
Fort William	670	1·5	1·5	...	...	531·3	28·4	...	...	3·0	6·0	10·4	74·6	7·5	...	...	1·5	11·9	47·8	976·1	41·8	6·0	14·9	7·5	19·4
		...	1·49	...	...	7·46	2·99	...	...	...	1·49	...	1·49	...	...	...	...	...	...	16·42		...	...	...	...
Alipore	733	146·0	...	...	...	712·1	47·7	5·5	1·4	9·5	5·5	36·8	51·8	10·9	...	1·4	5·5	43·7	51·8	1534·8	60·0	13·6	4·1	19·1	15·0
		...	...	...	...	2·73	4·09	...	...	...	1·36	...	...	...	...	...	...	...	...	10·91		...	...	...	...
Ballygunge	37	81·1	...	...	...	486·5	...	...	...	...	...	27·0	54·1	...	...	...	...	...	27·0	1108·1	27·0	...	...	...	27·0
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...
Dum-Dum	135	...	...	...	...	140·7	...	81·5	...	...	...	14·8	7·4	7·4	...	...	...	...	...	311·1	7·4	...	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...
Barrackpore	708	...	...	...	1·4	685·0	...	7·1	1·4	7·1	7·1	32·3	53·7	...	1·4	1·4	...	1·4	25·4	1018·4	28·2	4·2	8·5	...	12·7
		...	...	...	...	2·82	...	...	...	1·41	...	1·41	2·82	...	...	...	...	...	...	9·89		...	...	...	...

TABLE XXVIII—*continued.*

RATIOS of STATIONS, GROUPS, and COMMANDS. For actuals see Table XXIX.

Stations and Groups.	Average annual strength.	1. Admission-rate. Influenza.	Cholera.	Small-pox.	Enteric Fever.	Intermittent Fever.	Remittent Fever.	Simple Continued Fever.	Circulatory Diseases.	2. Death-rate, per 1,000 of Strength. Tubercle of the lungs.	Pneumonia.	Other Respiratory Diseases.	Dysentery.	Diarrhœa.	Hepatic Abscess.	Hepatic Congestion and Inflammation.	Scurvy.	Anæmia and Debility.	Venereal Diseases.	All causes.	Constantly sick.	Primary Syphilis.	Soft Chancre.	Secondary Syphilis.	Gonorrhœa.
Buxa	304	...	...	...	...	322·4	42·8	...	3·3	3·3	6·6	52·6	65·8	9·9	...	...	...	98·7	9·9	993·4	42·8	...	3·3	...	6·6
		...	...	...	...	...	...	...	3·29	...	...	...	...	...	...	...	...	...	...	3·29		...	...	...	...
Cuttack	318	...	...	...	...	50·3	...	...	...	...	3·14	9·4	12·6	3·1	...	...	...	12·6	122·6	408·8	28·3	47·2	...	37·7	37·7
		...	...	...	...	3·14	...	...	...	...	3·14	...	...	...	...	...	...	...	...	6·29		...	...	...	...
Group IV.—Bengal and Orissa	2,905	38·2	·3	...	·3	521·2	23·1	6·9	1·0	5·2	5·5	27·2	52·7	6·2	·3	·7	1·7	25·8	45·1	1037·9	39·9	11·0	6·9	10·7	16·5
		...	·34	...	...	3·44	1·72	...	·34	·34	1·03	·34	1·03	...	...	...	...	...	...	9·98		...	...	...	...
A.																									
Deranda	413	...	...	4·8	...	94·4	7·3	...	...	2·4	2·4	26·6	12·1	2·4	...	...	...	14·5	29·1	331·7	14·5	2·4	4·8	16·9	4·8
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...
B.																									
Dinapore	521	...	3·8	...	...	172·7	1·9	...	1·9	...	...	36·5	9·6	9·6	...	...	...	5·8	40·3	600·8	36·5	19·2	3·8	11·5	5·8
		...	1·92	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3·84		...	...	...	...
Benares	707	...	...	...	...	182·5	11·3	5·7	...	12·7	5·7	9·9	62·2	4·2	...	1·4	...	21·2	53·7	595·5	25·5	24·0	1·4	18·4	9·9
		...	...	...	...	...	...	...	...	...	1·41	...	...	...	...	...	...	...	...	1·41		...	...	...	...
Allahabad	1,212	...	...	·8	·8	419·1	1·7	15·7	2·5	3·3	9·9	17·3	80·0	14·9	...	...	...	15·7	31·4	990·9	28·1	5·0	2·5	11·6	12·4
		...	...	...	·83	·83	...	...	·83	·83	3·30	...	1·65	..	...	...	...	...	...	9·08		...	...	...	...
Fyzabad	459	10·9	...	...	...	289·8	15·3	...	2·2	17·4	10·0	37·0	45·8	6·5	...	...	...	8·7	111·1	895·4	43·6	24·0	6·5	43·6	37·0
		...	...	...	...	...	2·18	...	...	2·18	4·36	...	...	...	...	...	...	...	...	10·89		...	...	...	...
Lucknow	1,198	7·5	...	...	...	247·1	...	...	...	1·7	2·5	13·4	34·2	·8	...	...	·8	13·4	36·7	610·2	25·9	5·8	4·2	15·9	10·9
		...	...	...	...	...	...	...	...	·83	·83	...	...	...	...	...	...	·83	...	3·34		...	...	...	...
Cawnpore	1,016	...	...	...	...	194·9	3·9	...	3·0	3·0	8·9	16·7	54·1	4·9	...	1·0	...	18·7	63·0	577·8	55·1	17·7	3·9	28·5	12·8
		...	...	...	...	...	...	...	...	·98	·98	·98	...	...	...	...	...	...	...	4·92		...	...	...	...
Fatehgarh	93	...	...	...	...	516·1	...	...	32·3	10·8	...	43·0	10·8	...	...	21·5	...	21·5	53·8	1096·8	43·0	21·5	21·5	...	10·8
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...
Group V.—Gangetic Plain and Chutia Nagpur.	5,620	2·5	·4	·5	·2	256·4	4·4	4·1	2·0	5·0	6·0	19·9	47·9	6·4	...	·7	·2	14·9	48·6	694·5	33·5	12·8	3·9	19·2	12·6
		...	·18	...	·18	·18	·18	...	·18	·71	1·60	·18	·36	...	...	...	...	·18	...	4·98		...	...	...	...
A.																									
Bareilly	1,093	7·3	...	...	...	161·0	17·4	·9	1·8	·9	4·6	14·6	20·1	1·8	...	...	1·8	9·1	45·9	515·1	25·6	13·7	6·4	13·7	10·1
		...	...	...	...	·91	·91	...	...	...	1·83	...	·91	...	...	...	...	...	...	5·49		...	...	...	...
Roorkee	441	...	...	...	...	154·2	13·6	...	...	...	2·3	6·8	13·6	2·3	...	...	...	4·5	15·9	362·8	13·6	6·8	...	2·3	6·8
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...
Dehra Dun	800	6·2	...	...	2·5	201·2	6·2	3·8	...	30·0	6·2	31·2	10·0	3·8	...	1·2	...	25·0	97·5	832·5	50·0	31·2	17·5	23·8	25·0
		...	...	...	...	...	...	...	...	13·75	...	2·50	...	1·25	...	...	...	...	...	27·50		...	...	...	...
Meerut	1,257	...	...	...	...	449·5	4·8	·8	...	14·3	83·5	23·1	28·6	9·5	...	1·6	·8	33·4	46·1	1045·3	53·3	7·2	3·2	17·5	18·3
		...	...	...	...	1·59	...	...	...	1·59	19·09	...	·80	...	...	...	...	...	...	23·87		...	...	...	...
Delhi	733	...	...	...	...	478·9	17·7	...	1·4	2·7	17·7	23·2	46·4	8·2	...	1·4	2·7	10·9	36·8	971·4	28·6	10·9	6·8	6·8	12·3
		...	...	...	...	...	1·36	...	...	...	1·36	...	...	...	...	...	...	...	...	4·09		...	...	...	...
Umballa	856	...	4·7	...	...	123·8	30·4	...	...	7·0	3·5	4·7	25·7	7·0	...	...	...	22·2	23·4	519·9	23·4	5·8	...	10·5	7·0
		...	3·50	...	...	1·17	1·17	...	...	...	...	...	...	1·17	...	...	...	...	...	8·18		...	...	...	...
B.																									
Ludhiana	36	...	...	...	...	111·1	...	...	...	...	...	...	27·8	...	...	...	...	...	83·3	583·3	27·8	...	27·8	27·8	27·8
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...
Jullundur	536	...	...	...	...	188·4	9·3	...	3·7	3·7	14·9	44·8	37·3	11·2	...	...	1·9	9·3	63·4	761·2	31·7	16·8	7·5	14·9	24·3
		...	...	...	...	...	...	...	...	...	3·73	...	1·87	...	...	...	...	...	...	5·60		...	...	...	...
Ferozepore	1,675	...	...	1·2	...	282·4	4·2	..	...	2·4	22·1	33·4	24·5	10·1	...	1·2	1·8	11·3	34·0	708·1	28·7	4·8	10·1	9·0	10·1
		...	...	...	...	1·19	1·19	...	...	...	4·18	1·19	·60	...	...	...	...	...	...	9·55		...	...	...	...
Mecan Meer	1,851	...	...	...	...	645·1	166·9	·5	·5	1·6	40·0	21·1	54·6	9·7	...	...	6·5	13·0	45·9	1316·6	31·9	6·5	14·6	7·0	17·8
		...	...	...	...	...	1·08	...	...	...	5·40	·54	1·08	...	...	...	...	...	...	10·80		...	...	...	...
Amritsar	155	...	...	...	...	290·3	6·5	...	...	...	...	32·3	19·4	6·5	...	...	...	...	12·9	658·1	12·9	12·9	..	...	...
		...	...	...	...	...	6·45	...	...	...	...	...	...	...	...	...	...	...	...	12·90		...	...	...	...
Sialkot	1,647	...	...	1·2	...	201·0	6·1	...	...	4·3	17·6	20·6	29·8	10·3	...	...	1·8	8·5	20·0	615·1	29·1	7·9	...	1·2	10·9
		...	...	...	...	...	...	...	...	1·21	4·25	·61	1·21	...	...	...	...	...	...	9·71		...	...	...	...
Jhelum	898	...	...	...	...	232·7	3·3	...	4·5	7·8	6·7	20·0	31·2	10·0	...	1·1	...	11·1	35·6	622·5	29·0	10·0	8·9	7·8	8·9
		...	...	...	...	...	...	...	...	...	1·11	...	...	1·11	...	...	...	...	...	2·23		...	...	...	...
Rawalpindi	1,766	33·4	...	...	...	327·9	12·5	...	1·1	5·1	19·3	22·1	41·9	7·4	...	2·3	2·8	11·9	43·0	830·7	36·8	11·9	2·8	9·1	19·3
		...	...	...	...	...	2·27	...	...	...	5·10	·57	5·7	...	...	...	...	...	...	9·63		...	...	...	...
Attock	112	...	...	...	...	232·1	...	...	8·9	...	8·9	...	53·6	8·9	...	17·9	8·9	...	35·7	589·3	26·8	...	8·9	8·9	17·9
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...
Group VI.—Upper Sub-Himalaya.	13,857	5·2	·3	·3	·1	316·7	31·2	·4	·9	6·0	23·2	22·3	32·5	8·1	...	·9	2·2	14·0	40·7	802·4	32·4	10·0	6·7	9·7	14·3
		...	·22	...	...	·43	·87	...	...	1·08	4·55	·51	·65	·22	...	...	...	...	...	10·39		...	...	...	...

Stations and Groups.	Average annual strength.	1. Admission-rate.												2. Death-rate, per 1,000 of strength.									
		Influenza.	Cholera.	Small-pox.	Enteric Fever.	Intermittent Fever.	Remittent Fever.	Simple Continued Fever.	Circulatory Diseases.	Tubercle of the lungs.	Pneumonia.	Other Respiratory Diseases.	Dysentery.	Diarrhœa.	Hepatic Abscess.	Hepatic Congestion and Inflammation.	Scurvy.	Anæmia and Debility.	Venereal Diseases.	All causes.	Constantly sick.	Primary Syphilis.	Soft Chancre.	Secondary Syphilis.	Gonorrhœa.
A.																									
Mardan	1,004	...	...	1·0	...	146·4	16·9	...	1·0	5·0	26·9	39·8	18·9	3·0	...	...	1·0	5·0	15·9	497·0	23·9	1·0	...	6·0	9·0
		...	...	...	...	...	1·00	...	...	1·00	5·98	...	...	...	...	...	...	...	1·00	10·96		...	...	1·00	...
Nowshera	1,086	·9	...	...	·9	206·3	29·5	·9	...	6·4	16·6	14·7	30·4	6·4	...	...	...	17·5	18·4	557·1	26·7	7·4	·9	2·8	7·4
		...	...	...	·92	·92	7·37	...	...	1·84	2·76	...	·92	1·84	...	...	...	...	...	18·42		...	...	...	...
Peshawar	3,088	...	...	·3	·3	663·2	69·0	...	1·0	3·9	32·4	47·0	86·5	15·2	...	·6	1·0	29·1	24·3	1322·9	44·7	4·2	3·6	4·2	12·3
		...	...	...	·32	1·30	2·91	...	...	...	8·74	1·62	...	·32	...	...	...	...	...	16·19		...	...	...	...
Hari Singh-Ka-Burj.	38	...	...	...	...	605·3	...	...	...	...	52·6	157·9	78·9	157·9	...	...	...	26·3	...	1315·8	26·3	...	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...
Fort Jamrud	441	...	...	4·5	...	229·0	13·6	22·7	...	18·1	45·4	31·7	204·1	34·0	...	2·3	4·5	59·0	11·3	938·8	27·2	6·8	2·3	...	2·3
		...	...	...	...	...	...	...	...	...	9·07	4·54	2·27	...	...	...	...	...	...	15·87		...	...	...	...
Bara	6	...	...	...	...	333·3	...	...	...	...	...	...	...	...	...	...	...	...	...	333·3	...	...	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...
Kohat	2,417	...	...	...	...	507·7	35·2	7·4	...	3·3	44·7	74·1	84·8	11·2	...	2·5	5·0	24·0	28·1	1242·9	37·2	6·6	7·0	4·6	9·9
		...	...	...	...	·41	·41	...	...	·41	10·34	...	·83	...	...	...	...	...	...	15·31		...	...	...	...
Usterzai	28	...	...	...	...	428·6	35·7	...	...	...	...	...	35·7	...	...	...	...	...	...	571·4	...	...	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...
Bahadur Khel	46	...	...	...	...	326·1	...	...	...	...	21·7	...	43·5	21·7	...	...	...	...	...	608·7	21·7	...	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	21·74		...	...	...	...
Edwardesabad	1,305	...	...	...	...	613·8	69·7	·8	2·3	3·1	87·4	43·7	39·1	18·4	...	...	10·0	38·3	18·4	1410·7	60·5	4·6	3·1	4·6	6·1
		...	...	...	...	...	2·30	...	...	1·53	29·89	...	3·07	...	...	...	...	...	...	40·61		...	...	...	...
Jani Khel	36	...	...	...	...	694·4	27·8	...	...	...	...	83·3	111·1	83·3	...	...	...	27·8	27·8	1361·1	27·8	...	...	...	27·8
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...
Dera Ismail Khan	1,352	...	...	·7	...	462·3	4·4	...	·7	4·4	44·4	59·2	53·3	7·4	...	...	3·7	38·5	10·4	1190·1	45·1	3·7	...	3·7	3·0
		...	...	...	...	...	·74	...	...	...	13·31	...	...	·74	...	...	...	...	...	16·27		...	...	...	...
Tank, Jatta, and Draband.	183	...	...	...	...	185·8	5·5	...	...	...	32·8	60·1	38·3	5·5	...	...	...	5·5	5·5	595·6	21·9	5·5	...	...	...
		...	...	...	...	...	...	...	...	...	5·46	5·46	...	...	...	...	...	...	...	10·93		...	...	...	...
Mangrota	41	...	...	...	...	73·2	...	...	...	...	...	...	24·4	...	...	...	...	...	...	170·7	...	...	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...
Dera Ghazi Khan	680	...	...	...	...	277·9	26·5	11·8	...	4·4	19·1	54·4	48·5	17·6	...	2·9	2·9	29·4	10·3	923·5	32·4	2·9	...	4·4	2·9
		...	...	...	...	...	...	...	...	...	1·47	1·47	1·47	...	...	...	...	...	...	5·88		...	...	...	...
Mooltan	1,023	...	...	...	...	511·2	5·9	1·0	...	2·9	19·6	26·4	30·3	5·9	...	...	3·9	35·2	35·2	988·3	35·2	13·7	2·9	2·9	15·6
		...	...	...	...	...	1·96	...	...	...	3·91	...	...	...	...	...	...	...	...	6·84		...	...	...	...
Bikaner	39	...	...	...	...	...	25·6	...	...	25·6	...	...	...	...	...	...	...	...	...	128·2	...	...	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...
B.																									
Idak	310	...	...	...	...	1129·0	25·8	...	...	3·2	51·6	45·2	87·1	35·5	...	...	...	12·9	3·2	1677·4	35·5	...	...	3·2	...
		...	...	...	...	...	9·68	...	...	...	25·81	...	...	...	...	...	...	...	...	35·48		...	...	...	...
Khajuri	46	...	...	...	...	282·6	65·2	...	...	...	...	21·7	65·2	...	...	...	...	21·7	...	652·2	21·7	...	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...
Saidgi	177	...	...	...	...	796·6	16·9	...	...	...	22·6	33·9	158·2	11·3	...	...	...	...	11·3	1463·3	33·9	...	...	5·6	5·6
		...	...	...	...	...	...	...	...	...	...	...	...	5·65	...	...	...	...	...	11·30		...	...	...	...
Jandola	190	...	...	...	...	684·2	5·3	...	...	...	21·1	68·4	494·7	21·1	...	...	...	10·5	5·3	2063·2	52·6	...	...	5·3	...
		...	...	...	...	...	...	...	...	...	5·26	...	...	...	...	...	...	...	...	5·26		...	...	...	...
Khajuri Kach	280	42·9	...	...	...	210·7	3·6	...	...	...	85·7	25·0	246·4	3·6	...	...	...	10·7	28·6	1053·6	57·1	10·7	...	10·7	7·1
		...	...	...	...	...	3·57	...	...	...	3·57	...	3·57	...	...	...	...	...	...	10·71		...	...	...	...
Sibi	99	...	...	...	...	474·7	10·1	...	...	...	20·2	30·3	20·2	20·2	...	...	30·3	10·1	...	899·0	60·6	...	...	...	...
		...	...	...	...	...	10·10	...	...	...	...	...	...	...	..	...	...	...	...	20·20		...	...	...	...
C.																									
Jacobabad	530	...	...	...	...	477·4	1·9	...	...	...	13·2	13·2	34·0	5·7	...	...	5·7	11·3	26·4	1069·8	32·1	1·9	3·8	7·5	13·2
		...	...	...	...	1·89	...	...	...	...	1·89	...	...	...	...	...	...	...	...	5·66		...	...	...	...
Hyderabad	404	...	...	...	...	349·0	22·3	2·5	...	...	2·5	39·6	29·7	9·9	...	...	5·0	5·0	47·0	896·0	32·2	...	12·4	9·9	24·8
		...	...	...	...	2·48	...	...	...	...	...	...	...	...	...	...	...	...	...	2·48		...	...	...	...
Kurrachee	643	...	...	...	...	940·9	15·6	9·3	1·6	4·7	10·9	20·2	34·2	4·7	...	...	3·1	4·7	65·3	1351·5	40·4	6·2	17·1	14·0	28·0
		...	...	...	...	...	3·11	3·11	...	1·56	1·56	...	1·56	...	...	...	...	...	...	10·89		...	...	...	...
Group VII.—N.-W. Frontier, Indus Valley, and North-Western Rajputana.	15,492	·8	...	·3	·1	499·5	33·2	3·0	·6	3·9	35·8	44·9	70·6	12·4	...	·7	3·4	24·6	22·9	1119·6	39·0	5·0	3·6	4·7	9·6
		...	...	...	·13	·52	2·07	·13	...	·45	9·04	·58	·71	·32	...	...	...	...	·06	15·75		...	...	·06	...

TABLE XXVIII—*continued.*

RATIOS of STATIONS, GROUPS, and COMMANDS. For actuals see Table XXIX

Stations and Groups.	Average annual strength.	1. Admission-rate.																		2. Death-rate, per 1,000 of strength.				
		Influenza.	Cholera.	Small-pox.	Enteric Fever.	Intermittent Fever.	Remittent Fever.	Simple Continued Fever.	Circulatory Diseases.	Tubercle of the lungs.	Pneumonia.	Other Respiratory Diseases.	Dysentery.	Diarrhœa.	Hepatic Abscess.	Hepatic Congestion and Inflammation.	Scurvy.	Anæmia and Debility.	Venereal Diseases.	All causes.	Constantly sick.	Primary Syphilis.	Soft Chancre.	Secondary Syphilis.	Gonorrhœa.
A																									
Bhuj	145	...	...	...	...	20·7	...	34·5	...	6·9	6·9	6·9	20·7	...	...	...	...	...	48·3	358·6	20·7	13·8	6·9	6·9	20·7
		...	...	...	...	...	...	...	...	...	6·90	...	...	...	...	...	...	...	...	6·90		...	...	...	...
Rajkot	687	...	...	...	...	384·3	2·9	...	1·5	2·9	4·4	43·7	17·5	7·3	...	10·2	2·9	5·8	72·8	973·8	36·4	29·1	...	30·6	13·1
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...
Deesa	920	...	...	...	...	259·8	6·5	71·7	1·1	8·7	4·3	16·3	28·3	8·7	...	...	1·1	3·3	50·0	864·1	37·0	8·7	19·6	8·7	13·0
		...	...	...	...	...	...	...	...	...	2·17	...	...	...	...	...	...	...	...	2·17		...	...	...	...
Sadra	72	...	...	...	...	351·1	27·8	...	...	...	...	...	41·7	...	...	...	...	...	...	541·7	13·9	...	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...
Ahmedabad	334	...	...	...	...	422·2	6·0	...	9·0	...	12·0	26·9	9·0	6·0	...	...	3·0	18·0	59·9	955·1	29·9	...	12·0	32·9	15·0
		..	...	...	...	...	...	...	...	...	2·99	...	...	...	...	...	...	...	...	5·99		...	...	...	..
Baroda	569	...	...	...	...	514·9	1·8	7·0	...	1·8	5·3	21·1	19·3	7·0	...	5·3	...	7·0	15·8	838·3	24·6	3·5	1·8	5·3	5·3
		...	...	...	...	...	...	...	...	...	1·76	1·76	...	...	...	5·27	...	...	...	40·42		..	...	...	...
B																									
Barwani	72	...	...	...	...	...	...	...	...	...	13·9	...	...	...	...	...	...	...	...	41·7	...	...	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...
Alirajpore	38	...	...	...	...	...	...	...	...	...	78·9	20·3	...	...	...	...	...	26·3	...	447·4	26·3	...	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...
Sirdarpore	341	...	...	...	...	360·7	2·9	...	...	2·9	23·3	41·1	8·8	23·5	...	...	...	2·9	17·6	953·1	29·3	2·9	...	2·9	11·7
		...	...	...	...	...	...	...	2·93	...	2·93	...	...	...	...	...	...	...	...	5·07		...	...	...	...
Jhabwa	39	51·3	...	...	...	230·8	...	...	...	...	25·6	25·6	...	25·6	...	...	...	...	51·3	615·4	25·6	...	...	...	51·3
		...	...	...	...	...	...	...	...	...	25·64	...	...	...	...	...	...	...	...	25·64		...	...	...	...
Kherwara	347	...	...	...	...	72·0	...	5·8	...	...	80·7	14·4	5·8	...	...	...	...	...	5·8	475·5	17·3	...	...	2·9	2·9
		...	...	...	...	...	...	...	...	...	11·53	...	2·88	...	...	...	...	...	...	14·41		...	...	...	...
Kotra	160	...	...	...	...	106·2	...	...	...	...	18·8	...	...	...	...	...	...	...	43·8	393·8	18·8	...	...	31·2	12·5
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...
Udaipur	62	...	...	...	...	48·4	16·1	...	...	...	16·1	...	...	...	...	16·1	...	...	16·1	145·2	...	16·1	...	...	...
		...	...	...	...	...	...	...	...	...	16·13	...	...	...	...	...	...	...	...	10·13		...	...	...	...
Erinpura	569	..	...	...	...	119·5	7·0	...	1·8	10·5	17·6	31·6	17·6	8·8	...	...	1·8	14·1	21·1	553·6	19·3	10·5	..	7·0	3·5
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3·51		...	...	...	...
Neemuch	333	...	...	...	...	156·2	3·0	6·0	...	...	3·0	12·0	48·0	3·0	...	6·0	...	12·0	27·0	579·6	18·0	6·0	...	3·0	18·0
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...
Deoli	527	...	...	...	...	220·1	26·6	...	...	...	13·3	19·0	19·0	5·7	...	1·9	...	17·1	39·8	709·7	19·0	13·3	1·9	5·7	19·0
		...	...	...	...	...	...	...	...	...	3·80	...	...	...	...	...	...	...	...	5·09		...	...	...	...
Beawar	46	...	...	...	...	...	...	...	...	...	21·7	...	...	...	...	...	...	...	...	87·0	...	...	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...
Nasirabad	756	...	...	...	...	101·9	1·3	...	4·0	1·3	11·9	10·6	14·6	2·6	...	2·6	9·3	...	38·4	517·1	23·8	7·9	4·0	13·2	13·2
		...	...	...	...	...	...	...	...	1·32	2·65	1·32	...	...	...	...	1·32	...	...	6·61		...	...	...	...
Ajmer	497	...	...	...	...	102·6	4·0	...	2·0	6·0	26·2	42·3	8·0	2·0	2·0	4·0	...	...	32·2	515·1	24·1	14·1	...	12·1	3·0
		...	...	...	...	...	...	...	—	...	4·02	2·01	...	...	...	...	...	...	2·01	8·05		...	...	2·01	...
Sambhar	21	...	...	...	...	190·5	...	...	...	...	...	...	...	...	...	...	...	...	47·6	285·7	...	...	...	47·6	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...
Jaipur	58	...	...	...	...	293·1	...	...	...	...	34·5	...	17·2	...	...	...	...	...	17·2	534·5	17·2	...	...	...	17·2
		...	...	...	...	...	...	...	...	...	17·24	...	...	...	...	...	...	...	...	17·24		...	...	...	...
Agra	738	...	...	...	...	397·0	24·4	...	...	8·1	6·8	29·8	66·4	4·1	...	...	1·4	1·4	39·3	878·0	39·3	10·8	9·5	10·8	8·1
		...	...	...	...	...	...	...	...	...	1·36	...	...	...	...	...	...	...	...	1·36		...	...	...	...
Gwalior	20	...	...	...	...	850·0	...	...	...	...	...	50·0	100·0	...	...	...	...	...	...	1350·0	50·0	...	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...
Jhansi	643	...	...	...	...	161·7	6·2	...	...	1·6	15·6	17·1	23·3	14·0	...	1·6	...	34·2	80·9	600·3	32·7	29·5	4·7	9·3	37·3
		...	...	...	...	...	3·11	...	1·56	...	6·22	...	...	...	...	...	...	...	...	12·44		...	...	...	...
Nowgong	1,049	...	...	...	...	285·0	...	...	1·9	1·9	7·6	15·3	7·6	3·8	...	1·0	...	4·8	46·7	591·0	26·7	9·5	3·8	11·4	21·9
		...	...	...	...	1·91	...	...	...	...	·95	...	...	...	...	...	...	·95	...	6·67		...	...	...	...
Jhalawar	89	...	...	...	...	348·3	...	...	...	...	...	33·7	33·7	...	...	...	...	22·5	11·2	707·9	22·5	...	...	11·2	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...
Goona	332	9·0	...	...	...	132·5	30·1	18·1	...	3·0	...	12·0	27·1	6·0	...	6·0	...	15·1	18·1	578·3	21·1	9·0	...	6·0	3·0
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	6·02		...	...	...	...
Agar	348	...	...	...	...	206·9	17·2	5·7	...	...	8·6	14·4	25·9	20·1	...	...	5·7	20·1	14·4	663·8	23·0	2·9	2·9	5·7	2·9
		...	...	...	...	...	...	...	...	...	2·87	...	...	2·87	...	...	...	...	...	14·37		...	...	...	...
Sehore	670	...	...	...	...	565·7	3·0	22·4	...	...	13·4	6·0	23·9	3·0	...	...	...	22·4	29·9	877·6	20·9	11·9	...	10·4	7·5
		...	...	...	...	...	1·49	...	...	...	4·45	...	...	...	...	...	...	...	...	7·46		...	...	...	...

Stations and Groups.	Average annual strength.	1. Admission-rate.																2. Death-rate, per 1,000 of strength.					
		Influenza.	Cholera.	Small-pox.	Enteric Fever.	Intermittent Fever.	Remittent Fever.	Simple Continued Fever.	Circulatory Diseases.	Tubercle of the lungs.	Pneumonia.	Other Respiratory Diseases.	Dysentery.	Diarrhœa.	Hepatic Abscess.	Hepatic Congestion and Inflammation.	Scurvy.	Anæmia and Debility.	Venereal Diseases.	All causes.	Constantly sick.	Primary Syphilis.	Soft Chancre.	Secondary Syphilis.	Gonorrhœa.
Indore	242	...	...	...	...	177·7	20·7	4·1	...	...	16·5	53·7	57·9	8·3	...	...	...	16·5	28·9	574·4	20·7	20·7	...	4·1	4·1
		...	...	...	...	...	4·13	...	...	...	...	...	...	...	...	...	...	...	...	4·13		...	...	...	...
Mhow	584	...	...	...	...	215·8	12·0	1·7	...	...	10·3	22·3	51·4	10·3	...	1·7	3·4	6·8	78·8	691·8	34·2	20·5	5·1	32·5	20·5
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1·71	1·71		...	...	1·71	...
Group VIII.—South-Eastern Rajputana, Central India, and Gujarat	11,310	·4	...	...	...	259·6	7·9	9·2	1·1	2·9	13·3	21·3	23·9	6·1	·1	2·0	1·5	9·3	40·1	691·9	26·3	11·3	4·1	11·8	12·9
		...	...	...	...	·18	·35	...	·18	·09	2·50	·27	·09	·09	...	·27	·09	·09	·18	7·25		...	...	·18	...
A																									
Asirgarh	51	...	...	...	...	529·4	...	...	...	...	...	...	19·6	...	...	...	...	19·6	19·6	843·1	19·6	...	...	...	19·6
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...
Saugor	1,076	3·7	...	...	...	492·6	5·6	...	...	...	39·0	12·1	34·4	3·7	...	...	1·9	2·8	52·0	926·6	32·5	11·2	2·8	26·0	12·1
		...	...	...	...	...	...	...	...	...	7·43	...	...	...	...	...	...	...	...	8·36		...	...	...	...
Sutna	30	...	...	...	...	1,066·7	...	...	...	...	...	...	...	...	...	...	...	...	33·3	1333·3	33·3	...	...	...	33·3
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...
Jubbulpore	733	2·7	...	...	...	241·5	9·5	1·4	...	2·7	5·5	13·6	21·8	1·4	...	2·7	...	6·8	88·7	702·6	32·7	13·6	12·3	23·2	39·6
		...	...	...	...	1·36	...	...	...	...	1·36	...	...	...	...	1·36	...	...	...	4·09		...	...	...	...
Sambalpur	204	14·7	...	...	...	426·5	...	39·2	...	...	...	39·2	73·5	29·4	...	...	...	4·9	19·6	951·0	29·4	4·9	...	4·9	9·8
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...
Raipur	414	...	...	...	...	186·0	4·8	...	2·4	2·4	2·4	24·2	19·3	...	...	2·4	...	31·4	188·4	632·9	29·0	91·8	...	9·7	87·0
		...	...	...	...	2·42	2·42	...	...	...	2·42	...	2·42	...	...	...	...	...	...	9·66		...	...	...	...
Kamptee	589	...	...	...	...	631·6	52·6	20·4	...	1·7	3·4	5·1	10·2	...	1·7	...	...	15·3	123·9	1191·9	54·3	27·2	5·1	54·3	37·4
		...	...	...	...	...	5·09	...	...	...	...	...	...	...	1·70	...	...	1·70	...	8·49		...	...	...	...
Sitabaldi	84	...	...	...	...	571·4	...	...	...	...	23·8	71·4	11·9	35·7	...	...	...	11·9	11·9	1083·3	11·9	...	...	...	11·9
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	11·90		...	...	...	...
B.																									
Ellichpur	784	...	...	...	...	354·6	31·9	6·4	2·6	...	25·5	12·8	12·8	3·8	...	...	1·3	...	53·6	682·4	17·9	25·5	...	2·6	25·5
		...	...	...	...	1·28	...	...	1·28	...	7·65	...	1·28	...	...	...	...	...	...	15·31		...	...	...	...
Hingoli	1,199	...	...	...	...	207·7	10·8	...	2·5	1·7	10·8	10·8	11·7	1·7	...	·8	·8	2·5	52·5	574·6	25·0	17·5	...	17·5	17·5
		...	...	...	...	...	1·67	...	...	...	...	...	...	...	...	...	...	...	...	2·50		...	...	...	...
Jalna	680	...	...	1·5	...	298·5	25·0	...	...	...	4·4	...	7·4	...	...	4·4	...	...	16·2	495·6	14·7	...	2·9	5·9	7·4
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...
Aurangabad	1,248	...	...	...	...	161·1	8·0	·8	2·4	...	7·2	13·6	12·8	·8	...	...	...	3·2	23·2	405·4	16·0	10·4	...	5·6	7·2
		...	...	...	...	...	1·60	...	...	...	2·40	...	...	...	...	...	...	...	·80	7·21		...	...	·80	...
Malegaon	94	...	...	...	...	191·5	...	...	...	...	...	10·6	21·3	...	...	...	...	...	10·6	478·7	10·6	10·6	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...
Ahmednagar	460	...	...	...	2·2	102·2	6·5	126·1	2·2	2·2	2·2	10·9	4·3	10·9	...	4·3	2·2	10·9	17·4	521·7	13·0	2·2	4·3	8·7	2·2
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...
Mominabad	428	...	...	...	...	373·8	4·7	...	...	...	4·7	7·0	7·0	...	...	...	2·3	21·0	14·0	651·9	23·4	...	4·7	4·7	4·7
		...	...	...	...	...	...	...	...	...	...	2·34	...	...	...	...	...	...	...	2·34		...	...	...	...
Bolarum	1,270	8·7	...	...	...	114·2	6·3	...	...	...	2·4	17·3	25·2	·8	·8	1·6	2·4	3·9	18·1	423·6	15·7	6·3	...	5·5	6·3
		...	...	...	...	...	·79	...	...	...	·79	...	...	...	·79	...	...	...	...	2·36		...	...	...	...
Secunderabad	3,708	26·7	...	·3	...	269·7	3·5	15·6	3·2	1·9	7·6	10·0	14·0	...	...	1·6	·8	12·4	44·0	677·2	20·8	7·0	6·2	8·6	22·1
		...	...	...	...	·54	1·08	...	·27	·81	1·62	·27	...	...	...	...	...	...	...	6·20		...	...	...	...
Raichur	520	...	...	...	...	40·4	3·8	5·8	...	1·9	3·8	7·7	7·7	...	...	...	1·9	17·3	7·7	194·2	9·6	5·8	...	1·9	...
		...	...	...	...	...	...	1·92	...	...	...	...	...	...	...	...	...	...	...	5·77		...	...	...	...
Belgam	1,247	...	...	...	...	89·8	16·0	1·6	·8	1·6	8·0	19·2	20·0	·8	...	...	·8	16·0	113·9	640·7	35·3	39·3	...	28·1	16·5
		...	...	...	...	...	...	...	...	·80	4·01	...	...	...	...	...	...	1·60	·80	15·24		...	...	·80	...
Satara	76	...	...	...	...	407·9	...	...	13·2	13·2	...	65·8	39·5	...	...	...	...	39·5	105·2	1171·1	92·1	13·2	13·2	78·9	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	13·16		...	...	...	...
Poona	2,287	...	...	·4	...	383·5	11·4	6·6	3·1	2·6	3·1	20·1	41·5	7·0	...	1·7	·4	9·2	57·3	968·5	39·8	12·7	15·7	12·7	16·2
		...	...	...	...	...	1·31	...	...	...	...	...	·44	·87	...	...	...	...	...	3·50		...	...	...	...
Kirkee	897	22·3	...	...	...	350·1	14·5	2·2	1·1	5·6	6·7	27·9	21·2	7·8	...	1·1	4·5	12·3	36·8	938·7	40·1	2·2	12·3	11·1	11·1
		...	...	...	...	...	...	...	...	3·34	4·46	...	...	...	...	...	...	...	...	12·26		...	...	...	...
Sirur	344	...	...	...	...	49·4	...	...	2·9	...	...	14·5	23·3	2·9	...	...	...	2·9	43·6	377·9	20·3	14·5	...	11·6	17·4
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2·91		...	...	...	...
Nasik	9	...	...	...	...	...	...	...	...	...	222·2	...	111·1	...	...	...	...	...	...	333·3	...	...	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...
Group IX.—Deccan.	18,428	7·5	...	·2	·1	272·6	10·7	9·0	1·8	1·6	8·5	14·5	20·3	2·8	·1	1·2	1·0	9·2	52·0	689·3	27·1	15·2	5·0	13·3	18·4
		...	...	...	...	·27	·87	·05	·11	·38	1·99	·11	·10	·11	·11	·05	...	·16	·11	6·29		...	...	·11	...

TABLE XXVIII—*continued.*

RATIOS of STATIONS, GROUPS, and COMMANDS. For actuals see Table XXIX

Stations and Groups.	Average annual strength.	1. Admission-rate. Influenza.	Cholera.	Small-pox.	Enteric Fever.	Intermittent Fever.	Remittent Fever.	Simple Continued Fever.	2. Death-rate, per 1,000 of strength. Circulatory Diseases.	Tubercle of the lungs.	Pneumonia.	Other Respiratory Diseases.	Dysentery.	Diarrhœa.	Hepatic Abscess.	Hepatic Congestion and Inflammation.	Scurvy.	Anæmia and Debility.	Venereal Diseases.	All causes.	Constantly sick.	Primary Syphilis.	Soft Chancre.	Secondary Syphilis.	Gonorrhœa.
Thana	82	...	...	...	...	268·3	36·6	...	12·2	12·2	...	97·6	134·1	...	...	12·2	...	...	182·9	963·4	36·6	2 44	48·8	12·2	97·6
		...	...	...	...	...	12·20	...	...	...	...	...	...	...	...	...	...	...	...	24·39		...	...	...	...
Bombay	1,213	...	...	...	...	249·8	17·3	22·3	2·5	·8	17·3	46·2	89·0	18·1	...	4·9	4·9	15·7	60·2	864·8	41·2	17·3	4·1	19·8	19·0
		...	...	...	...	...	4·12	...	...	...	1·65	·82	1·65	...	...	...	·82	...	...	18·14		...	...	...	...
Butcher's Island	8	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...
Cannanore	826	...	...	...	...	169·5	13·3	1·2	3·6	3·6	...	25·4	20 6	13·3	1·2	1·2	...	29·1	42·4	671·9	36·3	24·2	...	9·7	8·5
		...	...	...	...	...	...	...	...	...	...	...	1·21	...	...	...	...	...	...	6·05		...	...	...	...
Trichoor	89	...	...	...	...	292·1	33·7	44·9	11·2	...	...	...	123·6	...	...	...	...	33·7	33·7	1112·4	33·7	...	...	...	33·7
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	22·47		...	...	...	...
Quilon	500	...	...	...	...	2·0	...	98·0	18·0	2·0	...	14·0	30·0	...	...	2·0	...	...	58·0	668·0	28·0	20·8	...	14·0	24·0
		...	...	...	...	...	...	...	...	...	...	2·00	...	...	...	2·00	...	...	...	10·00		...	...	...	...
Trivandrum	79	...	...	...	...	12·7	...	38·0	...	...	...	...	12·7	12·7	...	...	...	12·7	75·9	645·6	25·3	63·3	...	...	12·7
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...
Group X.—Western Coast.	2,796	...	...	...	...	176·3	13·6	30·0	4·3	2·1	7·5	32·9	58·3	12·2	·4	3·2	2·1	16·8	57·6	775·0	36·3	20·7	3·2	14·3	19·3
		...	...	...	...	...	2·15	...	...	...	·72	·72	1·07	...	...	·36	·36	...	...	12·88		...	...	...	...
A.																									
Bellary	1,327	3·0	...	...	...	437·1	·8	...	2·3	2·3	9·0	7·5	15·8	...	...	...	...	8·3	42·2	747·6	34·7	12·1	...	10·6	19·6
		...	...	...	...	1·51	...	...	1·51	·75	3·01	...	...	...	...	...	...	·75	...	9·80		...	...	...	...
Bangalore	2,754	46·8	...	·4	...	227·7	3·3	·4	11·6	2·2	15·3	29·8	19·2	3·3	·7	2·9	...	67·2	26·1	795·6	43·2	4·0	1·8	7·6	12·7
		·36	...	·36	...	...	·73	...	·73	·73	4·36	...	...	...	·30	·36	...	·36	...	19·24		...	...	...	...
B.																									
Trichinopoly	1,184	...	13·5	·8	...	50·7	·8	...	·8	1·7	3·4	14·4	5·1	1·7	...	...	...	2·5	43·9	305·7	21·1	11·8	5·9	12·7	13·5
		...	11·82	...	...	...	·84	...	...	...	·84	...	...	...	...	...	...	...	...	14·36		...	...	...	...
St. Thomas' Mount.	737	...	...	...	...	51·6	8·1	118·0	2·7	2·7	1·4	27·1	20·4	4·1	...	6·8	...	74·6	44·8	702·8	33·9	6·8	...	25·8	12·2
		...	...	...	...	...	...	...	1·36	...	...	...	...	...	...	...	...	...	...	2·71		...	...	...	...
Madras	797	...	...	1·3	2·5	36·4	1·3	107·9	...	1·3	7·5	21·3	5·0	6·3	1·3	2·5	1·3	11·3	70·3	538·3	30·1	12·5	7·5	17·6	32·6
		...	...	...	2·51	2·51	1·25	...	...	...	...	...	1·25	...	...	...	...	...	...	8·78		...	...	...	...
C.																									
Vizianagram	704	...	...	...	2·8	180·4	24·1	...	2·8	5·7	8·5	...	4·3	1·4	...	1·4	...	...	88·1	527·0	27·0	12·8	...	46·9	28·4
		...	...	...	1·42	...	...	...	...	...	...	...	...	...	...	1·42	...	...	...	5·68		...	...	...	...
Berhampur	417	...	...	4·8	...	115·1	2·4	...	7·2	...	4·8	4·8	7·2	...	...	...	...	4·8	71·9	465·3	16·8	12·0	...	21·6	38·4
		...	...	...	...	...	...	...	...	...	...	...	2·40	...	...	...	...	...	...	4·80		...	...	...	...
Group XI.—Southern India.	7,920	16·8	2·0	·6	·5	190·5	4·5	22·0	5·4	2·3	9·2	18·7	13·3	2·5	·4	2·0	·1	33·5	45·6	635·4	33·4	8·8	2·3	15·8	18·7
		·13	1·77	·13	·38	·51	·51	...	·63	·38	2·15	...	·25	...	·13	·25	...	·25	...	12·37		...	...	...	...
Maymyo	661	...	...	...	...	234·5	28·7	1·5	3·0	3·0	34·8	24·2	18·2	1·5	...	...	...	12·1	72·6	627·8	34·8	21·2	3·0	22·7	25·7
		...	...	...	...	1·51	1·51	...	...	1·51	1·51	1·51	...	...	...	...	...	...	1·51	15·13		...	...	1·51	...
Bampon	73	...	...	...	...	1082·2	...	...	...	...	...	54·8	27·4	...	...	...	...	13·7	27·4	1506·8	41·1	13·7	...	...	13·7
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...
Toungyi	47	21·3	...	...	...	170·2	...	...	...	...	...	148·9	21·3	...	...	...	...	...	...	404·3	21·3	...	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...
Kohima	552	...	...	...	...	601·4	10·9	...	...	10·9	45·3	90·6	119·6	29·0	...	7·2	...	65·2	67·0	1503·6	67·0	21·7	...	21·7	23·6
		...	...	...	...	5·43	...	...	1·81	1·81	5·43	...	...	...	...	...	...	1·81	...	21·74		...	...	...	...
Shillong	754	96·8	...	...	...	348·8	5·3	...	...	21·2	26·5	58·4	43·8	4·0	...	8·0	1·3	6·6	35·8	981·4	66·3	4·0	2·7	6·6	22·5
		...	...	...	...	1·33	...	...	...	1·33	1·33	...	...	1·33	...	1·33	...	...	...	9·28		...	...	...	...
Gantak	198	...	...	...	5·1	85·9	...	...	5·1	...	5·1	25·3	...	...	...	...	...	...	15·2	272·7	15·2	5·1	...	10·1	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...
Darjeeling	90	...	...	...	...	211·1	...	...	...	...	22·2	144·4	44·4	22·2	...	...	...	33·3	...	988·9	22·2	...	...	...	...
		...	...	...	...	...	...	...	...	...	11·11	...	...	...	...	...	...	...	...	22·22		...	...	...	...
Almora	582	...	...	...	...	182·1	30·9	32·6	1·7	5·2	13·7	6·9	24·1	25·8	1·7	1·7	1·7	36·1	37·8	716·5	37·8	12·0	1·7	10·3	13·7
		...	...	...	...	3·44	3·44	...	...	1·72	1·72	...	1·72	...	...	...	...	...	...	13·75		...	...	...	...
Ranikhet	45	...	...	...	...	177·8	...	...	...	...	44·4	...	...	...	...	...	...	...	111·1	377·8	22·2	22·2	...	66·7	22·2
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...

Stations and Groups.	Average annual strength.	1. Admission-rate.															2. Death-rate, per 1,000 of strength.								
		Influenza.	Cholera.	Small-pox.	Enteric Fever.	Intermittent Fever.	Remittent Fever.	Simple Continued Fever.	Circulatory Diseases.	Tubercle of the lungs.	Pneumonia.	Other Respiratory Diseases.	Dysentery.	Diarrhœa.	Hepatic Abscess.	Hepatic Congestion and Inflammation.	Scurvy.	Anæmia and Debility.	Venereal Diseases.	All causes.	Constantly sick.	Primary Syphilis.	Soft Chancre.	Secondary Syphilis.	Gonorrhœa.
Naini Tal.	132	106·1	...	...	...	22·7	22·7	...	...	15·2	37·9	30·3	15·2	...	...	15·2	...	...	484·8	1015·2	98·5	197·0	30·3	174·2	83·3
		...	...	...	...	...	...	...	...	7·58	15·13	...	...	...	...	...	...	...	...	22·73		...	...	...	...
Lansdowne .	908	...	...	1·1	2·2	220·1	7·7	37·4	1·1	6·6	15·4	23·1	12·1	15·4	...	...	1·1	6·6	104·6	741·2	35·2	20·9	9·9	44·1	29·7
		...	...	...	...	1·10	1·10	...	...	1·10	1·10	...	...	...	...	...	...	1·10	1·10	9·91		...	...	...	1·10
Simla .	128	...	...	...	...	203·1	7·8	...	...	7·8	...	31·3	31·3	78·1	...	7·8	...	23·4	117·2	875·0	39·1	23·4	7·8	15·6	70·3
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...
Jutogh .	52	...	...	...	...	211·5	96·2	...	...	...	38·5	...	57·7	96·2	...	...	...	76·9	19·2	1653·8	96·2	...	...	...	19·2
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	19·23		...	...	...	...
Dharmsala .	1,151	88·6	...	...	·9	240·7	53·0	...	·9	10·4	17·4	17·4	23·5	8·7	...	1·7	·9	8·7	130·3	821·0	48·7	19·1	30·4	26·9	53·9
		2·61	...	...	·87	·87	·87	...	...	6·95	6·08	...	...	...	...	...	...	...	...	24·33		...	...	...	...
Bakloh .	924	...	...	...	3·2	217·5	43·3	...	...	26·0	10·8	17·3	9·7	2·2	...	3·2	6·5	88·7	101·7	864·7	58·4	14·1	24·9	24·9	37·9
		...	...	...	1·08	...	1·08	...	...	6·49	2·16	...	1·08	...	...	...	...	...	...	12·99		...	...	...	...
Murree .	41	48·8	...	...	...	536·6	...	...	...	...	...	48·8	73·2	...	...	...	...	24·4	...	951·2	24·4	...	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...
Khyragully .	66	...	...	...	...	60·6	15·2	...	...	...	...	...	60·6	...	...	...	...	15·2	15·2	287·9	15·2	15·2	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...
Baragully .	52	...	...	...	...	134·6	...	...	...	...	19·2	...	...	19·2	...	...	...	19·2	57·7	365·4	19·2	57·7	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...
Kalabagh .	58	...	...	...	...	258·6	...	...	...	...	...	17·2	17·2	17·2	...	17·2	...	17·2	120·7	1000·0	34·5	34·5	...	69·0	17·2
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	17·24		...	...	...	...
Gilgit .	200	...	...	...	...	210·0	30·0	...	...	25·0	...	55·0	50·0	5·0	...	...	...	40·0	5·0	760·0	30·0	...	...	...	5·0
		...	...	...	...	...	...	...	...	15·00	...	...	...	...	...	...	...	...	...	15·00		...	...	...	...
Chitral .	290	...	...	...	...	489·7	...	...	...	3·4	...	24·1	41·4	13·8	...	3·4	...	3·4	10·3	803·4	34·2	6·9	...	3·4	...
		...	...	...	...	3·45	...	...	...	...	...	...	...	...	...	...	...	3·45	...	6·90		...	...	...	...
Kila Drosh .	1,479	...	1·4	1·4	6·8	365·8	30·4	4·7	·7	2·0	15·6	44·6	66·9	13·5	1·4	1·4	2·0	5·4	21·6	896·6	33·1	3·4	4·1	10·1	4·1
		...	1·35	...	1·35	...	...	·68	·68	1·35	2·70	...	...	...	...	...	...	...	...	10·82		...	...	...	...
Abbottabad .	1,516	...	...	...	...	302·8	6·6	...	1·3	9·2	15·2	35·0	46·8	7·9	...	·7	6·6	14·5	101·6	1078·5	65·3	30·3	8·6	15·8	46·8
		...	...	...	...	...	·66	...	·66	3·96	2·64	·66	...	...	...	...	...	...	...	11·87		...	...	...	...
Cherat .	76	...	...	...	...	184·2	39·5	...	...	...	26·3	39·5	26·3	...	...	...	...	...	...	381·6	13·2	...	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	13·16		...	...	...	...
Parachinar .	36	...	...	...	...	194·4	...	...	...	...	...	55·6	55·6	...	...	...	...	27·8	...	583·3	27·8	...	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...
Miran Shah .	830	...	...	...	...	1859·0	4·8	...	1·2	...	39·8	47·0	27·7	10·8	...	...	...	4·8	15·7	2234·9	63·9	7·2	...	3·6	4·8
		...	...	...	...	...	...	...	1·20	...	13·25	...	...	...	...	...	...	...	...	19·28		...	...	...	...
Boya .	200	...	...	...	...	935·0	35·0	...	...	5·0	15·0	105·0	290·0	60·0	...	...	20·0	15·0	...	1895·0	40·0	...	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	5·00	...	...	...	...	...	...	5·00		...	...	...	...
Datta Khel .	1,116	19·7	...	...	·9	1399·6	85·1	...	1·8	1·8	86·0	44·8	161·3	39·4	·9	...	9·0	32·3	8·1	2198·0	56·5	·9	...	4·5	2·7
		...	...	...	...	·90	1·79	...	...	...	31·36	...	·90	...	·90	...	...	...	...	40·32		...	...	...	...
Sarwekai .	254	...	...	...	...	173·2	19·7	...	...	...	15·7	47·2	291·3	11·8	...	...	...	15·7	15·7	1094·5	39·4	...	...	3·9	11·8
		...	...	...	...	...	...	...	...	...	3·94	...	...	...	...	...	...	...	...	15·75		...	...	...	...
Wana .	723	94·1	...	...	...	495·2	24·9	...	2·8	1·4	16·6	22·1	172·9	6·9	...	...	2·8	22·1	13·8	1246·2	38·7	...	...	11·1	2·8
		...	...	...	...	...	1·38	...	1·38	...	1·38	...	1·38	...	...	...	...	...	...	5·53		—	...	...	...
Mir Ali Khel .	128	...	...	...	...	632·8	15·6	...	7·8	...	23·4	85·9	54·7	23·4	—	...	...	54·7	23·4	1140·6	31·2	7·8	...	15·6	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	7·81		...	...	...	...
Fort Sandeman .	861	99·9	...	...	...	809·5	4·6	...	2·3	5·8	15·1	41·8	104·5	29·0	2·3	...	9·3	20·9	41·8	1666·3	41·8	1·2	2·3	9·3	29·0
		...	...	...	...	1·16	1·16	...	1·16	2·32	2·32	...	...	...	2·32	...	...	...	...	12·78		—	...	...	...
Hindubagh .	9	...	...	...	...	555·6	111·1	...	...	...	...	...	111·1	...	...	...	...	...	111·1	1222·2	...	...	...	...	111·1
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...
Khan Mohamed Kot.	90	...	...	...	...	2366·7	44·4	...	...	...	44·4	44·4	233·3	166·7	...	...	11·1	22·2	55·6	3511·1	55·6	11·1	...	...	44·4
		...	...	...	...	...	...	...	...	...	11·11	...	...	...	...	...	...	...	...	22·22		...	...	...	...
Murgha .	82	...	...	...	...	426·8	12·2	...	...	...	...	36·6	85·4	12·2	...	12·2	24·4	...	48·8	963·4	36·6	...	...	24·4	24·4
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...

TABLE XXVIII—*continued.*

RATIOS of STATIONS, GROUPS, and COMMANDS. **For actuals see Table XXIX.**

Stations and Groups.	Average annual strength.	1. Admission-rate.									2. Death-rate, per 1,000 of strength.													
		Influenza.	Cholera.	Small-pox.	Enteric Fever.	Intermittent Fever.	Remittent Fever.	Simple Continued Fever.	Circulatory Diseases.	Tubercle of the lungs.	Pneumonia.	Other Respiratory Diseases.	Dysentery.	Diarrhœa.	Hepatic Abscess.	Hepatic Congestion and Inflammation.	Scurvy.	Anæmia and Debility.	Venereal Diseases.	All causes.	Constantly sick.	Primary Syphilis.	Soft Chancre.	Secondary Syphilis.	Gonorrhœa.
Loralai	896	...	...	...	...	281·2	7·8	...	...	...	25·7	71·4	61·4	30·1	...	...	4·5	13·4	48·0	857·1	30·1	3·3	1·1	12·3	31·2
		...	...	...	...	...	...	...	...	...	6·70	1·12	1·12	...	...	...	...	1·12	1·12	14·51		...	...	1·12	...
Gumbaz	77	...	...	...	...	376·6	...	...	...	...	...	26·0	77·9	39·0	...	...	...	13·0	...	740·3	26·0	...	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...
Quetta	1,813	...	...	·6	...	372·3	21·5	16·5	1·1	3·3	29·2	41·9	44·7	9·9	...	1·1	1·7	17·7	52·4	947·6	34·7	11·6	5·0	16·5	19·3
		...	...	...	...	...	...	...	1·10	·55	4·96	·55	·55	...	...	...	...	·55	...	9·38		...	...	...	...
Peshin	492	...	...	...	2·0	1998·0	156·5	...	4·1	4·1	16·3	172·8	99·6	160·6	...	4·1	...	14·2	8·1	2945·1	79·3	2·0	2·0	2·0	2·0
		...	...	...	...	...	...	...	2·03	...	6·10	...	...	...	...	...	...	...	...	10·16		...	...	...	...
Shelabagh	74	...	...	...	...	297·3	...	...	...	...	...	135·1	135·1	...	...	...	13·5	...	13·5	959·5	27·0	...	...	...	13·5
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...
Spinwana	73	...	...	...	...	589·0	...	...	...	...	...	68·5	27·4	68·5	...	...	...	54·8	...	1164·4	27·4	...	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	13·70	...	27·40		...	...	...	...
Chaman	612	...	...	...	...	276·1	13·1	...	1·6	1·6	29·4	88·2	44·1	3·3	...	1·6	·9	19·6	31·0	926·5	32·7	3·3	...	14·7	13·1
		...	...	...	...	1·63	1·63	...	...	...	3·27	...	...	...	...	...	...	...	...	8·17		...	...	...	...
Mount Abu	82	...	...	...	...	243·9	...	...	...	...	...	...	48·8	...	...	...	...	...	...	353·7	12·2	...	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...
Ootacamund	390	...	...	...	...	120·5	...	10·3	...	...	71·8	15·4	20·5	2·6	...	2·6	...	...	30·8	543·6	15·4	...	...	7·7	23·1
		...	...	...	...	2·56	...	...	...	...	10·26	2·56	...	...	...	...	...	...	...	17·95		...	...	...	...
Group XII.—Hill Stations.	18,913	19·5	·1	·2	1·0	525·1	26·5	5·0	1·2	6·0	25·3	44·8	64·5	19·5	·3	1·6	3·4	20·1	54·1	1148·8	44·5	11·5	5·8	15·2	21·6
		·16	·11	...	·21	·74	·63	·05	·48	1·80	5·39	·26	·37	·05	·16	·05	...	·32	·16	14·06		...	...	·11	·05
Marching in Bengal.	1,738	1·2	·6	...	...	66·2	2·9	...	...	·6	2·9	7·5	19·0	1·2	...	...	...	1·7	16·7	188·1	4·6	3·5	1·7	4·6	6·9
		...	1·15	...	...	...	...	...	...	...	·58	·58	...	·58	...	...	...	...	...	5·75		...	...	...	...
Marching in Punjab.	2,644	28·7	...	...	...	82·5	8·3	...	...	1·5	9·5	12·1	11·0	7·6	...	...	·4	5·7	6·8	261·3	10·6	3·0	1·1	·4	2·3
		...	...	...	...	·38	·38	...	...	...	1·13	·38	·38	...	...	...	...	...	...	3·78		...	...	...	...
Marching in Madras.	1,254	...	1·6	...	...	45·5	4·8	·8	2·4	...	4·8	4·8	15·2	·8	...	...	...	8·0	12·0	154·7	12·8	1·6	...	7·2	3·2
		...	3·99	...	...	1·59	...	...	...	...	·80	...	...	...	...	...	...	...	...	7·18		...	...	...	...
Marching in Bombay.	2,072	...	...	...	...	132·7	3·4	4·8	·5	1·4	6·3	10·1	23·6	2·9	...	·5	...	2·4	10·6	274·6	5·8	3·4	1·9	1·4	3·9
		...	...	...	...	...	...	...	...	...	...	·48	·48	·48	...	·48	...	...	...	2·90		...	...	...	...
Hyderabad Contingent marching.	177	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5·65		...	...	...	...
Tochi Field Force.	136	...	...	...	...	102·9	...	...	...	...	80·9	58·8	22·1	7·4	...	...	36·8	14·7	...	448·5	22·1	...	...	...	...
		...	...	...	...	...	...	...	...	...	22·06	7·35	...	...	...	...	...	7·35	...	36·76		...	...	...	...
Malakand Field Force.	175	...	...	...	...	51·4	11·4	...	...	...	34·3	51·4	5·7	11·4	...	...	11·4	5·7	...	291·4	34·3	...	...	...	...
		...	...	...	...	...	5·71	...	...	...	11·43	...	...	...	...	...	...	...	...	17·14		...	...	...	...
Tirah Field Force	3,397	2·1	...	·3	·3	104·6	25·9	1·2	·6	·6	20·3	83·9	86·0	24·7	·3	9·1	5·6	43·3	20·9	746·0	49·2	4·7	2·1	7·7	6·5
		...	...	...	·59	·88	2·36	...	·59	·29	7·07	·88	1·18	·88	...	...	...	...	...	21·78		...	...	...	...
Buner Field Force	300	...	...	...	...	333·3	3·3	...	...	...	13·3	43·3	16·7	...	...	...	3·3	6·7	...	626·7	10·0	...	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3·33		...	...	...	...
Mekran Field Force	100	...	...	...	...	350·0	70·0	...	20·0	...	20·0	40·0	180·0	40·0	...	10·0	30·0	...	10·0	1370·0	40·0	...	...	...	10·0
		...	...	...	...	...	10·00	...	...	...	10·00	...	...	...	...	10·00	...	...	...	70·00		...	...	...	...
Malakand Force.	3,484	...	·3	...	...	213·8	16·9	...	·3	·6	15·2	37·0	60·8	13·5	...	...	13·5	20·4	14·6	600·2	25·5	·9	...	10·9	2·9
		...	·29	...	...	1·44	2·58	...	...	...	5·17	·29	1·15	...	...	...	...	...	...	11·77		...	...	...	...
Khyber Force and brigade.	1,894	...	...	...	1·1	66·0	58·6	...	3·2	1·1	14·8	9·5	35·9	5·8	...	3·2	3·7	23·2	13·2	366·4	22·2	4·8	4·2	2·6	1·6
		...	...	...	1·06	...	3·76	...	·53	...	5·81	...	...	·53	...	...	...	·53	...	15·31		...	...	...	...
Kohat Kurram Force.	1,992	...	...	·5	·5	543·2	91·4	6·5	...	4·0	6·0	21·6	86·3	13·1	·5	3·0	6·5	14·6	7·0	1036·1	34·1	1·0	1·0	3·0	2·0
		...	...	...	...	1·00	3·51	...	...	·50	3·01	·50	·50	...	·50	...	...	...	...	11·55		...	...	...	...
Indian Marine Ship *Lawrence*.	10	...	...	...	...	100·0	...	...	...	...	...	100·0	...	...	...	...	...	...	100·0	400·0	...	100·0	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...
Chabbar	68	...	...	...	...	3632·4	29·4	14·7	...	...	...	102·9	529·4	...	...	...	14·7	14·7	29·4	4750·0	102·9	14·7	...	14·7	...
		...	...	...	...	...	...	...	...	...	...	...	14·71	...	...	...	...	...	...	14·71		...	...	...	...
Jask	46	130·4	...	...	...	1717·4	152·2	65·2	...	...	...	65·2	152·2	108·7	...	198·7	195·7	...	21·7	3500·0	65·2	...	...	21·7	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...
Muscat	21	238·1	...	...	...	666·7	47·6	...	...	...	...	47·6	238·1	...	...	...	...	...	142·9	1714·3	47·6	...	...	142·9	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...
Bushire	49	...	...	...	20·4	40·8	...	...	...	...	...	20·4	...	...	...	...	...	...	...	142·9	20·4	...	...	...	...
		...	...	...	...	...	...	...	...	...	...	20·41	...	...	...	...	...	...	...	20·41		...	...	...	...
Bagdad	26	...	...	...	...	...	...	...	...	...	...	...	38·5	...	...	...	...	38·5	...	115·4	...	...	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...
Aden	626	...	1·6	...	...	91·1	30·4	38·3	3·2	1·6	4·8	16·0	68·7	1·6	...	...	30·4	16·0	33·5	578·3	28·8	6·4	6·4	11·2	9·6
		...	...	...	...	...	...	...	...	...	...	1·60	4·79	...	...	...	1·60	...	...	7·99		...	...	...	...

Stations, and Commands.	Average annual strength.	1. Admission-rate. Influenza.	Cholera.	Small-pox.	Enteric Fever.	Intermittent Fever.	Remittent Fever.	Simple Continued Fever.	Circulatory Diseases.	Tubercle of the lungs.	Pneumonia.	Other Respiratory Diseases.	Dysentery.	Diarrhœa.	Hepatic Abscess.	Hepatic Congestion and Inflammation.	Scurvy.	Anæmia and Debility.	Venereal Diseases.	All causes.	2. Death-rate, per 1,000 of strength. Constantly sick.	Primary Syphilis.	Soft Chancre.	Secondary Syphilis.	Gonorrhœa.
Khormaksar	88	...	...	...	...	261·4	11·4	90·9	...	...	...	113·6	68·2	...	...	...	...	45·5	...	920·5	22·7	...	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...
Sheikh Othman	31	...	...	...	...	322·6	...	...	...	...	...	...	161·3	...	...	...	...	...	...	645·2	...	...	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...
Perim	31	...	...	...	...	64·5	32·3	...	...	...	...	64·5	225·8	...	...	...	64·5	32·3	...	677·4	32·3	...	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...		...	...
Zaila	56	...	...	...	...	214·3	...	17·9	...	...	...	17·9	160·7	...	...	17·9	...	...	71·4	750·0	17·9	17·9	...	17·9	35·7
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...
Bulhar	20	...	...	...	...	50·0	50·0	...	...	...	...	...	...	...	...	...	...	...	...	150·0	...	...	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...
Berbera	54	...	...	...	...	37·0	...	...	...	...	...	...	18·5	...	...	...	...	...	...	55·6	...	...	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...
Mauritius	550	...	...	...	...	507·3	1·8	...	...	...	5·5	23·6	96·4	5·5	...	...	...	...	21·8	1332·7	54·5	7·3	...	12·7	1·8
		...	...	...	...	1·82	...	...	...	...	...	...	1·82	...	...	...	...	...	...	3·64		...	...	...	...
Mombasa Field Force.	429*	...	...	...	...	109·6	9·3	2·3	2·3	...	2·3	14·0	81·6	14·0	...	...	69·9	2·3	16·3	533·8	32·6	7·0	2·3	2·3	4·7
		...	...	...	...	...	...	...	...	...	...	...	2·33	...	...	...	...	...	...	83·92		...	...	...	...
INDIA	126,036	8·3	·3	·2	·3	335·0	20·0	6·4	1·6	3·5	16·5	28·7	44·0	9·4	·1	1·6	2·8	17·7	40·0	816·4	32·9	9·8	4·5	11·5	14·2
		·03	·33	·01	·13	·58	1·08	·03	·20	·63	3·77	·36	·49	·20	·06	·10	·02	·12	·00	11·07		...	...	·06	·01
Bengal	25,036	9·4	·7	·2	·4	309·7	10·4	5·4	1·1	5·8	14·5	22·0	40·3	7·7	·1	1·3	·8	17·5	53·7	767·4	34·5	13·7	5·5	16·7	17·8
		...	·68	...	·16	1·04	·68	...	·16	1·00	2·84	·28	·40	·40	...	·12	...	·16	·04	10·03		...	...	...	·04
Punjab	42,515	8·0	...	·3	·5	409·1	36·5	1·4	·8	4·1	25·3	33·4	60·5	12·0	·1	1·0	4·0	19·9	28·9	941·7	35·4	6·5	4·5	6·9	11·0
		·07	·14	...	·19	·47	1·62	·02	·12	·80	6·52	·43	·64	·19	·05	...	...	·05	·02	13·38		...	...	·02	...
Madras	22,575	14·6	·8	·3	·2	253·2	7·9	13·6	3·7	2·2	7·8	19·1	20·0	3·1	·2	1·6	·3	22·1	49·7	682·7	30·0	12·4	4·3	15·5	17·6
		·04	·84	·04	·13	·75	·71	...	·35	·49	1·59	·31	·22	·04	·04	·22	...	·18	·09	9·92		...	...	·09	...
Bombay	24,520	5·0	...	·1	·1	365·5	14·4	11·7	1·5	2·5	12·7	32·7	41·8	12·6	·2	1·9	3·8	10·8	43·8	869·6	31·1	10·0	5·4	12·6	15·9
		...	...	...	...	·20	·77	·08	·20	·33	2·08	·37	·53	·12	·12	·16	·12	·16	·12	7·79		...	...	·12	...
Hyderabad Contingent.	6,304	1·7	...	·2	...	199·4	12·2	1·4	1·3	·6	8·2	10·9	13·3	1·1	·2	1·0	1·1	4·1	28·2	473·5	17·0	10·3	·6	7·0	10·3
		...	...	...	...	·16	·79	·16	·16	...	1·59	·16	·16	...	·16	...	...	...	·16	5·08		...	...	·16	...

* As far as returns have been received.

TABLE XXIX.

ACTUALS of STATIONS, GROUPS, and COMMANDS, on which the ratios in Tables XXVI—XXVIII have been calculated.

Stations and Groups.	Average annual strength.	1. Admissions.																		2. Deaths.								
		Influenza.	Cholera.	Small-pox.	Enteric Fever.	Intermittent Fever.	Remittent Fever.	Simple Continued Fever.	Circulatory Diseases.	Tubercle of the lungs.	Pneumonia.	Other Respiratory Diseases.	Dysentery.	Diarrhœa.	Hepatic Abscess.	Hepatic Congestion and Inflammation.	Scurvy.	Anæmia and Debility.	Venereal Diseases.	All causes.	Constantly sick.	Primary Syphilis.	Soft Chancre.	Secondary Syphilis.	Gonorrhœa.	Dracunculus Medinensis.	Other Entozoa.
Port Blair	311	...	...	...	...	83	...	...	...	...	...	6	5	4	...	...	1	3	6	188	6	3	...	2	1	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...	...	...
Rangoon	1,080	49	...	...	...	134	...	8	8	7	1	17	95	6	...	1	1	53	61	716	30	23	4	22	12	1	...
		...	...	...	...	...	...	...	...	...	...	1	1	1	...	...	...	...	...	7		...	...	...	...	...	...
Group I.—Burma Coast and Bay Islands.	1,391	49	...	...	...	217	...	8	8	7	1	23	100	10	...	1	2	56	67	904	36	26	4	24	13	1	...
		...	...	...	...	...	...	...	...	...	...	1	1	1	...	...	...	...	...	7		...	...	...	...	...	...
Thayetmyo	84	...	...	...	...	18	...	...	...	1	...	9	1	4	...	...	...	3	8	54	4	6	...	1	1	...	...
		...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1		...	...	...	...	...	...
Loikaw	80	8	...	...	...	192	1	...	1	...	1	13	3	1	...	...	...	7	...	261	6	...	...	...	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...	...	...
Keng Tung	577	...	...	...	...	1,219	16	...	1	...	2	15	12	7	...	4	...	5	30	1,525	44	4	...	21	5	...	1
		...	...	...	...	2	2	...	1	...	2	...	1	...	...	2	...	...	...	13		...	...	...	...	...	...
Fort Stedman	424	34	...	...	...	353	26	...	1	1	...	13	19	...	...	...	...	10	12	631	28	1	...	6	5	...	1
		...	...	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	5		...	...	...	...	...	...
Thamakan	29	...	...	...	...	6	...	...	...	...	...	...	...	...	...	...	...	...	...	6	...	...	...	...	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...	...	...
Meiktila	632	5	...	...	...	80	9	1	...	3	...	28	16	2	...	2	...	7	49	365	15	8	10	18	13	...	...
		...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1		...	...	...	...	...	...
Fort Dufferin	1,653	...	...	...	...	198	19	...	3	3	2	48	23	3	...	5	...	29	121	815	42	9	39	35	38	1	...
		...	...	...	...	2	2	...	...	3	...	1	...	...	...	...	...	...	...	14		...	...	...	...	...	...
Thabeitkyin	49	...	...	...	1	14	...	...	...	...	...	...	8	...	...	...	...	...	2	31	1	1	...	1	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...	...	...
Bhamo	805	...	...	...	...	283	...	...	1	1	1	7	2	6	...	...	...	5	16	484	17	2	1	9	4	...	...
		...	...	...	...	2	...	...	1	...	...	...	...	...	...	...	...	...	...	5		...	...	...	...	...	...
Myingyan	6	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	4	...	...	...	...	1	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...	...	...
Group II.—Burma Inland	4,389	47	...	...	1	2,363	71	1	7	9	6	133	84	23	...	11	...	66	239	4,176	157	31	50	91	67	1	2
		...	...	...	...	7	7	...	2	3	2	2	1	...	...	2	...	...	...	39		...	...	...	...	...	...
Manipur	808	...	14	...	3	191	15	10	4	4	14	15	89	19	...	3	1	52	128	768	37	22	20	27	59	...	1
		...	13	...	3	2	2	...	...	2	2	1	2	5	...	1	...	...	...	36		...	...	...	...	...	...
Sadiya	67	...	...	...	...	43	2	...	1	...	...	2	12	...	...	...	...	1	4	75	2	3	...	...	1	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1		...	...	...	...	...	...
Dibrugarh	293	...	...	...	...	146	2	...	...	4	4	6	19	3	...	1	...	2	18	267	10	5	...	9	4	4	...
		...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	1		...	...	...	...	...	...
Silchar	379	...	...	...	1	79	4	...	1	2	4	8	37	9	...	...	...	6	8	245	13	4	...	1	3	8	...
		...	...	...	...	...	...	...	...	...	1	1	...	1	...	...	...	...	...	4		...	...	...	...	...	...
Group III.—Assam	1,547	...	14	...	4	459	23	10	6	10	22	31	157	31	...	4	1	61	158	1,355	62	34	20	37	67	12	1
		...	13	...	3	2	3	...	...	2	3	2	2	6	...	1	...	...	...	42		...	...	...	...	...	...
Fort William	670	1	1	...	...	356	19	...	...	2	4	7	50	5	...	...	1	8	32	654	28	4	10	5	13	15	...
		...	1	...	...	5	2	...	...	...	1	...	1	...	...	...	...	...	...	11		...	...	...	...	...	...
Alipore	733	107	...	...	...	522	35	4	1	7	4	27	38	8	...	1	4	32	38	1,125	44	10	3	14	11	6	2
		...	...	...	...	2	3	...	...	...	1	...	...	...	...	...	...	...	...	8		...	...	...	...	...	...
Ballygunge	37	3	...	...	...	18	...	...	...	...	...	1	2	...	...	...	...	...	1	41	1	...	...	...	1	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...	...	...

Stations and Groups.	Average annual strength.	1. Admissions. 2. Deaths.																								
		Influenza.	Cholera.	Small-pox.	Enteric Fever.	Intermittent Fever.	Remittent Fever.	Simple Continued Fever.	Circulatory Diseases.	Tubercle of the lungs.	Pneumonia.	Other Respiratory Diseases.	Dysentery.	Diarrhœa.	Hepatic Abscess.	Hepatic Congestion and Inflammation.	Scurvy.	Anæmia and Debility.	Venereal Diseases.	All Causes.	Constantly Sick.	Primary Syphilis.	Soft Chancre.	Secondary Syphilis.	Gonorrhœa.	Dracunculus Medinensis.	Other Entozoa.
Dum-Dum	135	...	...	...	...	19	...	11	...	...	...	2	1	1	...	...	...	...	...	42	1	...	...	...	...	1	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...	...	...
Barrackpore	708	...	...	...	1	485	...	5	1	5	5	23	38	...	1	1	...	1	18	721	20	3	6	...	9	...	...
		...	...	...	...	2	...	...	...	1	...	1	2	...	...	...	...	...	...	7		...	...	...	...	...	...
Buxa	304	...	...	...	...	98	13	...	1	1	2	16	20	3	...	...	...	30	3	302	13	...	1	...	2	...	...
		...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	1		...	...	...	...	...	...
Cuttack	318	...	...	...	...	16	...	...	...	...	1	3	4	1	...	...	...	4	39	130	9	15	...	12	12	...	...
		...	...	...	...	1	...	...	...	...	1	...	...	...	...	...	...	...	...	2		...	...	...	...	...	...
Group IV.—Bengal and Orissa.	2,905	111	1	...	1	1,514	67	20	3	15	16	79	153	18	1	2	5	75	131	3,015	116	32	20	31	48	22	2
		...	1	...	...	10	5	...	1	1	3	1	3	...	...	...	...	...	...	29		...	...	...	...	...	...
A																											
Doranda	413	...	...	2	...	39	3	...	...	1	1	11	5	1	...	...	...	6	12	137	6	1	2	7	2	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...	...	...
B																											
Dinapore	521	...	2	...	...	90	1	...	1	...	...	19	5	5	...	...	...	3	21	313	19	10	2	6	3	...	1
		...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2		...	...	...	...	...	...
Benares	707	...	...	...	...	129	8	4	...	9	4	7	44	3	...	1	...	15	38	421	18	17	1	13	7	12	...
		...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	1		...	...	...	...	...	...
Allahabad	1,212	...	...	1	1	508	2	19	3	4	12	21	97	18	...	...	...	19	38	1,201	34	6	3	14	15	3	...
		...	...	...	1	1	...	...	1	1	4	...	2	...	...	...	...	...	...	11		...	...	...	...	...	...
Fyzabad	459	5	...	...	...	133	7	...	1	8	5	17	21	3	...	...	...	4	51	411	20	11	3	20	17	11	...
		...	...	...	...	...	1	...	...	1	2	...	...	...	...	...	...	...	...	5		...	...	...	...	...	...
Lucknow	1,198	9	...	...	...	296	...	...	...	2	3	16	41	1	...	...	1	16	44	731	31	7	5	19	13	2	1
		...	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...	1	...	4		...	...	...	...	...	...
Cawnpore	1,016	...	...	...	...	198	4	...	3	3	9	17	55	5	...	1	...	19	64	587	56	18	4	29	13	2	...
		...	...	...	...	...	...	...	...	1	1	1	...	...	...	...	...	...	...	5		...	...	...	...	...	...
Fatehgarh	93	...	...	...	...	48	...	...	3	1	...	4	1	...	...	2	...	2	5	102	4	2	2	...	1	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...	...	...
Group V.—Gangetic Plain and Chutia Nagpur.	5,620	14	2	3	1	1,441	25	23	11	28	34	112	269	36	...	4	1	84	273	3,903	188	72	22	108	71	30	2
		...	1	...	1	1	1	...	1	4	9	1	2	...	...	...	...	1	...	28		...	...	...	...	...	...
A																											
Bareilly	1,093	8	...	...	...	176	19	1	2	1	25	16	22	2	...	...	2	10	48	563	28	15	7	15	11	11	1
		...	...	...	...	1	1	...	...	...	...	...	1	...	...	...	...	...	...	6		...	...	...	...	...	...
Roorkee	441	...	...	...	...	68	6	...	...	...	1	2	6	1	...	...	...	2	7	160	6	3	...	1	3	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...	...	...
Dehra Dun	800	5	...	...	2	161	5	3	...	24	5	25	8	3	...	1	...	20	78	666	40	25	14	19	20	5	...
		...	...	...	...	...	...	...	...	11	...	2	...	1	...	...	...	...	...	22		...	...	...	...	...	...
Meerut	1,357	...	...	...	...	565	6	1	...	18	105	29	36	12	...	2	1	42	58	1,314	67	9	4	22	23	8	...
		...	...	...	...	2	...	...	...	2	24	...	1	...	...	...	...	...	...	30		...	...	...	...	...	...
Delhi	733	...	...	...	...	351	13	...	1	2	13	17	34	6	...	1	2	8	27	712	21	8	5	5	9	3	...
		...	...	...	...	...	1	...	...	...	1	...	...	...	...	...	...	...	...	3		...	...	...	...	...	...
Umballa	856	...	4	...	...	106	26	...	...	6	3	4	22	6	...	...	...	19	20	445	20	5	...	9	6	4	...
		...	3	...	...	1	1	...	...	...	...	...	...	1	...	...	...	...	...	7		...	...	...	...	...	...
B.																											
Ludhiana	36	...	...	...	...	4	...	...	...	...	...	...	1	...	...	...	...	...	3	21	1	...	1	1	1	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...	...	...
Jullundur	536	...	...	...	...	101	5	...	2	2	8	24	20	6	...	...	1	5	34	408	17	9	4	8	13	6	...
		...	...	...	...	...	...	...	...	...	2	...	1	...	...	...	...	...	...	3		...	...	...	...	...	...
Ferozepore	1,675	...	...	2	...	473	7	...	...	4	37	56	41	17	...	2	3	19	57	1,186	48	8	17	15	17	9	1
		...	...	...	...	2	2	...	...	...	7	2	1	...	...	...	...	...	...	16		...	...	...	...	...	...
Mecan Meer	1,851	...	...	...	...	1,194	309	1	1	3	74	32	101	18	...	...	12	24	85	2,437	59	12	27	13	33	1	...
		...	...	...	...	...	2	...	...	...	10	1	2	...	...	...	...	...	...	20		...	...	...	...	...	...
Amritsar	155	...	...	...	...	45	1	...	...	...	...	5	3	1	...	...	...	...	2	102	2	2	...	...	...	...	...
		...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	2		...	...	...	...	...	...

TABLE XXIX—*continued.*

ACTUALS of STATIONS, GROUPS, and COMMANDS, on which the ratios in Tables XXVI—XXVIII have been calculated.

Stations and Groups.	Average annual strength.	1. Admissions. Influenza.	Cholera.	Small-pox.	Enteric Fever.	Intermittent Fever.	Remittent Fever.	Simple Continued Fever.	Circulatory Diseases.	Tubercle of the lungs.	Pneumonia.	Other Respiratory Diseases.	Dysentery.	Diarrhœa.	Hepatic Abscess.	Hepatic Congestion and Inflammation.	Scurvy.	Anæmia and Debility.	Venereal Diseases.	2. Deaths. All Causes.	Constantly Sick.	Primary Syphilis.	Soft Chancre.	Secondary Syphilis.	Gonorrhœa.	Dracunculus Medinensis.	Other Entozoa.
Sialkot	1,647	...	...	...	...	331	10	...	...	7	29	34	49	17	...	...	3	14	33	1,013	48	13	...	2	18	1	...
		...	...	...	...	...	...	...	...	2	7	1	2	...	...	...	...	...	...	16		...	...	...	...	...	...
Jhelum	898	...	...	...	...	209	3	...	4	7	6	18	28	9	...	1	...	10	32	559	26	9	8	7	8	...	...
		...	...	...	...	...	...	...	...	...	1	...	...	1	...	...	...	...	...	2		...	...	...	...	...	...
Rawalpindi	1,766	59	...	...	...	579	22	...	2	9	34	39	74	13	...	4	5	21	76	1,467	65	21	5	16	34	6	...
		...	...	...	...	...	4	...	...	...	9	1	1	...	...	...	...	...	...	17		...	...	...	...	...	...
Attock	112	...	...	...	...	26	...	...	1	...	1	...	6	1	...	2	1	...	4	66	3	...	1	1	2	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...	...	...
Group VI.—Upper Sub-Himalaya.	13,857	72	4	4	2	4,389	432	6	13	83	321	309	451	112	...	13	30	194	564	11,119	450	139	93	134	198	54	2
		...	3	...	...	6	12	...	...	15	63	7	9	3	...	...	...	...	...	144		...	...	...	...	...	...
A.																											
Mardan	1,004	...	...	1	...	147	17	...	1	5	27	40	15	3	...	...	1	5	16	499	24	1	...	6	9	...	...
		...	...	...	...	...	1	...	...	1	6	...	...	...	...	...	...	...	1	11		...	...	1	...	...	...
Nowshera	1,086	1	...	...	1	224	32	1	...	7	18	16	33	7	...	...	...	19	20	605	29	8	1	3	8	2	...
		...	...	...	1	1	8	...	...	2	3	...	1	2	...	...	...	...	...	20		...	...	...	...	...	...
Peshawar	3,088	...	...	1	1	2,048	213	...	3	12	100	145	267	47	...	2	3	90	75	4,085	138	13	11	13	38	6	1
		...	...	...	1	4	9	...	...	...	27	5	...	1	...	...	...	...	...	50		...	...	...	...	...	...
Hari Singh-Ka-Burj	38	...	...	...	...	23	...	...	...	...	2	6	3	6	...	...	...	1	...	50	1	...	...	...	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...	...	...
Fort Jamrud	441	...	...	2	...	101	6	10	...	8	20	14	90	15	...	1	2	26	5	414	12	3	1	...	1	1	...
		...	...	...	...	...	...	...	...	...	4	2	1	...	...	...	...	...	...	7		...	...	...	...	...	...
Bara	6	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...	...	...
Kohat	2,417	...	...	...	...	1,227	85	18	...	8	108	179	205	27	...	6	12	58	68	3,004	90	16	17	11	24	9	...
		...	...	...	...	1	1	...	...	1	25	...	2	...	...	...	...	...	...	37		...	...	...	...	...	...
Usterzai	28	...	...	...	...	12	1	...	...	...	...	...	1	...	...	...	...	...	...	16	...	...	...	...	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...	...	...
Bahader Khel	46	...	...	...	...	15	...	...	...	...	1	...	2	1	...	...	...	...	...	28	1	...	...	...	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1		...	...	...	...	...	...
Edwardesabad	1,305	...	...	...	...	801	91	1	3	4	114	57	51	24	...	...	13	50	24	1,841	79	6	4	6	8	1	...
		...	...	...	...	...	3	...	...	2	39	...	4	...	...	...	...	...	...	53		...	...	...	...	...	...
Jani Khel	36	...	...	...	...	25	1	...	...	...	...	3	4	3	...	...	...	1	1	49	1	...	...	...	1	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...	...	...
Dera Ismail Khan	1,352	...	...	1	...	625	6	...	1	6	60	80	72	10	...	...	5	52	14	1,609	61	5	...	5	4	5	...
		...	...	...	...	...	1	...	...	...	18	...	...	1	...	...	...	...	...	22		...	...	...	...	...	...
Tank, Jatta, and Draband	183	...	...	...	...	34	1	...	...	...	6	11	7	1	...	...	...	1	1	109	4	1	...	...	...	...	...
		...	...	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...	2		...	...	...	...	...	...
Mangrota	41	...	...	...	...	3	...	...	...	...	...	...	1	...	...	...	...	...	...	7	...	...	...	...	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...	...	...
Dera Ghazi Khan	680	...	...	...	...	189	18	8	...	3	13	37	33	12	...	2	2	20	7	628	22	2	...	3	2	4	...
		...	...	...	...	...	...	...	...	...	1	1	1	...	...	...	...	...	...	4		...	...	...	...	...	...
Mooltan	1,023	...	...	...	...	523	6	1	...	3	20	27	31	6	...	...	4	36	36	1,011	36	14	3	3	16	...	...
		...	...	...	...	...	2	...	...	...	4	...	...	...	...	...	...	...	...	7		...	...	...	...	...	...
Bikaner	39	...	...	...	...	...	1	...	...	1	...	...	...	...	...	...	...	...	...	5	...	...	...	...	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...	...	...
B.																											
Idak	310	...	...	...	...	350	8	...	...	1	16	14	27	11	...	...	...	4	1	520	11	...	...	1	...	...	...
		...	...	...	...	...	3	...	...	...	8	...	...	...	...	...	...	...	...	11		...	...	...	...	...	...
Kkajuri	46	...	...	...	...	13	3	...	...	...	...	1	3	...	...	...	...	1	...	30	1	...	...	...	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...	...	...
Saidgi	177	...	...	...	...	141	3	...	...	...	4	6	28	2	...	...	...	...	2	259	6	...	...	1	1	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	2		...	...	...	...	...	...
Jandola	190	...	...	...	...	130	1	...	...	...	4	13	94	4	...	...	...	2	1	392	10	...	...	1	...	...	...
		...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	1		...	...	...	...	...	...

Stations and Groups.	Average annual strength.	1. Admissions. 2. Deaths.																								
		Influenza.	Cholera.	Small-pox.	Enteric Fever.	Intermittent Fever.	Remittent Fever.	Simple Continued Fever.	Circulatory Diseases.	Tubercle of the lungs.	Pneumonia.	Other Respiratory Diseases.	Dysentery.	Diarrhœa.	Hepatic Abscess.	Hepatic Congestion and Inflammation.	Scurvy.	Anæmia and Debility.	Venereal Diseases.	All Causes.	Constantly Sick.	Primary Syphilis.	Soft Chancre.	Secondary Syphilis.	Gonorrhœa.	Dracunculus Medinensis.	Other Entozoa.
Khajuri Kach	280	12	...	...	...	59	1	...	...	...	24	7	69	1	...	...	...	3	8	295	16	3	...	3	2	5	...
		...	...	...	...	...	1	...	...	...	1	...	1	...	...	...	...	...	...	3		...	...	...	...	...	...
Sibi	99	...	...	...	...	47	1	...	...	...	2	3	2	2	...	...	3	1	...	89	6	...	...	...	...	...	...
		...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	2		...	...	...	...	...	...
C.																											
Jacobabad	530	...	...	...	...	253	1	...	...	...	7	7	18	3	...	...	3	6	14	567	17	1	2	4	7	2	...
		...	...	...	...	1	...	...	...	...	1	...	...	...	...	...	...	...	...	3		...	...	...	...	...	...
Hyderabad	404	...	...	...	...	141	9	1	...	...	1	16	12	4	...	...	2	2	19	362	13	...	5	4	10	...	...
		...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1		...	...	...	...	...	...
Kurrachee	643	...	...	...	...	605	10	6	1	3	7	13	22	3	...	...	2	3	42	869	26	4	11	9	18	4	...
		...	...	...	...	...	2	2	...	1	1	...	1	...	...	...	...	...	...	7		...	...	...	...	...	...
Group VII.—N.-W. Frontier, Indus Valley, and North-Western Rajputana.	15,492	13	...	5	2	7,738	515	46	9	61	554	695	1,094	192	...	11	52	381	354	17,345	604	77	55	73	149	39	1
		...	...	...	2	8	32	2	...	7	140	9	11	5	...	...	...	...	1	244		...	...	1	...	...	...
A.																											
Bhuj	145	...	...	...	...	3	...	5	...	1	1	1	3	...	...	...	...	...	7	52	3	2	1	1	3	1	...
		...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	1		...	...	...	...	...	...
Rajkot	687	...	...	...	...	264	2	...	1	2	3	30	12	5	...	7	2	4	50	669	25	20	...	21	9	12	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...	...	...
Deesa	920	...	...	...	...	239	6	66	1	8	4	15	26	8	...	...	1	3	46	795	34	8	18	8	12	9	...
		...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	2		...	...	...	...	...	...
Sadra	72	...	...	...	...	26	2	...	...	...	...	...	3	...	...	...	...	...	...	39	1	...	...	...	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...	...	...
Ahmedabad	334	...	...	...	...	141	2	...	3	...	4	9	3	2	...	...	1	6	20	319	10	...	4	11	5	2	13
		...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	2		...	...	...	...	...	...
Baroda	569	...	...	...	...	293	1	4	...	1	3	12	11	4	...	3	...	4	9	477	14	2	1	3	3	10	1
		...	...	...	...	...	...	...	...	...	1	1	...	...	...	3	...	...	...	23		...	...	...	...	...	...
B.																											
Barwani	72	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	3	...	...	...	...	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...	...	...
Alirajpore	38	...	...	...	...	...	...	...	...	...	3	1	...	...	...	...	...	1	...	17	1	...	...	...	...	4	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...	...	...
Sirdarpore	341	...	...	...	...	123	1	...	...	1	10	14	3	8	...	...	...	1	6	325	10	1	...	1	4	24	1
		...	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	...	2		...	...	...	...	...	...
Jhabwa	39	2	...	...	...	9	...	...	...	...	1	1	...	1	...	...	...	...	2	24	1	...	...	...	2	1	...
		...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	1		...	...	...	...	...	...
Kherwara	347	...	...	...	...	25	...	2	...	...	28	5	2	...	...	...	...	...	2	165	6	...	...	1	1	20	...
		...	...	...	...	...	...	...	...	...	4	...	1	...	...	...	...	...	...	5		...	...	...	...	...	...
Kotra	160	...	...	...	...	17	...	...	...	...	3	...	...	...	...	...	...	...	7	63	3	...	...	5	2	4	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...	...	...
Udaipur	62	...	...	...	...	3	1	...	...	...	1	...	...	...	...	1	...	...	1	9	...	1	...	...	...	...	...
		...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	1		...	...	...	...	...	...
Erinpura	569	...	...	...	...	68	4	...	1	6	10	18	10	5	...	...	1	8	12	315	11	6	...	4	2	10	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2		...	...	...	...	...	...
Neemuch	333	...	...	...	...	52	1	2	...	...	1	4	16	1	...	2	...	4	9	193	6	2	...	1	6	5	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...	...	...
Deoli	527	...	...	...	...	116	14	...	...	...	7	10	10	3	...	1	...	9	21	374	10	7	1	3	10	5	...
		...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	3		...	...	...	...	...	...
Beawar	46	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	4	...	...	...	...	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...	...	...
Nasirabad	756	...	...	...	...	77	1	...	3	1	9	8	11	2	...	2	7	...	29	391	18	6	3	10	10	17	...
		...	...	...	...	...	...	...	...	1	2	1	...	...	...	...	1	...	...	5		...	...	...	...	...	...
Ajmer	497	...	...	...	...	51	2	...	1	3	13	21	4	1	1	2	...	...	16	256	12	7	...	6	3	9	...
		...	...	...	...	...	...	...	...	...	2	1	...	...	...	...	...	...	1	4		...	...	1	...	...	...
Sambhar	21	...	...	...	...	4	...	...	...	...	...	...	...	...	...	...	...	...	1	6	...	...	...	1	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...	...	...
Jaipur	58	...	...	...	...	17	...	...	...	...	2	...	1	...	...	...	...	...	1	31	1	...	...	...	1	3	...
		...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	1		...	...	...	...	...	...

TABLE XXIX—*continued.*

ACTUALS of STATIONS, GROUPS, and COMMANDS, on which the ratios in Tables XXVI—XXVIII have been calculated.

Stations and Groups.	Average annual strength.	1. Admissions. 2. Deaths.																													
		Influenza.	Cholera.	Small-pox.	Enteric Fever.	Intermittent Fever.	Remittent Fever.	Simple Continued Fever.	Circulatory Diseases.	Tubercle of the lungs.	Pneumonia.	Other Respiratory Diseases.	Dysentery.	Diarrhœa.	Hepatic Abscess.	Hepatic Congestion and Inflammation.	Scurvy.	Anæmia and Debility.	Venereal Diseases.	All Causes.	Constantly Sick.	Primary Syphilis.	Soft Chancre.	Secondary Syphilis.	Gonorrhœa.	Dracunculus Medinensis.	Other Entozoa.
Agra	738	...	...	...	...	293	18	...	...	6	5	22	49	3	...	...	1	1	29	648	29	8	7	8	6	9	...
		...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	1		...	...	...	...	...	...
Gwalior	20	...	...	...	...	17	...	...	...	...	...	1	2	...	...	...	...	...	...	27	1	...	...	...	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...	...	...
Jhansi	643	...	...	...	...	104	4	...	...	1	10	11	15	9	...	1	...	22	52	386	21	19	3	6	24	...	...
		...	...	...	...	...	2	...	1	...	4	...	...	...	...	...	...	...	...	8		...	...	...	...	...	...
Nowgong	1,049	...	...	...	...	299	...	...	2	2	8	16	8	4	...	1	...	5	49	620	28	10	4	12	23	3	...
		...	...	...	...	2	...	...	...	...	1	...	...	...	...	...	...	1	...	7		...	...	...	...	...	...
Jhalawar	89	...	...	...	...	31	...	...	...	...	...	3	3	...	...	...	...	2	1	63	2	...	...	1	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...	...	...
Goona	332	3	...	...	...	44	10	6	...	1	...	4	9	2	...	2	...	5	6	192	7	3	...	2	1	4	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2		...	...	...	...	...	...
Agar	348	...	...	...	...	72	6	2	...	...	3	5	9	7	...	...	2	7	5	231	8	1	1	2	1	4	...
		...	...	...	...	...	...	...	...	...	1	...	...	1	...	...	...	...	...	5		...	...	...	...	...	...
Sehore	670	...	...	...	...	379	2	15	...	...	9	4	16	2	...	...	...	15	20	588	14	8	...	7	5	...	...
		...	...	...	...	...	1	...	...	...	3	...	...	...	...	...	...	...	...	5		...	...	...	...	...	...
Indore	242	...	...	...	...	43	5	1	...	...	4	13	14	2	...	...	...	4	7	139	5	5	...	1	1	2	...
		...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	1		...	...	...	...	...	...
Mhow	584	...	...	...	...	126	7	1	...	...	6	13	30	6	...	1	2	4	46	404	20	12	3	19	12	5	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1		...	...	1	...	...	...
Group VIII.—South-Eastern Rajputana, Central India, and Gujarat.	11,310	5	...	...	...	2,936	89	104	12	33	150	241	270	75	1	23	17	105	454	7,825	298	128	46	134	146	163	15
		...	...	...	...	2	4	...	2	1	29	3	1	1	...	3	1	1	2	82		...	...	2	...	...	...
A.																											
Asirgarh	51	...	...	...	...	27	...	...	...	...	...	...	1	...	...	...	...	1	1	43	1	...	...	...	1	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...	...	...
Saugor	1,076	4	...	...	...	530	6	...	...	...	42	13	37	4	...	...	2	3	56	997	35	12	3	28	13	9	...
		...	...	...	...	...	...	...	...	...	8	...	...	...	...	...	...	...	...	9		...	...	...	...	...	...
Sutna	30	...	...	...	...	32	...	...	...	...	...	...	...	...	...	...	...	...	1	40	1	...	...	...	1	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...	...	...
Jubbulpore	733	2	...	...	...	177	7	1	...	2	4	10	16	1	...	2	...	5	65	515	24	10	9	17	29	26	...
		...	...	...	...	1	...	...	...	...	1	...	...	...	...	1	...	...	...	3		...	...	...	...	...	...
Sambalpur	204	3	...	...	...	87	...	8	...	...	...	8	15	6	...	...	...	1	4	194	6	1	...	1	2	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...	...	...
Raipur	414	...	...	...	...	77	2	...	1	1	1	10	8	...	...	1	...	13	78	262	12	38	...	4	36	...	...
		...	...	...	...	1	1	...	...	...	1	...	1	...	...	...	...	...	...	4		...	...	...	...	...	...
Kamptee	589	...	...	...	...	372	31	12	...	1	2	3	6	...	1	...	...	9	73	702	32	16	3	32	22	1	1
		...	...	...	...	...	3	...	...	...	...	...	...	...	1	...	...	1	...	5		...	...	...	...	...	...
Sitabaldi	84	...	...	...	...	48	...	...	...	...	2	6	1	3	...	...	...	1	1	91	1	...	...	...	1	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1		...	...	...	...	...	...
B.																											
Ellichpur	784	...	...	...	...	278	25	5	2	...	20	10	10	3	...	...	1	...	42	535	14	20	...	2	20	1	2
		...	...	...	...	1	...	...	1	...	6	...	1	...	...	...	...	...	...	12		...	...	...	...	...	...
Hingoli	1,199	...	...	...	...	249	13	...	3	2	13	13	14	2	...	1	1	3	63	689	30	21	...	21	21	...	1
		...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	3		...	...	...	...	...	...
Jalna	680	...	...	1	...	203	17	...	...	...	3	...	5	...	...	3	...	...	11	337	10	...	2	4	5	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...	...	...
Aurangabad	1,248	...	...	...	...	201	10	1	3	...	9	17	16	1	...	...	...	4	29	506	20	13	...	7	9	2	3
		...	...	...	...	...	2	...	...	...	3	...	...	...	...	...	...	...	1	9		...	...	1	...	...	...
Malegaon	94	...	...	...	...	18	...	...	...	...	...	1	2	...	...	...	...	...	1	45	1	1	...	...	...	2	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...	...	...
Ahmednagar	460	...	...	...	1	47	3	58	1	1	1	5	2	5	...	2	1	5	8	240	6	1	2	4	1	2	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...	...	...
Mominabad	428	...	...	...	...	160	2	...	...	...	2	3	3	...	...	...	1	9	6	279	10	...	2	2	2	6	...
		...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1		...	...	...	...	...	...
Bolarum	1,270	11	...	...	...	145	8	...	...	1	3	22	32	1	1	2	3	5	23	538	20	8	...	7	8	18	...
		...	...	...	...	...	1	...	...	...	1	...	...	...	1	...	...	...	...	3		...	...	...	...	...	...
Secunderabad	3,708	99	...	1	...	1,000	13	58	12	7	28	37	52	...	...	6	3	46	163	2,511	77	26	23	32	82	41	1
		...	...	...	...	2	4	...	1	3	6	1	...	...	...	...	...	...	...	23		...	...	...	...	...	...
Raichur	520	...	...	...	...	21	2	3	...	1	2	4	4	...	...	...	1	9	4	101	5	3	...	1	...	4	...
		...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	3		...	...	...	...	...	...

Stations and Groups.	Average annual strength.	1. Admissions. 2. Deaths.																								
		Influenza.	Cholera.	Small-pox.	Enteric Fever.	Intermittent Fever.	Remittent Fever.	Simple Continued Fever.	Circulatory Diseases.	Tubercle of the lungs.	Pneumonia.	Other Respiratory Diseases.	Dysentery.	Diarrhœa.	Hepatic Abscess.	Hepatic Congestion and Inflammation.	Scurvy.	Anæmia and Debility.	Venereal Diseases.	All Causes.	Constantly Sick.	Primary Syphilis.	Soft Chancre.	Secondary Syphilis.	Gonorrhœa.	Dracunculus Medinensis.	Other Entozoa.
Belgaum	1,247	...	...	...	...	112	20	2	1	2	10	24	25	1	...	...	1	20	142	799	44	74	...	35	33	4	...
		...	...	...	...	...	...	...	...	1	5	...	...	...	...	...	...	2	1	19		...	...	1	...	...	...
Satara	76	...	...	...	...	31	...	...	1	1	...	5	3	...	...	...	...	3	8	89	7	1	1	6	...	3	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1		...	...	...	...	...	...
Poona	2,287	...	...	1	...	877	26	15	7	6	7	46	95	16	...	4	1	21	131	2,215	91	29	36	29	37	94	...
		...	...	...	...	...	3	...	...	...	...	...	1	2	...	...	...	...	...	8		...	...	...	...	...	...
Kirkee	897	20	...	...	...	314	13	2	1	5	6	25	19	7	...	1	4	11	33	842	36	2	11	10	10	5	...
		...	...	...	...	...	...	...	...	3	4	...	...	...	...	...	...	...	...	11		...	...	...	...	...	...
Sirur	344	...	...	...	...	17	...	...	1	...	...	5	8	1	...	...	...	1	15	130	7	5	...	4	6	12	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1		...	...	...	...	...	...
Nasik	9	...	...	...	...	...	...	...	...	...	2	...	1	...	...	...	...	...	...	3	...	...	...	...	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...	...	...
Group IX.—Deccan.	18,428	139	...	3	1	5,023	198	165	33	30	157	267	375	51	2	22	19	170	958	12,703	499	281	92	246	339	230	8
		...	...	...	...	5	16	1	2	7	35	2	3	2	2	1	...	3	2	116		...	...	2	...	...	...
Thana	82	...	...	...	...	22	3	...	1	1	...	8	11	...	...	1	...	...	15	79	3	2	4	1	8	...	...
		...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	2		...	...	...	...	...	...
Bombay	1,213	...	...	...	...	303	21	27	3	1	21	56	108	22	...	6	6	19	73	1,049	50	21	5	24	23	10	...
		...	...	...	...	...	5	...	...	...	2	1	2	...	...	...	1	...	...	22		...	...	...	...	...	...
Butcher's Island	8	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...	...	...
Cannanore	826	...	...	...	...	140	11	1	3	3	...	21	17	11	1	1	...	24	35	555	30	20	...	8	7	2	3
		...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	5		...	...	...	...	...	...
Trichoor	89	...	...	...	...	26	3	4	1	...	...	...	11	...	...	...	...	3	3	99	3	...	...	...	3	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2		...	...	...	...	...	...
Quilon	500	...	...	...	...	1	...	49	4	1	...	7	15	...	...	1	...	...	29	334	14	10	...	7	12	4	6
		...	...	...	...	...	...	...	...	...	...	1	...	...	...	1	...	...	...	5		...	...	...	...	...	...
Trivandrum	79	...	...	...	...	1	...	3	...	...	...	...	1	1	...	...	...	1	6	51	2	5	...	...	1	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...	...	...
Group X.—Western Coast.	2,796	...	...	...	...	493	38	84	12	6	21	92	163	34	1	9	6	47	161	2,167	102	58	9	40	54	16	9
		...	...	...	...	...	6	...	...	...	2	2	3	...	...	1	1	...	...	36		...	...	...	...	...	...
A. Bellary	1,327	4	...	...	...	580	1	...	3	3	12	10	21	...	...	...	...	11	56	992	46	16	...	14	26	4	...
		...	...	...	...	2	...	...	2	1	4	...	...	...	...	...	...	1	...	13		...	...	...	...	...	...
Bangalore	2,754	129	...	1	...	627	9	1	32	6	42	82	53	9	2	8	...	185	72	2,191	119	11	5	21	35	2	...
		1	...	1	...	...	2	...	2	2	12	...	...	...	1	1	...	1	...	53		...	...	...	...	...	...
B. Trichinopoly	1,184	...	16	1	...	60	1	...	1	2	4	17	6	2	...	...	...	3	52	362	25	14	7	15	16	1	...
		...	14	...	...	...	1	...	...	...	1	...	...	...	...	...	...	...	...	17		...	...	...	...	...	...
St. Thomas' Mount	737	...	...	...	...	38	6	87	2	2	1	20	15	3	...	5	...	55	33	518	25	5	...	19	9	...	...
		...	...	...	..	...	...	...	1	...	...	...	...	...	...	...	...	...	...	2		...	...	...	...	...	...
Madras	797	...	...	1	2	29	1	86	...	1	6	17	4	5	1	2	1	9	56	429	24	10	6	14	26	...	...
		...	...	...	2	2	1	...	...	..	...	...	1	...	...	...	...	...	...	7		...	...	...	...	...	...
C. Vizianagram	704	...	...	..	2	127	17	...	2	4	6	...	3	1	...	1	...	...	62	371	19	9	...	33	20	1	...
		...	...	...	1	...	...	...	...	...	...	...	...	...	...	1	...	...	...	4		...	...	...	...	...	...
Berhampur	417	...	...	2	...	48	1	...	3	...	2	2	3	...	...	...	...	2	30	169	7	5	...	9	16	...	...
		...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	2		...	...	...	...	...	...
Group XI.—Southern India.	7,920	133	16	5	4	1,509	36	174	43	18	73	148	105	20	3	16	1	265	361	5,032	264	70	18	125	148	8	...
		1	14	1	3	4	4	...	5	3	17	...	2	...	1	2	..	2	...	98		...	...	...	...	...	...
Maymyo	661	...	...	...	...	135	19	1	2	2	23	16	12	1	...	...	...	8	48	415	23	14	2	15	17	...	...
		...	...	...	...	1	1	...	...	1	1	1	...	...	...	...	...	...	1	10		...	..	1	...	...	...
Bampon	73	...	...	...	...	79	...	...	...	...	...	4	2	...	...	...	...	1	2	110	3	1	...	...	1	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...	...	...
Toungyi	47	1	...	...	...	8	...	...	...	...	...	7	1	...	...	...	...	...	...	19	1	...	...	...	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...	...	...

TABLE XXIX—*continued.*

ACTUALS of STATIONS, GROUPS, and COMMANDS, on which the ratios in Tables XXVI—XXVIII have been calculated.

Stations and Groups.	Average annual strength.	1. Admissions. 2. Deaths.																													
		Influenza.	Cholera.	Small-pox.	Enteric Fever.	Intermittent Fever.	Remittent Fever.	Simple Continued Fever.	Circulatory Diseases.	Tubercle of the lungs.	Pneumonia.	Other Respiratory Diseases.	Dysentery.	Diarrhœa.	Hepatic Abscess.	Hepatic Congestion and Inflammation.	Scurvy.	Anæmia and Debility.	Venereal Diseases.	All Causes.	Constantly Sick.	Primary Syphilis.	Soft Chancre.	Secondary Syphilis.	Gonorrhœa.	Dracunculus Medinensis.	Other Entozoa.
Kohima	552	...	...	...	...	332	6	...	...	6	25	50	66	16	...	4	...	36	37	830	37	12	...	12	13	...	1
		...	...	...	...	3	...	...	1	1	3	...	...	...	...	...	...	1	...	12		...	...	...	...	...	...
Shillong	754	73	...	...	...	263	4	...	...	16	20	44	33	3	...	6	1	5	27	740	50	3	2	5	17	...	...
		...	...	...	...	1	...	...	...	1	1	...	...	1	...	1	...	...	...	7		...	...	...	...	...	...
Gantak	198	...	...	...	1	17	...	...	1	...	1	5	...	...	...	...	...	...	3	54	3	1	...	2	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...	...	...
Darjeeling	90	...	...	...	...	19	...	...	...	...	2	13	4	2	...	...	...	3	...	89	2	...	...	...	...	...	...
		...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	2		...	...	...	...	...	...
Almora	582	...	...	...	...	106	18	19	1	3	8	4	14	15	1	1	1	21	22	417	22	7	1	6	8	...	...
		...	...	...	...	2	2	...	...	1	1	...	1	...	...	...	...	...	...	8		...	...	...	...	...	...
Ranikhet	45	...	...	...	...	8	...	...	...	...	2	...	...	...	...	...	...	...	5	17	1	1	...	3	1	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...	...	...
Naini Tal	132	14	...	...	...	3	3	...	...	2	5	4	2	...	...	2	...	...	64	134	13	26	4	23	11	...	...
		...	...	...	...	...	...	...	...	1	2	...	...	...	...	...	...	...	...	3		...	...	...	...	...	...
Lansdowne	908	...	...	1	2	208	7	34	1	6	14	21	11	14	...	...	1	6	95	673	32	19	9	40	27	6	1
		...	...	...	...	1	1	...	...	1	1	...	...	...	...	...	...	1	1	9		...	...	...	1	...	...
Simla	128	...	...	...	...	26	1	...	...	1	...	4	4	10	...	1	...	3	15	112	5	3	1	2	9	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...	...	...
Jutogh	52	...	...	...	...	11	5	...	...	...	2	...	3	5	...	...	...	4	1	86	5	...	...	...	1	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1		...	...	...	...	...	...
Dharmsala	1,151	102	...	...	1	277	61	...	1	12	20	20	27	10	...	2	1	10	150	945	56	22	35	31	62	...	...
		3	...	...	1	1	1	...	...	8	7	...	...	...	...	...	...	...	...	28		...	...	...	...	...	...
Bakloh	924	...	...	...	3	201	40	...	...	24	10	16	9	2	...	3	6	82	94	799	54	13	23	23	35	...	...
		...	...	...	1	...	1	...	...	6	2	...	1	...	...	...	...	...	...	12		...	...	...	...	...	...
Murree	41	2	...	...	...	22	...	...	...	...	...	2	3	...	...	...	...	1	...	39	1	...	...	...	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...	...	...
Khyragully	66	...	...	...	...	4	1	...	...	...	...	...	4	...	...	...	...	1	1	19	1	1	...	...	...	1	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...	...	...
Baragully	52	...	...	...	...	7	...	...	...	...	1	...	...	1	...	...	...	1	3	19	1	3	...	...	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...	...	...
Kalabagh	58	...	...	...	...	15	...	...	...	...	...	1	1	1	...	1	...	1	7	58	2	2	...	4	1	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1		...	...	...	...	...	...
Gilgit	200	...	...	...	...	42	6	...	...	5	...	11	10	1	...	...	...	8	1	152	6	...	...	...	1	...	...
		...	...	...	...	...	...	...	...	3	...	...	...	...	...	...	...	...	...	3		...	...	...	...	...	...
Chitral	290	...	...	...	...	142	...	...	...	1	...	7	12	4	...	1	...	1	3	233	7	2	...	1	...	...	...
		...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1	...	2		...	...	...	...	...	...
Kila Drosh	1,479	...	2	2	10	541	45	7	1	3	23	66	99	20	2	2	3	8	32	1,326	49	5	6	15	6	...	...
		...	2	...	2	...	...	1	1	2	4	...	...	...	...	...	...	...	...	16		...	...	...	...	...	...
Abbottabad	1,516	...	...	...	...	459	10	...	2	14	23	53	71	12	...	1	10	22	154	1,635	99	46	13	24	71	1	...
		...	...	...	...	...	1	...	1	6	4	1	...	...	...	...	...	...	...	18		...	...	...	...	...	...
Cherat	76	...	...	...	...	14	3	...	...	...	2	3	2	...	...	...	...	...	...	29	1	...	...	...	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1		...	...	...	...	...	...

Stations and Groups.	Average annual strength.	1. Admissions. 2. Deaths.																										
		Influenza.	Cholera.	Small-pox.	Enteric Fever.	Intermittent Fever.	Remittent Fever.	Simple Continued Fever.	Circulatory Diseases.	Tubercle of the lungs.	Pneumonia.	Other Respiratory Diseases.	Dysentery.	Diarrhœa.	Hepatic Abscess.	Hepatic Congestion and Inflammation.	Scurvy.	Anæmia and Debility.	Venereal Diseases.	All Causes.	Constantly Sick.	Primary Syphilis.	Soft Chancre.	Secondary Syphilis.	Gonorrhœa.	Dracunculus Medinensis.	Other Entozoa.
Parachinar	36	...	...	...	...	7	...	...	...	...	...	2	2	...	...	...	...	1	...	21	1	...	...	...	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...	...	...
Miran Shah	830	...	...	...	...	1,543	4	...	1	...	33	39	23	9	...	...	...	4	13	1,855	53	6	...	3	4	2	...
		...	...	...	...	...	...	...	1	...	11	...	...	...	...	...	...	...	...	16		...	...	...	...	...	...
Boya	200	...	...	...	...	187	7	...	...	1	3	21	58	12	...	...	4	3	...	379	8	...	...	...	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	1		...	...	...	...	...	...
Datta Khel	1,116	22	...	...	1	1,562	95	...	2	2	96	50	180	44	1	...	10	36	9	2,453	63	1	...	5	3	1	...
		...	...	...	...	1	2	...	...	...	35	...	1	...	1	...	...	...	...	45		...	...	...	...	...	...
Sarwekai	254	...	...	...	...	44	5	...	...	...	4	12	74	3	...	...	...	4	4	278	10	...	...	1	3	1	...
		...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	4		...	...	...	...	...	...
Wana	723	68	...	...	...	358	18	...	2	1	12	16	125	5	...	...	2	16	10	901	28	...	...	8	2	1	...
		...	...	...	...	...	1	...	1	...	1	...	1	...	...	...	...	...	...	4		...	...	...	...	...	...
Mir Ali Khel	128	...	...	...	...	81	2	...	1	...	3	11	7	3	...	...	...	7	3	146	4	1	..	2	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1		...	...	...	...	...	...
Fort Sandeman	861	86	...	...	...	697	4	...	2	5	13	36	90	25	2	...	8	18	36	1,383	36	1	2	8	25	8	1
		...	...	...	...	1	1	...	1	2	2	...	...	...	2	...	...	...	...	11		...	...	...	...	...	...
Hindubagh	9	...	...	...	...	5	1	...	...	...	...	...	1	...	...	...	...	...	1	11	...	...	...	...	1	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...	...	...
Khan Mohamed Kot	90	...	...	...	...	213	4	...	...	...	4	4	21	15	...	...	1	2	5	316	5	1	...	...	4	2	...
		...	...	...	...	...	...	...	..	...	1	...	...	...	...	...	...	...	...	2		...	...	...	...	...	...
Murgha	82	...	...	...	...	35	1	...	...	...	...	3	7	1	...	1	2	...	4	79	3	...	...	2	2	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...	...	...
Loralai	896	...	...	...	...	252	7	...	...	...	23	64	55	27	...	...	4	12	43	768	27	3	1	11	28	...	2
		...	...	...	...	...	...	...	...	...	6	1	1	...	...	...	...	1	1	13		...	..	1	...	...	...
Gumbaz	77	...	...	...	...	29	...	...	..	...	...	2	6	3	...	..	...	1	...	57	2	...	...	...	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..	...	...		...	..	...	...	...	...
Quetta	1,813	...	...	1	...	675	39	30	2	6	53	76	81	18	...	2	3	32	95	1,718	63	21	9	30	35	13	6
		...	...	...	...	...	...	...	2	1	9	1	1	...	...	...	...	1	...	17		...	...	...	...	...	...
Peshin	492	...	...	...	1	983	77	...	2	2	8	85	49	79	...	2	...	7	4	1,449	39	1	1	1	1	3	1
		...	...	...	...	...	...	...	1	...	3	...	...	...	...	...	...	...	...	5		...	...	...	...	...	...
Shelabagh	74	...	...	...	...	22	...	...	...	...	...	10	10	...	...	...	1	...	1	71	2	...	...	...	1	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...	...	...
Spinwana	73	...	...	...	...	43	...	...	...	...	...	5	2	5	...	...	...	4	...	85	2	...	...	...	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	2		...	...	...	...	...	...
Chaman	612	...	...	...	...	169	8	...	1	1	18	54	27	2	...	1	6	12	19	567	20	2	...	9	8	...	...
		...	...	...	...	1	1	...	...	...	2	...	...	...	...	...	...	...	...	5		...	...	...	...	...	...
Mount Abú	82	...	...	...	...	20	...	...	...	...	...	...	4	...	...	...	...	...	...	29	1	...	...	...	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...	...	...
Ootacamund	390	...	...	...	...	47	...	4	...	...	28	6	8	1	...	1	...	...	12	212	6	...	...	3	9	...	...
		...	...	...	...	1	...	...	...	...	4	1	...	...	...	...	...	...	...	7		...	...	...	...	...	...
Group XII.—Hill Stations.	18,913	368	2	4	19	9,031	501	95	22	113	479	847	1,220	369	6	31	64	381	1,023	21,728	843	218	109	287	409	39	12
		3	2	...	4	14	12	1	9	34	102	5	7	1	3	1	...	6	3	266		...	...	2	1	...	...
Marching in Bengal	1,738	2	1	...	...	115	5	...	...	1	5	13	33	2	...	...	...	3	29	327	8	6	3	8	12	1	...
		...	2	...	...	...	...	...	...	...	1	1	...	1	...	...	...	...	...	10		...	...	...	...	...	...
Marching in Punjab	2,644	76	...	...	...	218	22	...	...	4	25	32	29	20	...	...	1	15	18	691	28	8	3	1	6	...	...
		...	...	...	...	1	1	...	...	...	3	1	1	...	...	...	...	...	...	10		...	...	...	...	...	...

TABLE XXIX—*concluded.*

ACTUALS of STATIONS, GROUPS, and COMMANDS, on which the ratios in Tables XXVI—XXVIII have been calculated.

STATIONS, COMMANDS, ETC.	Average annual strength.	1. ADMISSIONS.																		2. DEATHS.								
		Influenza.	Cholera.	Small-pox.	Enteric Fever.	Intermittent Fever.	Remittent Fever.	Simple Continued Fever.	Circulatory Diseases.	Tubercle of the lungs.	Pneumonia.	Other Respiratory Diseases.	Dysentery.	Diarrhœa.	Hepatic Abscess.	Hepatic Congestion and Inflammation.	Scurvy.	Anæmia and Debility.	Venereal Diseases.	ALL CAUSES.	CONSTANTLY SICK.	Primary Syphilis.	Soft Chancre.	Secondary Syphilis.	Gonorrhœa.	Dracunculus Medinensis.	Other Entozoa.
Marching in Madras	1,254	...	2	...	...	57	6	1	3	...	6	6	19	1	...	...	...	10	15	194	16	2	...	9	4	...	...
		...	5	...	...	2	...	...	...	...	1	...	...	...	...	...	...	...	...	9		...	...	...	...	...	...
Marching in Bombay	2,072	...	...	...	...	275	7	10	1	3	13	21	49	6	...	1	...	5	22	562	12	7	4	3	8	4	...
		...	...	...	...	...	...	...	...	...	...	1	1	1	...	1	...	...	...	6		...	...	...	...	...	...
Hyderabad Contingent marching.	177	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...
Tochi Field Force	136	...	...	...	...	14	...	...	...	...	11	8	3	1	...	...	5	2	...	61	3	...	...	...	...	...	...
		...	...	...	...	...	...	...	...	...	3	1	...	...	...	...	...	1	...	5		...	...	...	...	...	...
Malakand Field Force	175	...	...	...	...	9	2	...	...	...	6	9	1	2	...	...	2	1	...	51	6	...	...	...	...	...	...
		...	...	...	...	...	1	...	...	...	2	...	...	...	...	...	...	...	...	3		...	...	...	...	...	...
Tirah Field Force	3,397	7	...	1	1	661	88	4	2	2	69	285	292	84	1	31	19	147	71	2,534	167	16	7	26	22	1	...
		...	...	...	2	3	8	...	2	1	24	3	4	3	...	...	...	...	...	74		...	...	...	...	...	...
Buner Field Force	300	...	...	...	...	100	1	...	...	...	4	13	5	...	...	...	1	2	...	188	3	...	...	...	...	1	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1		...	...	...	...	...	...
Mekran Field Force	100	...	...	...	...	35	7	...	2	...	2	4	18	4	...	1	3	...	1	137	4	...	...	...	1	...	...
		...	...	...	...	...	1	...	...	...	1	...	...	...	...	1	...	...	...	7		...	...	...	...	...	...
Malakand Force	3,484	...	1	...	...	745	59	...	1	2	53	129	212	47	...	...	47	71	51	2,091	89	3	...	38	10	3	...
		...	1	...	...	5	9	...	...	...	18	1	4	...	...	...	...	...	...	41		...	...	...	...	...	...
Khyber Force and Brigade.	1,894	...	...	...	2	125	111	...	6	2	28	18	68	11	...	6	7	44	25	694	42	9	8	5	3	...	...
		...	...	...	2	...	7	...	1	...	11	...	...	1	...	...	...	1	...	29		...	...	...	...	...	...
Kohat Kurram Force	1,992	...	...	1	1	1,082	182	13	...	8	12	43	172	26	1	6	13	29	14	2,064	68	2	2	6	4	4	...
		...	...	...	...	2	7	...	...	1	6	1	1	...	1	...	...	...	...	23		...	...	...	...	...	...
Indian Marine Ship *Lawrence.*	10	...	...	...	...	1	...	...	...	...	...	1	...	...	...	...	...	...	1	4	...	1	...	...	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...	...	...
Chabbar	68	...	...	...	...	247	2	1	...	...	...	7	36	...	...	...	1	1	2	323	7	1	...	1	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	1		...	...	...	...	...	...
Jask	46	6	...	...	...	79	7	3	...	...	...	3	7	5	...	5	9	...	1	161	3	...	...	1	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...	...	...
Muscat	21	5	...	...	...	14	1	...	...	...	...	1	5	...	...	...	...	...	3	36	1	...	...	3	...	1	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...	...	...
Bushire	49	...	...	...	1	2	...	...	...	...	...	1	...	...	...	...	...	...	...	7	1	...	...	...	...	...	...
		...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1		...	...	...	...	...	...
Bagdad	26	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	1	...	3	...	...	...	...	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...	...	...
Aden	626	...	1	...	...	57	19	24	2	1	3	10	43	1	...	...	19	10	21	362	18	4	4	7	6	...	...
		...	...	...	...	...	...	...	...	...	...	1	3	...	...	...	1	...	...	5		...	...	...	...	...	...
Khormaksar	88	...	...	...	...	23	1	8	...	...	...	10	6	...	...	...	...	4	...	81	2	...	...	...	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...	...	...
Sheikh Othman	31	...	...	...	...	10	...	...	...	...	...	...	5	...	...	...	...	...	...	20	...	...	...	...	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...	...	...
Perim	31	...	...	...	...	2	1	...	...	...	...	2	7	...	...	...	2	1	...	21	1	...	...	...	...	1	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...	...	...
Zaila	56	...	...	...	...	12	...	1	...	...	...	1	9	...	...	1	...	...	4	42	1	1	...	1	2	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...	...	...
Bulhar	20	...	...	...	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	3	...	...	...	...	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...	...	...
Berbera	54	...	...	...	...	2	...	...	...	...	...	...	1	...	...	...	...	...	...	3	...	...	...	...	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	...	...	...
Mauritius	550	...	...	...	...	279	1	...	...	...	3	13	53	3	...	...	...	...	12	733	30	4	...	7	1	...	...
		...	...	...	...	1	...	...	...	...	...	...	1	...	...	...	...	...	...	2		...	...	...	...	...	...
Mombasa Field Force	‡429	...	...	...	...	47	4	1	1	...	1	6	35	6	...	...	30	1	7	229	14	3	1	1	2	1	...
		...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	36		...	...	...	...	...	...
INDIA†	*Remaining from 1897.	3	...	...	3	1,158	110	18	18	32	316	272	330	82	1	10	23	208	522	4,823		189	46	124	163	10	...
	Admitted.	1047	44	26	40	42,225	2,522	802	197	436	2,075	3,613	5,559	1,190	16	198	357	2,232	5,040	102,901	4,141	1,233	570	1447	1,790	632	54
	Died.	4	42	1	17	73	136	4	25	79	475	46	62	25	7	13	3	15	8	1,395		...	...	7	1	...	...
	Died out of hospital.	...	4	...	...	...	...	...	8	...	2	2	...	1	...	...	...	1	...	119		...	...	...	...	...	...
BENGAL	25,036	236	18	4	11	7,753	260	135	28	144	364	552	1,009	193	2	33	20	439	1,345	19,213	863	344	138	417	446	153	5
		...	17	...	4	26	17	...	4	25	71	7	10	10	...	3	...	4	1	251		...	...	...	1	...	...
PUNJAB	42,515	342	7	12	20	17,392	1,551	60	34	175	1,076	1,420	2,573	511	4	43	171	846	1,230	40,036	1,503	277	191	295	467	74	1
		3	6	..	8	20	69	1	5	34	277	18	27	8	2	...	..	2	1	569		...	...	1	...	...	...
MADRAS	22,575	329	18	6	5	5,715	179	306	84	49	175	432	452	69	4	37	7	500	1,122	15,411	676	279	97	349	397	61	11
		1	19	1	3	17	16	...	8	11	31	7	5	1	1	5	...	4	2	224		...	...	2	...	...	...
BOMBAY	24,520	122	1	2	3	8,963	352	287	38	62	312	802	1,025	310	4	47	92	264	1,074	21,323	763	245	132	308	389	310	2
		...	...	...	...	5	19	2	5	8	51	9	13	3	3	4	3	4	3	191		...	...	3	...	...	...
HYDERABAD CONTINGENT.	6,304	11	...	1	...	1,257	77	9	8	4	52	69	84	7	1	6	7	30	178	2,985	107	65	4	44	65	31	6
		...	...	...	...	1	5	1	1	..	10	1	1	...	1	...	...	...	1	32		...	...	1	...	...	...

* Remaining + admitted = total treated. Remaining + admitted + died out of hospital = total cases.
† Including Imperial Service Troops on field service.
‡ As far as returns have been received.

Groups and Commands.	1. Average Strength. 2. Constantly Sick.												Total.
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	
I.—Burma Coast and Bay Islands.	1,442	1,437	1,419	1,338	1,307	1,320	1,389	1,404	1,404	1,412	1,492	1,330	16,694
	39	30	46	41	35	41	34	35	34	28	33	37	433
II.—Burma Inland	4,715	4,743	4,216	3,767	3,839	3,615	3,912	4,423	4,509	4,731	5,349	4,846	52,665
	157	135	119	114	106	127	152	181	190	184	222	193	1,880
III.—Assam	1,854	1,973	1,764	1,440	1,450	1,483	1,470	1,459	1,214	1,385	1,498	1,573	18,563
	81	77	71	60	59	51	55	69	51	58	62	54	748
IV.—Bengal and Orissa	3,195	3,346	3,254	2,540	2,516	2,525	2,546	2,604	2,672	3,072	3,229	3,360	34,859
	158	111	87	73	65	73	94	107	122	147	187	168	1,392
V.—Gangetic Plain and Chutia Nagpur.	5,830	5,559	5,596	5,430	5,449	5,573	5,168	5,259	5,016	5,973	6,914	5,675	67,442
	225	241	221	177	164	143	132	153	164	216	239	184	2,259
VI.—Upper Sub-Himalaya	12,514	13,196	14,152	12,738	12,870	12,719	12,592	12,990	13,295	15,291	17,654	16,273	166,284
	488	534	429	367	384	334	309	378	417	598	674	482	5,394
VII.—North-Western Frontier, Indus Valley, and North-Western Rajputana.	13,898	16,339	15,099	14,393	14,065	14,979	14,940	15,131	15,415	16,188	17,435	18,019	185,901
	860	614	467	396	444	493	451	572	630	834	809	683	7,253
VIII.—South-Eastern Rajputana, Central India, and Gujarat.	11,001	10,495	10,541	9,978	9,673	10,521	10,948	11,081	11,639	12,854	13,510	13,480	135,721
	327	269	234	226	206	238	274	306	351	386	399	354	3,570
IX.—Deccan	17,071	17,446	17,743	16,594	16,691	17,874	17,881	18,462	19,101	20,505	21,062	20,705	221,135
	498	452	496	460	378	409	434	498	552	596	646	568	5,987
X.—Western Coast	3,166	3,145	2,945	2,683	2,513	2,362	2,400	2,346	2,347	2,732	3,384	3,531	33,554
	91	115	103	108	94	80	82	88	89	96	131	141	1,218
XI.—Southern India	7,954	7,998	7,848	7,382	7,369	7,450	7,692	7,710	7,825	8,450	8,615	8,750	95,043
	280	303	296	268	230	230	230	252	267	238	253	325	3,172
XII.—Hill Stations	17,141	17,973	18,972	19,588	20,347	20,241	20,060	19,894	19,527	18,180	17,343	17,693	226,959
	710	720	758	725	749	859	893	1,040	1,052	1,010	814	780	10,110
INDIA	137,781	136,350	133,271	123,007	117,419	115,840	114,728	117,135	119,646	127,200	134,205	135,854	1,512,436
	5,125	4,696	4,061	3,481	3,274	3,424	3,434	3,994	4,297	4,800	4,828	4,276	49,690
Bengal	26,360	26,987	25,976	23,744	22,230	22,689	22,324	22,639	23,345	26,262	28,699	29,180	300,435
	1,050	1,005	872	759	704	703	685	760	828	954	1,080	961	10,361
Punjab	32,878	43,724	42,269	46,178	44,692	41,977	40,386	40,957	41,626	43,272	45,661	46,560	510,180
	1,535	1,523	1,270	1,262	1,329	1,324	1,310	1,591	1,671	1,973	1,826	1,421	18,035
Madras	23,489	22,906	22,161	21,217	20,865	20,782	21,153	22,065	22,534	23,500	25,025	25,203	270,900
	705	711	706	665	569	595	609	662	689	653	751	800	8,115
Bombay	24,461	24,652	24,196	23,290	22,667	23,370	23,791	24,044	24,473	25,883	26,491	26,917	294,235
	710	670	614	596	564	613	660	825	943	1,069	998	895	9,157
Hyderabad Contingent	6,332	6,329	6,175	5,386	5,752	5,787	5,851	6,196	6,435	7,057	7,161	7,192	75,653
	115	100	110	102	79	87	86	104	116	116	141	131	1,287

TABLE XXX.

ABSTRACT of the CANTONMENT SANITARY REPORTS of the most UNHEALTHY STATIONS.

The ratios of sickness and mortality will be found in Table XXVIII.

Stations.	Command.	Sanitary defects, improvements, suggestions, etc.
Manipur	Bengal	Malarial fever was chiefly prevalent during the months of August, September, and October; but especially in October, after the troops and their families had returned from cholera camp. As Manipur is a malarious place, especially after the rainy season, the fever was due to climatic causes. Compared with the previous years there was a decrease in the attacks from malarial fever. This was chiefly due to the greater dryness of the soil, to improvements in drainage, to the filling up of tanks, and to a purer water-supply from the wells. Dysentery was also prevalent in August, September, and October, and was due to climatic causes. Cholera was prevalent from the beginning of May to the end of September. As cholera was raging amongst the natives in the valley, the disease was contracted from them. The epidemic of the disease, which swept over the valley in May and the subsequent months, helped to swell the sick list. But considering the severity of the epidemic, the number of cases—owing to the prompt measures of the authorities—was very small, as there had been many more cases amongst the men and families in the preceding year. Venereal disease was more or less prevalent during the whole year. The number of cases was excessive; and in all cases the disease was contracted from the Manipuri women, amongst whom the disease in all its forms is very prevalent. And, as there is no way of finding out who the diseased women are, the disease spreads very freely. The women who are diseased do not come to the civil dispensary for treatment. The trench system of conservancy is not in use. All the rubbish is burnt in a cinerator. The latrines are constructed of wood and bamboo and are movable, but they are heavy and not easily moved, and generally break when it is attempted. Galvanized buckets are used as receptacles. All excreta are removed to the cinerator and burnt. The drainage work is not yet completed, nor will it be for many years. The water-supply is still deficient. One well is in use, and another is being dug, and two more are sanctioned. During the late cholera epidemic the well failed at the most critical time. A grant of money is needed to enable the works to be rapidly carried out. They have been dragging on for years. In my opinion, less attention is paid to the military works than to the others. I would suggest that the matter of a pipe water-supply be duly considered; that iron latrines be supplied; that barracks and married quarters, and also officers' houses, be built; and that all the kutcha work in the cantonments be cleared away. A cemetery is also needed. The evening bazar is a nuisance, as it is adjacent to the new lines. This point has been written about separately. *The District Principal Medical Officer*:—The first and foremost want of Manipur is the provision of an efficient water-supply from the adjacent hills; and until this is done the danger of cholera assuming an epidemic form will always be imminent. A good deal of filling up, levelling, and local drainage still remain to be done. The new barracks are near completion; but they require mat-ceilings. Iron latrines are required all round to replace the temporary bamboo ones. Married quarters, hospital, officers' quarters, mess, and a new cemetery are all required: and should be provided as speedily as can be; but the pipe-water scheme is the paramount necessity. The wells in use should be provided with covers, pumps, and service cisterns. *The General Officer Commanding the District*:—I agree with the Principal Medical Officer as to the necessities of the station. At present the Chief Commissioner of Assam does not see his way to sanctioning sufficient money from the state funds for an efficient water-supply, and I do not think the military authorities will ever be able to obtain sufficient money to provide a water-supply for the troops. I therefore consider that the troops should move away from Manipur at the unhealthy time of the year. At the time of the worst cholera epidemic in Manipur—in 1891, we found that boiling the water under strict regimental arrangements preserved the health of the troops; and I will see that effectual steps are taken in this direction in 1899. The protection of the wells will be seen to, and I had already issued orders on the subject. *The Lieutenant General Commanding the Forces*:—Government have refused sanction to a pipe-water supply. One of the four wells sanctioned has been completed. When the remainder are completed there will be sufficient water-supply. Iron latrines have been sanctioned, and are now under provision. The Public Works Department are carrying out the whole of the Manipur projects regarding levelling, drainage, etc.
Sadiya	"	No Sanitary Report.
Silchar	"	There has been no unusual sickness this year. The season, as a rule, is healthy both for the troops and civil population. No trench

Stations.	Command.	Sanitary defects, improvements, suggestions, etc.
Silchar—*contd.*	Bengal—*contd.*	latrines are in use. The excreta of all the cantonment are destroyed in a Rennick incinerator. The urine is trenched in the jungle land. There is a *jheel* on the south-east, into which most of the land drains. The barracks and hospital, though themselves on high ground, are surrounded by low-lying ill-drained land, much of which is actually under water in the rains. Two wells supply the drinking water; and it is very good and sufficient. Well covers have been provided, and a hand pump has been erected for drawing water in one of the wells. The drainage of the station still remains the great difficulty. The cost of remedying this effectually would be prohibitive. *The District Principal Medical Officer* :—A well-cover, a pump, and a service cistern should be provided for the other well to prevent pollution of the water. *The General Officer Commanding the District* :—I do not think that any amount of drainage would make Silchar even a tolerably healthy station. It is situated in the middle of a great *jheel*, and for months of the year the station is practically under water. It is a most unsuitable station for the troops in every way. Regiments quartered here, though not perhaps showing a large percentage of admissions to hospital, gradually fall away in health until they are inefficient. I have elsewhere suggested abandoning the place and removing the wing of the 10th Jats to Dibrugarh.
Fort William	"	Compared with last year, the year 1898 shows a decided improvement in the health of the troops, as no unusual sickness prevailed among them. Malarial fever and dysentery were the chief causes of admission; and the highest mortality was under abscess of the liver. The largest number of admissions is recorded in the months of November and December. Cholera is endemic in the bazaars, but only one case occurred among the troops. Plague also prevailed in the city during the summer months of the year, but not a single case occurred among the troops. Water is obtained from the municipality, and is ample and of good quality. Besides, roughly filtered water is obtained from the Havildar's Tank for the purpose of flushing and watering the roads. This is liable to contamination by the natives washing in it. It is pumped into the fort, and as it is laid on to the top floor of the barracks, it is a great source of danger. Fixed latrines are in use. The solid excrement is removed in conservancy carts to Budge Budge Municipal Depôt, where it is deposited in the main drain, from which it again passes to the salt lakes. Kitchen water and urine tubs are emptied into the cunette, whence the refuse passes into the river. A most offensive smell comes off from this in the hot weather; but no disease has been traced to it. No part of cantonment land is manured with the sewage. The chief defects are contained in the water-supply from the Havildar's Tank and in the method of disposing of the sewage. To remove these defects, it would be necessary to discontinue the supply from the Havildar's Tank and substitute the municipal supply instead, thereby applying it to all purposes; and to erect a flushing station and connect it with the municipal main drain. *The District Principal Medical Officer* :—A continuous and copious flow of tank water on every floor of the barracks is a source of great danger to health. The only remedy is to cut it off entirely, and have filtered water laid on instead. The ventilation is so good, no harm results from overcrowding. The method of disposal of urine at present in force is a sanitary defect. This would be remedied if the proposal suggested above were carried out. *The General Officer Commanding the District* :—The sanitation of Fort William is satisfactory. The connexion of Fort William with the main municipal drain has now received government sanction; and it is to be hoped that this long delayed scheme may at last be taken in hand. *The Lieutenant-General Commanding the Forces* :—When the connexion of the fort with the main drain takes places, the sanitation of Fort William will be in very satisfactory order.
Alipore and Ballygunge . . .	"	The higher rate of sickness in 1898 than in 1897, is due to the prevalence of malarial fever and influenza. Both the infantry and the detachment of the 7th Bengal Cavalry have suffered alike. The trench latrine system is not in use. The nightsoil is taken away in filth carts, and deposited in the municipal drain lying about 2 miles to the west of the cantonment. The drains are kutcha. They work well, except during the rains, especially in the lines of the detachment of the 7th Bengal Cavalry. Filtered water is supplied by the municipality from hydrants. *The District Principal Medical Officer* :—More barrack accommodation is required for the cavalry detachment. The tanks in the

TABLE XXX—*continued.*

ABSTRACT of the CANTONMENT SANITARY REPORTS of the most UNHEALTHY STATIONS.

STATIONS.	COMMAND.	Sanitary defects, improvements, suggestions, etc.
Alipore and Ballygunge—*contd.*	Bengal—*contd.*	infantry lines should be filled in. The surface drains should all be pucca, and the municipal one to the west of the cavalry lines should also be properly constructed. *The Lieutenant-General Commanding the Forces* :—After I had inspected the cantonments, action was taken regarding the municipal drain, which was in very bad order.
Fyzabad	„	There has been no unusual sickness during the year, except that ague was very prevalent among the population, both European and native during the months of October and November. The increase in this disease was probably due to the drying up of the soil after an excessive rainfall. The water-supply is good and sufficient. There is no source from which it may be contaminated. About 16 acres of cantonment land are manured with station sewage, and are then cultivated. *The District Principal Medical Officer* :—The rebuilding of the native infantry lines, which are in a tumble down condition, requires early attention. *The Lieutenant-General Commanding the Forces* :—The bad state of the native infantry lines is well known. The delay in rebuilding them was owing to the departure of the regiment that occupied them. They have remained unoccupied for some months.
Dehra Dun	„	There has been no unusual sickness as compared with other years. Admissions to hospital have been less than usual. The 2nd Battalion, 2nd Gurkha Regiment, has been absent during the whole year on service, and the health of the Depôt has been satisfactory. The 1st Battalion returned from field service in April, and though no particular disease has been specially prevalent, the percentage of sick has been rather high. This may be in great part accounted for by the number of men who have been constantly sick from venereal diseases and tubercle, which diseases, being of a chronic nature, keep up the weekly percentage of sick to a high level. Malarial fevers have been due to the effect of cold on men who have been exposed to malarial influences on field service, in the jungles, and while returning from furlough. Conjunctivitis has been almost entirely due to defective ventilation in the married quarters. The causes of tubercle are rather obscure, but deficient ventilation is certainly one of them. The disease is usually prevalent among the hill men of this part of India. Drainage is good. There are no *jheels*, marshes, etc., in the station, or in its vicinity. The water-supply is good and ample. It is safe from pollution, unless the pucca channel is perforated by the roots of trees within the first section of its conveyance to the cantonment. The latrines in use are on the trench system, and the ground is cultivated in accordance with the orders on the subject. No portion of cantonment land is manured with sewage. Ventilation in the married quarters is defective. The station is in a very good sanitary condition. There is a scheme under consideration for conveying the water-supply in iron pipes throughout its whole length. At present the upper portion of the supply is carried in a closed masonry channel; but it has been found that this is liable to be perforated by the roots of trees, and consequently there is danger of pollution. It is to be hoped that this defect may be remedied at an early date, as it is extremely important to maintain the purity of the water-supply. *The District Principal Medical Officer* :—I would suggest that improved ventilation in the married quarters should be undertaken.
Meerut	„	There has been less sickness among the men of the 6th Bengal Light Infantry than last year. The prevalence of ague and pneumonia is due to the ill-health of the men caused by field service in the Tochi valley. The admissions from malarial fever among the men of the 2nd Bengal Lancers are greater than those of the previous year. This is probably due to the fact that the corps was settled down at Bareilly. There has been a slight increase of sickness amongst the reservists, due to exposure to cold. See also Table V.
Kohima	„	There has been no unusual sickness this year beyond the prevalence of malarial fevers and respiratory diseases, which are due to climatic causes. Men returning from furlough are very prone to contract ague, as they have on their journey to pass through the Nambar terai which is very malarious. The trenches are dug in the jungle on the steep hill-sides, which do not admit of cultivation. The jungle growth destroys the harmful refuse. There are no defects in drainage within the cantonments. The water comes from a hill stream. At about 1½ mile from the cantonments it is received into a reservoir, from which it is conducted to the station by means of iron pipes, and distributed from tanks by taps. It is abundant and excellent in quality.

STATIONS.	COMMANDS.	Sanitary defects, improvements, suggestions .etc.
Kohima—*contd.*	Bengal—*contd.*	*The District Principal Medical Officer* :—The reservoir or settling tank into which the main pipe of the water-supply leads, should be fenced in with stout wire gauze to prevent animals or men fouling the water; and if a roof could be provided, it would be better. In any case, no person or animal should be enabled to touch the water in this reservoir, and it would be better not to use it until it is well fenced-in. A few more thicknesses of metal gauze at the intake pipe would also be advisable to strain off grosser impurities. Beyond this nothing seems to be requisite. *The General Officer Commanding the District* :—The station is not healthy even for Gurkhas. The Dogras in the police cannot keep out of hospital, and it is quite apparent that no attempt to quarter any but hillmen in Kohima should ever be made. *The Lieutenant-General Commanding the Forces* :—Necessary action has been taken to fence in the reservoir.
Darjeeling	,, ...	There has been no unusual sickness this year, as compared with previous years, either amongst Europeans or natives. The largest number of admissions occurred between March 15th and November, when the Depôt was open. This was due to the men's exposure to cold. The cultivation of land is impracticable here, and no part of cantonment land is manured with station sewage. There are no *jheels* or marshes in the vicinity of the cantonment, but the surface drainage about the barracks in the Depôt might be better. *The District Principal Medical Officer* :—For the better sanitation of the station the following measures are recommended. The *kutcha* drain in the regimental bazaar should be made *pucca* ; and the cook-houses and bath-rooms of the Depôt should be refloored."
Naini Tal	,, ...	There has been no unusual sickness this year, with the exception of venereal disease. The natives in the bazaar are much infected with the venereal poison—syphilis and gonorrhœa. There were a few cases of epidemic influenza at the beginning of the year. Part of the filth is buried in trenches, and part of it is deposited in the municipal pail depôt. No part of the cantonment land is cultivated, owing to its hilly nature. The drainage within cantonments is satisfactory. There are no *jheels* or marshes in it or in its vicinity. Water is obtained from the municipality, and also from springs in the hill sides. It is good and sufficient, As the water is conveyed by means of *mussacks* from stand posts at a distance of 1½ mile from the Depôt, it is very desirable that pipes should be laid out to the Depôt, because these *mussacks* are most objectionable in a sanitary point of view. *The District Principal Medical Officer* :—The floors of the two barracks occupied by the detachments of the 1st and 2nd Battalions of the 3rd Gurkha Rifles, should be either flagged or cemented; as in their present state, they, being of mud, become but sloppy and insanitary in the rains. The abolition of *mussacks* for the conveyance of water to the Depôt, and the substitution of pipes or iron tanks, are very desirable."
Nowshera	Punjab	See Table V.
Peshawar	,, ...	There has been no unusual sickness this year beyond the prevalence of malarial fevers, which are due to climatic causes. As far as possible, the Allahabad system of trenching is in force. Movable latrines are used by the natives. See also Table V.
Fort Jamrud	,, ...	No Sanitary Report.
Kohat	,, ...	There has been no unusual sickness during the year, except malarial fevers, which are due to climatic causes. Pneumonia appears to be principally due to cold, acting on men previously debilitated by malaria. All the land used for deposit from the permanent native latrines has been placed under cultivation ; but the ground is out of the cantonments. The drainage is good ; no marshes, or *jheels* exist in the vicinity of the cantonment. The water-supply is good and abundant. Bathing places for sepoys are inadequate. *The District Principal Medical Officer* :—I consider it highly essential that all the brick and mud-built latrines at present in use should be replaced by corrugated iron ones. It is impossible to keep the former in a perfect sanitary condition. *The General Officer Commanding the District* :— The health of the troops appears to have been good ; and the sanitary state, generally speaking, is satisfactory. It would doubtless be an advantage to introduce a system of movable iron latrines ; the cost of the system, both initial and as a recurring charge, would be heavy ; and as the cantonment fund is not in a position to bear the increased charge, it would be necessary to ask gover ment for a grant in aid. I am issuing orders for the p.. of an estimate for the above, which will be shortly submitted.
Bahadur Khel	,, ...	No Sanitary Report.

TABLE XXX—*continued.*

ABSTRACT of the CANTONMENT SANITARY REPORTS of the most UNHEALTHY STATIONS.

STATIONS.	COMMAND.	Sanitary defects, improvements, suggestions, etc.
Edwardesabad.	Punjab—*contd.*	The sickness on the whole has been almost as usual. Only the 6th Madras Infantry has suffered very severely from ague and respiratory diseases, that have given the very high daily sick-rate of 214 per 1000 of strength. This terrible incidence of disease is doubtless to be attributed to the nature of the climate being so different from what the men are accustomed to, as well as to their being somewhat reduced in health by the hard duties they had performed. There is a considerable amount of cultivation all round the cantonment; and all the land is irrigated plentifully and freely, although there exist no *jheels* or marshes in it. There is a well-protected masonry well inside the fort. The water is good and abundant. No part of the cantonment land is manured with station sewage. The chief defect in the sanitary condition of the cantonment is the nature of the surrounding country, especially its generally sodden condition, owing to the abundance of irrigation. This must tend to the increase of malarial diseases among the troops and the reservists. The absence of sanitary arrangements in the neighbouring villages, and the promiscuous use of land by the villagers as a latrine, and its consequent contamination, are doubtless defects in the sanitation of the cantonment. The acquisition of a belt of land round the station, which could be kept free of cultivation, irrigation, and nuisance, has been previously recommended. *The District Medical Officer* :—As the wells are few and the water is at a great depth, there is little doubt that the men use the water from the numerous irrigation channels that flow through the cantonments. The construction of water works and the introduction and distribution of water by pipes is a great necessity. The land close up to the cantonment is highly cultivated, freely-manured, and irrigated. To have some control over these, it is necessary to considerably extend the cantonment; but I fear the cost would be prohibitive. *The General Officer Commanding the District* :—The cramped state of the cantonment and the excessive irrigation in its immediate vicinity, doubtless render the place unhealthy. It would be impossible, except at a prohibitive cost, to restrict the cultivation by a limit of one mile radius. In order to prevent the use for drinking purposes of the water running in the irrigation canals through the fort, the Superintending Engineer has been requested to prepare a requisition for covering these channels with gratings. With the exception of the 6th Madras Infantry, the troops in Garrison have been fairly healthy. *The Lieutenant-General Commanding the Forces*:—Attention has been given to the water supply and the latrines with a view to remedying defects. The limited area of cantonment affects all attempts at sanitary improvement, as has already been frequently brought to notice.
Dera Ismail Khan	"	There has been no unusual sickness during this year. The sickness from ague is due to climate and malarial poison. Compared with the preceding year, the year 1898 shews a decrease in the attacks from this disease. This is probably due to a more healthy year, and probably in part to the prophylactic issue of antimalarial drugs. Pneumonia and bronchitis have been as usual. The admissions are probably due to cold. The drainage is fairly satisfactory; but it is difficult, owing to the level nature of the ground. Rain falls seldom, and is carried off by means of the existing drainage arrangements. Water is obtained from wells. It is hard from the presence of salts: otherwise it is pure. All latrines are at a good distance from habitations. The night-soil is removed, and is buried in trenches. There are no day-latrines in the right infantry lines The men have to go out into the jungle. No part of cantonment land is manured with station sewage. *The District Principal Medical Officer* :—Day latrines are required for the eight infantry lines. These I consider should be removable iron ones, and not built structures. If the cultivators will not buy or take away gratis the excess litter from the cavalry and artillery lines, it might be burnt. *The General Officer Commanding the District* :—Movable day-latrines would undoubtedly be a great advantage; but, as the cantonment fund barely suffices for the existing expenditure, a government grant in aid would be required for the initial cost of their introduction, and for the recurring charge of their maintenance.
Idak	"	No Sanitary Report.
Jutogh	"	There has been no unusual sickness either in Europeans or in natives this year. The incinerator is used during the time when the troops are stationed here. The trench latrines are used in the winter. The land which is used for trenches is placed under cultivation after the specified time. Two ponds have been drained this year, owing to the *bhisties* drawing water from them, instead of going to the south spring. No drains end in marshes. Water is abundant and good. There is no way of its being contaminated, except in the mode of draining, and this has been rectified.

Stations.	Command.	Sanitary defects, improvements, suggestions, etc.
Jutogh—*contd.*	Punjab—*contd.*	The excreta are brought to the incinerator, and are burnt there. The urine flows through a pipe down the *khud*. No part of cantonment land is manured with station sewage. It was proposed at the annual barrack committee, to remove the present incinerator, and to place two new ones of a more improved type at a distance of half a mile from the occupied parts. These new incinerators are to be connected with the barracks by tramways, aërial and non-aërial. *The District Principal Medical Officer*:— I concur in the remarks of the Senior Medical Officer, Jutogh, and advise that the sanitary defects pointed out by him should be remedied as soon as possible. The present incinerator should be removed and two new ones constructed on the site referred to, with wire tramways for the carriage of the night-soil. The water should be pumped up. *The General Officer Commanding the District*:—Incineration is still in an experimental stage. I am not prepared to recommend increased expenditure on incinerators until a good and standard pattern has been approved. Minor sanitary defects brought to notice shall be remedied.
Dharmsala	"	Taking into consideration the fact that there has been no unusual sickness as compared with other years, it may be said that the different corps suffered much to the same extent during the year. Malarial fevers prevailed during the months of January, August, and September. The conditions favouring malaria are heavy rainfall, and the highly irrigated valley below the station much visited by the men. Influenza prevailed from the middle of March to the end of April; venereal diseases throughout the year, but especially in the first half. The prevalence is due to the specific morbid poisons of the respective diseases (including venereal) and to endemic and epidemic conditions. The absence of adequate prophylactic measures applicable to the bazaars and hamlets in the Dharmsala municipal limits, where many diseased prostitutes live, accounts for the prevalence of venereal diseases. The Allahabad system of trenching is in use, and all the land so used has been placed under cultivation, when it becomes fit for it. There are no defects in the drainage, and there are no *jheels* or marshes in the cantonment or in its vicinity. There are no defects in the pipe-water supply, except that the nearest tap is sufficiently distant from the 2-1 Gurkha Rifles' bazaar to create the danger of using unsafe supplies. Of such unsafe supplies there are exposed springs and irrigation channels in and near the cantonment. Apart from these possible dangers there are no other defects either as to deficient quantity or inferior quality; and, under normal supervision, there are no sources of contamination in drawing or distribution. The single-slated roofs of the 2-1 Gurkha Rifles' barracks are apt to leak somewhat in heavy rain. The proximity of various bazaars and village in which diseased prostitutes live to the cantonment is prejudicial to health in the direction of the incidence of venereal disease. When funds permit, a slight extension of the pipe-water supply, to give greater accessibility to good water for portions of the cantonment now under difficulties in this direction; the construction of tanks on the approved plan for washing clothes; and some other measures; should be carried out. *The District Principal Medical Officer*:—The sanitary arrangements of this cantonment are in a most satisfactory condition.
Kalabagh	"	Ague prevailed during the rains. The commissariat station penthouse drains into the native guard-room. The water-supply is good and is well protected from contamination at its source; but it is liable to be polluted in being distributed by *chagals*. There are no defects in latrines or urinaries. No portion of the cantonment land is manured with station sewage. The general sanitary condition of the cantonment is good. The drainage of the commissariat penthouse requires to be attended to and the drain should be diverted. There is no isolation hospital for infectious diseases in the station.
Miran Shah	"	The 20th Madras Infantry arrived in the Tochi Valley on the 5th February, and was stationed at Miran Shah—48 miles from Edwardesabad. On the 3rd October the regiment left for Cannanore. Up to March the weather was very cold, a cutting wind blowing frequently from the north. During the middle of the year the weather was very hot. The regiment was provided with tents which were covered over with grass to prevent the effects of the great heat and cold making themselves felt. There was a spring at a short distance from the post. Also there was a stream near the post; but the men were not allowed to drink from it, as the water from the spring was considered to be more wholesome. Trenches, situated at a distance of about 600 yards from the post, were used. The drainage was carried out by means of dug nullahs, which were found efficient in carrying off the surface water. The men at this station got government rations, besides an issue of mutton twice weekly. On arrival of the corps in the

TABLE XXX—*continued.*

ABSTRACT of the CANTONMENT SANITARY REPORTS of the most UNHEALTHY STATIONS.

Stations.	Commands.	Sanitary defects, improvements, suggestions, etc.
Miran Shah—*contd.* . . .	Punjab—*contd.* . . .	Tochi Valley, a free issue of field service clothing was made to all. This included a cardigan jacket, blankets, and thick greatcoats for all the men on guard duty. The duties of the regiment at this station were heavy; as a large portion of the men was daily engaged in sentry duty, guards, camel-grazing, escort, and convoy duties. The greater number of admissions from ague took place in June, July, August, and September at Miran Shah in the Tochi Valley. The cause was said to have been the excessive heat during these months. Quinine and arsenic were issued as prophylactics thrice weekly, during the prevalence of the disease, with beneficial results. Dysentery and pneumonia occurred in every instance from exposure to cold and chills, as the weather at the commencement of the year was very cold, and a cutting wind blew from the north. See account of Tochi Valley under 8th Rajputs.
Datta Khel (8th Rajputs) . .	„	The Tochi Valley, as its name would lead one to suppose, is a mountain valley, long, winding, watered by a small river, which is subject to periodical floods; and, like most mountain valleys on the north-west frontier, is the abode of malaria of severe type. To the development of this, two features of the valley seem to lend themselves, *viz.*, insufficient drainage and a water-logged soil, and a general stillness of the air and absence of winds. The soil of this valley is either porous and sandy, or else composed of dense clay, and is little cultivated, save in the immediate neighbourhood of the various villages. In the Tochi the men have been exposed not only to the rigour of the climate, but also to the hardships which attend garrison duty in a hostile country; and the hygienic disadvantages, under which they have had to labour, have been those usually associated with duty of the kind, *viz.*, overcrowding in the close proximity of cavalry and transport lines, picketing, convoy, and escort duties during hot days, and heavy sentry duty during comparatively cold nights. It is not to be wondered at, therefore, that the men, living in an unhealthy climate, should have suffered much from malarial fevers; since the predisposing causes of such fevers, exposure to extremes of heat and cold and fatigue, formed a feature of their daily lives. Nor is it singular that the men should have suffered largely from diarrhœa, dysentery, and pneumonia, if one considers how much the nature of their duties was likely to expose them to chills. The intrinsic cause, however, was the invasion of their blood by the benign tertian and quartan plasmodia of ordinary intermittent fever, and by the malignant crescent-forming plasmodium of æstivo-autumnal fever, the latter being more prevalent in the blood of patients during the last quarter of the year. In this connexion I should mention, that I have found both halteridium and proteosoma in the blood of sparrows caught in the valley. The specific or intrinsic cause of these fevers is indissolubly bound up with the malarial nature of the climate. I am not of opinion that the prophylactic administration of quinine diminished the admission rate for those fevers, but I believe that it modified the disease very much in the direction of lessening the severity, duration, and recurrence of the attacks. As the sanitary conditions were carefully looked after, I am not disposed to attribute the occurrence of these cases to insanitary conditions. As these cases were more or less evenly spread over the whole period, I do not consider them to have been due to any seasonal specific cause. They owed their prevalence, in my opinion, to the drinking of the men, when out on reconnaissance, convoy, or picket duties, of impure water from unauthorized sources of supply; their onset being determined in most cases, perhaps, by subsequent chills. Besides the cause assigned above for the prevalence of pneumonia, *viz.*, chills, it has undoubtedly a specific cause in the invasion of the lung by a specific pathogenic germ. I have no doubt that constitutions broken down by malaria are specially prone to the more severe and fatal forms of this disease.
Keng Tung	Madras	The fever season commenced towards the latter end of May, and lasted till the end of the year. The prevalence of malarial fevers is due to the following causes:—The bad situation of the cantonment, which has been fixed in the corner of a large valley at the base of a range of hills and surrounded by jungle; the fact that the ground on which the barracks have been built has been recently cleared of jungle; the sudden change of temperature, and the cold winds which come rushing down the gullies between the hills towards sunset, caused by the radiation of heat from the extensive paddy plains in the valley; the water-supply. The drinking-water is obtained from an open stream contaminated by decaying vegetable matter and the excreta of cattle. Trench latrines are in use; but the jungle which is very extensive, is also resorted to for the purpose. The nightsoil is removed from the latrines by the sweepers. The instructions regarding trenches have been attended to as far as possible; but, owing to their being situated on the crest of a hill, they have had to be made deeper than usual, and are not filled in so often. Owing to the fact that cultivation

Station	Command.	Sanitary defects, improvements, suggestions, etc.
Keng Tung—*contd.* . . .	Madras—*contd.* . . .	(paddy) is carried on to such a large extent in the plain, the ground reserved for trenches is not required for the purpose. Moreover, the natural features of the country prevent it from being cultivated. The drainage is more or less natural, and is not likely to be much improved by engineering works, unless they are of an extensive nature. There are several marshy bits of ground in the vicinity of the cantonment, fed by the streamlets and small springs which issue from the side of the hills. During the rains the ground is more or less water-logged. The water-supply is abundant, and is obtained from an open hill stream, about 3 miles from the cantonment, by means of an open aqueduct cut in the side of the hill, and is finally distributed through bamboo pipes. It is unfit for drinking purposes during the rains The troops are accommodated in sheds made of jungle wood, enclosed with walls of bamboo-matting, plastered over with mud. They are constantly in want of repair. The accommodation is sufficient for the men according to the cubic capacity. But this is somewhat encroached upon by the storage of rations for the men, there being no other place available for it. The medical officer suggests that the site of the cantonment should be entirely changed to one on the south side of Keng Tung town, where there is suitable open ground. The Major-General Commanding the Burma District, in his letter No. 538-K., dated 19th August 1898, decided, that no change of site would be supported by him in view of the expense incurred already. He also suggests that experiments might with advantage be tried with tube-wells. *The District Principal Medical Officer* :—There has been some improvement in the health of the troops in this station during the year. It is stated that Captain Strickland, I. M. S., suggests changing the site of the cantonment to a point south of the town of Keng Tung. I cannot find this proposal in his report ; but from a conversation I had with him on the subject I gathered that the proposed site would be more open, and roads would be more easily made. He could tell me nothing about the water-supply, except that experiments would have to be made by digging wells. I assume that the experiment of moving the present cantonment to the new site would be expensive ; and unless the station continues to prove unhealthy, and very decided advantages are pointed out in the proposed site, I cannot recommend the change. A scheme for a new water-supply is required. This, with drainage of the cantonment, should, when completed, rectify what is considered to be one of the chief causes of sickness. Another cause for the high sick-rate is said to be, that the cantonment is placed on ground newly cleared of jungle, and is surrounded by jungle. This cause should cease to operate in time. The storage of rations in the sheds occupied by the men is objectionable ; and I would recommend its discontinuance. The staff of sweepers should be augmented. *The Officer Commanding, Southern Shan States* :—I do not think any advantage would be gained by changing the site of the cantonment to the south side of Keng Tung. There would be a great difficulty about the water-supply ; and it is not certain, that there would be any the less fever. The detachment at Keng Tung town, which is stationed on some open high ground, not near any jungle, suffers from fever equally with the troops in the cantonment. It may be presumed that when the new water supply scheme is working, better water will be the result. The health of the troops appears to be improving yearly. The jungle about the cantonment should be "grubbed up" ; as in the rains it grows almost as fast as the troops can clear it. *The General Officer Commanding the Burma District* :—Considering the expense already incurred in buildings etc., and the absence of any valid reason for a change, I concur with the Officer Commanding, Southern Shan States, in thinking, that any change in the site of Keng Tung cantonment is quite unnecessary. Funds for the water-supply scheme at Keng Tung cantonment have been allotted in the Burma Military Works budget for 1899-1900, and the plans and estimate are under consideration. A plan and estimate for the drainage of Keng Tung cantonment, were approved by my predecessor in October 1898, and I am informed the work is now in hand. The Officer Commanding, Shan States, will be asked to accelerate its completion. A revised conservancy establishment for the Keng Tung cantonment is under consideration. Lieutenant-Colonel Ironmonger, Commanding 33rd Madras Infantry, at present in Rangoon, informs me that as the barracks at Keng Tung are not raised high off the ground, the men are not able to keep their rations on the ground floor of the barracks—as is done by many native infantry regiments in Burma—but keep them in boxes under their beds. This can hardly be said to interfere with the superficial space available, or with ventilation. No ration store rooms are provided for native troops in Burma ; and I do not think any case has been made out

TABLE XXX—*continued.*

ABSTRACT of the CANTONMENT SANITARY REPORTS of the most UNHEALTHY STATIONS.

STATIONS.	COMMAND.	Sanitary defects, improvements, suggestions, etc.
Keng Tung—*contd.*	Madras—*contd.*	for such a provision here. The Officer Commanding, Southern Sh States, has been desired to require the Officer Commanding, Ke Tung, to see that his men's barracks are kept in a proper state repair. Money is allotted for this purpose in the annual budg estimates, and it is not understood why these buildings should " constantly in want of repairs " as reported. *The Lieutenant-General Commanding the Forces* :—I concur in t opinion that no change in the site of Keng Tung cantonment necessary.
Fort Stedman	„	The sickness and mortality in 1898 have been greater than in t last year. This is due to the longer residence of the troops in t unhealthy climate and to the unusually early cessation of the rai this year. The escorts and journeys through the *terai* are r sponsible for a large amount of the sickness. During Novemb and December an epidemic of influenza was prevalent, and ke the sick list high. The drainage is surface only, and is good. T margin of the lake is lined with paddy fields and marshes, and about ¾ mile west of barracks. The water is good and abundar and is obtained from an open stream which rises in the hills to t east of the station. and is liable to pollution by cattle, surfac washings, etc. During the rains it is very muddy. Analy shows it to be good. *The District Principal Medical Officer* :—I agree generally wi the remarks made by the committee ; but I do not regard Fo Stedman as having in itself an unhealthy climate. Some epidem influenza has occurred during the year ; and catarrhal inflamm tion of the intestines causing diarrhœa probably due to chang in temperature, is generally prevalent. Much of the ill-heal among the troops is due to disease contracted when on esc duty or on journeys undertaken during or some time after t rainy season. The measures necessary to remedy insanitary co ditions and to improve health are :—Extra barrack accomm dation for details ; provision of more night-latrines and urin handy for use ; avoidance of escorts and outpost duties during some time after the rainy season ; suitable rationing and housi of men going to, and returning from furlough. *The General Officer Commanding the District* :—Treasure ches have been sanctioned for Bampon and Loikaw, and this change w considerably reduce the amount of escort duty. As, however, the are no police in the Southern Shan States, occasional civil esco will still have to be found. As regards a free issue of rations men proceeding on furlough, it has been negatived by the Gover ment of India, and it is moreover not so much a question of fr rations as free transport to carry their rations that the men requi I propose, however, to make a further representation on behalf the men proceeding on sick leave. As regards accommodation *route*, it is proposed to transfer the buildings hitherto known commissariat shelter huts from the charge of that department the military buildings branch under the name of rest-houses wh they will be available for use by all.
Trichoor	„	There has been no unusual sickness among the troops during th year. No trench latrines are in use, and no land in the canto ment has been placed under cultivation. The removal system trench latrines is not in use. There are no defects in the draina within the cantonment and no *jheels* or marshes in it or in vicinity. The water is good and abundant, and is without a source of contamination. A new regimental latrine on the mode standard plan is required.
Bangalore	„	There has been no unusual sickness, except plague, during the ye Influenza, as among the civil population, prevailed among th men of the 1st Madras Pioneers, 2nd Madras Lancers, and 17 Madras Infantry from May to December ; chicken-pox fro February to June, and also among the children of the 17th Madr Infantry. Pneumonia prevailed among the men of the 17 Madras Infantry from February to April ; plague among the me women, and children of all the corps in Bangalore from Octob to December. The prevalence of plague was due to contagion, it occurred in the civil and military stations, whence it w imported. The night-soil is removed to a point about five mil away from the barracks, and sold by the contractors to cultivato The trench system is not in use The only drainage is surfac No *jheels* or marshes exist in the station. The water-supply f British and native troops is now obtained from the Hasserghat water-works, and is good and abundant. It still leaves a goo deal to be desired as to the quality, owing to its being muddy a uninviting ; but this is improving. There are no defects in th lines except in the latrines in the court-yards of the huts occupi by the 2nd Madras Lancers in the Arab Lines, which are defecti in construction and difficult to keep clean. In the civil and mi tary stations the night-soil is sold by public auction to the peop who at once cart their purchase to their fields to use as manu The sewage which flows down in the main sewer is utilized f cultivation, the exact area of which is not known. Urine fro

Stations.	Commands.	Sanitary defects, improvements, suggestions, etc.
angalore—*contd.*	Madras—*contd.* . . .	private latrines flows in the side drains, and thence into the main sewer. This is a defect. The hospital of the 17th Madras Infantry is unsuited for it. *The District Principal Medical Officer* :—The General Officer Commanding had previous experience of plague operations; and, under his guidance and orders, I do not think a single detail was omitted in any direction, calculated to prevent mortality and arrest the progress of the disease. The British officers of the native corps set an example to their men by getting inoculated in front of them; and it is difficult to overestimate the value of the encouragement thus given to the men, and through them to their families and followers. The total number of inoculations and re-inoculations amounted to between seventeen and eighteen thousand; and I cannot speak too highly of the manner in which the medical officers, both of the Royal Army Medical Corps and the Indian Medical Service serving under me, who were engaged in plague work, performed this arduous and by no means pleasant duty. *The General Officer Commanding the District* :—I fear the peculiar muddy condition of the water from Hasserghatta will be a frequent defect, as it is due to the nature of the supply received into that reservoir from one or two tanks in the catchment area after a heavy north-east monsoon, such as we have had here in the past two years. It has never been suggested that the turbidity of the water is injurious to health; but it doubtless gives it an uninviting look. I am as yet unable to account for the fact, that though these lines are the latest built in the station, the hut latrines are not of so good a type as those of the older lines. All that can be done, without expenditure of a considerable sum, for their improvement, is to have the rules regarding their conservancy carefully carried out; and this is done. The necessity for the extension and improvement of this hospital has long been acknowledged; but it would be an expensive measure. It seems likely that before long some arrangements will be practicable towards providing the regiment with a better hospital elsewhere, which would do away with the necessity for spending so much money on a building which is in a very bad and undesirable position. *The Lieutenant-General Commanding the Forces* :—In spite of its muddiness and uninviting appearance the water from Hasserghatta is of good quality; and will, I think, become clear as the filtering beds get older and in better working order.
otacamaund, (4th Madras Infantry)	„	The large number of admissions from fevers was mainly due to the men working on the Ootacamund lake reclamation, and thereby being exposed to wet and chills. The admissions from venereal diseases were chiefly amongst young unmarried recruits. The admissions from respiratory diseases were due to exposure to cold winds and rain.
bi	Bombay	There has been no unusual sickness during the year as compared with the last year. Two deaths occurred: one from remittent fever and the other from sunstroke. Sind ulcers were very prevalent from April to December. It seems that those ulcers were due to the impure water obtained from open tanks, which is liable to contamination. The tanks require cleaning, similar to the railway tanks, every year, although the water is filtered. No latrines are provided for the detachments. They relieve themselves in the jungle. It is necessary that the quarters occupied by the native officers should be provided with bath-rooms and latrine accommodation. An improvement in the water-supply is most desirable. The construction of latrines and urinals is advisable. *The District Principal Medical Officer* :—I understand government has sanctioned the construction of a movable latrine, and the hire of establishment for conservancy purposes, and that the former is now in hand. The improvement of the water-supply is urgent, and is, I believe, before government. *The General Officer Commanding the District* :—The construction of a movable latrine has been sanctioned, and it has been taken in hand. The improvement of the water-supply is under the consideration of government.
urrachee	„	The health of the native troops has been fairly good. Malarial fever was most prevalent from the middle of August to the middle of November. This was due to climate and the water-logged condition of the soil. The trench system of latrines is not in force; and the trenches in which the deposit from latrines is buried have not been placed under cultivation. The dry earth system is carried out. The excreta are removed in carts and disposed of outside the cantonment in trenches. The surface drainage is fairly satisfactory, by means of *nullahs* and open ditches. Subsoil drainage is, however, urgently required, with a view to reducing the water-logging of the soil. The city tanks are, it is believed, being gradually filled in. There are extensive mudflats and mangrove marshes to the south-west of the cantonment. The water is brought from Malir by pipes, and is not likely to be contaminated. It is ample and is generally considered good, though it has been unfavourably reported on by the Chemical

TABLE XXX—*continued.*

ABSTRACT of the CANTONMENT SANITARY REPORTS of the most UNHEALTHY STATIONS.

STATIONS.	COMMAND.	Sanitary defects, improvements, suggestions, etc.
Kurrachee—*contd.*	Bombay—*contd.*	Analyser to Government. The introduction of a good draina system would improve the sanitary condition of the town a cantonment. There is no proper outfall for the drainage. The ca tonment would need no drainage if the outfalls in municipal la were cleared. *The District Principal Medical Officer* :—A more accurate syst of controlling the water supplied to houses in the cantonme would probably result in improved health. At present taps a occasionally left running all night in gardens; and, when bung lows are vacant, the supply is not always cut off, as it should To remedy those defects, the introduction of meters to regis the amount of water used, would be followed by good results lessening the amount of moisture in the soil and the liability chills. *The General Officer Commanding the District* :—I do not conc with Colonel McConaghy's remarks regarding meters. Kurrach is water-logged by reason of being below sea-level, and there bei no satisfactory drainage. There are very few gardens anywhe near the barracks. The allowing of taps to run at night can ve easily be obviated by ordinary supervision; and a station ord has been issued forbidding the practice near the barracks.
Baroda	,, ...	The unusual sickness and mortality were due solely to the epidem of plague. The night-soil is deposited on land outside the canto ment. There are no trenches within the cantonment limi Trench latrines are used during the dry season, and the remov system during the rains. *The District Principal Medical Officer* :—The sepoys' quarters a most inferior, being dark and having no proper ventilatic Their renewal is desirable. At present steps should be taken improve the ventilation, while replacing the tiles, which have be partially removed on account of plague having occurred in t lines. A recommendation made to clear away overhangir branches of trees has been carried out. *The General Officer Commanding the District* :—The comman ant is putting forward proposals for the gradual re-constructi of these lines.
Jhalwa	,, ...	No Sanitary Report.
Kherwara	,, . . .	The sickness from ague has decreased this year, and the admissio from guinea-worm have been slightly less than last year. There h been a large number of admissions from pneumonia this year. T increase cannot be accounted for. There are no latrines in th station, as the open air system is in vogue. The introduction latrines is under consideration. The drainage is very good. Th country is hilly and rocky with steep slopes. Only one well h been reported by the analyst as fit for drinking purposes. Th supply in other wells is large, and, as they are used for irrig tion, it should be good; but nitrates in minute quantities we reported. The accommodation for the troops is sufficient, b the ventilation is defective. A report has been submitted government in connexion with the erection of new lines. Immens efforts have been made, with complete success, to supply lar quantities of fresh vegetables at low prices. The men used suffer considerably from the absence of vegetables, but they w only buy at very cheap rates. The disease, pneumonia, from whi a lot of men have suffered, is due, I should say, to great a sudden changes of temperature and the prevalence of very hig and cold winds. The open air system is now forbidden, and latrine system is to come into use. The open air system w better suited to the wants of a very small station where the amou of ground available was unlimited, and drained into the riv far below and away from the station; whereas the land with the boundary pillars is very small, and with the exception of small piece, is either rocky or drains into the line of water-suppl and bathing pools. When the ground for the station was ob tained from the Mewar Durbar in 1840, there was no idea modern sanitation and its requirements; otherwise a much large piece of ground would have been asked for, specially on the dow stream side. I would suggest that application be made for pe mission to extend the boundary pillars on the down-stream sid so as to include sufficient land of good depth for depositing nigh soil in. *The District Principal Medical Officer* :—The introducti of a modern system of sanitation is necessary. The prese method is that all the adult males resort to the jungle; and cons quently the soil pollution is excessive, and the liability of fæc dust contamination of food and water is only too obvious. Th mass of the female and infantile population, having no latri accommodation, resort to any corner or enclosure they can fin I am, therefore, compelled to be at issue with the officer comman ing the station on the important question of latrine accommodatio and I am aware that this station has not been a salubrious one f Europeans. Complaints are made that the troops suffer from scurv I therefore recommend that the Allahabad system for the dispos of sewage matter be introduced, and that this ground be cultivate

Stations.	Command.	Sanitary defects, improvements, suggestions, etc.
Kherwara—*contd.*	Bombay—*contd.*	in the following manner:—The first crop (*kharif*) to be cut whilst green and used as forage, to make way for the second or vegetable crop. In this manner the supposed danger of conveying disease by sewage crops will be obviated. Land may be purchased or rented for this purpose. The rented land at the Mhow sewage farm gives a return of over 200 per cent. Iron latrines on the movable removal system should be introduced both in the bazaar and lines. Iron movable urinals are required in the lines and bazaar. Every block should be placed in the way of the increase in size of the village of Kherwara, and its gradual demolition should be encouraged. *The General Officer Commanding the District*:—The question of improved conservancy forms the subject of a separate correspondence, and should government decide to provide the necessary funds, there will be no difficulty in carrying it out. Personally I agree with the officer commanding the station, that the existing system, though primitive, is suitable to the place; and it may well be asked, whether it is worth while to spend thousands of rupees in the case of a tiny station situated in the midst of the wild Bhil hills, more specially as the Bhils themselves, who enlist in the Mewar Bhil Corps, are more or less savages, with strictness of civilization added after they have enlisted. *The Lieutenant-General Commanding the Forces*:—The system in vogue as regards conservancy, appears to be that described in Deuteronomy, Chapter XXIII, verses 12 and 13, suitable to the Israelites in the wilderness who changed their ground daily but very objectionable for 400 men located at one place. The Officer Commanding will be directed to push on a proper latrine system.
Udaipur	,, ...	No Sanitary Report.
Jaipur	,, . . .	No Sanitary Report.
Sitabaldi	,, ...	There has been no unusual sickness amongst the troops. There are no trench latrines within the limits of the fort. The nightsoil is removed beyond the municipal limits and is buried in trenches. *The District Principal Medical Officer*:—I frequently pointed out that one of the stand-pipes in the lines does not act all day, and great inconvenience is the result. The answer to frequent appeals to have this matter remedied was—"no funds available." I have frequently pointed out that depressions in the vicinity of the fortified well in which storm water lodges and becomes putrid should either be filled in, or drained. A reply similar to the above was received. *The General Officer Commanding the District*:—The water-supply during the hot months could hardly be worse for native troops. I have ordered a well near the native lines to be thoroughly cleaned out, and an analysis of the water procured. The executive engineer has also been called on for an estimate for laying pipes from his well on the saddle to the native lines. I have sanctioned the money from *minor works grant* to drain the depressions complained of.
Satara	,, . . .	There has been no unusual sickness except plague, which occurred only in the native regiment. It was apparently imported from the *sadar* bazaar, where a severe epidemic took place. The prevalence of ague seemed chiefly to be due to chills, and that of venereal diseases was due to the many diseased women in the neighbourhood over whom no control could be exercised. Satara being a civil station, there are no cantonment funds to provide trenches in which to bury the deposit from the latrines. The suburban municipality filth pits are used for the purpose. The nightsoil is buried in these pits, which are covered up and kept closed for two years. At the end of that time the soil is dug up, and sold for manure to the native agriculturists. The ground used for burying the nightsoil is at a safe distance from the barracks. The existence of the stagnant tank in the hill fort noted in the last year's return does not seem to have had any prejudicial effect on the health of the troops this year. The open drain from the station hospital lavatory is built of bricks and mortar, and allows the water to percolate. The ground round the native infantry hospital is apt to become waterlogged during the rains. There are no *jheels* or marshes in the vicinity of the station. No defects exist in the water-supply. It is suggested that the open brick and mortar drain from the station hospital lavatory be relaid with glazed half-round tiles; that the ground round the native infantry hospital be better drained; that glazed earthen pans be substituted for the iron pans in the native infantry latrines; that the native infantry hospital latrine be removed farther from the commissariat stores; that the floor of No. 4 latrine, European infantry barracks, be paved with stone; that the *murrum* floors of the apartments in rear of the European infantry latrines be dug up and renewed; that the roof of the hill fort cook house be raised, and a proper exit for smoke provided; that the portions of the walls of the European infantry lavatories round the water pipes be

TABLE XXX—*continued.*

ABSTRACT of the CANTONMENT SANITARY REPORTS of the most UNHEALTHY STATIONS.

STATIONS.	COMMAND.	Sanitary defects, improvements, suggestions, etc.
Satara—*contd.*	Bombay - *contd.*	cemented ; that dust-bins be provided for the European troop cook houses ; that some alteration be made in the ridge ventilators of the European troop barracks, so as to prevent rain drifting in ; that sunshades be provided for the east and west windows of the station hospital special ward, as there are no verandahs on either of these sides, and the sun beats in on patients in bed ; that a *chhupper* building which previously existed in the native troop hospital compound for the accommodation of patients suffering from contagious affections, and which was burnt down in 1896, after having been occupied by a patient suffering from cholera, be rebuilt. *The District Principal Medical Officer* :—Various sanitary improvements are being carried out, and the following require to be done : Draining the ground round the native infantry hospital ; removal of the hospital latrine from its present site, which is too close to the commissariat stores ; the paving with stone, as in the case of other latrines, of No. 4 latrine of the British infantry barracks ; the repair of the ridge ventilators, British infantry barracks, in order to prevent rain beating in ; the draining of the stagnant tank in the hill fort, if possible. *The General Officer Commanding the District* :—The suggestions made by the committee have been noted for consideration when funds become available, and the works recommended by the Principal Medical Officer will be attended to. As regards the stagnant tank in the hill fort, the Command Head Quarters have already been informed, that it could be drained into a neighbouring tank at a very small cost, and that the labour could be performed by the detachments, if supervision and tools were supplied. *The Lieutenant-General Commanding the Forces* :—Inquiries will be made regarding the draining of the stagnant tank in the fort.
Kirkee	,, ...	There has been no unusual sickness this year. The land used for trenches is never placed under cultivation. Latrines on the removal system are in use, and no trench system is in force. There are no *jheels* or marshes in the cantonment or in its vicinity. The water-supply is good and abundant. It is obtained from the Pashan lake by pipes. The method of distributing potable water now in use in the 28th Bombay Pioneers, should be introduced into the lines of the Sappers and Miners. In the 28th Bombay Pioneers' lines water is obtained from taps, whereas in the lines of the Bombay Sappers and Miners, the water is obtained from open tanks, from which it is drawn up, as from wells. This will shortly be rectified, as stand-pipes are now being ordered by the Irrigation Department. *The District Principal Medical Officer* :- Latrines for the native followers are required in barracks, in accordance with the new cantonment regulations. *The General Officer Commanding the District* :—Latrines for native followers on the improved conservancy system will be provided when funds are available.
Thana	,, ...	With the exception of plague, there was no unusual sickness. A severe epidemic of plague broke out in the town with the result of 258 cases and 203 deaths. No cases however occurred in the lines. The epidemic began on the 6th January 1898. The prevalence of this disease was due to importation from Bombay and other infected localities from which people flocked in to live in Thana. The nightsoil is removed by sweepers, and is frequently thrown on to the bare ground of the creek at low tide. No drainage exists in the cantonment. The water is carried from Pokhran lake by means of pipes. It runs short at the end of the hot season. It has been repeatedly condemned by the Chemical Analyser to the Government of Bombay. Some well-water in the regimental lines is used, but this is insufficient. It has been reported as a fair sample of potable water by the Chemical Analyser. There is no overcrowding ; but the quarters are very small and dark. There is only one room for each man, and no verandah or cook room. The huts are low. They are all on solid stone plinths, and have brick walls and tiled roofs with proper ventilation. Each hut is separated from the other by a road of 30 feet width. There are no separate quarters for the married men. Each room allowed to a sepoy married or single has the superficial area of 121·5 square feet, being 57 square feet less than the regulation area per head for a single man, and 74 square feet less for a married man. The cook-room attached to the military hospital has no doors ; consequently stray animals from the bazaar get in. *The District Principal Medical Officer* :—The covering of the wells near the lines is highly desirable to prevent the leaves from trees quite close to them, and other contaminating substances, being blown in. *The General Officer Commanding the District* :—The latrines were very dirty on my recent visit, but necessary action has been taken. Action will also be taken as regards covers to the wells and hospital cook house doors.
Bombay	,, ...	Fevers were mostly prevalent between October and December. This was due to climatic conditions. The plague cases occurred in February, March, April, May, and November. They were due

Stations.	Command.	Sanitary defects, improvements, suggestions, etc.
Bombay—*contd.*	Bombay—*contd.*	to local infection. The latrines are at some distance from the lines, and are on the removal system. There are two latrines in the lines for night use only. The water-supply is good and ample and is carried by means of pipes. There is overcrowding in the married quarters. *The District Principal Medical Officer* :—The surroundings of the present lines of the 25th Bombay Rifles are objectionable, and no improvement is possible except their removal to another site. *The General Officer Commanding the District* :—Ground is now being taken up for the new lines at Vakole.
Fort Sandeman . .	,, . . .	The sickness does not appear unusual this year, except that pneumonia has been slightly more prevalent. Influenza occurred in April, May, and the beginning of June. Malarial fevers were very prevalent during July, August, and September. Pneumonia was prevalent during November and December. The cause is not ascertained. The fever is even more prevalent at out-posts, where there is no cultivation, than it is here, where there is a large garden. The drainage is surface. There are no *jheels* in the cantonment or its vicinity. Drinking-water is good, and is brought in from Kapip, 8 miles distant, and is drawn off at stand pipes. The reservoir was roofed in during the last year. In the old cavalry lines for two squadrons there is now a deficiency of 20,400 cubic feet according to the regulation areas, without reckoning the accommodation required for syces. The question of quarters for followers and syces is now under the consideration of government. No cantonment land is manured with sewage. In the hot weather much trouble is felt in procuring vegetables. More accommodation is required in the old cavalry lines. A properly constructed hospital is also needed. There is no mortuary, and corpses have therefore to lie in the wards until they are removed for burial. *The District Principal Medical Officer:*—A new hospital with mortuary is required badly. General sanitary conditions are satisfactory. *The General Officer Commanding the District:*—The lines, including the hospital, are of an inferior type (originally built for levies), and must shortly be reconstructed, if Fort Sandeman is permanently maintained as a military station.
Khan Mohamed Kot . .	,, ...	No Sanitary Report.
Loralai	,, . . .	There has been no unusual sickness during the year. Malarial fevers and chest affections were due to the climate. There are no trench latrines. Horbury's and Crowley's iron latrines are in general use, all of which have been moved to other sites during the year. The deposit from these latrines is carried to a distance, and buried in shallow trenches beyond the cantonment limits; and the land, measuring about 3½ acres, is placed under cultivation. The water is obtained from *karezes* and from wells. The former is good and ample, but it is liable to contamination. It is thought to have given rise to certain bowel complaints, and is therefore to be examined. The wells have been dry during the last three months, owing to small rainfall. All the troops have the authorized cubic space, and there is no overcrowding. But there are no quarters for the followers in the cavalry lines. They are urgently required, as during the winter months these men either have to sleep outside, or in the sowars' quarters, causing in the latter case overcrowding. The followers have suffered much from pneumonia since the middle of November. Drinking water is to be further analysed. Irrigation water will be more available for cultivation in and around the cantonment, especially for trees and vegetables, next year, when Sher Mohamad's lease expires. A full scheme showing all requirements as to accommodation has been submitted to the authorities by the Superintending Engineer, Quetta, including quarters for British and native ranks. *The District Principal Medical Officer:*—Application for sanction to have samples of Loralai water analysed has been made to the Principal Medical Officer, Bombay Command, as it is alleged it causes bowel complaints in summer. The condition of officers' bungalows is not satisfactory, they being too small in interior accommodation, too low and badly ventilated.
Peshin	,, . . .	It is believed that there has been considerably more sickness this year than for some time previously. The diseases which have been most prevalent are malarial fevers. They are due to soil, water, and climate. The soil consists of sands, clays, and gravels, covered in some places with recent alluvial deposits (containing organic matter) of pebbles, breccia, and débris from the surrounding hills, with general substrata of conglomerate shale or clay, and in some parts gypsum. The water-supply, which is derived from the Surkhab river runs several miles in an open channel close to a highway and passing through several flour mills on its way. It is particularly liable to vegetable and animal contamination along its whole course. At a short distance from the fort it is led into open settling tanks, and thence in pipes to the fort, where part of the water is filtered, and can be drawn off at two taps, and the remainder runs

TABLE XXX—*concluded.*

ABSTRACT of the CANTONMENT SANITARY REPORTS of the most UNHEALTHY STATIONS.

Station.	Command.	Sanitary defects, improvements, suggestions, etc.
Peshin—*contd.*	Bombay—*contd.*	to other taps in the fort. The climate is decidedly trying. There are large diurnal variations of temperature. In the summer the discomfort of heat is considerably aggravated by dust storms and flies. The winter months are more healthy, but the low temperature at night conduces to lung affections and chills, causing fever in those who have malarial tendencies, and also intestinal congestion. The 22nd Bombay Infantry suffered severely from malaria, and in the 16th Bombay Infantry also there was a large amount of admission from this and other diseases. The unusual sickness in the 16th Bombay Infantry may be accounted for by the gradual deterioration of health from residence in what is to the men a foreign climate, and in unhealthy stations in that climate. Diarrhœa, which has been prevalent and severe may also be ascribed to the soil, to chills, and to the water, which contains a considerable quantity of organic and inorganic matter, particularly chlorides and sulphates. Ulcers, which have given a large number of admissions, are due to climate and water. They commence as pimples or boils, which on breaking form intractable ulcers of the same type as those known as 'frontier sores.' They have a tendency to spread rapidly, if no preventive measures are taken. Their slight tendency to heal is due to deterioration of the blood from the above mentioned causes. Chest affections are due to exposure to chills—the minimum daily temperatures during the last two months of 1898 ranging from 30°F to 6°F; also to the habit the men have of going to the latrines from heated barrack rooms in the small hours of the morning, and then divesting themselves of, or opening up, a considerable portion of their clothing. Pneumonia and broncho-pneumonia are also to be ascribed to the above causes, and to overcrowded barracks, the air of which was vitiated. The pneumonia was locally infectious, which is evinced by the fact, that two men who at different periods were attending on patients suffering from pneumonia, developed the disease. They were apparently healthy and with no lung affections when first they came to attend the sick. Quinine was administered as a prophylactic for one month during November, twice weekly, with beneficial results. The deposit from the latrines in the fort is placed in trenches about 800 yards to E. S. E. of the fort. The land used for this purpose has been placed under cultivation. Cultivation of the land has been tried; but from the want of water it has been unsuccessful. The deposit from the latrines in the bazaar is placed in trenches about a mile from the bazaar, and the land has been placed under cultivation. An open water channel runs through the fort. It would be better to divert this, or enclose it in pipes on a brick channel. The water percolates into the surrounding soil. It is also probably covertly used by men for drinking purposes, and is used for washing cooking utensils, etc., and watering animals, etc., thus defiling the water, which is objectionable as this water supplies the bazaar. This water is occasionally in part diverted from its channel outside the ravelin, and runs over the ground to the south of the road, forming a swamp at the back of the regimental hospital. The quality of the water is inferior, and the water is liable to be contaminated (and almost certainly is) by vegetable and animal matter from human and animal agency and dust storms. It is also from its origin and course impregnated with mineral salts in suspension and solution, particularly sulphates and chlorides; and after rain, it is of red colour due to particles of red clay in suspension. Vegetable débris can be blown in throughout its course and in the settling tanks. The filter is of faulty construction, with a deficient amount of filtering medium consisting of gravel, fine sand, and vegetable charcoal. Not all the water of the fort is filtered. After the arrival of the 6th Bombay Infantry, the barracks were overcrowded, till the departure of 111 men on furlough and 102 men on detachment duty at the end of the year. Hospital accommodation is insufficient, with resultant overcrowding when there is so much sickness as has occurred. The ventilation of the barracks and hospital is faulty. The floors of the barracks and hospital are bad, and that of the latter is especially objectionable for a hospital. The construction of the fireplaces is bad, leading to smoky chimneys. The deficiency of cubic space per man till the departure of 273 men on furlough and detachment duty, was 71 cubic feet. The conservancy of Peshin bazaar is not well maintained, owing to the small staff of sweepers. The water-supply of the bazaar is bad. Simply there is a large tank into which the surplus water from the fort runs, after passing through the fort in an open channel along the side of the road leading to the bazaar. The water of the tank is consequently very dirty. The tank is also used for ablution. An artesian well has been commenced, but all work has ceased owing to the breakage of the sand-pump. When completed, this well will be of inestimable benefit to the bazaar. Some difficulty arises in obtaining fresh vegetables during the winter months. The present water-supply should, if possible, be done away with, or, if this is impracticable, the filter should be enlarged and deepened, to permit of a greater depth of filtering material being used. The material should be

Stations.	Commands.	Sanitary defects, improvements, suggestions, etc.
Pishin—*contd.*	Bombay—*contd.* . . .	gravel and fine angular sand with a minimum depth of 1½ feet, of which the gravel should be 11 inches, and the sand, which is placed above the gravel, should be 7 inches. The vegetable charcoal should be abolished. All the pipes in the fort should be supplied with filtered water. As an additional precaution, the water might be boiled; but this is only to be considered as a temporary measure not removing the root of the causes of the defective water, and being liable to be evaded by the men, from the trouble involved. Alum to precipitate suspended matters might be employed; but this too is likely not to be uniformly employed. It would be a matter of considerable difficulty to ensure that no water but that to which alum had been added, was used for drinking purposes. The water from the *karez* behind the rifle range is better than that from the Surkhab, and can be drawn by a monthly expenditure of Rio, which is paid to the owner of the *karez*. This is done in the hot weather; but the distance, and the labour, and the number of men and animals required for carriage, make this method of supply inconvenient; and the supply of water per head is insufficient. The best system of water-supply would be an artesian well. Water was obtained in the well being sunk near the jail at under 300 feet from the surface, and a few feet more tubing would have brought the water above the ground level. The overcrowding of the existing barracks cannot be prevented, if a whole regiment is quartered here; but, by improving the ventilation of the rooms, a larger supply of fresh air could be admitted, and the vitiated air from the rooms given freer egress. The chimneys are of bad construction, being rectangular; and cold currents cause the smoke to enter the rooms. This might be prevented if the chimneys were square or round. The floors of the rooms are of mud. A layer of dust rapidly forms on the surface and is at every movement displaced into the air of the rooms. This is particularly objectionable in a hospital, on account of the dust being liable to be infected with sputum, ejecta, dejecta, and discharges from patients. A brick or stone floor is urgently required for the hospital. The water-channel running through the fort should either be diverted to outside the fort, or, better, encircled with an impermeable pipe or brick conduit. A *pukka dhobies' ghât* is required. At present stagnant and decomposing water remains. It is difficult to obtain fresh water under the present arrangement. *The District Principal Medical Officer*:—In my report of an inspection made on 6th June 1898, I pointed out that the water supply was unsatisfactory being derived—(*a*) from an open stream liable to pollution, (*b*) from *karezes* two miles distant (by mules). This latter was then in use by the troops for drinking and cooking purposes. I recommended the experiment of an artesian well. I concur with the medical officer in his observations on the floors of the barracks and specially of the hospital, which should certainly have a "pukka flooring" brick, stone, or asphalte. The water-supply is the most urgent matter, and requires immediate attention. *The General Officer Commanding the District*:—Peshin in some (I might say in most) years is very unhealthy, and I have no doubt this is largely due to bad water. An attempt to obtain artesian water has failed. The fort in the opinion of the civil authorities might be abandoned, a treasury guard only being maintained, and the regiment being moved to Quetta or Chaman. I have alluded to this in a separate report.
Spinwana	„	No Sanitary Report.
Chabbar	„	No Sanitary Report.
Bushire	„	No Sanitary Report.
Ellichpur	Hyderabad Contingent. .	There has been no unusual sickness in the different corps as compared with other years. Malarial fevers have been the most prevalent diseases, and the chief causes of mortality. They occur all the year round, with exacerbations during the rains and at the beginning of the cold season. Their prevalence is due to the proximity of the sub-soil water to the surface of the ground, and also probably to Ellichpur being in the vicinity of the Melghât. Great care has been taken to keep the station clear of superabundant foliage and rank vegetation. There are no trench latrines, the removal system being in vogue. No land of the cantonment is placed under cultivation. The nightsoil is disposed of by public auction, and is used by cultivators as manure. There are no defects in the drainage, and there are no *jheels* or marshes in the neighbourhood of the cantonment. No tanks are used for drinking purposes. The wells are not properly conserved, and no doubt some contamination occurs by washing at the side. A drainage system is now under consideration of the municipality. No details are ready. *The District Principal Medical Officer*:—The drainage scheme referred to cannot, for want of funds, be carried out. A modified and cheaper system has been suggested.

TABLE XXXI.

INFLUENZA by months, stations, groups, and commands.

TABLE XXXII.

CHOLERA by months, stations, groups, and commands.

Stations.*	Admissions from Influenza in each month.													Admissions from Cholera in each month.											
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Rangoon	...	...	...	18	25	6	...	...	...	...	...	...	49	...	...	...	...	...	...	...	...	...	...	...	...
Group I.—Burma Coast and Bay Islands	...	...	...	18	25	6	...	...	...	...	...	...	49	...	...	...	...	...	...	...	...	...	...	...	...
Loikaw	...	...	...	...	...	...	1	...	...	...	4	3	8	...	...	...	...	...	...	...	...	...	...	...	...
Fort Stedman	...	...	...	...	...	...	...	...	...	...	17	17	34	...	...	...	...	...	...	...	...	...	...	...	...
Meiktila	...	...	...	...	...	...	...	...	...	...	2	3	5	...	...	...	...	...	...	...	...	...	...	...	...
Group II.—Burma Inland	...	...	...	...	...	...	1	...	...	...	23	23	47	...	...	...	...	...	...	...	...	...	...	...	...
Manipur	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	6	5	...	...	...	...	14
Group III.—Assam	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	6	5	...	...	...	...	14
Fort William	...	...	1	...	...	...	...	...	...	...	...	...	1	...	...	1	...	...	...	...	...	...	...	...	1
Alipore	99	6	2	...	...	...	...	...	...	1	...	...	107	...	...	...	...	...	...	...	...	...	...	...	...
Ballygunge	3	...	...	...	...	...	...	...	...	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...
Group IV.—Bengal and Orissa	102	6	3	...	...	...	...	...	...	...	...	...	111	...	...	1	...	...	...	...	...	...	...	...	1
B																									
Dinapore	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	2
Fyzabad	...	...	...	4	3	...	...	...	...	1	1	...	5	...	...	...	...	...	...	...	...	...	...	...	...
Lucknow	1	5	3	...	...	...	...	...	...	...	...	...	9	...	...	...	...	...	...	...	...	...	...	...	...
Group V.—Gangetic Plain and Chutia Nagpur	1	5	3	...	3	...	...	...	...	1	1	...	14	...	...	...	...	...	2	...	...	...	...	...	2
A																									
Bareilly	...	...	...	..	...	...	...	...	...	...	8	...	8	...	...	...	...	...	...	...	...	...	...	...	...
Dehra Dun	...	...	...	4	1	...	...	...	...	...	...	...	5	...	...	...	...	...	...	...	...	...	...	...	...
Umballa	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4	...	...	...	...	...	...	4
B																									
Rawalpindi	...	41	17	1	...	...	...	...	...	...	...	...	59	...	...	...	...	...	...	...	...	...	...	...	...
Group VI.—Upper Sub-Himalaya	...	41	17	5	1	...	...	...	...	...	8	...	72	...	...	...	...	4	...	...	...	...	...	...	4
A																									
Nowshera	...	...	1	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...
B																									
Khajuri Kach	...	...	12	...	...	...	...	...	...	...	...	...	12	...	...	...	...	...	...	...	...	...	...	...	...
Group VII.—North-Western Frontier, Indus Valley, and North-Western Rajputana	...	...	13	...	...	...	...	...	...	...	...	...	13	...	...	...	...	...	...	...	...	...	...	...	...
B																									
Jhabwa	...	...	2	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...
Gooma	...	3	...	...	...	...	...	...	...	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...
Group VIII.—South-Eastern Rajputana, Central India, and Gujarat	...	3	2	...	...	...	...	...	...	...	...	...	5	...	...	...	...	...	...	...	...	...	...	...	...
A																									
Saugor	...	...	4	...	...	...	...	...	...	...	...	...	4	...	...	...	...	...	...	...	...	...	...	...	...
Jubbulpore	...	...	...	2	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...
Sambalpur	...	...	...	3	...	...	...	...	...	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...
B																									
Bolarum	...	...	2	9	...	...	...	...	...	...	...	...	11	...	...	...	...	...	...	...	...	...	...	...	...
Secunderabad	...	...	4	17	74	4	...	...	...	...	...	...	99	...	...	...	...	...	...	...	...	...	...	...	...
Kirkee	...	...	17	3	...	...	...	...	...	...	...	...	20	...	...	...	...	...	...	...	...	...	...	...	...
Group IX.—Deccan	...	...	27	34	74	4	...	...	...	...	...	...	139	...	...	...	...	...	...	...	...	...	...	...	...

* Stations where neither Influenza nor Cholera occurred are not shown in these tables. For the annual ratios see Table XXVIII.

Stations.	Admissions from Influenza in each month.													Admissions from Cholera in each month.											
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
A																									
Bellary	...	...	2	2	...	...	...	...	...	...	...	...	4	...	...	...	...	...	...	...	...	...	...	...	...
Bangalore	...	101	28	...	...	...	...	...	...	...	...	...	129	...	...	...	...	...	...	...	...	...	...	...	...
B																									
Trichinopoly	...	...	...	...	...	...	...	...	...	...	...	...	...	3	5	3	...	1	...	...	...	...	1	...	3	16
Group XI.—Southern India	...	101	30	2	...	...	...	...	...	...	...	...	133	3	5	3	...	1	...	...	...	...	1	...	3	16
Toungyi	...	...	...	...	...	...	...	...	...	1	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
Shillong	...	...	50	23	...	...	...	...	...	...	...	...	73	...	...	...	...	...	...	...	...	...	...	...	...	...
Naini Tal	...	...	...	12	2	...	...	...	...	...	...	...	14	...	...	...	...	...	...	...	...	...	...	...	...	...
Dharmsala	...	...	71	28	3	...	...	...	...	...	...	...	102	...	...	...	...	...	...	...	...	...	...	...	...	...
Murree	...	...	...	...	...	2	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...
Kila Drosh	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	2
Datta Khel	...	...	22	...	...	...	...	...	...	...	...	...	22	...	...	...	...	...	...	...	...	...	...	...	...	...
Wana	3	4	54	2	4	1	...	...	...	...	...	...	68	...	...	...	...	...	...	...	...	...	...	...	...	...
Fort Sandeman	...	...	...	5	70	11	...	...	...	...	...	...	86	...	...	...	...	...	...	...	...	...	...	...	...	...
Group XII.—Hill Stations	3	4	197	70	79	14	...	...	...	1	...	...	368	...	...	...	...	...	2	...	...	...	...	...	...	2
Marching, Bengal	...	2	...	...	...	...	...	...	...	...	...	...	2	...	...	...	1	...	...	...	...	...	...	...	...	1
,, Punjab	...	76	...	...	...	...	...	...	...	...	...	...	76	...	...	...	...	...	...	...	...	...	...	...	...	...
,, Madras	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	1	2
Tirah Field Force	4	1	2	...	...	...	...	...	...	...	...	...	7	...	...	...	...	...	...	...	...	...	...	...	...	...
Malakand Force	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	1
Jask	...	...	...	...	...	...	...	...	...	6	...	...	6	...	...	...	...	...	...	...	...	...	...	...	...	...
Muscat	...	1	1	...	...	...	...	...	1	2	...	...	5	...	...	...	...	...	...	...	...	...	...	...	...	...
Aden	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1
INDIA	110	290	280	96	180	24	1	...	1	10	32	23	1,047	3	5	6	1	8	11	5	...	...	1	...	4	44
Bengal Command	103	66	45	8	4	...	...	...	...	1	9	...	236	...	...	1	1	3	8	5	...	...	...	...	...	18
Punjab ,,	3	121	177	31	7	3	...	...	...	...	...	...	342	...	...	...	...	4	3	...	...	...	...	...	...	7
Madras ,,	...	101	34	37	99	10	1	...	...	1	23	23	329	3	5	4	...	1	...	...	...	...	1	...	4	18
Bombay ,,	...	1	20	11	70	11	...	...	1	8	...	...	122	...	...	1	...	...	...	...	...	...	...	...	...	1
Hyderabad Contingent	...	...	2	9	...	...	...	...	...	...	...	...	11	...	...	...	...	...	...	...	...	...	...	...	...	...

TABLE XXXIII.

ENTERIC FEVER by months, stations, groups, and commands.

TABLE XXXIV.

SIMPLE CONTINUED FEVER by months, stations, groups, and commands.

STATIONS.*	ADMISSIONS FROM ENTERIC FEVER IN EACH MONTH.													ADMISSIONS FROM SIMPLE CONTINUED FEVER IN EACH MONTH.											
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	TOTAL.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	TOTAL.
Rangoon	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	4	1	...	...	...	...	1	8
GROUP I.—BURMA COAST AND BAY ISLANDS	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	4	1	...	...	...	...	1	8
Meiktila	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1
Thabeitkyin	...	...	...	1	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
GROUP II.—BURMA INLAND	...	...	...	1	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	-	1	...	...	...	1
Manipur	...	...	1	1	...	...	1	...	...	...	...	...	3	...	1	3	1	1	...	...	...	1	1	1	1	10
Silchar	...	...	...	...	...	...	...	...	...	1	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
GROUP III.—ASSAM	...	...	1	1	...	...	1	...	...	1	...	...	4	...	1	3	1	1	...	...	...	1	1	1	1	10
Alipore	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	2	...	...	...	...	...	...	...	4
Dum Dum	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	...	...	...	...	...	4	4	...	11
Barrackpore	...	...	...	1	...	...	...	...	...	...	...	...	1	1	...	2	2	...	...	...	...	...	...	...	...	5
GROUP IV.—BENGAL AND ORISSA	...	...	...	1	...	...	...	...	...	...	...	...	1	1	...	2	7	2	...	...	...	...	4	4	...	20
B																										
Benares	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	2	...	...	...	...	...	4
Allahabad	...	...	...	1	...	...	...	...	...	...	...	...	1	...	...	...	...	1	2	5	11	...	...	...	...	19
GROUP V.—GANGETIC PLAIN AND CHUTIA NAGPUR	...	...	...	1	...	...	...	...	...	...	...	...	1	...	2	...	...	1	2	7	11	...	...	...	...	23
A.																										
Bareilly	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	1
Dehra Dun	...	...	...	...	...	...	...	...	1	1	...	...	2	...	...	...	1	...	1	...	...	1	...	...	...	3
Meerut	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	1
B.																										
Meean Meer	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1
GROUP VI.—UPPER SUB-HIMALAYA	...	...	...	...	...	...	...	...	1	1	...	...	2	...	1	...	1	...	2	...	...	1	...	...	1	6
A.																										
Nowshera	...	...	...	...	1	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...	...	...	...	...	1
Peshawar	...	...	...	...	...	...	...	1	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
Fort Jamrud	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	9	1	...	10
Kohat	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	5	8	2	...	...	...	...	18
Edwardesabad	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	1
Dera Ghazi Khan	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	5	...	...	...	...	...	...	...	1	...	8
Mooltan	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1
C.																										
Hyderabad	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1
Kurrachee	...	...	...	...	...	...	...	...	...	...	...	...	...	3	...	...	...	1	...	...	1	...	...	1	...	6
GROUP VII.—NORTH-WESTERN FRONTIER, INDUS VALLEY, AND NORTH-WESTERN RAJPUTANA	...	...	...	...	1	...	...	1	...	...	...	...	2	6	...	5	1	5	5	8	3	...	...	11	2	46
A.																										
Bhuj	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	1	...	...	...	...	...	2	...	5
Deesa	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	62	4	...	...	...	...	...	66
Baroda	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	1	...	1	...	4
B.																										
Kherwara	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	1	...	...	...	...	2
Neemuch	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	2
Goona	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	1	1	1	6
Agar	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	2
Sehore	...	...	...	...	...	...	...	...	...	...	...	...	...	8	...	1	1	...	...	...	...	...	4	...	1	15
Indore	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	1
Mhow	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1
GROUP VIII.—SOUTH-EASTERN RAJPUTANA, CENTRAL INDIA AND GUJARAT	...	...	...	...	...	...	...	...	...	...	...	...	...	10	...	1	1	6	63	5	1	4	5	6	2	104

* Stations where neither Enteric nor Simple Continued Fever occurred are not shown in these tables. For the annual ratios see Table XXVIII.

Stations.	Admissions from Enteric Fever in each month.													Admissions from Simple Continued Fever in each month.											
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
A																									
Jubbulpore	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	1
Sambalpur	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	1	4	...	...	8
Kamptee	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	2	...	2	3	3	1	12
B																									
Ellichpur	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	1	2	...	5
Aurangabad	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1
Ahmednagar	...	...	...	...	...	...	...	...	1	...	...	...	1	...	...	10	9	6	7	8	4	6	6	2	...	58
Secunderabad	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	12	12	...	2	21	5	3	...	...	...	58
Raichur	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	...	...	...	...	...	...	...	3
Belgam	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	1	...	2
Poona	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	2	...	1	1	...	...	...	2	4	3	15
Kirkee	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	2
Group IX.—Deccan	...	...	...	...	...	...	...	...	1	...	...	...	1	4	3	26	21	11	11	34	10	16	13	12	4	165
Bombay	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	2	1	2	...	...	1	...	...	4	16	27
Cannanore	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1
Trichoor	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...	1	...	1	...	...	...	...	4
Quilon	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5	1	3	...	13	11	3	4	2	7	49
Trivandrum	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	2	...	...	...	...	3
Group X.—Western Coast	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	8	3	5	1	13	15	4	4	6	23	84
A																									
Bangalore	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	1
B																									
St. Thomas' Mount	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	29	10	13	18	5	3	7	2	87
Madras	...	...	...	...	...	...	...	...	2	...	...	...	2	9	7	20	2	5	12	5	9	9	2	5	1	86
C																									
Vizianagram	...	1	...	...	...	...	...	...	...	1	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...
Group XI.—Southern India	...	1	...	...	...	...	...	...	2	1	...	...	4	9	8	20	2	34	22	18	27	14	5	12	3	174
Maymyo	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1
Gantak	1	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
Almora	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	6	2	8	2	...	...	...	...	19
Lansdowne	2	...	...	...	...	...	...	...	...	...	...	...	2	3	12	7	12	...	...	...	...	...	...	...	...	34
Dharmsala	...	...	...	...	1	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
Bakloh	...	...	...	...	2	1	...	...	...	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...
Kila Drosh	...	2	2	2	1	...	1	...	2	...	...	...	10	...	...	...	...	...	5	1	1	...	...	...	...	7
Datta Khel	...	...	...	...	...	...	...	...	...	1	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
Quetta	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	15	15	...	...	...	...	...	...	...	...	30
Peshin	...	...	...	...	...	1	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
Ootacamund	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	1	...	...	...	...	1	...	...	...	4
Group XII.—Hill Stations	3	2	2	2	4	2	1	...	2	1	...	...	19	4	14	23	28	6	7	9	3	1	..	...	...	95
Marching, Madras	...	...	...	...	...	...	...	...	...	...	...	..	...	...	...	...	...	...	...	...	...	...	...	1	...	1
" Bombay	...	...	...	...	...	...	...	...	...	...	...	...	...	3	7	...	...	...	...	...	...	...	...	...	...	10
Tirah Field Force	1	...	...	...	...	...	...	...	...	...	...	...	1	4	...	...	...	...	...	...	...	...	...	...	...	4
Khyber Force and Brigade	...	...	...	2	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...
Kohat Kurram Force	...	...	1	...	...	...	...	...	...	...	...	...	1	...	...	...	1	...	...	...	1	2	4	3	2	13
Chabbar	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	1
Jask	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	2	...	3
Bushire	...	...	...	...	...	...	...	1	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
Aden	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	17	5	...	...	...	2	...	...	24
Khormaksar	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	5	8
Zaila	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1
Mombasa Field Force	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	1
INDIA	4	3	4	8	5	2	2	2	6	4	...	...	40	42	37	88	68	90	122	96	71	45	38	61	44	802
Bengal Command	3	...	1	3	...	...	1	...	1	2	...	...	11	12	17	13	22	12	6	15	13	5	11	6	3	135
Punjab	...	2	3	4	5	1	1	1	2	1	...	...	20	3	...	5	2	3	10	9	4	2	4	13	5	60
Madras	...	1	...	1	...	...	...	...	2	1	...	...	5	10	13	39	18	39	29	53	46	23	9	16	11	306
Bombay	...	...	...	...	...	1	...	1	1	...	...	...	3	13	7	29	26	33	77	18	8	14	13	24	25	287
Hyderabad Contingent	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	3	...	...	...	1	1	2	...	9

TABLE XXXV.

INTERMITTENT FEVER by months, stations, groups, and commands.

TABLE XXXVI.

REMITTENT FEVER by months, stations, groups, and commands.

Stations.*	Admissions from Intermittent Fever in each month.													Admissions from Remittent Fever in each month.											
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Port Blair	...	2	2	4	8	26	13	15	1	4	2	6	83	...	...	...	...	...	...	...	...	...	...	...	...	...
Rangoon	2	4	13	3	2	18	27	20	11	9	7	18	134	...	...	...	...	...	...	...	...	...	...	...	...	...
Group I.—Burma Coast and Bay Islands	2	6	15	7	10	44	40	35	12	13	9	24	217	...	...	...	...	...	...	...	...	...	...	...	...	...
Thayetmyo	...	...	...	...	...	8	7	...	...	2	1	...	18	...	...	...	...	...	...	...	...	...	...	...	...	...
Loikaw	16	13	8	5	3	3	7	19	17	25	60	16	192	...	1	...	...	...	...	...	...	...	...	...	...	...
Keng Tung	17	5	5	5	70	179	261	251	125	95	132	74	1,219	...	...	1	1	1	...	5	4	1	1	1	1	1
Fort Stedman	16	14	3	8	25	17	17	91	42	42	54	24	353	3	...	1	1	1	3	2	5	1	3	5	1	2
Thamakan	1	...	...	...	...	2	1	1	1	...	...	...	6	...	...	...	...	...	...	...	...	...	...	...	...	...
Meiktila	8	3	5	10	4	4	1	2	4	22	14	3	80	...	...	4	...	2	1	...	...	...	...	1	1	
Fort Dufferin	34	7	13	21	13	7	12	8	11	23	31	18	198	...	...	...	...	...	3	3	...	1	1	9	2	1
Thabeitkyin	2	...	...	...	...	3	5	...	2	1	1	...	14	...	...	...	...	...	...	...	...	...	...	...	...	...
Bhamo	12	3	9	5	8	11	24	36	32	56	71	16	283	...	...	...	...	...	...	...	...	...	...	...	...	...
Group II.—Burma Inland	106	45	43	54	123	234	335	408	234	266	364	151	2,363	3	1	6	2	4	7	10	9	3	5	16	5	2
Manipur	15	5	6	10	12	19	30	46	18	7	18	5	191	...	2	1	1	...	...	...	5	2	2	...	2	1
Sadiya	4	3	...	1	2	8	4	7	3	4	3	4	43	...	1	...	...	...	...	...	...	...	...	1	...	
Dibrugarh	12	4	9	...	13	18	15	12	11	27	15	10	146	...	...	...	...	...	...	...	...	...	2	...	...	
Silchar	3	7	7	5	8	8	4	8	5	9	12	3	79	...	1	2	...	1	...	...	...	...	...	...	...	
Group III.—Assam	34	19	22	16	35	53	53	73	37	47	48	22	459	...	4	3	1	1	...	...	5	2	4	1	2	2
Fort William	32	17	13	6	12	9	12	24	25	47	75	84	356	1	1	2	...	...	1	6	7	1	...	...	...	1
Alipore	26	18	10	8	15	12	35	39	44	86	153	76	522	1	...	4	1	4	...	1	8	8	5	1	2	3
Ballygunge	6	4	6	...	...	...	...	...	...	...	...	2	18	...	...	...	...	...	...	...	...	...	...	...	...	...
Dum Dum	...	...	...	...	1	...	1	2	1	4	6	4	19	...	...	...	...	...	...	...	...	...	...	...	...	...
Barrackpore	46	52	25	25	14	8	26	59	48	38	82	62	485	...	...	...	...	...	...	...	...	...	...	...	...	...
Buxa	4	2	5	8	10	12	7	5	6	12	16	11	98	...	...	...	5	2	...	...	...	...	...	5	1	1
Cuttack	1	2	...	1	1	...	...	3	2	2	2	2	16	...	...	...	...	...	...	...	..	...	...	...	...	...
Group IV.—Bengal and Orissa	115	95	59	48	53	41	81	132	126	189	334	241	1,514	2	1	6	6	6	1	7	15	9	5	6	3	6
A																										
Doranda	1	3	2	...	2	2	5	12	6	...	3	3	39	...	...	...	...	...	...	...	1	1	1	...	...	
B																										
Dinapore	2	3	7	4	8	4	8	13	12	17	12	...	90	...	...	...	...	...	...	...	...	1	...	...	...	
Benares	4	6	4	9	9	4	7	8	5	29	28	16	129	2	...	4	...	...	...	2	...	...	...	...	...	
Allahabad	16	24	21	17	26	9	24	12	33	187	123	16	508	...	2	...	...	...	...	...	...	...	...	...	...	
Fyzabad	2	1	3	4	9	14	10	17	28	20	18	7	133	...	...	2	...	...	...	2	1	...	...	2	...	
Lucknow	5	6	17	10	18	9	36	83	39	44	21	8	290	...	...	...	...	...	...	...	...	...	...	...	...	...
Cawnpore	30	45	21	20	6	12	11	4	14	13	14	8	158	...	...	...	...	...	1	...	1	...	...	...	2	...
Fatehgarh	3	1	4	4	5	1	8	7	4	7	3	1	48	...	...	...	...	...	...	...	...	...	...	...	...	...
Group V.—Gangetic Plain and Chutia Nagpur	63	89	79	68	83	55	109	156	141	317	222	59	1,441	2	2	6	...	...	1	4	3	2	1	2	2	1
A																										
Bareilly	1	3	5	13	9	24	6	7	14	31	49	14	176	1	...	1	5	2	...	...	2	1	...	5	2	
Roorkee	...	1	1	2	2	1	1	3	39	10	7	1	68	...	...	...	...	1	4	...	...	...	...	1	...	
Dehra Dun	6	7	16	7	9	11	10	23	14	23	19	16	161	...	...	...	...	...	...	...	2	2	1	...	...	
Meerut	61	33	41	34	58	27	20	125	75	54	28	9	565	2	2	...	...	1	...	1	...	...	...	...	...	
Delhi	11	12	20	11	41	51	14	29	64	45	43	10	351	...	...	1	3	...	...	...	4	1	4	...	...	
Umballa	2	5	6	8	4	8	3	6	13	24	23	4	106	...	...	2	...	6	8	2	3	2	...	2	1	
B																										
Ludhiana	...	...	1	...	1	...	...	...	...	1	1	...	4	...	...	...	...	...	...	...	...	...	...	...	...	...
Jullundur	9	4	8	10	6	9	6	7	10	17	6	9	101	...	...	...	...	2	1	1	...	...	...	1	...	
Ferozepore	14	14	12	20	35	22	10	29	34	132	124	27	473	1	...	...	...	1	...	...	...	...	...	2	3	
Meean Meer	7	9	18	19	26	37	19	140	115	385	331	88	1,194	18	8	3	5	21	26	19	56	64	54	28	7	3
Amritsar	...	1	...	...	...	4	...	3	15	15	4	3	45	...	...	...	...	...	...	...	...	...	...	1	...	
Sialkot	4	5	9	11	15	22	17	16	22	110	88	12	331	...	2	3	...	1	...	...	...	2	1	...	1	
Jhelum	25	31	12	3	10	6	6	16	62	17	17	4	209	...	...	...	...	1	...	...	2	...	...	...	...	
Rawalpindi	33	17	27	35	13	13	15	75	97	156	82	16	579	2	1	2	7	...	...	2	1	...	6	...	1	
Attock	2	1	2	1	1	1	...	1	1	1	12	3	26	...	...	...	...	...	...	...	...	...	...	...	...	...
Group VI.—Upper Sub-Himalaya	175	143	178	174	230	236	127	480	575	1,021	834	216	4,389	24	13	12	22	35	39	24	70	72	66	40	15	4

* Stations where neither Intermittent nor Remittent Fever occurred are not shown in these tables. For the annual ratios see Table XXVIII.

Stations.	Admissions from Intermittent Fever in each month.													Admissions from Remittent Fever in each month.											
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
A.																									
Mardan	7	8	2	2	6	17	2	22	6	9	60	6	147	...	1	1	1	2	1	1	6	2	1	1	..	17
Nowshera	21	10	17	23	29	13	13	18	9	38	29	4	224	2	...	...	1	5	7	6	5	1	1	2	2	32
Peshawar	66	68	26	49	142	96	55	162	293	550	430	102	2,048	1	2	2	6	17	25	21	27	37	41	32	2	213
Hari Singh-ka-Burj	14	7	...	2	...	...	...	...	...	...	...	...	23	...	...	...	...	...	...	...	...	...	...	...	...	...
Fort Jamrud	13	5	19	2	2	17	2	5	5	18	10	3	101	...	...	...	...	...	1	...	...	...	5	...	...	6
Kohat	46	81	44	27	73	50	54	205	81	224	257	85	1,227	3	4	1	1	12	9	10	19	8	7	10	1	85
Utterzai	...	...	...	1	7	1	1	1	1	...	...	...	12	...	1	...	...	...	...	...	...	...	...	...	...	1
Bahadur Khel	1	1	1	...	3	2	...	1	...	3	1	2	15	...	...	...	...	...	...	...	...	...	...	...	...	...
Edwardesabad	221	20	25	22	20	31	23	54	40	126	162	57	801	1	2	6	7	8	7	4	19	10	16	8	3	91
Bani Khel	7	...	...	1	2	...	...	3	3	2	5	2	25	...	...	...	...	...	...	...	1	...	...	...	...	1
Dera Ismail Khan	53	43	34	29	112	60	13	30	21	96	89	45	625	...	...	1	...	1	...	...	1	1	1	1	...	6
Tank, Jatta, and Draband.	6	2	5	1	6	2	1	1	2	1	3	4	34	...	...	...	...	...	...	...	1	...	...	...	...	1
Mangrota	...	...	...	...	1	...	...	...	1	...	1	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...
Dera Ghazi Khan	27	10	16	12	12	10	9	16	11	33	22	11	189	1	1	6	4	3	...	...	...	1	...	1	1	18
Mooltan	28	9	5	11	25	23	14	27	55	130	147	49	523	...	...	..	1	1	...	...	...	2	...	2	...	6
Bikaner	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..	...	...	1	...	...	...	...	...	...	...	1
B.																										
Adak	1	8	3	5	21	56	27	75	33	56	53	12	350	1	2	...	...	...	...	1	2	1	...	...	1	8
Khajuri	...	...	1	...	2	2	...	4	...	3	...	1	13	...	...	...	...	...	...	1	...	2	...	...	...	3
Saidgi	1	6	3	5	27	17	8	15	19	19	18	3	141	...	...	...	1	1	...	...	...	...	...	1	...	3
Pandola	8	8	7	6	11	20	7	22	9	15	11	6	130	...	1	...	...	...	...	...	...	...	...	...	...	1
Khajuri Kach	1	1	1	2	12	7	4	14	5	4	7	1	59	...	...	...	...	...	1	...	...	...	...	...	...	1
Dhé	3	2	6	7	4	4	3	5	...	1	8	4	47	...	...	...	...	...	...	...	...	1	...	...	...	1
C.																										
Jacobabad	34	9	6	11	5	11	5	5	2	76	72	17	253	1	...	...	...	...	...	...	...	...	..	...	...	1
Hyderabad	9	6	8	2	22	1	2	5	4	13	56	13	141	...	...	...	...	...	...	...	1	..	2	4	2	9
Kurrachee	20	28	29	10	41	40	46	78	76	134	77	26	605	1	...	1	1	1	1	...	...	3	2	...	...	10
Group VII.—North-Western Frontier, Indus Valley, and North-Western Rajputana	587	332	258	230	587	480	289	768	676	1,551	1,527	453	7,738	11	14	18	23	52	52	45	83	67	76	62	12	515
A.																										
Bhuj	...	...	...	1	1	...	...	...	...	...	...	1	3	...	...	...	...	...	...	...	...	...	...	...	...	...
Rajkot	7	6	13	4	11	13	61	56	22	38	23	10	264	...	...	...	...	...	...	...	...	...	1	...	1	2
Deesa	8	14	17	26	19	14	8	29	31	28	25	20	239	...	...	...	2	...	4	...	...	...	...	...	...	6
Radra	...	...	1	1	3	1	10	5	3	1	1	...	26	...	...	1	...	...	1	...	...	...	...	...	...	2
Ahmedabad	15	5	4	10	3	...	15	23	24	23	14	5	141	...	...	...	...	...	...	...	1	1	...	...	...	2
Baroda	31	13	3	14	5	8	30	35	44	66	33	11	293	...	...	...	...	...	1	...	...	...	...	...	...	1
Nerdarpore	10	8	2	2	4	2	4	11	12	18	33	17	123	...	...	...	1	...	...	...	...	...	...	...	...	1
Chabwa	...	...	1	...	...	...	...	...	...	2	5	1	9	...	...	...	...	...	...	...	...	...	...	...	...	...
Cherwara	1	1	2	1	...	...	...	...	5	8	7	...	25	...	...	...	...	...	...	...	...	...	...	...	...	...
Cotra	1	...	1	1	1	1	1	3	1	4	3	...	17	...	...	...	...	...	...	...	...	...	...	...	...	...
Udaipur	...	...	...	...	...	...	...	...	...	3	...	...	3	...	...	1	...	...	...	...	...	...	...	...	...	1
Dungipura	2	1	3	1	4	4	2	7	10	11	10	13	68	...	...	...	...	1	1	...	...	1	1	...	...	4
Deemuch	6	...	5	...	1	3	1	2	10	8	12	4	52	...	...	...	...	...	...	...	...	...	...	1	...	1
Deoli	10	5	11	14	4	4	2	3	13	8	29	13	116	1	...	...	3	...	1	2	2	...	2	3	...	14
Fasirabad	8	4	1	3	5	8	5	8	8	14	9	4	77	...	...	...	...	...	...	...	1	...	...	...	...	1
Ajmer	3	1	6	5	2	8	1	4	6	3	5	7	51	...	...	...	...	...	...	...	1	1	...	...	...	2
Jambhar	...	...	...	...	...	...	...	1	...	...	3	...	4	...	...	...	...	...	...	...	...	...	...	...	...	...
Jaipur	...	1	3	...	...	...	...	1	8	2	2	...	17	...	...	...	...	...	...	...	...	...	...	...	...	...
Agra	21	11	11	17	24	11	10	44	66	39	32	7	293	...	1	1	4	8	1	...	...	...	...	3	...	18
Gwalior	...	...	...	1	1	2	...	5	5	2	...	1	17	...	...	...	...	...	...	...	...	...	...	...	...	...
Jhansi	12	11	34	22	1	...	3	2	...	4	10	5	104	...	...	...	...	...	...	...	1	...	...	2	1	4
Nowgong	12	8	20	7	4	4	4	18	13	30	137	42	299	...	...	...	...	...	...	...	...	...	...	...	...	...
Bhalawar	4	2	1	2	1	1	...	2	3	14	1	...	31	...	...	...	...	...	...	...	...	...	...	...	...	...
Goona	1	2	2	1	...	...	2	2	9	11	11	3	44	...	...	1	...	...	...	...	1	2	2	3	1	10
Agar	...	4	3	3	1	7	1	9	5	21	13	5	72	...	...	1	...	...	...	...	1	1	3	...	...	6
Sehore	45	24	22	40	25	27	35	25	20	46	45	25	379	...	...	...	...	1	...	...	...	...	...	1	...	2
Sindore	...	...	4	4	4	2	5	5	4	5	5	5	43	...	1	...	...	...	...	...	...	...	2	...	2	5
Indhow	7	5	3	6	9	6	2	7	10	17	32	22	126	1	1	2	1	...	...	...	...	...	1	1	...	7
Group VIII.—South Eastern Rajputana, Central India, and Gujarat	204	126	173	186	133	126	202	307	332	426	500	221	2,936	2	3	7	11	10	9	2	8	6	12	14	5	89
A.																										
Asirgarh	...	1	...	...	...	...	...	3	3	6	7	7	27	...	...	...	...	...	...	...	...	...	...	...	...	...
Saugor	35	6	22	16	17	15	20	45	57	127	128	42	530	...	1	...	...	...	...	2	1	...	1	1	...	6
Sutna	...	...	2	...	...	...	...	4	8	10	4	4	32	...	...	...	...	...	...	...	...	...	...	...	...	...
Jubbulpore	4	5	22	15	14	4	12	16	19	26	21	19	177	1	1	1	...	...	...	...	...	...	1	...	3	7
Sambalpur	3	1	6	1	3	19	9	12	11	10	11	1	87	...	...	...	...	...	...	...	...	...	...	...	...	...
Raipur	3	5	9	4	...	1	...	...	5	17	12	21	77	...	...	...	2	...	...	...	...	...	...	...	...	2
Kamptee	34	21	46	100	37	4	37	37	20	25	9	2	372	...	2	6	7	1	2	5	2	3	1	2	...	31
Sitabaldi	2	2	3	15	3	2	3	...	2	3	6	7	48	...	...	...	...	...	...	...	...	...	...	...	...	...

TABLE XXXV—*continued.*

INTERMITTENT FEVER by months, stations, groups, and commands.

TABLE XXXVI—*continued.*

REMITTENT FEVER by months, stations, groups, and commands.

Stations.	Admissions from Intermittent Fever in each month.													Admissions from Remittent Fever in each month.											
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
B.																									
Ellichpur	8	4	15	21	3	4	10	24	20	27	80	62	278	...	...	...	...	...	...	...	5	...	5	12	3	25
Hingoli	12	18	24	17	12	13	16	22	28	45	28	14	249	...	...	2	1	...	...	...	1	1	1	3	4	13
Jalna	9	1	7	6	6	7	5	18	15	32	56	41	203	...	...	...	...	...	...	...	2	2	2	5	...	17
Aurangabad	23	3	10	14	19	7	16	27	18	21	18	25	201	...	...	...	1	2	2	1	3	3	2	...	...	10
Malegaon	2	...	2	...	...	...	4	2	...	3	5	...	18	...	...	...	...	...	...	...	...	...	...	...	...	...
Ahmednagar	1	1	1	...	...	5	5	5	5	12	5	7	47	...	...	...	...	...	...	...	1	...	...	2	...	3
Mominabad	15	8	14	9	4	9	5	4	18	28	31	15	160	...	...	...	...	...	...	...	1	...	1	...	...	2
Bolarum	19	6	11	8	9	11	6	17	10	25	13	10	145	...	1	2	1	2	1	...	...	...	1	...	...	8
Secunderabad	30	63	68	42	22	28	94	221	94	110	168	60	1,000	...	1	5	2	...	...	1	...	...	1	2	1	13
Raichur	...	...	1	2	2	2	2	3	5	3	1	...	21	...	...	...	...	...	...	...	...	...	1	...	1	2
Belgam	2	6	4	3	16	14	9	11	19	15	7	6	112	3	...	1	1	3	5	...	3	2	...	1	1	20
Satara	2	2	4	1	1	2	1	1	1	2	7	7	31	...	...	...	...	...	...	...	...	...	...	...	...	...
Poona	5	10	31	34	67	141	121	101	64	78	142	83	877	...	1	3	1	3	2	2	1	2	5	5	1	26
Kirkee	14	5	6	7	33	67	28	34	10	19	46	45	314	...	...	...	...	...	2	3	3	2	1	...	1	13
Sirur	1	...	1	4	1	...	1	1	1	5	2	...	17	...	...	...	...	...	...	...	...	...	...	...	...	...
Group IX.—Deccan	224	168	309	319	269	355	404	608	433	649	807	478	5,023	4	7	20	16	12	16	16	23	15	21	33	15	198
Thana	...	...	1	2	...	1	3	7	...	1	6	1	22	...	...	...	...	...	...	...	...	1	2	...	...	3
Bombay	28	18	25	10	23	44	32	25	31	27	26	14	303	...	7	2	...	1	3	...	2	...	2	4	...	21
Cannanore	3	2	1	17	1	2	3	3	4	6	45	53	140	...	...	...	...	...	1	1	...	...	...	5	4	11
Trichoor	1	...	1	...	8	4	4	5	...	1	2	...	26	...	...	...	2	...	...	1	...	...	...	...	...	3
Quilon	...	...	...	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
Trivandrum	...	...	...	...	...	...	...	1	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
Group X.—Western Coast	32	20	28	29	32	51	42	41	35	35	80	68	493	...	7	2	2	1	4	2	2	1	4	9	4	38
A																										
Bellary	26	23	79	43	20	16	18	45	43	72	122	73	580	...	...	...	...	...	...	...	...	...	...	...	1	1
Bangalore	26	17	16	28	86	104	65	79	36	42	77	51	627	1	1	1	1	1	2	...	1	...	1	...	...	9
B																										
Trichinopoly	4	2	1	1	5	5	3	2	6	5	14	12	60	...	...	...	...	...	...	...	...	...	...	1	...	1
St. Thomas' Mount	6	5	5	8	6	...	2	2	...	...	...	4	38	2	...	1	1	2	...	...	...	...	...	...	...	6
Madras	1	2	1	1	1	2	1	1	2	7	7	3	29	...	...	1	...	...	...	...	...	...	...	...	...	1
C																										
Vizianagram	6	9	7	1	5	5	13	27	39	8	3	4	127	2	1	4	1	...	3	...	2	3	...	...	1	17
Berhampur	1	2	...	1	7	8	8	2	3	2	3	11	48	...	...	...	...	...	...	...	...	...	...	...	1	1
Group XI.—Southern India	70	60	109	83	130	140	110	158	129	136	226	158	1,509	5	2	7	3	3	5	...	3	3	1	1	3	36
Maymyo	9	16	18	27	20	10	6	8	1	18	13	9	155	...	...	4	5	3	2	...	...	1	...	4	...	19
Bampon	6	3	1	1	1	8	6	12	7	5	20	9	79	...	...	...	...	...	...	...	...	...	...	...	...	...
Toungyi	...	...	...	...	1	...	...	...	...	2	2	3	8	...	...	...	...	...	...	...	...	...	...	...	...	...
Kohima	14	21	20	25	16	25	27	47	38	14	52	33	332	...	...	...	...	...	...	...	3	...	2	1	...	6
Shillong	14	12	34	24	45	38	21	20	11	10	18	16	203	...	1	...	...	...	...	...	...	...	...	1	2	4
Gantak	1	6	1	...	1	1	1	...	...	3	2	1	17	...	...	...	...	...	...	...	...	...	...	...	...	...
Darjeeling	...	...	...	2	...	4	2	2	5	4	...	...	19	...	...	...	...	...	...	...	...	...	...	...	...	...
Almora	1	9	13	4	11	10	12	12	8	3	11	12	106	...	...	...	...	...	3	2	1	5	5	1	...	1
Ranikhet	4	1	...	...	...	1	...	...	...	2	...	...	8	...	...	...	...	...	...	...	...	...	...	...	...	...
Naini Tal	...	...	1	...	...	1	...	...	...	...	1	...	3	...	...	...	...	...	1	...	1	...	...	...	...	...
Lansdowne	21	4	6	14	37	21	9	16	14	13	23	30	208	2	1	...	2	...	...	...	1	...	...	1	...	7
Simla	...	...	1	5	4	1	3	5	4	1	2	...	26	...	...	...	...	...	...	...	...	1	...	...	...	1
Jutogh	...	...	...	...	...	7	3	...	1	...	...	...	11	...	...	...	...	...	...	...	2	3	...	...	...	5
Dharmsala	29	24	16	13	21	26	33	35	37	14	17	12	277	18	12	2	...	5	9	6	1	3	3	1	1	61
Bakloh	35	12	10	9	14	17	9	4	36	39	14	2	201	...	...	...	...	...	3	1	4	18	9	4	1	40
Murree	...	...	...	1	3	4	6	3	3	2	...	...	22	...	...	...	...	...	...	...	...	...	...	...	...	...
Khyragully	...	...	...	...	...	1	1	1	...	1	...	...	4	...	...	...	...	...	...	...	1	...	...	...	...	1
Baragully	...	...	...	...	3	2	...	2	...	...	...	...	7	...	...	...	...	...	...	...	...	...	...	...	...	...
Kalabagh	...	...	...	...	1	2	3	2	4	3	...	...	15	...	...	...	...	...	...	...	...	...	...	...	...	...
Gilgit	2	3	1	3	4	3	6	5	8	5	1	1	42	...	1	...	...	1	1	2	...	...	...	...	1	6
Chitral	4	1	4	...	8	83	11	11	12	3	2	3	142	...	...	...	...	...	...	...	...	...	...	...	...	...
Kila Drosh	8	8	11	16	61	157	89	96	39	28	18	10	541	...	...	...	...	1	9	4	4	14	8	4	1	45
Abbottabad	35	17	29	33	63	24	6	32	60	54	66	40	459	...	1	...	...	1	...	2	3	1	1	...	1	10
Cherat	...	4	1	3	2	1	2	...	...	1	...	...	14	...	1	1	...	...	...	...	...	...	...	1	...	3
Parachinar	5	2	...	...	...	...	...	...	...	...	...	...	7	...	...	...	...	...	...	...	...	...	...	...	...	...
Miran Shah	6	26	22	14	39	188	269	512	179	182	89	17	1,543	...	1	...	...	...	...	...	...	2	...	...	1	4
Boya	...	...	5	6	7	24	6	60	23	35	17	4	187	...	...	...	...	...	...	...	2	...	1	4	...	7
Datta Khel	3	19	74	51	69	62	158	405	299	300	106	13	1,562	3	1	5	7	28	10	16	7	2	5	7	4	95
Sarwekai	5	4	4	3	1	3	2	1	...	8	7	6	44	1	1	...	...	2	...	...	...	...	...	1	...	3
Wana	5	13	11	8	24	24	26	65	73	68	34	7	358	15	...	...	...	...	...	...	3	...	...	...	...	18
Mir Ali Khel	4	...	...	...	4	12	7	7	15	12	15	5	81	...	...	...	...	...	1	...	1	...	...	...	...	1
Fort Sandeman	10	9	18	31	33	63	77	241	166	22	22	5	697	...	...	...	...	...	...	...	...	...	1	3	...	4
Hindubagh	1	1	3	1	...	...	...	...	...	...	...	...	5	1	...	...	...	...	...	...	...	...	...	...	...	1

Stations.	Admissions from Intermittent Fever in each month.													Admissions from Remittent Fever in each month.											
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Khan Mohamed Kot	17	5	8	9	40	24	10	28	16	26	24	6	213	...	...	...	1	...	...	...	2	1	...	...	...	4
Murgha	1	1	...	1	1	...	1	12	10	5	2	1	35	...	...	...	...	...	...	...	1	...	...	...	...	1
Loralai	10	10	3	3	8	18	11	68	42	46	21	12	252	...	...	...	1	1	1	1	2	...	...	...	1	7
Gumbaz	6	9	4	1	1	...	1	...	...	6	1	...	29	...	...	...	...	...	...	...	...	...	...	...	...	...
Quetta	44	52	28	40	50	21	28	70	74	140	102	26	675	1	4	2	...	...	1	3	15	5	5	3	...	39
Peshin	4	...	1	14	8	20	46	194	285	226	52	33	983	...	...	2	...	5	14	6	41	8	1	...	...	77
Shelabagh	...	...	...	1	1	...	8	2	1	1	3	5	22	...	...	...	...	...	...	...	...	...	...	...	...	...
Spinwana	3	1	1	...	...	2	10	15	1	4	1	5	43	...	...	...	...	...	...	...	...	...	...	...	...	...
Chaman	9	5	5	5	19	8	13	14	34	22	13	22	169	1	...	...	...	1	3	1	2	...	...	...	...	8
Mount Abu	...	...	...	1	...	4	1	...	...	10	3	1	20	...	...	...	...	...	...	...	...	...	...	...	...	...
Ootacamund	5	7	2	2	8	10	6	5	1	...	1	...	47	...	...	...	...	...	...	...	...	...	...	...	...	...
Group XII.—Hill Stations	321	305	355	371	629	930	936	2,112	1,507	1,338	778	349	9,931	42	24	16	16	51	57	44	101	64	38	34	14	501
Marching, Bengal	18	12	17	16	1	...	...	...	16	13	7	15	115	...	1	...	3	...	...	...	...	...	...	...	1	5
,, Punjab	24	40	16	26	28	15	...	9	8	38	6	8	218	1	1	9	3	2	1	...	...	...	1	...	4	22
,, Madras	9	12	3	...	...	...	...	1	1	2	6	23	57	...	1	...	...	...	...	...	...	...	...	4	1	6
,, Bombay	16	15	10	5	5	12	18	63	26	39	42	24	275	...	...	4	...	...	...	...	1	2	...	...	...	7
Tochi Field Force	14	...	...	...	...	...	...	...	...	...	...	...	14	...	...	...	...	...	...	...	...	...	...	...	...	...
Malakand Field Force	9	...	...	...	...	...	...	...	...	...	...	...	9	2	...	...	...	...	...	...	...	...	...	...	...	2
Tirah Field Force	320	59	168	14	...	...	...	...	...	...	...	...	661	42	17	26	3	...	...	...	...	...	...	...	...	88
Buner Field Force	100	...	...	...	...	...	...	...	...	...	...	...	100	1	...	...	...	...	...	...	...	...	...	...	...	1
Mekran Field Force	...	7	24	4	...	...	...	...	...	...	...	...	35	...	4	3	...	...	...	...	...	...	...	...	...	7
Malakand Force	19	57	51	23	41	23	26	116	166	105	83	35	745	...	4	4	4	11	9	6	5	...	1	3	12	59
Khyber Force and Brigade	...	...	...	28	37	15	6	13	8	8	6	4	125	...	...	...	17	47	13	16	8	7	1	2	...	111
Kohat Kurram Force	4	33	16	14	36	72	110	251	194	158	154	40	1,082	...	4	4	3	11	10	5	35	34	30	45	1	182
Indian Marine Ship *Lawrence*	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...
Chabbar	2	...	1	15	14	33	38	34	31	38	38	3	247	...	...	1	...	...	...	...	...	...	...	...	1	2
Jask	...	...	...	...	16	...	2	8	16	8	18	11	79	...	...	...	...	...	2	1	2	...	1	1	...	7
Muscat	3	4	1	1	...	...	...	...	1	2	...	2	14	...	1	...	...	...	...	...	...	...	...	...	...	1
Bushire	...	...	...	...	...	...	...	1	...	1	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...
Aden	...	5	7	6	5	15	4	5	4	1	4	1	57	6	3	2	2	2	1	1	2	...	...	...	...	19
Khormaksar	...	...	2	1	12	2	1	...	2	...	1	2	23	...	...	1	...	...	...	...	...	...	...	...	...	1
Sheikh Othman	...	...	1	3	1	...	1	1	...	...	3	...	10	...	...	...	...	...	...	...	...	...	...	...	...	...
Perim	...	...	...	...	2	...	...	...	...	...	...	...	2	...	...	...	...	...	1	...	...	...	...	...	...	1
Zaila	...	3	...	1	2	...	...	3	...	...	2	1	12	...	...	...	...	...	...	...	...	...	...	...	...	...
Bulhar	1	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...	...	...	...	...	1
Berbera	...	...	...	...	...	...	...	...	...	...	...	2	2	...	...	...	...	...	...	...	...	...	...	...	...	...
Mauritius	...	...	...	1	14	37	28	28	16	14	33	108	279	...	...	...	...	1	...	...	...	...	...	...	...	1
Mombasa Field Force	...	1	3	1	6	4	2	5	7	2	12	4	47	...	...	...	1	...	...	...	2	...	...	1	...	4
INDIA	2,472	1,756	1,948	1,744	2,534	2,073	2,964	5,816	4,733	6,417	6,144	2,724	42,225	148	114	157	138	249	228	183	377	287	267	274	100	2,522
Bengal Command	494	395	473	406	488	434	453	815	804	1,094	1,265	632	7,753	10	15	21	24	23	10	15	45	25	26	28	18	260
Punjab ,,	801	637	576	563	1,092	1,300	1,084	2,596	2,117	3,238	2,627	761	17,392	68	52	52	70	190	151	123	220	216	193	164	50	1,551
Madras ,,	243	220	263	236	340	494	613	868	502	574	864	496	5,715	11	5	23	15	13	20	13	15	9	7	33	15	179
Bombay ,,	405	297	357	442	539	651	724	1,389	1,173	1,314	1,116	556	8,963	14	20	28	22	18	42	27	83	31	30	28	9	352
Hyderabad Contingent	86	40	82	77	55	53	60	115	114	181	227	167	1,257	...	1	4	3	4	5	3	12	6	11	20	8	77

TABLE XXXVII.

PNEUMONIA by months, stations, groups, and commands.

TABLE XXXVIII.

DYSENTERY by months, stations, groups, and commands.

Stations.*	Admissions from Pneumonia in each month.													Admissions from Dysentery in each month.											
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Port Blair	...	..	...	...	...	...	...	...	...	...	...	...	...	2	...	1	1	...	1	...	...	...	...	...	...	5
Rangoon	...	...	...	...	...	...	...	...	...	...	...	1	1	5	6	7	3	5	12	20	14	8	3	7	5	95
Group I.—Burma Coast and Bay Islands	...	...	...	...	...	...	...	...	...	...	...	1	1	7	6	8	4	5	13	20	14	8	3	7	5	100
Thayetmyo	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	1
Loikaw	...	...	...	1	...	...	...	...	...	...	...	...	1	...	1	...	...	...	...	1	...	...	...	...	1	3
Keng Tung	...	...	...	...	...	...	...	...	1	...	1	...	2	...	...	...	...	...	...	2	2	5	2	1	...	12
Fort Stedman	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	1	2	...	1	4	2	6	1	...	19
Meiktila	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	5	3	1	2	1	1	...	...	2	16
Fort Dufferin	1	...	...	...	...	...	...	...	...	...	...	1	2	5	3	3	...	3	1	1	1	...	1	1	4	23
Thabeitkyin	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	2	2	...	...	1	1	8
Bhamo	...	...	...	...	...	...	...	1	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	2	2
Group II.—Burma Inland	1	...	...	1	...	...	...	1	1	...	1	1	6	5	4	6	6	9	3	10	10	8	9	4	10	84
Manipur	2	1	1	2	1	1	...	1	1	1	3	...	14	2	3	4	3	15	17	13	14	3	4	8	3	89
Sadiya	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	1	...	4	1	...	...	...	...	4	...	12
Dibrugarh	...	2	...	...	1	...	1	...	...	...	...	...	4	1	1	1	1	1	...	...	...	5	4	5	...	19
Silchar	...	1	1	...	...	...	1	...	...	1	...	...	4	2	3	3	...	1	...	1	2	3	8	12	2	37
Group III.—Assam	2	4	2	2	2	1	2	1	1	2	3	...	22	5	9	9	4	21	18	14	16	11	16	29	5	157
Fort William	...	2	1	...	...	1	...	...	...	...	...	...	4	...	2	3	...	2	...	...	7	2	8	12	14	50
Alipore	1	...	1	...	...	2	...	...	...	...	...	...	4	1	1	...	...	3	...	6	2	3	5	6	11	38
Ballygunge	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	2
Dum-Dum	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1
Barrackpore	2	1	...	...	...	...	...	...	...	1	1	...	5	3	2	...	...	...	...	2	3	2	3	9	14	38
Buxa	1	1	...	...	...	...	...	...	...	...	...	...	2	...	1	6	7	2	...	...	1	...	...	1	2	20
Cuttack	...	...	1	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	1	1	2	...	...	...	4
Group IV.—Bengal and Orissa	4	4	3	...	...	3	...	...	...	1	1	...	16	5	6	11	7	7	...	9	14	9	16	28	41	153
A																										
Doranda	...	1	...	...	...	...	...	...	...	...	...	...	1	1	1	1	1	...	...	...	1	...	...	...	...	5
B																										
Dinapore	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...	...	...	...	1	1	...	1	5
Benares	...	...	1	...	...	2	1	...	...	...	...	...	4	2	2	3	1	2	...	...	1	...	26	5	2	44
Allahabad	1	...	...	1	1	...	...	...	...	...	7	2	12	8	8	3	4	2	2	3	6	14	12	25	10	97
Fyzabad	...	...	...	1	1	...	1	...	...	1	...	1	5	...	...	...	1	1	...	1	2	1	...	12	3	21
Lucknow	1	...	...	1	...	...	...	...	...	...	1	...	3	3	2	7	2	4	1	2	7	4	3	4	2	41
Cawnpore	...	2	2	...	1	...	1	1	...	...	1	1	9	3	7	6	7	6	...	...	5	6	3	6	6	55
Fatehgarh	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1
Group V.—Gangetic Plain and Chutia Nagpur	2	3	3	3	3	2	3	1	...	1	9	4	34	17	21	21	16	15	3	6	22	26	45	53	24	269
A																										
Bareilly	1	1	...	...	2	1	...	...	...	...	...	...	5	1	...	4	2	3	2	...	...	3	3	4	...	22
Roorkee	...	...	...	...	...	...	...	...	...	...	1	...	1	...	...	...	1	1	...	...	1	1	2	...	...	6
Dehra Dun	...	...	...	1	1	...	...	1	...	...	1	1	5	1	...	...	4	1	...	...	1	...	1	...	...	8
Meerut	20	31	29	7	2	...	1	...	1	2	6	6	105	...	3	2	...	2	2	...	3	3	6	10	5	36
Delhi	1	...	1	2	...	...	...	...	...	...	5	4	13	2	1	5	...	2	1	1	7	4	7	2	2	34
Umballa	...	...	...	...	...	...	...	...	...	...	3	...	3	...	...	1	3	2	2	1	1	3	...	7	2	22
B																										
Ludhiana	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	1
Jullundur	1	1	...	1	...	...	...	...	1	1	2	1	8	...	2	4	1	3	1	...	1	3	...	3	2	20
Ferozepore	18	3	4	...	...	...	...	...	...	...	5	7	37	1	10	8	1	5	1	...	3	4	3	4	1	41
Meean Meer	10	2	4	2	1	3	1	1	...	7	25	18	74	1	4	2	4	3	2	2	4	13	27	28	11	101
Amritsar	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...	...	1	3
Sialkot	2	1	1	...	2	1	1	5	2	4	6	4	29	2	...	4	2	8	1	2	4	7	7	11	1	49
Jhelum	...	1	1	...	...	...	...	...	...	2	2	...	6	...	4	...	2	...	2	...	3	4	3	9	1	28
Rawalpindi	8	7	4	3	1	1	1	...	...	1	4	4	34	13	3	5	17	4	2	1	4	4	6	10	5	74
Attock	1	...	...	...	...	...	...	...	...	...	...	...	1	...	...	1	...	...	...	1	1	1	1	...	1	6
Group VI.—Upper Sub-Himalaya	62	47	44	16	9	6	4	7	4	17	60	45	321	21	27	36	38	34	16	9	34	59	66	88	32	451

* Stations where neither Pneumonia nor Dysentery occurred are not shown in these tables. For the annual ratios see Table XXVIII.

Stations.	Admissions from Pneumonia in each month.												Admissions from Dysentery in each month.											
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
A.																									
Mardan	2	1	...	2	...	...	...	...	1	1	4	16	27	1	1	2	1	...	...	2	1	1	4	3	3	19
Nowshera	5	4	3	...	2	...	...	...	...	1	...	3	18	8	3	5	5	4	3	...	3	1	3	1	...	33
Peshawar	17	10	2	2	...	...	2	2	3	4	17	41	100	18	9	2	10	25	19	14	23	36	30	58	23	267
Hari Singh-ka-Burj	...	2	...	...	...	...	...	...	...	...	...	...	2	3	...	...	...	...	...	...	...	...	...	...	...	3
Fort Jamrud	...	4	6	...	...	...	...	...	...	...	1	...	20	13	8	5	1	4	6	2	13	12	15	8	3	90
Kohat	9	19	12	3	1	3	3	4	1	3	15	25	108	9	17	6	3	9	8	18	26	39	37	22	11	205
Usterzai	19	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	1
Bahadur Khel	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...	...	...	2
Edwardesabad	67	13	9	4	3	...	...	...	...	2	8	1	1	...	...	...	...	...	...	...	1	...	1	...	...	2
Janikhel	...	...	...	...	...	...	...	...	...	...	...	...	...	15	3	2	4	2	2	2	3	9	...	2	6	51
Dera Ismail Khan	10	9	9	2	1	1	...	1	...	...	15	12	60	1	...	1	...	...	...	1	1	...	...	...	...	4
Tank, Jatta, and Draband	...	...	...	1	...	...	1	...	1	1	...	2	6	12	3	4	5	9	2	4	8	7	5	8	5	72
Mangrota	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...	...	1	1	...	...	1	1	1	7
Dera Ghazi Khan	1	1	1	...	...	...	...	...	...	1	2	7	13	2	2	2	2	3	2	3	5	4	5	3	...	33
Mooltan	7	3	6	2	...	...	...	...	...	1	...	1	20	3	1	1	4	3	1	2	1	3	2	9	1	31
B.																										
Idak	1	3	5	3	1	...	...	...	...	1	1	1	16	...	...	...	1	8	4	...	6	2	2	3	1	27
Khajuri	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...	...	...	1	...	...	3
Saidgi	1	1	1	...	...	...	...	...	...	...	...	1	4	1	2	1	2	4	1	5	5	2	1	1	3	28
Jandola	2	...	2	...	...	...	...	...	...	...	...	...	4	...	1	3	8	6	10	17	23	18	6	2	...	94
Khajuri Kach	5	4	5	4	2	...	...	...	...	1	2	1	24	3	3	5	3	20	5	4	4	12	5	4	1	69
Sibi	1	...	...	...	...	...	...	...	...	...	1	...	2	...	...	...	...	...	1	...	...	...	...	1	...	2
C.																										
Jacobabad	...	2	...	...	1	...	1	...	...	...	2	1	7	4	...	...	2	1	...	...	1	3	...	6	1	18
Hyderabad	...	...	...	1	...	...	...	...	...	...	...	...	1	...	1	1	...	2	2	2	1	1	...	2	...	12
Kurrachee	2	2	...	...	...	...	...	...	...	...	1	2	7	2	6	4	2	1	...	1	1	3	1	...	1	22
Group VII.—N.-W. Frontier, Indus Valley, and North-Western Rajputana	149	78	61	24	11	4	7	7	6	16	69	122	554	93	61	45	54	101	68	79	126	154	119	134	60	1,094
A.																										
Bhuj	1	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...	...	...	...	2	...	...	...	...	...	3
Rajkot	...	...	2	...	...	...	...	...	1	...	...	...	3	...	1	1	2	1	1	1	3	2	...	...	...	12
Deesa	...	1	1	...	...	...	...	...	...	1	...	1	4	1	...	..	3	2	1	2	6	5	...	2	4	26
Sadra	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	1	1	...	...	...	...	...	...	...	3
Ahmedabad	1	...	...	...	1	...	...	...	...	...	1	1	4	...	...	...	..	...	...	...	...	...	...	2	1	3
Baroda	1	...	1	...	...	...	...	...	...	...	...	1	3	...	1	2	1	...	...	1	2	...	1	1	2	11
B.																										
Barwani	...	...	...	...	1	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
Alirajpore	...	2	...	...	...	...	...	...	...	...	1	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...
Kerdarpore	1	2	2	1	1	1	...	...	...	...	...	2	10	...	...	1	...	...	...	...	1	1	...	...	...	3
Chabwa	...	...	1	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
Gherwara	2	2	9	6	1	1	2	...	1	2	1	1	28	...	...	...	...	...	...	...	1	...	...	1	...	2
Dotra	...	...	1	...	...	...	...	...	...	...	2	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...
Udaipur	...	...	...	1	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
Sirinpura	2	...	1	1	1	...	...	...	...	...	5	...	10	...	...	...	...	2	1	1	2	1	2	...	1	10
Seesmuch	1	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1	...	2	5	3	2	1	1	1	16
Doli	2	1	1	1	...	...	...	...	...	2	...	...	7	...	...	...	...	...	1	...	5	1	...	2	1	10
Seawar	...	...	...	1	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
Nasirabad	2	...	...	...	...	...	1	1	1	1	...	3	9	...	...	...	...	...	...	1	...	2	1	4	3	11
Ajmer	6	3	1	...	...	...	...	...	...	2	1	...	13	...	...	...	...	...	...	...	3	...	...	...	1	4
Jaipur	...	...	...	1	...	...	...	...	...	...	...	1	2	...	...	1	...	...	...	...	...	...	...	...	...	1
Agra	...	1	...	...	...	...	...	...	1	...	2	1	5	7	2	2	3	3	3	1	2	6	2	11	7	49
Gwalior	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	2
Jhansi	1	...	...	...	...	1	..	...	...	1	4	3	10	2	2	1	2	1	...	1	1	1	1	1	2	15
Dowgong	...	...	1	...	...	...	...	...	1	...	1	5	8	...	...	...	...	...	...	...	1	2	1	1	3	8
Jhalawar	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...	...	...	1	...	...	...	...	3
Poona	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	3	2	1	...	2	...	9
Sagar	...	...	...	1	...	...	...	...	...	2	...	3	9	1	1	1	2	..	...	1	2	...	1	...	...	9
Mhow	1	...	1	...	2	...	1	...	...	4	...	...	9	...	2	1	1	...	...	1	1	1	4	4	2	16
Indore	1	1	...	...	...	...	...	...	...	...	1	1	4	...	2	1	1	...	...	1	3	4	1	...	1	14
Bhow	1	...	...	...	...	...	2	...	...	...	1	2	6	1	1	...	1	6	1	4	8	2	1	2	3	30
Group VIII.—South-Eastern Rajputana, Central India, and Gujarat	23	13	22	13	7	3	6	1	5	13	17	27	150	14	12	12	19	16	10	25	47	33	16	34	32	270
A.																										
Chirgarh	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	1
Saugor	5	8	10	2	3	4	...	1	2	2	3	2	42	3	2	5	1	1	5	...	6	3	5	2	4	37
Jubbulpore	...	...	1	...	1	...	...	...	...	...	...	2	4	1	2	1	1	...	1	...	2	1	2	5	...	16
Sambalpur	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	1	2	1	2	2	2	...	3	...	15
Raipur	...	...	...	...	...	...	...	...	...	...	1	...	1	...	...	2	...	...	...	...	1	...	1	4	...	8
Kamptee	1	...	...	...	...	1	...	...	...	...	...	...	2	...	...	...	...	...	1	2	3	...	...	...	...	6
Betabaldi	1	1	...	...	...	...	...	...	..	...	...	...	2	...	...	...	1	...	...	...	...	...	...	...	...	1

TABLE XXXVII—*continued.*

PNEUMONIA by months, stations, groups, and commands.

TABLE XXXVIII—*continued.*

DYSENTERY by months, stations, groups, and commands.

Stations.	Admissions from Pneumonia in each month.													Admissions from Dysentery in each month.											
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
B.																									
Ellichpur	2	4	2	...	2	1	1	1	2	2	...	3	20	...	...	3	...	...	...	3	1	...	1	1	10
Hingoli	...	1	2	3	4	1	1	...	...	...	1	...	13	...	...	...	2	1	2	...	3	2	1	1	14
Jalna	1	...	...	...	1	...	...	...	...	1	...	...	3	...	...	1	1	...	...	1	...	2	...	...	5
Aurangabad	...	...	2	...	...	...	1	1	...	...	4	1	9	1	...	...	...	...	1	1	3	...	1	1	8	16
Malegaon	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1	...	2
Ahmednagar	...	...	...	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...	1	...	...	...	1	...	...	2
Moominabad	1	...	1	...	...	...	...	...	...	...	...	...	2	1	...	...	...	...	...	...	...	...	...	2	...	3
Bolarum	1	...	...	1	...	...	...	...	...	...	...	1	3	1	2	5	1	...	2	2	6	3	4	5	1	32
Secunderabad	5	3	7	5	1	1	...	2	1	...	...	3	28	4	3	2	...	...	2	4	6	14	5	4	2	6	52
Raichur	...	...	...	1	...	1	...	...	...	...	...	...	2	...	...	...	1	1	1	...	...	...	...	...	1	...	4
Belgam	1	2	2	...	2	...	...	...	2	...	1	...	10	6	1	5	...	3	1	2	3	2	1	1	...	25
Satara	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	2	...	...	...	...	3
Poona	...	...	4	...	1	...	...	1	...	...	...	1	7	2	1	2	1	7	4	17	28	9	2	10	12	95
Kirkee	...	...	...	...	...	...	...	...	...	...	4	2	6	3	...	1	...	3	2	3	2	...	1	3	1	19
Sirur	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	4	...	2	1	...	8
Nasik	...	...	..	...	...	...	...	2	...	...	...	...	2	...	...	...	...	...	...	...	1	...	...	...	...	1
Group IX.—Deccan	18	19	31	12	15	9	3	8	7	5	14	16	157	22	12	28	12	20	26	40	82	30	25	41	37	375
Thana	...	...	...	...	...	...	...	...	...	...	...	...	...	4	...	...	1	1	...	3	1	...	...	1	...	11
Bombay	...	5	2	...	...	1	...	1	...	1	3	8	21	8	7	3	5	4	3	4	12	8	11	19	24	108
Cannanore	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	2	...	...	3	10	1	17
Trichoor	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	4	3	3	...	...	...	...	11
Quilon	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	2	4	1	4	1	...	...	1	1	15
Trivandrum	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	.1	...	1
Group X.—Western Coast	...	5	2	...	...	1	...	1	...	1	3	8	21	14	7	3	9	9	8	16	17	8	14	32	26	163
A.																										
Bellary	...	...	3	2	...	1	2	1	...	...	3	...	12	...	1	1	...	...	4	1	2	4	3	4	1	21
Bangalore	3	9	12	3	4	2	1	1	4	2	...	1	42	5	3	2	1	3	3	6	3	3	5	12	7	53
B.																										
Trichinopoly	...	1	1	1	...	...	...	...	...	1	...	...	4	...	2	...	...	...	...	...	1	...	...	1	2	6
St. Thomas' Mount	...	...	...	...	...	...	...	...	...	1	...	...	1	...	...	1	2	...	...	1	...	...	2	6	3	15
Madras	...	2	1	...	...	...	...	...	1	1	1	...	6	...	...	...	...	...	...	1	2	...	...	1	...	4
C.																										
Vizianagram	1	...	1	...	...	1	...	...	...	...	...	3	6	...	1	...	...	...	...	...	...	1	...	1	...	3
Berhampur	...	...	...	...	...	...	...	...	...	...	1	1	2	...	...	...	...	...	...	...	...	...	...	...	3	3
GroupXI.—Southern India	4	12	18	6	4	4	3	2	5	5	5	5	73	5	7	4	3	3	7	9	8	8	10	25	16	105
Maymyo	...	2	6	6	1	1	...	4	1	2	...	...	23	1	...	...	3	2	4	...	...	...	...	1	1	12
Bampon	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...	...	...	2
Toungyi	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	1
Kohima	1	1	1	1	...	5	4	1	1	...	10	...	25	...	2	3	1	8	14	8	7	2	8	8	5	66
Shillong	1	...	5	...	1	6	6	1	...	...	...	...	20	1	1	3	4	10	5	5	2	...	1	...	1	33
Gantak	...	...	1	...	...	...	...	...	...	...	...	...	1	...	...	...	...	..	...	...	...	...	...	...	...	...
Darjeeling	...	...	...	1	...	...	...	...	...	...	1	...	2	...	...	...	1	1	...	...	...	...	1	...	1	4
Almora	...	...	...	4	1	1	...	...	...	...	1	1	8	...	1	1	1	4	1	2	1	...	2	1	14
Ranikhet	1	1	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...
Naini Tal	1	...	...	...	...	...	...	...	...	2	2	...	5	...	...	2	...	...	...	...	...	...	...	...	...	2
Lansdowne	2	2	...	1	2	1	...	...	...	1	1	4	14	1	1	1	1	4	2	...	...	...	...	...	1	11
Simla	...	...	...	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	1	1	...	4
Jutogh	...	...	...	...	1	...	...	1	...	...	...	...	2	...	...	...	...	1	...	...	...	2	...	...	...	3
Dharmsala	...	1	4	2	3	2	3	...	1	...	1	3	20	5	...	1	1	2	7	1	3	1	2	2	2	27
Bakloh	1	...	...	...	...	1	1	1	...	...	2	4	10	...	1	...	...	3	1	...	1	2	...	1	...	9
Murree	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	1	...	...	...	...	...	3
Khyragully	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	...	1	...	...	...	...	4
Baragully	...	...	...	...	...	...	...	1	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
Kalabagh	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	1
Gilgit	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	1	...	2	1	3	1	...	10
Chitral	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	2	4	2	2	1	...	...	...	12
Kila Dosh	3	1	4	2	3	2	1	...	...	2	...	5	23	5	5	...	1	11	17	23	15	15	6	...	1	99
Abbottabad	2	3	3	1	2	3	...	1	1	...	4	3	23	3	2	6	10	13	4	2	4	5	7	10	5	71
Cherat	1	1	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	1	...	...	...	...	...	1	2
Parachinar	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	2
Miran Shah	5	4	1	...	2	1	4	3	2	2	2	7	33	...	...	3	2	3	1	1	1	...	6	4	2	23
Boya	..	...	1	2	...	...	...	...	...	...	...	...	3	...	1	...	11	1	1	4	15	5	5	12	3	58
Datta Khel	8	17	20	14	13	6	7	1	1	2	4	3	96	1	8	15	24	28	11	22	19	23	8	19	2	180
Sarwekai	1	...	1	1	...	...	...	...	...	...	...	1	4	4	1	...	4	4	6	6	15	8	11	11	4	74
Wana	3	...	3	1	2	...	1	...	...	...	1	1	12	...	...	4	5	30	23	10	20	14	12	5	2	125
Mir Ali Khel	...	1	...	...	2	...	...	...	...	...	...	...	3	...	...	...	1	3	...	1	...	...	2	...	...	7
Fort Sandeman	4	2	1	...	...	...	...	...	...	...	1	5	13	1	1	...	6	9	9	9	4	11	14	16	10	90
Hindubagh	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1
Khan Mohamed Kot	...	1	...	...	...	...	1	1	...	...	...	1	4	2	...	...	...	5	1	1	6	1	3	...	2	21
Murgha	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	2	...	...	...	1	2	...	7

Stations.	Admissions from Pneumonia in each month.													Admissions from Dysentery in each month.											
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Loralai	6	8	1	2	1	...	...	...	...	2	...	3	23	1	1	2	1	3	3	3	10	10	11	5	4	55
Gumbaz	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	2	2	1	...	...	...	...	6
Quetta	10	1	5	4	6	2	4	3	1	4	4	9	53	3	4	10	3	6	7	7	9	8	6	14	4	81
Peshin	...	...	...	...	...	...	...	...	...	1	2	5	8	...	...	3	2	4	3	4	7	8	9	8	1	49
Shelabagh	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	6	4	...	...	...	...	10
Spinwana	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..	...	1	...	...	...	...	...	...	1	...	2
Chaman	2	4	8	1	...	1	...	...	...	1	1	...	18	...	...	...	1	1	...	1	5	7	7	3	2	27
Mount Abu	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	3	...	...	...	...	...	4
Ootacamund	1	5	10	6	1	3	1	...	1	...	...	...	28	...	...	...	...	2	4	1	...	1	...	...	...	8
Group XII.—Hill Stations	53	55	75	49	41	35	33	18	9	19	37	55	479	30	32	57	86	166	138	125	155	126	124	126	55	1,220
Marching, Bengal	..	...	...	3	1	...	...	...	...	...	...	1	5	8	2	...	1	...	...	...	...	4	10	2	6	33
,, Punjab	5	5	6	2	3	...	...	...	...	1	...	3	25	...	5	6	6	8	...	...	...	...	...	1	3	29
,, Madras	...	1	1	...	...	...	...	...	1	...	1	2	6	4	1	1	...	...	...	...	...	...	...	1	12	19
,, Bombay	...	5	2	...	...	...	...	...	...	...	2	4	13	5	9	1	2	...	2	2	2	4	17	3	2	49
Tochi Field Force	11	...	...	...	...	...	...	...	...	...	...	...	11	3	...	...	...	...	...	...	...	...	...	...	...	3
Malakand Field Force	6	...	...	...	...	...	...	...	...	...	...	...	6	1	...	...	...	...	...	...	...	...	...	...	...	1
Tirah Field Force	29	21	15	4	...	...	...	...	...	...	...	...	69	191	65	31	5	...	...	...	...	...	...	...	...	292
Buner ,,	4	...	...	...	...	...	...	...	...	...	...	...	4	5	...	...	...	...	...	...	...	...	...	...	...	5
Mekran ,,	...	1	1	...	...	...	...	...	...	...	...	...	2	...	5	13	...	...	...	...	...	...	...	...	...	18
Malakand Force	1	6	7	2	6	2	1	...	...	...	14	14	53	2	8	2	12	37	10	13	21	30	23	47	7	212
Khyber Force and Brigade	...	...	...	2	5	4	1	2	1	4	4	5	28	...	...	...	20	16	3	5	10	7	4	3	...	68
Kohat Kurram Force	...	1	3	...	...	...	...	...	...	2	4	2	12	1	6	3	6	6	9	14	35	29	32	22	9	172
Chabbar	...	...	...	...	...	...	...	...	...	..	...	..	...	2	5	8	2	3	6	1	...	3	1	3	2	36
Jask	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	2	...	...	1	2	...	...	7
Muscat	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	2	...	...	...	...	...	...	...	...	2	5
Bagdad	...	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	1
Aden	1	...	...	1	...	...	...	...	...	1	...	...	3	2	2	3	4	...	1	8	4	3	6	6	4	43
Khormaksar	...	...	...	...	...	...	...	...	...	...	...	...	...	3	2	...	...	...	...	...	..	...	1	...	...	6
Sheikh Othman	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	1	...	2	...	...	5
Perim	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	1	...	...	1	...	...	...	...	...	2	7
Zaila	...	...	...	...	...	...	...	...	...	...	...	..	...	...	...	3	1	1	...	1	...	1	...	...	2	9
Berbera	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..	...	...	...	...	...	...	...	1	1
Mauritius	...	...	...	1	1	1	...	...	...	...	...	...	3	...	...	...	1	6	6	8	1	11	4	7	9	53
Mombasa Field Force	...	...	...	...	1	...	...	...	...	...	...	...	1	1	...	5	4	10	2	3	9	...	1	...	...	35
INDIA	375	280	296	141	109	75	63	49	40	88	244	315	2,075	467	317	319	322	497	352	417	629	564	566	596	404	5,550
Bengal	43	56	58	28	21	25	17	6	7	16	53	34	364	55	57	73	54	84	57	52	91	80	132	164	110	1,009
Punjab	216	128	128	58	54	30	28	23	15	44	148	204	1,076	127	115	105	184	291	178	188	310	330	285	336	124	2,573
Madras	12	25	44	24	9	9	4	9	12	7	8	18	175	34	23	27	19	30	42	57	53	32	30	53	52	452
Bombay	49	44	43	21	16	7	11	9	4	18	30	60	312	47	50	56	50	74	61	102	152	104	107	127	95	1,025
Hyderabad Contingent	5	5	7	5	7	3	3	2	2	3	5	5	52	3	2	9	5	2	6	7	13	7	7	9	14	84

TABLE XXXIX.

STATISTICS OF REGIMENTS.

A.—Sickness and Mortality.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Serial No.	Regiment, Station, Last Move.	Number borne on the rolls.	Average strength present.	Average number constantly sick.	Sent on sick leave.	Ratio per 1,000.	Admission-rate is calculated on column 4; total death and invaliding rates on column 3.	Influenza.	Cholera.	Small-pox.	Enteric Fever.	Intermittent Fever.	Remittent Fever.	Simple Continued Fever.	Circulatory Diseases.	Tubercle of the lungs.	Pneumonia.	Other Respiratory Diseases.	Dysentery.	Diarrhœa.	Hepatic Abscess.	Hepatic Congestion and Inflammation.	Scurvy.	Venereal Diseases.	Anæmia and Debility.	All Causes.	Died absent. Invalided on account of old age.
1	Governor General's Body Guard, Dehra Dun (Local.)	120	103	2·4	1	835·0 16·67 8·33	Admitted Died Invalided	3	... ...	... ...	... ...	34	... ...	1	... ...	1 1 ...	... ...	1	5	... ...	... ...	... ...	... ...	... ...	2	1	86 1 1	... 1 ...
2	1st Bengal Lancers, Lucknow, March, 1898, from Meerut.	615	495	15·1	29	713·1 4·88 3·25	Admitted Died Invalided	... ...	... ...	... ...	... ...	107	... ...	... ...	... ...	... ...	5 2 ...	12	13	1	... ...	... ...	1	24	12 ... 1	353 1 2	... 2 ...
3	2nd Bengal Lancers, Meerut, February, 1898, from Bareilly.	618	519	13·9	24	666·7 4·85 17·80	Admitted Died Invalided	... ...	... ...	... ...	... ...	144	7	1	... ...	3	2 1 ...	6 1 1	11	1 ... 1	... ...	2	1	16 ... 1	6 ... 3	346 2 11	... 1 ...
4	4th Bengal Cavalry, Saugor, January, 1898, from Cawnpore.	624	518	9·1	8	600·4 1·60 8·01	Admitted Died Invalided	... ...	... ...	... ...	... ...	183	1	... ...	... ...	... ...	1	7 ... 1	9	1	... ...	... ...	... ...	... ...	4	4 ... 2	311 ... 5	... 1 ...
5	5th Bengal Cavalry, Cawnpore, April, 1898, from Nowgong.	618	515	10·9	12	473·8 4·85 6·47	Admitted Died Invalided	... ...	... ...	... ...	... ...	83 ... 1	2	... ...	... ...	1 1 ...	3	8 1 ...	22	... ...	... ...	... ...	... ...	21	3	244 3 4	... ...
6	6th Bengal Cavalry, Nowgong, March, 1898, from Tirah Field Force.	596	490	6·5	10	424·5 15·10 3·36	Admitted Died Invalided	... ...	... ...	... ...	... ...	92 2 ...	1	... ...	1 ... 1	... ...	3 1 ...	3 ... 1	4	... ...	... ...	... ...	... ...	12	5	208 4 2	... 5 ...
7	7th Bengal Cavalry, Fyzabad, March, 1898, from Lucknow.	621	499	12·7	18	565·1 8·05 6·44	Admitted Died Invalided	6	... ...	... ...	... ...	97	5 3 ...	... ...	... ...	1 1 1	1	13	20	2	... ...	... ...	3 ... 1	9	2	282 5 4	... ...
8	8th Bengal Cavalry, Bareilly, March, 1898, from Allahabad.	607	491	11·8	28	558·0 3·29 1·65	Admitted Died Invalided	8	... ...	... ...	... ...	91	2	... ...	... ...	... ...	... ...	8	17 1 ...	2	... ...	... ...	2	10	1	274 1 1	... 1 ...
9	14th Bengal Lancers, Allahabad, February, 1898, from Saugor.	618	517	14·9	10	796·9 3·24 6·47	Admitted Died Invalided	... ...	... ...	... ...	... ...	146 1 1	3	... ...	3	1 1 ...	1	... ...	49	... ...	... ...	... ...	... ...	17	5 ... 1	412 2 4	... ...
10	1st Central India Horse, Goona, November, 1897, from Agar.	590	489	7·1	7	451·9 10·17 10·17	Admitted Died Invalided	3	... ...	... ...	... ...	62	10	6	 2	1	... ...	5	12	1	... ...	3	... ...	6	5 ... 3	221 2 6	... 4 ...
11	2nd Central India Horse, Agar, November, 1897, from Goona.	577	482	8·1	5	497·9 10·40 13·86	Admitted Died Invalided	... ...	... ...	... ...	... ...	74 ... 1	6	2	... ...	... ...	3 1 ...	6 ... 1	9 ... 1	7 1 ...	... ...	... ...	2	7	7 ... 1	240 5 8	... 1 ...
12	Head quarters, Bengal Sappers and Miners, Roorkee (Local).	735	681	11·0	30	581·5 14·97 8·16	Admitted Died Invalided	... ...	... ...	... ...	... ...	196	12	2	1	1	4	15	15	7 1 ...	... ...	... ...	... ...	9	7	396 2 6	... 9 ...
13	Depôt, 1st Bengal Infantry, Jhansi, February, 1896, from Peshawar.	99	63	3·2	6	571·4 ... 40·40	Admitted Died Invalided	... ...	... ...	... ...	... ...	8	1	... ...	... ...	... ...	... ...	1	1	... ...	... ...	... ...	... ...	3	1 ... 1	36 ... 4	... ...
14	2nd Bengal Infantry, Agra, November, 1896, from Silchar.	883	738	29·0	31	849·6 2·27 9·06	Admitted Died Invalided	... ...	... ...	... ...	... ...	292 ... 1	18	... ...	.. ..	6 .. 3	5 1 ...	22	48	3	... ...	... ...	1	28	1 ... 1	644 1 8	... 1 ...
15	3rd Bengal Infantry, Allahabad, April, 1896, from Cawnpore.	904	748	18·6	16	1088·2 9·96 29·87	Admitted Died Invalided	... ...	... .	1	1 1 ...	374	... ...	19	1 1 1	... ...	11 4 ...	22 ... 1	60 2 ...	18 ... 1	... ...	... ...	... ...	22 ... 1	15 ... 12	814 9 27	... ...

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Serial No.	Regiment, Station, Last Move.	Number borne on the rolls.	Average strength present.	Average number constantly sick.	Sent on sick leave.	Ratio per 1,000.	Admission-rate is calculated on column 4; total death and invaliding rates on column 3.	Influenza.	Cholera.	Small-pox.	Enteric Fever.	Intermittent Fever.	Remittent Fever.	Simple Continued Fever.	Circulatory Diseases.	Tubercle of the lungs.	Pneumonia.	Other Respiratory Diseases.	Dysentery.	Diarrhœa.	Hepatic Abscess.	Hepatic Congestion and Inflammation.	Scurvy.	Venereal Diseases.	Anæmia and Debility.	All Causes.	Died absent. Invalided on account of old age.
16	4th Bengal Infantry, Fort William, February, 1898, from Dinapore.	889	780	24·5	31	815·4 Admitted 14·62 Died 5·62 Invalided		1	1 1 ...	... ...	1	331 4 1	18 2 ...	3	... ...	2	4	9	51 1 ...	5	... ...	... ...	1	31	9 ... 2	636 9 5	... 4 ...
17	5th Bengal Infantry, Allipore, April, 1896, from Allahabad.	876	742	40·8	83	1,481·1 Admitted 27·40 Died 19·41 Invalided		104	... ...	... ...	... ...	514 3 3	31	12 ... 1	1 ... 1	6 ... 1	3 1 ...	28	32	9	... ...	1	1	37	33 ... 2	1,099 5 17	... 19 ...
18	6th Bengal Infantry, Meerut, December, 1897, from Tochi Field Force.	894	700	30·8	35	1,187·1 Admitted 24·61 Died 20·13 Invalided		... ...	... ...	... ...	... ...	392 2 4	6	... ...	... ...	14 2 4	51 10 1	19 ... 1	23	8	... ...	... ...	... ...	44 ... 2	23 ... 2	831 15 18	... 7 ...
19	7th Bengal Infantry, Doranda, January, 1897, from Lucknow.	496	431	6·4	2	322·5 Admitted 12·66 Died 7·51 Invalided		... ...	... ...	2	... ...	40	3	... ...	... ...	1	1	11 ... 1	6 1 ...	1	... ...	1	... ...	12	6	139 1 3	... 4 ...
20	Wing, 7th Bengal Infantry, Buxa, January, 1897, from Lucknow.	395	307	12·9	23	990·2 Admitted 2·53 Died 12·66 Invalided		... ...	... ...	... ...	... ...	99	13	... ...	1 1 ...	1 ... 1	2	16	20	3	... ...	... ...	... ...	3	31 ... 1	304 1 5	... ...
21	Depôt, 8th Bengal Infantry, Nowgong, March, 1898, from Peshawar.	136	136	3·7	2	507·4 Admitted ... Died 22·06 Invalided		... ...	... ...	... ...	... ...	28	... ...	... ...	... ...	... ...	2	3	1	... ...	... ...	... ...	... ...	7	... ...	69 ... 3	... ...
22	Depôt, 9th Gurkha Rifles, Lansdowne, November, 1894, from Lucknow.	196	186	6·4	6	596·8 Admitted 25·51 Died 35·71 Invalided		... ...	... ...	... ...	... ...	36	2	6	... ...	4 1 ...	7 1 ...	4	2	1	... ...	... ...	... ...	19 ... 1	1 ... 1	111 4 7	... 1 ...
23	10th Bengal Infantry, Silchar, September, 1898, from Benares.	804	705	14·0	22	531·9 Admitted 11·19 Died 1·24 Invalided		... ...	... ...	... ...	1	93	7	4	... ...	6	5 1 ...	8	39	7	... ...	1	... ...	35	15	375 1 1	... 3 ...
24	Wing, 10th Bengal Infantry, Dibrugarh, September, 1898, from Benares.	99	99	4·4	...	1,292·9 Admitted 30·30 Died ... Invalided		... ...	... ...	... ...	... ...	64	4 1 ...	... ...	... ...	2	... ...	3	18	1	... ...	... ...	... ...	16	... ...	128 1 ...	... 2 ...
25	11th Bengal Infantry, Lucknow, January, 1897, from Doranda and Buxa.	894	753	14·9	28	500·7 Admitted 7·83 Died 12·30 Invalided		6	... ...	... ...	... ...	197	... ...	... ...	... ...	2 1 ...	3 1 ...	7 ... 1	27	... ...	... ...	... ...	... ...	18	3 1 5	377 3 11	... 4 ...
26	12th Bengal Infantry, Bareilly, June 1898, from Kohat Kurram Force.	691	568	12·9	20	427·8 Admitted 8·68 Died 10·13 Invalided		... ...	... ...	... ...	... ...	84 1 ...	10 1 ...	1	2	... ...	2 1 ...	9 ... 1	10	... ...	... ...	... ...	... ...	17	9 ... 1	243 4 7	... 2 ...
27	Depôt, 13th Bengal Infantry, Fyzabad, January, 1895, from Dinapore.	173	155	12·6	8	1,451·6 Admitted 34·68 Died 86·71 Invalided		5	... ...	... ...	... ...	59 ... 1	6 1 ...	... ...	1 ... 1	7 1 4	5 2 ...	5 ... 1	12	1	... ...	... ...	... ...	45 ... 2	2 ... 1	225 4 15	... 1 ...
28	16th Bengal Infantry, Cawnpore, June, 1898, from Malakand.	572	447	17·2	37	639·8 Admitted 13·99 Died 75·17 Invalided		... ...	... ...	... ...	... ...	117 ... 2	2	... ...	... ...	... ...	4	10 ... 2	28	6	... ...	... ...	... ...	21	9 ... 29	286 2 43	... 6 ...
29	17th Bengal Infantry, Benares, October, 1898, from Silchar.	901	800	27·0	18	700·0 Admitted 8·88 Died 15·34 Invalided		... ...	... ...	... ...	... ...	255 ... 1	6	... ...	2	7 ... 1	7 1 ...	14 1 ...	75 ... 1	7 1 ...	... ...	1	... ...	17	8 ... 1	560 5 9	... 3 5
30	18th Bengal Infantry, Dinapore, March, 1898, from Fort William.	817	776	24·0	27	558·0 Admitted 6·12 Died 17·14 Invalided		... 1 ...	2	... ...	... ...	145 1 ...	2	... ...	2	... ...	1 1 ...	25 ... 1	16	5	... ...	... ...	... ...	27	2 ... 7	433 4 14	... 1 ...

TABLE XXXIX—*continued.*

STATISTICS OF REGIMENTS.

A.—Sickness and Mortality.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Serial No.	Regiment, Station, Last Move.	Number borne on the rolls.	Average strength present.	Average number constantly sick.	Sent on sick leave.	Ratio per 1,000.	Admission-rate is calculated on column 4; total death and invaliding rates on column 3.	Influenza.	Cholera.	Small-pox.	Enteric Fever.	Intermittent Fever.	Remittent Fever.	Simple Continued Fever.	Circulatory Diseases.	Tubercle of the lungs.	Pneumonia.	Other Respiratory Diseases.	Dysentery.	Diarrhœa.	Hepatic Abscess.	Hepatic Congestion and Inflammation.	Scurvy.	Venereal Diseases.	Anæmia and Debility.	All Causes.	Died absent. Invalided on
31	20th Punjab Infantry, Delhi, April, 1898, from Jhelum.	795	662	20·4	30	994·0 2·52 16·35	Admitted Died Invalided	... ...	... ...	... ...	... ...	352	12 1 ...	... ...	1	2 1 ...	11 1 ...	18	31	8	... ...	... ...	2	33	9 ... 3	658 3 13	
32	Depôt, 39th Garhwal Rifles, Lansdowne, March, 1893, from Fort William.	353	334	14·5	8	811·4 11·33 5·67	Admitted Died Invalided	... ...	... ...	... ...	... ...	74	3	3	... ...	... ...	11 1 ...	9	2	4	... ...	... ...	... ...	50	8	271 1 2	
33	42nd Gurkha Rifles, Shillong, January, 1895, from Kohima.	894	798	50·0	16	943·6 13·42 13·42	Admitted Died Invalided	73	... ...	... ...	... ...	274 1 4	4	... ...	... ...	16 1 ...	20 1 1	44 ... 3	33	3 1 ...	... ...	6 1 ...	1	27	4	753 9 12	
34	43rd Gurkha Rifles, Kohima, November, 1894, from Manipur.	892	813	44·8	2	1282·9 22·42 13·45	Admitted Died Invalided	... ...	1 1 ...	... ...	... ...	410 3 ...	11	2	... 1 ...	6 1 ...	29 3 ...	52 ... 1	88 1 ...	23 1 ...	... ...	4	... ...	62 ... 3	49 1 7	1,043 15 12	
35	44th Gurkha Rifles, Manipur, December, 1894, from Shillong.	831	794	32·7	8	935·8 40·86 5·68	Admitted Died Invalided	... ...	14 13 ...	... ...	3 3 ...	185 2 ...	14 2 ...	8	4	3 2 ...	13 2 ...	15 1 1	91 2 ...	21 4 ...	... ...	2 1 ...	1	121 ... 1	51	743 35 5	
36	Bhopal Battalion, Sehore (Local).	929	786	14·9	11	788·8 7·53 4·31	Admitted Died Invalided	... ...	... ...	... ...	... ...	395	3 1 ...	15	... ...	... ...	9 3 1	5	19 ... 1	3	... ...	... ...	... ...	21	16 ... 2	620 5 4	
37	5th Madras Infantry, Nowgong, June, 1898, from Cawnpore.	795	733	44·4	65	686·2 7·55 18·87	Admitted Died Invalided	... ...	... 1 ...	... ...	... ...	223	... ...	... ...	7	4 ... 3	8 2 ...	11	13	4	... ...	4 ... 1	... ...	60 ... 2	13 1 3	503 5 15	
38	6th Madras Infantry, Jhansi, April, 1898, from Nowgong and Meerut.	753	678	42·6	150	907·1 51·79 83·67	Admitted Died Invalided	1	... ...	... ...	... ...	250	6 2 ...	... ...	... 1 ...	1	111 25 1	11 ... 2	19 5 ...	13	... ...	1	... ...	37	49 ... 38	615 34 63	
39	8th Madras Infantry, Barrackpore, January, 1896, from Bangalore.	818	748	20·5	34	963·3 22·00 17·11	Admitted Died Invalided	... ...	... ...	... ...	1	486 2 1	... ...	4	1 ... 1	5 1 ...	5	24 1 2	39 2 ...	... ...	1	4	... ...	18	1 ... 2	725 8 14	
40	Wing, 22nd Madras Infantry, Cuttack, January, 1897, from Secunderabad.	362	312	8·8	8	407·1 8·29 27·62	Admitted Died Invalided	... ...	... ...	... ...	... ...	16 1 ...	... ...	... ...	... ...	... ...	1 1 ...	3 ... 1	4	1	... ...	... ...	... ...	37 ... 1	4 ... 4	127 2 10	
41	7th Bombay Infantry, Jubbulpore, March, 1896, from Raipur.	756	675	23·8	2	709·6 7·94 2·65	Admitted Died Invalided	2	... ...	... ...	... ...	160 1 ...	7	1	... ...	2	4 1 ...	8 ... 1	14	1	... ...	2 1 ...	... ...	64 ... 1	3	479 3 2	
42	12th Bombay Infantry, Saugor, February, 1896, from Kamptee.	788	707	27·8	16	1063·6 13·96 25·38	Admitted Died Invalided	4	... ...	... ...	... ...	389 ... 6	5	... ...	... ...	... ...	43 8 ...	9 ... 1	28 ... 1	3	... ...	... ...	2 ... 2	56 ... 1	... ...	752 9 20	
43	1-2nd Gurkha Rifles, Dehra Dun (Local).	715	601	27·7	34	863·6 19·58 20·98	Admitted Died Invalided	5	... ...	... ...	2	122	6	3	... ...	18 7 1	5	26 2 ...	6	2 1 ...	... ...	1	... ...	62 ... 1	17 ... 4	519 14 15	
44	Depôt 2-2nd Gurkha Rifles, Dehra Dun (Local).	211	198	11·3	13	601·0 37·91 14·22	Admitted Died Invalided	... ...	... ...	... ...	... ...	31	... ...	... ...	... ...	3 3 ...	... ...	3	... ...	... ...	... ...	... ...	... ...	16	2	119 7 3	
45	1-3rd Gurkha Rifles, Almora (Local).	747	641	21·8	22	667·7 13·39 37·48	Admitted Died Invalided	... ...	... ...	... ...	... ...	110 2 1	16 2 ...	19	1	3 1 1	9 1 ...	4	14 1 ...	14	1	1	1	26	22 ... 1	428 8 28	
46	2-3rd Gurkha Rifles, Lansdowne (Local).	891	778	30·8	12	793·1 12·35 4·49	Admitted Died Invalided	14	... ...	1	... ...	161 1 ...	7 1 ...	26	1	4 1 ...	11 2 ...	18	9	14	... ...	2	1	117 1 ...	4 1 ...	617 9 4	

Serial No.	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
	Regiment, Station, Last Move.	Number borne on the rolls.	Average strength present.	Average number constantly sick.	Sent on sick leave.	Ratio per 1,000.	Admission-rate is calculated on column 4; total death and invaliding rates on column 3.	Influenza.	Cholera.	Small-pox.	Enteric Fever.	Intermittent Fever.	Remittent Fever.	Simple Continued Fever.	Circulatory Diseases.	Tubercle of the lungs.	Pneumonia.	Other Respiratory Diseases.	Dysentery.	Diarrhœa.	Hepatic Abscess.	Hepatic Congestion and Inflammation.	Scurvy.	Venereal Diseases.	Anæmia and Debility.	All Causes.	Died absent. Invalided on account of old age.
47	Drivers, No. 9 Mountain Battery, Royal Artillery, Darjeeling, January, 1895, from Rawalpindi.	105	99	2·1	3	808·1	Admitted	...	...	...	...	20	...	...	...	...	2	10	4	2	...	...	...	1	1	80	...
						28·57	Died	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	2	1
						...	Invalided	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
48	3rd Bengal Cavalry, Kohat, February, 1898, from Tirah Field Force.	264	192	5·7	14	937·5	Admitted	...	...	...	...	79	2	...	...	...	4	15	26	1	...	1	...	3	5	180	...
						18·94	Ded	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	2	3
						15·15	Invalided	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	4	...
49	Depot, 3rd Bengal Cavalry, Jullundur, March, 1898, from Fyzabad.	125	114	4·4	9	763·2	Admitted	...	...	...	...	9	...	...	...	...	3	2	2	1	...	...	1	9	4	87	...
						8·00	Died	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	1	...
						24·00	Invalided	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	3	...
50	9th Bengal Lancers, Mooltan, April, 1898, from Tirah Field Force.	507	377	56·1	35	978·8	Admitted	...	...	...	...	203	2	...	...	...	1	6	13	4	...	...	2	13	7	369	...
						7·89	Died	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	1	3
						5·92	Invalided	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	3	...
51	10th Bengal Lancers, Nowshera, June, 1898, from Malakand Force.	432	239	6·2	13	564·9	Admitted	...	...	...	...	36	9	...	...	1	2	3	14	1	...	...	...	5	5	135	...
						20·83	Died	...	...	...	...	...	4	...	...	...	...	...	1	...	...	...	...	...	...	6	3
						4·63	Invalided	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	2	...
52	11th Bengal Lancers, Jhelum, April, 1898, from Nowshera.	619	506	8·2	7	505·9	Admitted	...	...	...	...	79	2	...	1	3	3	12	9	1	...	...	...	4	6	256	...
						4·85	Died	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3
						4·85	Invalided	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1	3	...
53	12th Bengal Cavalry, Peshawar, March, 1898, from Sialkot.	617	488	13·1	33	893·4	Admitted	...	...	.	...	158	26	1	...	1	2	37	45	5	...	2	1	3	13	436	...
						3·24	Died	...	...	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...	2	...
						16·21	Invalided	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	3	10	...
54	13th Bengal Lancers. Rawalpindi, March, 1898, from Peshawar.	613	507	16·1	19	674·6	Admitted	...	...	.	...	90	2	...	...	2	9	9	13	1	...	4	...	23	1	342	...
						6·53	Died	...	...	...	...	...	...	...	...	...	3	...	...	...	...	...	...	...	...	3	1
						16·31	Invalided	...	...	...	...	1	...	...	...	...	...	1	...	...	...	...	...	1	...	10	...
55	15th Bengal Lancers, Ferozepore, April, 1898, from Loralai.	624	517	10·8	20	675·0	Admitted	...	...	...	...	141	...	...	...	...	18	40	4	10	...	...	2	4	2	349	...
						11·22	Died	...	...	...	...	1	...	...	...	...	4	...	...	1	...	...	...	...	...	7	4
						11·22	Invalided	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	7	...
56	16th Bengal Cavalry, Umballa, February, 1898, from Mooltan.	619	510	10·4	32	539·2	Admitted	...	3	...	...	54	20	...	...	5	6	3	15	7	...	...	...	9	13	275	...
						11·31	Died	...	3	...	...	1	...	...	...	...	...	...	...	1	...	...	...	...	...	5	2
						...	Invalided	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
57	17th Bengal Cavalry, Meean Meer, January, 1898, from Umballa.	563	504	13·5	26	1073·4	Admitted	...	...	...	...	332	30	...	...	1	18	4	25	1	...	...	1	16	5	541	...
						8·83	Died	...	...	...	...	...	...	...	...	...	2	1	1	...	...	...	...	...	...	4	1
						10·66	Invalided	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4	6	...
58	18th Bengal Lancers, Sialkot, February, 1898, from Tirah Field Force	577	430	7·9	17	516·3	Admitted	...	...	...	...	72	3	...	...	1	2	6	4	6	...	...	1	3	5	222	...
						12·13	Died	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	2	5
						8·67	Invalided	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	5	...
59	1st Punjab Cavalry, Kohat, December, 1898, from Edwardesabad.	589	483	14·8	40	933·7	Admitted	1	...	...	...	139	26	...	2	1	29	20	20	3	...	...	2	9	17	451	...
						33·96	Died	...	...	...	...	...	...	...	...	...	11	...	...	...	...	...	...	...	...	16	4
						3·49	Invalided	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...
60	2nd Punjab Cavalry, Edwardesabad, December, 1898, from Dera Ismail Khan.	624	501	14·8	22	918·2	Admitted	8	1	...	...	126	2	...	...	...	20	29	42	4	...	...	...	...	6	460	...
						9·62	Died	...	...	...	...	...	1	...	...	...	3	...	...	...	...	...	...	...	...	5	1
						12·82	Invalided	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	3	8	...
61	3rd Punjab Cavalry, Kohat, February, 1896, from Edwardesabad.	614	466	12·4	31	985·0	Admitted	...	...	...	...	166	16	...	...	...	15	56	15	2	...	...	3	4	9	459	...
						16·29	Died	...	...	...	...	...	...	...	...	...	5	...	...	...	...	...	...	...	...	6	4
						9·77	Invalided	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	2	6	...

TABLE XXXIX—*continued.*

STATISTICS OF REGIMENTS.

A.—Sickness and Mortality.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Serial No.	Regiment, Station, Last Move.	Number borne on the rolls.	Average strength present.	Average number constantly sick.	Sent on sick leave.	Ratio per 1,000.	Admission-rate is calculated on column 4; total death and invaliding rates on column 3.	Influenza.	Cholera.	Small-pox.	Enteric Fever.	Intermittent Fever.	Remittent Fever.	Simple Continued Fever.	Circulatory Diseases.	Tubercle of the lungs.	Pneumonia.	Other Respiratory Diseases.	Dysentery.	Diarrhœa.	Hepatic Abscess.	Hepatic Congestion and Inflammation.	Scurvy.	Venereal Diseases.	Anæmia and Debility.	All Causes.	Died absent. Invalided on
62	5th Punjab Cavalry, Dera Ismail Khan, November, 1898, from Dera Ghazi Khan.	606	477	7·6	11	631·0 13·20 8·23	Admitted Died Invalided	... ...	... ...	... ...	... ...	97	6	6	... ...	2	2 1 ...	2 1 ...	13	3	... ...	... ...	... ...	4	12 ... 2	301 2 5	... ...
63	8th Bengal Infantry, Miran Shah, October, 1898, from Datta Khel.	921	723	40·7	75	2,478·6 23·89 5·43	Admitted Died Invalided	1	... ...	... ...	... ...	1099	56	... ...	1	7	89 17 ...	39 1 ...	175 1 ...	55	... ...	... ...	3	17	30 ... 4	1,792 20 5	... ...
64	13th Bengal Infantry, Peshawar, April, 1898, from Fyzabad.	733	604	23·5	32	1,049·7 28·65 17·74	Admitted Died Invalided	1	... ...	... ...	... ...	244 2 1	18 1 ...	1	... 1 1	5 1 1	32 11 ...	21 ... 1	99	15	... ...	... ...	1	19	18 ... 6	634 16 13	... ...
65	14th Sikh Infantry, Nowshera, April, 1898, from Tochi Valley.	895	702	12·2	12	470·1 27·93 5·59	Admitted Died Invalided	... ...	... ...	... ...	1 1 ...	116 1 ...	23 4 ...	... ...	... ...	3 ... 2	20 13 ...	7	11	5 2 ...	... ...	2	1	13 ... 1	10	330 23 5	... ...
66	15th Sikh Infantry, Ferozepore, February, 1898, from Tirah Field Force.	895	606	19·0	24	712·9 6·70 27·93	Admitted Died Invalided	... ...	... ...	... ...	... ...	223	... ...	... ...	 1	3 ... 2	1	7	9 1 ...	4	... ...	2	1	27	7 ... 2	432 2 25	... ...
67	19th Punjab Infantry, Sialkot, April, 1898, from Mooltan.	894	731	15·3	28	584·1 19·02 3·36	Admitted Died Invalided	... ...	... ...	1	... ...	115 ... 2	5	... ...	... ...	... ...	40 12 1	23	23 1 ...	5	... ...	... ...	5	19	8	427 15 3	... ...
68	Depôt 21st Punjab Infantry, Sialkot, November, 1895, from Kurram.	150	132	3·8	8	606·1 13·33 6·07	Admitted Died Invalided	... ...	... ...	... ...	... ...	37	3	... ...	... ...	... ...	6 1 ...	1 1 ...	1	1	... ...	... ...	... ...	4	3 ... 1	80 2 1	... ...
69	Depôt 22nd Punjab Infantry, Jhelum, January, 1897, from Fort Lockhart.	152	139	5·6	17	791·4 6·58 46·05	Admitted Died Invalided	... ...	... ...	... ...	... ...	46 ... 2	2	... ...	... ...	... ...	1	3	8	2	... ...	... ...	... ...	4	5 ... 2	110 ... 7	... ...
70	23rd Pioneers, Umballa, October, 1895, from Chitral.	897	757	13·9	15	425·4 3·34 6·69	Admitted Died Invalided	... ...	... ...	... ...	... ...	95 1 ...	11	... ...	... ...	1	1	6	17	2	... ...	... ...	... ...	18 ... 1	6 ... 2	322 2 6	... ...
71	24th Punjab Infantry, Peshawar, February, 1898, from Malakand Field Force.	823	627	25·3	37	1,446·6 21·87 13·37	Admitted Died Invalided	... ...	... ...	... ...	... ...	449 ... 2	64 4 ...	... ...	... ...	1	21 4 ...	43 1 ...	26 ... 1	6	... ...	... ...	... ...	8	17 ... 4	907 9 11	... ...
72	25th Punjab Infantry, Rawalpindi, December, 1897, from Tochi Field Force.	886	685	22·8	48	873·0 14·67 7·90	Admitted Died Invalided	4	... ...	... ...	... ...	337 ... 2	2	... ...	... ...	4 ... 1	22 7 ...	19 1 ...	27	... ...	... ...	2	4	22	12 ... 3	598 8 7	... ...
73	26th Punjab Infantry, Jullundur, March, 1898, from Peshawar.	877	737	22·0	30	812·8 7·98 4·56	Admitted Died Invalided	... ...	... ...	... ...	... ...	217	17	... ...	2 ... 1	3 ... 1	9 3 ...	39 1 ...	44 1 ...	9 1 ...	... ...	... ...	1	37	5 ... 1	599 6 4	... ...
74	27th Punjab Infantry, Peshawar, June, 1898, from Kila Drosh.	582	404	17·8	24	1,321·8 12·03 5·15	Admitted Died Invalided	1	... ...	... ...	... ...	253	29 1 ...	... ...	 1	3	7 2 ...	16	35	10	... ...	... ...	... ...	13	12 ... 1	534 6 3	... ...
75	28th Punjab Infantry, Ferozepore, May, 1898, from Rawalpindi.	861	728	23·1	29	831·0 23·83 1·16	Admitted Died Invalided	132	... ...	... ...	... ...	174 1 ...	16 6 ...	... ...	... ...	... ...	16 4 ...	27 1 ...	26	6	... ...	1	... ...	16	7	605 13 1	... ...
76	Depôt, 29th Punjab Infantry, Peshawar, April, 1898, from Delhi.	351	351	10·7	13	880·3 19·94 8·55	Admitted Died Invalided	... ...	... ...	1	... ...	98 ... 2	33 2 ...	... ...	... ...	2	9 3 ...	11 2 ...	22	3	... ...	1	... ...	14	1	309 7 3	... ...
77	Depôt, 30th Punjab Infantry, Peshawar, November, 1895, from Chitral.	260	209	8·5	22	956·9 19·23 19·23	Admitted Died Invalided	... ...	... ...	... ...	1 1 ...	101 ... 1	11	... ...	1	1	3	5	10	4	... ...	... ...	3	8 ... 1	2 ... 1	200 2 5	... ...

2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Regiment, Station, Last Move.	Number borne on the rolls.	Average strength present.	Average number constantly sick.	Sent on sick leave.	Ratio per 1,000.	Admission-rate is calculated on column 4; total death and invaliding rates on column 3.	Influenza.	Cholera.	Small-pox.	Enteric Fever.	Intermittent Fever.	Remittent Fever.	Simple Continued Fever.	Circulatory Diseases.	Tubercle of the lungs.	Pneumonia.	Other Respiratory Diseases.	Dysentery.	Diarrhœa.	Hepatic Abscess.	Hepatic Congestion and Inflammation.	Scurvy.	Venereal Diseases.	Anæmia and Debility.	All Causes.	Died absent. Invalided on account of old age.
31st Punjab Infantry, Sialkot, April, 1898, from Malakand.	701	489	18·8	32	719·8	Admitted	...	...	1	...	113	2	...	...	2	6	3	19	10	...	...	...	20	6	352	...
					22·82	Died	...	...	...	...	...	...	...	...	1	2	...	1	...	...	...	...	...	...	7	9
					32·81	Invalided	...	...	...	...	1	...	...	...	1	...	1	...	...	...	...	...	...	3	23	...
32nd Pioneers, Meean Meer, October, 1895, from Gilgit.	896	783	18·9	17	1,900·0	Admitted	...	...	...	...	265	223	...	1	2	28	13	23	4	...	...	1	26	3	783	...
					14·51	Died	...	...	...	...	...	2	...	...	...	6	...	...	...	...	...	...	...	...	11	2
					5·58	Invalided	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5	5	...
33rd Punjab Infantry, Datta Khel, January, 1897, from Rawalpindi.	856	768	35·7	108	1,600·3	Admitted	...	...	...	1	768	39	...	2	3	28	42	69	10	1	...	5	5	34	1,220	...
					32·71	Died	...	...	...	...	1	1	...	...	...	11	...	1	...	1	...	...	...	...	18	10
					16·36	Invalided	...	...	...	...	4	...	...	1	...	...	...	...	...	...	...	...	...	6	14	...
Depôt, 34th Pioneers, Jhelum, May, 1896, from Malakand.	176	160	6·1	19	650·0	Admitted	...	...	...	...	24	1	...	3	2	1	3	3	2	...	1	...	8	2	104	...
					11·36	Died	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	1	1
					45·45	Invalided	...	...	...	...	1	...	...	1	1	...	...	...	...	...	...	...	...	...	8	...
35th Sikh Infantry, Peshawar, February, 1898, from Malakand Field Force.	745	670	24·3	34	1,386·6	Admitted	...	...	...	...	625	22	...	1	...	17	19	23	4	...	...	...	11	17	929	...
					8·05	Died	...	...	...	...	1	1	...	...	...	3	...	...	...	...	...	...	...	...	6	...
					14·77	Invalided	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	11	...
36th Sikh Infantry, Rawalpindi, May, 1898, from Khyber Force.	648	463	15·6	34	827·2	Admitted	...	...	...	...	126	7	...	3	2	3	9	26	6	...	...	1	13	11	383	...
					9·26	Died	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	1	5
					44·75	Invalided	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	29	...
37th Dogras, Idak, April, 1898, from Fort Jamrud.	905	858	30·1	49	1,211·0	Admitted	...	...	2	...	612	20	...	...	11	15	36	73	17	...	1	...	2	5	1,030	...
					23·20	Died	...	...	...	...	1	2	...	...	4	3	...	...	...	...	...	...	...	...	10	11
					9·94	Invalided	...	...	...	...	2	...	...	...	1	...	...	...	...	...	...	...	...	...	9	...
Depôt, 38th Dogras, Nowshera, December, 1895, from Waziristan.	170	149	5·1	14	651·0	Admitted	...	...	...	...	57	4	...	...	3	3	1	3	1	...	1	...	...	6	97	...
					35·29	Died	...	...	...	...	...	1	...	...	1	...	...	...	...	...	...	...	...	...	2	4
					17·65	Invalided	...	...	...	...	1	1	...	...	...	...	...	...	...	...	...	...	...	1	3	...
40th Pathan Infantry, Meean Meer, February, 1898, from Rawalpindi.	853	731	25·4	30	1,543·1	Admitted	...	...	...	...	608	38	1	...	...	27	13	54	18	...	...	11	48	17	1,128	...
					5·86	Died	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	1	...	3	2
					4·69	Invalided	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4	...
45th Sikh Infantry, Mooltan, April, 1898, from Tirah Field Force.	690	524	15·4	27	1,030·5	Admitted	..	...	...	...	283	5	1	...	3	6	10	16	1	...	...	...	17	26	540	...
					8·70	Died	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	1	5
					23·19	Invalided	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	7	16	...
1st Punjab Infantry, Edwardesabad, April, 1898, from Tochi Force.	857	691	31·7	46	1,316·9	Admitted	20	...	...	...	381	42	...	...	2	28	34	27	7	...	...	10	7	19	910	...
					30·34	Died	...	...	...	...	...	2	...	...	...	14	...	1	...	...	...	...	...	...	18	8
					24·50	Invalided	...	...	...	...	3	...	...	...	...	...	...	...	...	...	...	2	...	6	21	...
2nd Punjab Infantry, Kohat, May, 1898, from Tirah Field Force.	630	373	18·1	35	1,388·7	Admitted	...	...	...	...	222	5	2	..	2	15	33	25	4	...	...	9	13	17	518	...
					17·46	Died	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	2	9
					44·44	Invalided	...	...	...	...	6	...	...	...	2	...	2	...	...	...	...	...	...	10	28	...
4th Punjab Infantry, Kohat, May, 1898, from Wana.	874	698	18·4	22	955·6	Admitted	50	...	...	...	278	20	7	1	3	18	12	29	2	...	...	3	9	...	667	...
					11·44	Died	...	...	...	...	...	...	1	...	...	4	...	...	...	...	...	...	...	...	6	4
					3·43	Invalided	...	...	...	...	1	...	...	...	2	...	...	...	...	...	...	...	...	...	3	...
5th Punjab Infantry, Dera Ismail Khan, October, 1897, from Kohat and Kurram Field Force.	886	766	34·8	32	1,500·0	Admitted	...	...	1	...	396	4	...	...	2	23	42	186	12	...	...	4	12	22	1,149	...
					10·16	Died	...	...	...	...	...	...	...	...	...	7	...	...	...	...	...	...	..	...	7	2
					5·64	Invalided	...	...	...	...	1	...	...	...	...	...	1	...	...	...	...	...	...	2	5	...
6th Punjab Infantry, Dera Ghazi Khan, November, 1897, from Dera Ismail Khan.	575	445	15·5	17	878·7	Admitted	...	...	...	...	107	12	2	...	1	14	24	26	10	...	2	2	4	9	391	...
					17·39	Died	...	...	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	4	6
					20·87	Invalided	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1	...	...	3	12	...
Wing, 6th Punjab Infantry, Khajuri Kach, etc., November, 1897, from Dera Ismail Khan.	355	352	17·7	36	883·5	Admitted	10	...	...	...	70	1	...	...	...	25	13	64	2	...	...	...	9	3	311	...
					14·08	Died	...	...	...	...	...	1	...	...	...	2	1	1	...	...	...	...	...	...	5	...
					...	Invalided	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

TABLE XXXIX—*continued.*

STATISTICS OF REGIMENTS.

A.—Sickness and Mortality.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Serial No.	Regiment, Station, Last Move.	Number borne on the rolls.	Average strength present.	Average number constantly sick.	Sent on sick leave.	Ratio per 1,000.	Admission-rate is calculated on column 4; total death and invaliding rates on column 3.	Influenza.	Cholera.	Small-pox.	Enteric Fever.	Intermittent Fever.	Remittent Fever.	Simple Continued Fever.	Circulatory Diseases.	Tubercle of the lungs.	Pneumonia.	Other Respiratory Diseases.	Dysentery.	Diarrhœa.	Hepatic Abscess.	Hepatic Congestion and Inflammation.	Scurvy.	Venereal Diseases.	Anæmia and Debility.	All Causes.	Died absent. Invalided on
94	1st Sikh Infantry, Dera Ismail Khan, April, 1898, from Edwardesabad.	889	608	18·6	26	866·8	Admitted	...	...	...	...	213	3	...	1	4	29	13	18	4	...	...	2	3	33	527	...
						30·37	Died	...	...	...	...	...	...	...	...	1	9	...	...	1	...	...	...	...	...	14	
						34·87	Invalided	...	...	...	...	...	...	...	4	1	...	...	...	...	...	...	...	...	7	31	
95	2nd Sikh Infantry, Kohat, October, 1897, from Dera Ghazi Khan.	891	700	20·1	36	1,098·6	Admitted	...	...	...	...	304	30	...	...	1	55	61	79	11	...	2	1	10	13	769	...
						30·30	Died	...	...	...	...	1	...	...	...	...	20	...	...	...	...	...	...	...	...	22	
						7·86	Invalided	...	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...	7	
96	3rd Sikh Infantry, Kohat, December, 1896 from Dera Ismail Khan.	659	508	20·7	36	1,287·4	Admitted	...	...	...	...	234	17	17	...	1	12	13	74	7	...	2	2	9	16	654	...
						13·66	Died	...	...	...	...	...	1	...	...	1	1	...	1	...	...	...	...	...	...	7	
						18·21	Invalided	...	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...	12	
97	4th Sikh Infantry, Wana, March, 1898, from Sarwekai.	880	685	28·7	56	1,170·8	Admitted	9	...	...	...	295	10	...	1	3	14	34	114	2	...	...	2	12	17	802	...
						21·59	Died	...	...	...	...	...	1	...	...	...	5	...	1	...	...	...	...	...	...	9	
						9·09	Invalided	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5	8	
98	Corps of Guides, Mardan (Local).	1155	987	3·3	46	460·0	Admitted	...	...	1	...	140	15	...	1	5	13	36	22	3	...	...	1	14	5	454	...
						11·26	Died	...	...	...	...	...	1	...	...	1	2	...	...	...	...	...	...	1	...	8	
						8·66	Invalided	...	...	...	...	1	...	...	1	...	...	...	...	...	...	...	...	...	1	10	
99	1-1st Gurkha Rifles, Dharmsala (Local).	893	743	27·5	24	679·7	Admitted	87	...	...	1	111	33	...	...	3	10	11	20	10	...	...	1	73	7	505	
						21·28	Died	3	...	...	1	...	1	...	...	2	4	...	...	...	...	...	...	...	...	16	
						3·36	Invalided	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	3	
100	2-1st Gurkha Rifles, Dharmsala, June, 1898, from Khyber Force.	668	557	29·3	34	845·6	Admitted	15	...	...	...	183	32	...	1	9	10	10	4	...	...	2	...	81	7	471	...
						22·46	Died	...	...	...	...	1	...	...	...	6	3	...	...	...	...	...	...	...	...	13	
						8·98	Invalided	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	1	...	6	
101	1-4th Gurkha Rifles, Bakloh June, 1898, from Kila Drosh.	583	451	19·8	9	733·9	Admitted	...	...	...	...	89	15	...	...	10	6	3	4	1	...	...	2	35	16	331	
						6·86	Died	...	...	...	...	...	...	...	...	3	...	...	...	...	...	...	...	...	...	4	
						15·44	Invalided	...	...	...	...	3	...	...	...	3	...	...	...	...	...	...	...	1	...	9	
102	2-4th Gurkha Rifles, Bakloh, June, 1898, from Tirah Field Force.	643	550	33·1	20	852·7	Admitted	...	...	..	3	112	25	...	...	13	5	14	5	1	...	4	4	59	66	469	
						14·00	Died	...	...	...	1	...	1	...	...	3	2	...	1	...	...	...	...	...	...	8	
						12·44	Invalided	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	8	
103	1-5th Gurkha Rifles, Abbottabad, February, 1898, from Kurram.	817	702	37·9	3	1,001·4	Admitted	...	...	...	...	177	8	...	...	5	6	29	45	18	...	2	3	75	7	703	...
						14·69	Died	...	...	...	...	...	1	...	...	2	1	...	...	...	...	...	...	...	...	6	
						41·62	Invalided	...	...	...	...	11	...	...	...	...	1	1	...	...	...	...	...	1	7	34	
104	2-5th Gurkha Rifles, Abbottabad, June, 1897, from Chitral.	850	731	48·0	15	1,010·9	Admitted	...	...	...	...	217	2	...	1	10	15	9	17	1	...	...	1	73	7	739	...
						31·76	Died	...	...	...	...	...	...	...	1	4	1	1	...	...	...	...	...	...	...	11	1
						10·59	Invalided	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	9	
105	No. 2 Derajat Mountain Battery, Edwardesabad, November, 1898, from Datta Khel.	185	148	12·0	42	2,851·4	Admitted	...	...	...	...	29	10	...	...	...	3	4	23	8	...	...	1	2	7	422	...
						27·03	Died	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	2	
						21·62	Invalided	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	4	
106	No. 3 Peshawar Mountain Battery, Abbottabad, April, 1898, from Edwardesabad.	248	164	5·1	1	841·5	Admitted	...	...	...	...	27	1	...	...	...	1	3	5	...	...	...	1	...	1	138	...
						16·13	Died	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	2	
						8·06	Invalided	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	
107	No. 4 Hazara Mountain Battery, Datta Khel, November, 1898, from Edwardesabad.	202	156	9·1	9	1,717·9	Admitted	...	...	...	...	104	22	...	1	...	5	9	14	4	...	...	3	10	4	268	...
						9·90	Died	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	2	
						9·90	Invalided	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	2	
108	Punjab Garrison Battery, Kohat (Local).	71	55	1·0	1	545·5	Admitted	...	...	...	...	9	1	...	...	...	2	1	6	2	...	...	1	...	1	30	...
						28·17	Died	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	1	
						14·08	Invalided	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Serial No.	Regiment, Station, Last Move.	Number borne on the rolls.	Average strength present.	Average number constantly sick.	Sent on sick leave.	Ratio per 1,000.	Admission-rate is calculated on column 4; total death and invaliding rates on column 3.	Influenza.	Cholera.	Small-pox.	Enteric Fever.	Intermittent Fever.	Remittent Fever.	Simple Continued Fever.	Circulatory Diseases.	Tubercle of the lungs.	Pneumonia.	Other Respiratory Diseases.	Dysentery.	Diarrhœa.	Hepatic Abscess.	Hepatic Congestion and Inflammation.	Scurvy.	Venereal Diseases.	Anæmia and Debility.	All Causes.	Died absent. Invalided on account of old age.
9	No. 8 Bengal, Mountain Battery, Kohat, April, 1898, from Malakand Force.	253	119	4·8	7	1,546·2 11·86 11·86	Admitted Died Invalided	...	...	...	...	70	4	...	...	...	3 1	7 ...	13 ...	2 ...	...	1 ...	3 ...	6 1	4 ...	184 1 3	... 2 ...
10	No. 6 Bombay Mountain Battery, Dera Ismail Khan, May, 1898, from Datta Khel.	240	197	11·0	55	1,497·5 29·17 41·67	Admitted Died Invalided	3 ...	...	...	...	138 ...	1 ...	...	...	1	14 5	4 1	10 ...	19 1	...	...	...	1 ...	... 4	295 6 10	... 1 ...
11	Drivers, No. 1 Mountain Battery, Royal Artillery, Rawalpindi, June, 1898, from Khyber Force.	93	80	1·2	...	300·0 10·75 10·75	Admitted Died Invalided	...	...	...	...	5	1	...	...	...	...	...	6	...	...	...	...	2	1 1	24 ... 1	... 1 ...
12	Drivers, No. 5 Mountain Battery, Royal Artillery, Rawalpindi, November, 1898, from Baragully.	153	125	1·6	2	392·0 6·54 45·75	Admitted Died Invalided	...	...	...	...	10	...	...	...	1	1 1	...	2	...	...	...	...	6	1 7	49 ... 7	... 1 ...
13	Drivers, No. 7 Mountain Battery, Royal Artillery, Rawalpindi, October, 1898, from Kalabagh.	151	117	2·8	2	675·2 6·62 ...	Admitted Died Invalided	...	...	...	...	16	...	...	...	...	3 ...	2 ...	1 ...	1 ...	...	1 ...	...	10 ...	1 ...	79 1 ...	... ...
14	Drivers, No. 8 Mountain Battery, Royal Artillery, Jutogh, May, 1898, from Tirah Field Force.	72	68	5·0	3	1,514·7 13·89 ...	Admitted Died Invalided	...	...	...	...	11	6	...	...	...	1 ...	3 ...	4 ...	5 ...	...	...	...	1 ...	6 ...	103 1 ...	... ...
15	Governor's Body Guard, Madras (Local).	71	68	1·4	3	426·5 ... 28·17	Admitted Died Invalided	...	...	...	...	12 ... 1	...	...	...	...	...	...	1 ...	...	...	...	...	...	...	29 ... 2	... ...
16	1st Madras Lancers, Bellary, 1895, from Secunderabad.	597	564	16·9	12	728·7 6·70 10·05	Admitted Died Invalided	...	...	...	...	217	...	...	2 1 1	... ...	4 1	5 ...	10 ...	...	...	...	...	14 ...	7 1 2	411 3 6	... 1 ...
17	2nd Madras Lancers, Bangalore, February, 1892, from Secunderabad.	635	555	27·5	27	810·8 22·05 56·69	Admitted Died Invalided	29 ...	...	...	...	43 ... 2	3 2 ...	...	16 1 14	2 ... 1	4 1 1	12 ... 1	9 ... 1	... ...	...	2 ...	... ...	19 ...	15 ... 3	450 14 36	... ...
18	3rd Madras Lancers, Secunderabad, November, 1894, from Bellary.	578	556	10·0	13	356·1 1·73 12·11	Admitted Died Invalided	...	...	...	...	27	1	1	1	... ...	3	6 ... 1	5	... ...	...	...	3 ...	12 ...	6 ... 3	198 ... 7	... 1 ...
19	Madras Sappers and Miners, Bangalore (Local).	1,432	1151	37·0	88	731·5 17·46 23·04	Admitted Died Invalided	21 ... 1	1 1 ...	... ...	... ...	210	3 1 ...	2	6 ... 4	9 3 3	8 2 ...	30 1 2	16	5	... ...	9 1 ...	... ...	77 ... 3	76 1 3	842 19 33	... 6 ...
20	1st Madras Pioneers, Bangalore, May, 1896, from Myingyan.	797	755	30·4	28	1,021·2 20·08 22·58	Admitted Died Invalided	43 1 ...	... ...	... ...	... ...	381 ... 3	3	... ...	4 1 3	... ...	16 7 ...	23 ... 1	25	1 1 ...	2 1 ...	1	... ...	21	52 ... 6	771 16 18	... ...
21	2nd Madras Infantry, Vizianagram, January 1898, from Raipur and Sambalpur.	819	768	19·7	42	492·2 9·77 10·99	Admitted Died Invalided	... ...	... ...	... ...	2 1 ...	132 1 3	17 ... 2	... ...	2 ... 1	4	6	... ...	3	1	... ...	1 1 ...	... ...	62 ... 1	... ...	378 5 9	... 3 ...

TABLE XXXIX—*continued.*

STATISTICS OF REGIMENTS.

A.—Sickness and Mortality.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Serial No.	Regiment, Station, Last Move.	Number borne on the rolls.	Average strength present.	Average number constantly sick.	Sent on sick leave.	Ratio per 1,000.	Admission-rate is calculated on column 4; total death and invaliding rates on column 3.	Influenza.	Cholera.	Small-pox.	Enteric Fever.	Intermittent Fever.	Remitent Fever.	Simple Continued Fever.	Circulatory Diseases.	Tubercle of the lungs.	Pneumonia.	Other Respiratory Diseases.	Dysentery.	Diarrhœa.	Hepatic Abscess.	Hepatic Congestion and Inflammation.	Scurvy.	Venereal Diseases.	Anæmia and Debility.	All Causes.	Died absent. Invalided on account of old age.
122	3rd Madras Infantry, Secunderabad, February, 1897, from Myingyan.	794	771	18·9	13	1,149·2 10·08 ...	Admitted Died Invalided	5	... 1 ...	... ...	... ...	606 1 ...	6 1 ...	28	5	2 1 ...	3	2	14	... ...	... ...	... ...	... ...	... ...	19	13	886 21 ...	... 1 ...
123	4th Madras Infantry, Trichinopoly, October, 1898, from Ootacamund.	816	777	21·4	16	514·8 19·61 3·08	Admitted Died Invalided	... ...	5 4 ...	... ...	... ...	80 1 ...	1 1 ...	4	1	... ...	28 4 ...	19 1 ...	12	2	... ...	3	... ...	... ...	49	2	400 13 3	... 3 ...
124	7th Madras Infantry, Rangoon, November, 1898, from Kamptee.	813	771	36·6	7	1,115·4 14·76 13·53	Admitted Died Invalided	... ...	3 4 ...	... ...	... ...	445	32 3 ...	14	... ...	1 ... 1	5	10	10	3	1 1 ...	... ...	... ...	... ...	78 ... 3	10 1 ...	860 10 11	... 2 ...
125	9th Madras Infantry, Bellary, November, 1895, from Thayetmyo.	819	778	28·5	37	748·1 10·99 17·09	Admitted Died Invalided	4	... ...	... ...	... ...	363 1 4	1	1	1 1 1	3 1 ...	8 3 ...	5 ... 1	12	... ...	... ...	... ...	... ...	... ...	42 ... 1	4	582 9 14	... ...
126	1st Burma Rifles, (10th Madras Infantry). Mandalay, November, 1898, from Maymyo.	840	776	27·5	8	623·7 19·05 9·52	Admitted Died Invalided	... ...	1 1 ...	... ...	... ...	184 2 ...	35 2 ...	... ...	3 1 ...	3 2 5	24	22 1 ...	14	... ...	... ...	1	... ...	... ...	53 1 ...	8 ... 2	484 13 8	... 3 ...
127	11th Madras Infantry, Secunderabad, March, 1895, from Vizianagram.	820	775	19·0	24	621·9 8·54 7·32	Admitted Died Invalided	5	... ...	1	... ...	117	... ...	3	3 1 ...	1 1 ...	4 2 ...	9	4	... ...	... ...	3	... ...	39	11	482 5 6	... ...
128	2nd Burma Battalion (12th Madras Infantry), Bhamo, January, 1897, from Mandalay.	828	709	12·6	6	503·5 4·83 ...	Admitted Died Invalided	... ...	... ...	... ...	1	233 2 ...	... ...	... ...	1 1 ...	... ...	2	5	10	5	... ...	... ...	... ...	... ...	14	4	357 4 ...	... ...
129	14th Madras Infantry, St. Thomas' Mount, October, 1896, from Madras.	809	776	25·4	23	675·3 6·18 28·43	Admitted Died Invalided	... ...	1 1 ...	... ...	... ...	40	6	87	2 1 ...	2	2	20 ... 1	15	3	... ...	6	... ...	... ...	33 ... 5	55 ... 8	524 3 23	... ...
130	15th Madras Infantry, Rangoon, January, 1897, from Madras.	822	822	35·6	25	608·3 8·52 10·95	Admitted Died Invalided	26	... ...	... ...	... ...	118 1 1	... ...	... ...	9 ... 1	4	2 1 ...	17	55 1 ...	4	... ...	... ...	1	30	44 ... 1	500 5 9	... ...
131	16th Madras Infantry, Berhampur, December, 1898, from Rangoon.	739	739	21·6	24	611·6 17·59 17·59	Admitted Died Invalided	23	... ...	... ...	... ...	96	2	7	3 ... 1	3 ... 1	1	12 1 ...	49 1 ...	8 1 ...	... ...	2 ... 1	1	42 ... 1	24 ... 2	452 6 13	... ...
132	17th Madras Infantry, Bangalore, January, 1897, from Rangoon.	814	787	22·7	18	595·9 18·43 43·00	Admitted Died Invalided	38	... ...	1 1 ...	... ...	90 ... 3	... ...	... ...	7 ... 4	... ...	18 5 ...	16 ... 4	10	9 ... 2	... ...	2	... ...	19 ... 1	31 ... 7	469 14 35	... ...
133	19th Madras Infantry, Secunderabad, January, 1895, from Cuttack and Berhampur.	810	763	10·9	15	336·8 8·04 6·17	Admitted Died Invalided	... ...	... ...	... ...	... ...	73 1 ...	... 1 ...	... ...	2 1 1	2 1 ...	7 2 ...	5 1 ...	9	... ...	... ...	1	... ...	28	11	257 7 5	... ...
134	20th Madras Infantry, Cannanore, October, 1898, from Miran Shah.	820	810	54·7	73	2,033·3 19·51 35·37	Admitted Died Invalided	... ...	... ...	... ...	... ...	1,304	7	... ...	1 1 ...	1 1 ...	14 3 ...	40 ... 1	21	8	... ...	... ...	... ...	... ...	25 ... 2	21 ... 22	1,647 10 29	... ...

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Serial No.	Regiment, Station, Last Move.	Number borne on the rolls.	Average strength present.	Average number constantly sick.	Sent on sick leave.	Ratio per 1,000.	Admission-rate is calculated on column 4; total death and invaliding rates on column 3.	Influenza.	Cholera.	Small-pox.	Enteric Fever.	Intermittent Fever.	Remittent Fever.	Simple Continued Fever.	Circulatory Diseases.	Tubercle of the lungs.	Pneumonia.	Other Respiratory Diseases.	Dysentery.	Diarrhœa.	Hepatic Abscess.	Hepatic Congestion and Inflammation.	Scurvy.	Venereal Diseases.	Anæmia and Debility.	All Causes.	Died absent. Invalided on account of old age.
35	21st Madras Pioneers, Belgam, April, 1898, from Tirah Field Force.	618	529	28·7	25	720·2 Admitted 16·18 Died 14·56 Invalided		...	...	...	...	41	13	...	1	...	2	4	10	...	...	...	1	99	11	381	...
								...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	1	1	8	2
								...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	3	9	...
36	Head Quarters, 22nd Madras Infantry, Berhampur, January, 1897, from Secunderabad.	450	414	4·6	11	352·7 Admitted 2·22 Died 2·22 Invalided		2	...	2	...	38	...	...	3	...	...	2	...	...	...	...	...	36	1	146	...
								...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...
								...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	1	...
37	23rd Madras Infantry, Secunderabad, January, 1898, from Trichinopoly.	823	792	13·2	5	670·5 Admitted 4·80 Died 3·65 Invalided		83	...	...	...	139	6	26	...	...	11	9	17	...	...	...	...	59	1	531	...
								...	...	...	...	...	2	...	...	...	2	...	...	...	...	...	...	...	...	4	...
								...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	3	...
38	24th Madras Infantry, Quilon, December, 1896, from Bangalore.	794	724	18·5	24	663·0 Admitted 15·11 Died 10·08 Invalided		...	...	...	...	29	3	56	5	2	...	7	27	1	...	1	...	38	4	480	...
								...	...	...	...	...	...	...	1	...	...	1	...	...	...	1	...	...	...	7	5
								...	...	...	...	...	...	...	1	1	...	1	...	...	...	...	...	1	...	8	...
39	25th Madras Infantry, Cannanore, April, 1895, from Madras.	806	730	24·7	10	495·9 Admitted 11·17 Died 29·78 Invalided		...	...	...	...	45	6	1	3	3	...	10	6	10	1	1	...	29	10	362	...
								...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	2	7
								...	...	...	...	1	...	...	1	...	...	3	...	...	...	...	...	5	7	24	...
40	26th Madras Infantry, Belgam, December, 1895, from Rangoon.	795	786	17·9	12	544·5 Admitted 13·84 Died 10·06 Invalided		...	...	...	...	72	6	2	...	2	10	20	14	1	...	...	...	45	10	428	...
								...	...	...	...	...	...	...	...	1	3	...	...	...	...	...	...	2	1	11	...
								...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	1	8	...
41	27th Madras Infantry, Trichinopoly, January, 1898, from Moulmein.	806	749	10·3	2	215·0 Admitted 9·93 Died 4·96 Invalided		...	8	1	...	24	...	...	...	2	3	4	3	1	...	...	...	16	2	161	...
								...	7	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	8	...
								...	...	...	...	...	...	...	1	...	...	1	...	...	...	...	...	2	...	4	...
42	28th Madras Infantry, Madras, December, 1896, from Quilon.	826	781	22·5	15	491·7 Admitted 7·26 Died 13·32 Invalided		...	...	1	2	12	...	84	...	1	6	16	4	5	1	2	...	53	9	384	...
								...	...	...	2	2	...	...	...	...	...	...	1	...	...	...	...	...	...	6	...
								...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	2	3	11	...
43	7th Burma Battalion (29th Madras Infantry), Fort Stedman, December, 1896, from Meiktila.	802	692	36·4	31	1,465·3 Admitted 14·96 Died 7·48 Invalided		40	...	...	...	629	27	...	2	1	1	36	25	1	...	...	...	13	19	1,014	...
								...	...	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	4	8
								...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	2	6	...
44	5th Burma Battalion (30th Madras Infantry), Mandalay December, 1897, from Myingyan.	817	705	9·0	12	265·2 Admitted 9·79 Died 6·12 Invalided		...	...	...	...	46	3	...	1	2	1	16	8	...	...	1	...	12	6	187	...
								...	...	...	...	1	1	...	...	1	...	1	...	...	...	...	...	...	...	8	...
								...	...	...	...	...	...	...	...	1	...	...	1	...	...	...	...	1	...	5	...
45	6th Burma Battalion (31st Madras Infantry), Meiktila, February, 1897, from Haka.	808	703	15·0	16	517·8 Admitted 2·48 Died 3·71 Invalided		5	...	...	...	79	8	1	...	3	...	28	16	2	1	1	...	48	8	364	...
								...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1
								...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	...
46	4th Burma Battalion (32nd Madras Infantry), Mandalay, January 1897, from Fort Stedman.	848	717	14·9	11	433·8 Admitted 9·43 Died 9·43 Invalided		...	...	...	...	94	...	...	1	...	1	16	13	...	...	2	...	46	16	311	...
								...	...	...	...	1	...	...	...	...	...	3	...	...	...	...	...	1	...	3	5
								...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	8	...
47	3rd Burma Battalion (33rd Madras Infantry), Keng Tung, January, 1898, from Mandalay.	746	688	42·9	23	2255·8 Admitted 25·47 Died 2·61 Invalided		1	...	...	...	1,231	15	...	2	...	2	14	15	...	...	4	...	32	6	1,552	...
								...	...	...	...	2	2	...	...	...	2	...	1	7	...	2	...	...	...	12	7
								...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1	2	...

TABLE XXXIX—*continued.*

STATISTICS OF REGIMENTS.

A.—Sickness and Mortality.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Serial No.	Regiment, Station, Last Move.	Number borne on the rolls.	Average strength present.	Average number constantly sick.	Sent on sick leave.	Ratio per 1,000.	Admission-rate is calculated on column 4; total death and invaliding rates on column 3.	Influenza.	Cholera.	Small-pox.	Enteric Fever.	Intermittent Fever.	Remittent Fever.	Simple Continued Fever.	Circulatory Diseases.	Tubercle of the lungs.	Pneumonia.	Other Respiratory Diseases.	Dysentery.	Diarrhœa.	Hepatic Abscess.	Hepatic Congestion and Inflammation.	Scurvy.	Venereal Diseases.	Anæmia and Debility.	All Causes.	Died absent. Invalided on
148	No. 7, Bengal Mountain Battery, Bhamo, November, 1895, from Dehra Dun.	236	198	5·6	2	818·2 4·24 ...	Admitted Died Invalided	...	...	...	...	75	...	...	...	1	...	2	1	1	...	...	...	5	1	162 1	
149	Drivers No. 6. Mountain Battery, Royal Artillery, Mandalay, January, 1895, from Darjeeling.	139	127	4·2	4	1,110·2	Admitted Died Invalided	...	...	...	...	26	5	...	...	...	...	7	2	3	...	1	...	8	3	141 ...	
150	Governor's Body-Guard, Poona (Local).	67	60	1·0	2	900·0 14·93 ...	Admitted Died Invalided	...	...	...	...	16 ...	1 1	...	...	...	...	6	2	...	...	...	...	...	1	54 1	
151	1st Bombay Lancers, Poona, March, 1898, from Neemuch.	615	541	23·7	15	1,367·8 4·88 ...	Admitted Died Invalided	...	...	...	...	337 ...	9 1	3 ...	...	1 ...	2 ...	8 ...	27 ...	6 ...	...	2 ...	...	12 ...	3 ...	740 2	
152	2nd Bombay Lancers, Deesa, March, 1898, from Poona.	607	544	20·1	9	966·9 1·65 4·94	Admitted Died Invalided	...	...	...	...	115	5	69 ...	1 1	8 ...	1 ...	13 ...	7 ...	2 ...	...	...	...	14 ...	2 ...	526 3	
153	3rd Bombay Cavalry, Neemuch, March, 1898, from Deesa.	610	530	8·7	7	571·7 4·92 13·11	Admitted Died Invalided	...	...	...	...	85 ...	1 ...	2 ...	...	...	4 1	6 ...	22 ...	1 ...	...	3 ...	...	17 ...	4 1	303 8	
154	4th Bombay Cavalry, Sirur (Local).	616	548	8·1	5	339·4 1·62 3·25	Admitted Died Invalided	...	...	...	...	30 ...	...	1 ...	1 ...	...	...	7 ...	10 ...	1 ...	...	...	...	18 ...	1 ...	186 1 2	
155	5th Bombay Cavalry, Fort Sandeman, March, 1898, from Quetta.	617	537	16·8	16	1,500·9 11·35 3·24	Admitted Died Invalided	13 ...	...	...	...	411 ...	6 ...	...	...	1 ...	12 4	26 ...	68 ...	28 ...	...	...	5	26 ...	11 1	806 5 2	
156	6th Bombay Cavalry, Quetta, March, 1898, from Jacobabad.	606	525	14·6	13	1,049·5 8·25 ...	Admitted Died Invalided	...	...	...	...	270 ...	8 ...	...	...	...	17 3	25 ...	36 ...	2 ...	...	...	1	12 ...	5 ...	551 3	
157	7th Bombay Lancers, Jacobabad, April, 1898, from Fort Sandeman.	605	523	16·8	19	963·7 9·92 ...	Admitted Died Invalided	...	...	...	...	214 1 ...	...	...	...	...	9 1	6 ...	13 ...	3 ...	...	...	2	12 ...	9 ...	504 4	
158	19th Bengal Lancers, Loralai, March, 1898, from Meean Meer.	617	546	9·4	13	642·9 12·97 3·24	Admitted Died Invalided	...	...	...	...	146 ...	3 1 ...	...	...	...	4 1	15 1	46 2	23 ...	...	1 ...	...	2 ...	5 ...	351 7 2	
159	Aden Troop, Khormaksar, (Local).	100	89	1·7	2	910·1	Admitted Died Invalided	...	...	...	...	23 ...	1 ...	8 ...	...	...	...	10 ...	6 ...	...	...	...	...	...	4 ...	81 ...	
160	Bombay Sappers and Miners, Kirkee (Local).	858	621	21·9	16	905·0 11·66 12·82	Admitted Died Invalided	11 ...	...	...	...	226 ...	6 ...	1 ...	...	4 2	4 3	13 1	25 ...	7 ...	...	...	...	6 ...	25 ...	9 ...	562 9 11	
161	1st Bombay Infantry, Kurrachee, January, 1898, from Peshin.	793	680	19·7	22	1,051·5 11·35 76·92	Admitted Died Invalided	...	...	...	...	491 1	9 2	9 ...	1 4	2 ...	4 ...	8 7	20 2	3 ...	...	...	2	23 4	... 32	715 5 61	
162	2nd Bombay Infantry, Poona, April, 1894, from Peshin.	757	688	25·2	15	768·9 7·93 5·28	Admitted Died Invalided	...	...	...	...	194 ...	2 ...	8 ...	3 ...	2 ...	... ...	19 ...	34 ...	5 2	...	...	...	...	63 1	8 ...	529 4 4	
163	Depot 3rd Bombay Infantry, Satara, December, 1896, from Mhow.	82	82	7·6	3	1,085·4 24·39 ...	Admitted Died Invalided	...	...	...	...	31 ...	... 1	...	1 ...	1 ...	... ...	5 ...	3 ...	...	...	...	...	...	8 ...	4 ...	85 2	

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Serial No.	Regiment, Station, Last Move.	Number borne on the rolls.	Average strength present.	Average number constantly sick.	Sent on sick leave.	Ratio per 1,000.	Admission-rate is calculated on column 4; total death and invaliding rates on column 3.	Influenza.	Cholera.	Small-pox.	Enteric Fever.	Intermittent Fever.	Remittent Fever.	Simple Continued Fever.	Circulatory Diseases.	Tubercle of the lungs.	Pneumonia.	Other Respiratory Diseases.	Dysentery.	Diarrhœa.	Hepatic Abscess.	Hepatic Congestion and Inflammation.	Scurvy.	Venereal Diseases.	Anæmia and Debility.	All Causes.	Died absent. Invalided on account of old age.
4	4th Bombay Rifles, Mhow, December, 1898, from Mombasa Field Force and Ahmedabad.	480	466	11·8	7	892·7 8·33 20·83	Admitted Died Invalided	... ...	... ...	... ...	... ...	202	5 1 ...	... ...	3 ... 1	... ...	5 1 ...	10 ... 3	7	3	... ...	... ...	2 ... 3	23 ... 3	7 ... 2	416 3 10	... 1 ...
5	5th Bombay Infantry, Rajkot, July, 1897, from Ahmedabad.	795	699	22·0	14	862·7 5·03 7·55	Admitted Died Invalided	... ...	... ...	... ...	... ...	237	2	... ...	1 ... 2	1	4	35 1 ...	12	6	... ...	5	3	54 ... 1	2	603 1 6	... 3 ...
6	8th Bombay Infantry, Baroda, March, 1895, from Ahmedabad.	797	707	15·3	7	748·2 36·39 15·06	Admitted Died Invalided	... ...	... ...	... ...	... ...	309	3	4	... ...	1 ... 1	3 1 ...	20 1 1	15	4	... ...	5 3 ...	... ...	10 ... 1	5 ... 5	529 27 12	... 2 ...
57	9th Bombay Infantry, Ahmednagar, April, 1895, from Quetta.	732	608	6·7	4	518·1 2·73 ...	Admitted Died Invalided	... .	... ...	1	1	87	3	59	1	1	1	6	4	5	... ...	2	1	11	5	315	... 2 ...
58	10th Bombay Infantry, Aden, November, 1896, from Satara.	790	753	18·0	23	540·5 6·33 12·66	Admitted Died Invalided	... ...	1	... ...	... ...	81	21	25	2	1	3	12 ... 2	55 3 ...	1	... ...	1	16 1 ...	26 ... 1	9 ... 3	407 4 10	... 1 ...
59	13th Bombay Infantry, Deesa, April, 1898, from Ferozepore.	752	692	22·5	15	699·4 7·98 17·29	Admitted Died Invalided	... ...	... ...	2	.. ..	162	2	... ...	 1	4 ... 3	21 4 ...	24 ... 3	37	5	... ...	.. ..	1	36 ... 2	1	484 4 13	... 2 ...
60	14th Bombay Infantry, Poona, June, 1898, from Bareilly.	796	706	23·0	8	634·6 5·03 8·79	Admitted Died Invalided	... ...	... ...	... ...	... ...	113	14	... ...	2 ... 1	4 ... 1	3 1 ...	6	19	3	... ...	... ...	... ...	47	10 ... 4	448 1 7	... 3 ...
61	16th Bombay Infantry, Peshin, October, 1898, from Fort Sandeman	801	727	26·5	10	1,675·4 13·73 12·48	Admitted Died Invalided	73	... ...	... ...	... ...	691 1 4	5 1 ...	... ...	2 ... 1	2 ... 1	17 3 ...	69	56	81	2 2 ...	... ...	4	14	14 ... 1	1,218 9 10	... 2 ...
62	17th Bombay Infantry, Fort Sandeman, September, 1898, from Quetta.	744	689	23·5	19	971·0 9·41 23·54	Admitted Died Invalided	... ...	... ...	... ...	... ...	226	9	12	4 1 ...	3 2 ...	10 1 ...	27 ... 1	44	6	... ...	... ...	4 ... 2	59 ... 2	6 ... 5	669 7 19	... ...
63	19th Bombay Infantry, Poona, February, 1896, from Mhow.	774	704	21·6	27	818·2 3·88 14·21	Admitted Died Invalided	2	... ...	... ...	... ...	243	5 1 ...	2	3 ... 2	... ...	6	17 ... 3	23	2	... ...	2	1	32	5	576 1 11	... 2 ...
64	20th Bombay Infantry, Mhow, January, 1896, from Nasirabad.	789	729	22·4	10	662·6 1·37 26·62	Admitted Died Invalided	... ...	... ...	... ...	... ...	147 ... 3	9	1	... ...	... ...	8	23 ... 2	40	6	... ...	1	1	49 1 4	8 ... 7	483 1 21	... ...
65	21st Bombay Infantry, Bombay. (Local.)	785	720	30·8	22	1,518·9 25·48 8·92	Admitted Died Invalided	11	... ...	... ...	1	555	9 2 ...	5	3	1 1 ...	11 2 ...	47 2 2	98 2 ...	15	... ...	11	13 1 ...	27	4	1,108 16 7	... 4 ...
66	22nd Bombay Infantry, Quetta, October, 1898, from Peshin.	806	704	48·3	25	2,386·4 9·93 11·17	Admitted Died Invalided	... ...	... ...	... ...	1	1,131	89 2 ...	... ...	1 1 ...	2	7	56 ... 1	60 1 ...	28	... ...	1	2	14 ... 1	21 2 ...	1,680 8 9	... ...
67	23rd Bombay Infantry, Nasirabad, February, 1896, from Rajkot.	762	674	16·1	7	495·5 6·80 7·87	Admitted Died Invalided	... ...	... ...	... ...	... ...	52	1	... ...	3	1 1 ...	7 2 ...	7 1 1	8	2	... ...	2	7 1 ...	26 ... 1	... ...	334 5 6	... ...
68	24th Bombay Infantry, Quetta, July, 1896, from Mombasa Field Force.	864	750	17·8	6	728·0 9·26 2·31	Admitted Died Invalided	... ...	... ...	1	... ...	158	18	26	 1	3 1 1	21 4 ...	27 1 ...	31 1 ...	5	... ...	2	3	29	7	546 7 2	... 1 ...

TABLE XXXIX—*continued.*

STATISTICS OF REGIMENTS.

A.—Sickness and Mortality.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	
Serial No.	Regiment, Station, Last Move.	Number borne on the rolls.	Average strength present.	Average number constantly sick.	Sent on sick leave.	Ratio per 1,000.	Admission-rate is calculated on columns 4; total death and invaliding rates on column 3.	Influenza.	Cholera.	Small-pox.	Enteric Fever.	Intermittent Fever.	Remittent Fever.	Simple Continued Fever.	Circulatory Diseases.	Tubercle of the lungs.	Pneumonia.	Other Respiratory Diseases.	Dysentery.	Diarrhœa.	Hepatic Abscess.	Hepatic Congestion and Inflammation.	Scurvy.	Venereal Diseases.	Anæmia and Debility.	All Causes.	
179	25th Bombay Infantry, Bombay, March, 1898, from Quetta.	769	691	23·5	21	846·6 14·30 3·90	Admitted Died Invalided	...	...	...	...	150	15 3 ...	25	2 1 ...	... ...	16 1 ...	35	51 1 ...	17	... ...	... ...	3	60 ... 1	17	585 6 3	
180	26th Bombay Infantry, Loralai, May, 1897, from Chaman.	778	703	19·9	13	755·3 7·71 2·57	Admitted Died Invalided	...	...	...	...	168	8	... ...	... ...	... ...	15 2 ...	28	33	6	... ...	... ...	4	46 1 1	8 1 ...	531 5 2	
181	Depot 1st Baluch Battalion (27th Bombay Infantry), Kurrachee, June, 1898, from Hyderabad.	158	127	4·6	10	1,378·0 12·66 94·94	Admitted Died Invalided	...	...	...	...	100 ... 2	2	... ...	... ...	2	3 1 ...	10 ... 1	2	1	... ...	... ...	... ...	12 ... 2	1 ... 1	175 1 15	
182	28th Bombay Pioneers, Kirkee, April, 1898, from Tirah Field Force.	641	463	18·2	38	773·2 7·80 23·40	Admitted Died Invalided	6	...	...	...	115	7	1	1	1	3 1 ...	14	2	2	... ...	1	4	15	5	358 3 15	
183	2nd Baluch Battalion (2/3th Bombay Infantry), Hyderabad, May, 1898, from Chaman.	783	695	12·9	9	683·5 6·39 5·11	Admitted Died Invalided	...	...	...	...	173 1 ...	10	1	1 ... 1	... ...	16 2 ...	38	11	3	... ...	1	3	18	4 ... 1	475 3 4	
184	3rd Baluch Battalion (30th Bombay Infantry), Chaman, April, 1898, from Kurrachee.	784	574	22·9	36	912·9 11·48 12·76	Admitted Died Invalided	...	...	...	...	186 1 1	7 1 ...	... ...	... ...	1	6	34 2 2	21 1 ...	1	... ...	1 1 ...	7	25 ... 1	13 ... 4	524 5 10	
185	Malwa Bhil Corps, Sirdarpore (Local).	595	527	11·0	11	709·7 5·04 16·81	Admitted Died Invalided	2	...	...	...	138	1	... ...	... 1 ...	1 ... 1	15 2 ...	16 ... 1	3	9	... ...	... ...	... ...	8	2 ... 2	374 3 10	
186	Mewar Bhil Corps, Kherwara (Local).	711	619	9·2	4	384·5 12·66 29·54	Admitted Died Invalided	...	...	...	...	45	1	2	 3	... ...	32 5 ...	5	2 1 ...	... ...	... ...	1	... ...	16	 13	238 6 21	
187	Merwara Battalion, Ajmer (Local).	709	607	11·7	19	441·5 7·05 14·10	Admitted Died Invalided	...	...	...	...	55	2	... ...	1 ... 3	3	14 2 ...	21 1 ...	4	1	1	2	... ...	17 1 ...	 1	268 4 10	
188	Deoli Irregular Force, Deoli (Local).	815	709	12·0	17	661·5 6·13 9·82	Admitted Died Invalided	...	...	...	...	166 ... 1	14	... ...	... ...	... ...	10 3 ...	12	12	3	... ...	1	... ...	23 ... 1	13 ... 1	469 4 8	
189	Erinpura Irregular Force, Erinpura (Local).	806	726	11·7	20	482·1 4·96 17·37	Admitted Died Invalided	...	...	...	...	89	5	... ...	1 ... 3	7 ... 1	10	18 ... 2	14	5	... ...	... ...	1	12	7 ... 3	350 3 14	
190	13th Madras Infantry, Raipur, January, 1898, from Thayetmyo.	492	483	12·6	25	581·8 14·23 12·20	Admitted Died Invalided	...	...	...	...	80 1 ...	2 1 ...	... ...	1 ... 1	1	1 1 ...	12	11 1 ...	... ...	... ...	1	... ...	83 ... 2	13 ... 1	281 4 6	
191	Wing, 13th Madras Infantry, Sambalpur, January, 1898, from Thayetmyo.	391	216	5·6	6	926·7 5·12 17·90	Admitted Died Invalided	3	...	...	...	89	... ...	8	... ...	... ...	... ...	8 ... 1	15	6	... ...	... ...	... ...	4	1 ... 1	198 ... 7	
192	Drivers, No. 2 Mountain Battery, Royal Artillery, Quetta, February, 1896, from Jutogh.	149	132	2·8	2	590·9 13·42 ...	Admitted Died Invalided	...	...	...	...	20	3	... ...	1 1 ...	... ...	1	5	10	1	... ...	... ...	... ...	5	... ...	78 1 ...	
193	1st Lancers Hyderabad Contingent, Mominabad, November, 1894, from Aurangabad.	497	445	9·7	8	629·2 6·04 4·02	Admitted Died Invalided	...	...	...	...	161 1 ...	2	... ...	 1	... ...	2	3 1 ...	4	... ...	... ...	... ...	1	6	9	280 2 2	

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
	Regiment, Station, Last Move.	Number borne on the rolls.	Average strength present.	Average number constantly sick.	Sent on sick leave.	Ratio per 1,000.	Admission-rate is calculated on column 4; total death and invaliding rates on column 3.	Influenza.	Cholera.	Small-pox.	Enteric Fever.	Intermittent Fever.	Remittent Fever.	Simple Continued Fever.	Circulatory Diseases.	Tubercle of the lungs.	Pneumonia.	Other Respiratory Diseases.	Dysentery.	Diarrhœa.	Hepatic Abscess.	Hepatic Congestion and Inflammation	Scurvy.	Venereal Diseases.	Anæmia and Debility.	All causes.	Died absent. Invalided on Account of old age.
4	2nd Lancers, Hyderabad Contingent, Bolarum, December, 1894, from Mominabad.	489	456	8·9	7	565·8 ... 12·27	Admitted Died Invalided	9	... ...	... ...	... ...	50	2	... ...	... ...	... ...	1	6	21	... ...	... ...	1	1	14 ... 2	2 ... 3	258 ... 6	... ...
5	3rd Lancers, Hyderabad Contingent, Aurangabad, January, 1895, from Hingoli.	496	458	6·6	4	417·0 8·06 ...	Admitted Died Invalided	... ...	... ...	... ...	... ...	72	2	... ...	3	... ...	3 1 ...	6	2	1	... ...	... ...	... ...	... ...	7	2	191 2 ...	... 2 ...
5	4th Lancers, Hyderabad Contingent, Hingoli, December, 1894, from Bolarum.	496	452	11·6	7	712·4 2·02 18·15	Admitted Died Invalided	... ...	... ...	... ...	... ...	127	4	... ...	... ...	... ...	2	5 ... 1	4	2	... ...	... ...	 1	25	2 ... 3	322 1 9	... ...
7	1st Infantry, Hyderabad Contingent, Jalna, November, 1897, from Hingoli.	785	704	10·6	7	481·5 1·27 3·82	Admitted Died Invalided	... ...	... ...	1	... ...	205	17 ... 1	... ...	... ...	... ...	3	3	5	... ...	... ...	3	... ...	11	... ...	339 ... 3	... 1 ...
8	2nd Infantry, Hyderabad Contingent, Raichur, April, 1898, from Peshawar.	602	516	4·4	13	203·5 8·31 3·32	Admitted Died Invalided	... ...	... ...	... ...	... ...	21	2	3 1 ...	... ...	1	2 1 ...	4 1 ...	4	... ...	... ...	... ...	1 ... 1	3	10	105 5 2	... ...
9	3rd Infantry, Hyderabad Contingent, Aurangabad, December, 1897, from Ellichpur.	805	736	9·9	5	337·0 9·94 ...	Admitted Died Invalided	... ...	... ...	... ...	... ...	106	8 2 ...	... ...	... ...	... ...	5 2 ...	11	14	... ...	... ...	... ...	... ...	... 1 ...	16	2	248 5 ...	... 3 ...
10	4th Infantry, Hyderabad Contingent, Ellichpur, December, 1897, from Aurangabad.	807	719	10·3	9	518·8 19·83 12·39	Admitted Died Invalided	... ...	... ...	... ...	... ...	204 1 ...	3	5	2 1 2	... ...	18 6 ...	3	8 1 ...	1	... ...	... ...	... ...	... ...	42 ... 3	... ...	373 12 10	... 4 ...
11	5th Infantry, Hyderabad Contingent, Bolarum, November, 1897, from Raichur.	828	743	9·7	9	327·1 7·25 ...	Admitted Died Invalided	2	... ...	... ...	... ...	88	7 1 ...	... ...	... ...	... ...	1 1 ...	14	12	1	1 1 ...	1	2	8	3	242 3 ...	... 3 ...
12	6th Infantry, Hyderabad Contingent, Hingoli, November, 1897, from Jalna.	813	738	16·3	6	433·6 3·69 23·37	Admitted Died Invalided	... ...	... ...	... ...	... ...	107	8 2 ...	... ...	3 ... 1	1	6	6 ... 2	9	... ...	... ...	... ...	1	39	1	320 2 12	... 1 7
13	No. 1 Field Battery, Hyderabad Contingent, Bolarum, December, 1894, from Aurangabad.	120	88	2·2	5	420·5 ... 8·33	Admitted Died Invalided	... ...	... ...	... ...	... ...	7 ... 1	1	... ...	... ...	... ...	1	2	1	... ...	... ...	... ...	... ...	... ...	2	... ...	37 ... 1	... ...
14	No. 2 Field Battery, Hyderabad Contingent, Aurangabad, January, 1895, from Bolarum.	107	95	2·8	...	715·8 18·69 ...	Admitted Died Invalided	... ...	... ...	... ...	... ...	23	... ...	1	... ...	... ...	1	... ...	... ...	... ...	... ...	... ...	... ...	... ...	6	1	68 2 ...	... ...

TABLE XXXIX—*continued.*

STATISTICS OF REGIMENTS.

A.—Sickness and Mortality.

Serial No.	Commands, Garrisons.	Number borne on the rolls.	Average strength present.	Average number constantly sick.	Sent on sick leave.	Ratio per 1,000.	Admission-rate is calculated on column 4; total death and invaliding rates on column 3.	Influenza.	Cholera.	Smallpox.	Enteric Fever.	Intermitteet Fever.	Remittent Fever.	Simple Continued Fever.	Circulatory Diseases.	Tubercle of the lungs.	Pneumonia.	Other Respiratory Diseases.	Dysentery.	Diarrhœa.	Hepatic Abscess.	Hepatic Congestion and Inflammation.	Scurvy.	Venereal Diseases.	Anæmia and Debility.	ALL CAUSES.
205	No. 3 Field Battery, Hyderabad Contingent, Hingoli, December, 1894, from Ellichpur.	111	86	2·3	5	569·8 ... 9·01	Admitted Died Invalided	... ...	... ...	... ...	... ...	17	1	... ...	... ...	1	4	3	1	... ...	... ...	... ...	... ...	... ...	... ...	... ...	49 ... 1
206	No. 4 Field Battery, Hyderabad Contingent, Ellichpur, December, 1894, from Hingoli.	107	88	3·8	2	1840·9 9·35 18·69	Admitted Died Invalided	... ...	... ...	... ...	... ...	74	22	... ...	... ...	... ...	2	7	3	1	... ...	... ...	... ...	1	2 ... 1	... ...	162 1 2
1	Bengal . .	29,343	25,310	865·0	1,019	779·7 13·56 16·18	Admitted Died Invalided	235	18 17 ...	4	9 4 ...	8,095 26 28	272 17 ...	138	30 4 7	134 25 20	428 79 4	570 7 24	1,063 16 4	213 10 2	2	36 3 1	20 ... 3	1,343 1 17	479 4 141	19,735 266 473
2	Punjab . .	39,383	31,817	1,138·4	1,732	983·4 16·77 13·41	Admitted Died Invalided	342 3 ...	4 3 ...	7	7 4 ...	13,079 11 60	1,117 44 1	38	24 1 13	154 30 18	870 222 2	1,103 15 9	1,945 16 3	387 7 1	1 1 ...	34 ... 1	106 ... 3	1,034 1 12	671 ... 131	31,288 429 531
3	Madras . .	25,787	23,806	746·7	705	738·6 12·18 13·92	Admitted Died Invalided	325 1 1	19 19 ...	6 1 ...	5 3 ...	7,351 17 18	209 19 2	317	87 16 35	54 12 14	196 42 1	469 7 24	465 5 3	81 2 2	6 2 ...	44 5 1	6	1,215 2 34	501 5 76	17,583 239 359
4	Bombay . .	27,598	24,114	706·2	592	859·1 9·13 13·08	Admitted Died Invalided	121	1	4	3	8,337 5 12	323 18 ...	272 2 ...	40 5 25	59 8 10	327 52 ...	809 9 36	1,019 13 2	308 2 1	3 2 ...	46 4 ...	56 3 2	1,029 3 30	254 3 90	20,717 187 361
5	Hyderabad Contingent.	7,063	6,324	109·1	87	473·4 7·08 7·79	Admitted Died Invalided	11	... ...	1	... ...	1,262 2 1	79 5 1	9 1 ...	8 1 4	3	51 11 ...	73 2 3	88 1 ...	6	1 1 ...	5	7 ... 2	181 1 6	32 ... 6	2,994 35 48
6	Chitral .	1,769	1,769	67·3	...	880·7 10·18 ...	Admitted Died Invalided	... ...	2 2 ...	2	10 2 ...	681 1 ...	45	7 1 ...	1 1 ...	4 2 ...	23 4 ...	73	111	24	2	3	3	35	9 1 ...	1,558 18 ...
7	Malakand Force.	3,484	3,484	25·5	...	599·6 11·77 ...	Admitted Died Invalided	... ...	1 1 ...	... ...	... ...	744 5 ...	59 9 ...	... ...	1	2	53 18 ...	129 1 ...	212 4 ...	47	... ...	48 4 ...	53	70	2,089 41 ...
8	Khyber Force and Brigade	1,894	1,894	22·2	...	366·4 15·31 ...	Admitted Died Invalided	... ...	... ...	... ...	2 2 ...	125	111 7 ...	... ...	6 1 ...	2	28 11 ...	18	68	11 1 ...	... ...	6	7	25	44 1 ...	694 29 ...
9	Kohat, Kurram Force.	1,992	1,992	34·1	...	1,035·1 11·55 ...	Admitted Died Invalided	... ...	... ...	1	1	1,083 2 ...	181 7 ...	13	... ...	8 1 ...	11 6 ...	43 1 ...	172 1 ...	26	2 1 ...	6	13	14	29	2,062 23 ...
10	1st Bengal Infantry, Mauritius, May 1898, from Jhansi.	808	808	40·1	7	1,189·4 3·71 ...	Admitted Died Invalided	... ...	... ...	... ...	... ...	379 1 ...	1	... ...	... ...	... ...	4	17	60 1 ...	8	... ...	... ...	... ...	25	... ...	96 1 ...
	GRAND TOTAL	139,321	121,318	3,754·6	4,142	821·7 12·86 12·72	Admitted Died Invalided	1,034 4 1	45 42 ...	25 1 ...	37 15 ...	41,356 70 119	2,397 126 4	794 4 ...	197 23 84	420 78 62	1,991 445 7	3,304 42 96	5,203 57 12	1,111 22 6	17 7 ...	180 12 3	306 3 10	4,936 8 99	2,089 14 444	99,68 1,26 1,77

N.B.—This table excludes statistics for periods of field service, as such statistics cannot be obtained by regiments.

TABLE XXXIX—*continued.*

STATISTICS OF REGIMENTS.

B.—Race composition, and Location of detachments.

Serial No.	Corps and their Detachments.	Rajputs.	Sikhs.	Dogras or other Hill Hindus.	Gurkhas.	Garhwalis.	Other Hindus.	Total Hindus.	Rohillas.	Punjabi Mussalmans.	Trans-Indus Pathans.	Other Mussalmans.	Total Mussalmans.	Native Christians.	Burmans.	Jews.	Total.
1	Governor General's Body-Guard, Dehra Dun, with 8 men detached at Simla	10	33	...	...	...	17	60	...	29	...	31	60	...	...	...	120
2	1st Bengal Lancers, Lucknow	3	...	...	...	...	4	7	...	7	...	611	618	...	...	...	625
3	2nd Bengal Lancers, Meerut, with 42 men detached at Delhi	149	152	2	...	...	155	458	...	22	...	140	162	...	...	...	620
4	4th Bengal Cavalry, Saugor, with 102 men detached at Jubbulpore and Sutna	7	140	5	...	...	152	304	...	25	3	293	321	...	...	...	625
5	5th Bengal Cavalry, Cawnpore	97	26	14	...	...	211	348	...	24	1	245	270	...	...	...	618
6	6th Bengal Cavalry, Nowgong	47	228	22	...	...	141	438	...	14	1	148	163	...	...	...	601
7	7th Bengal Cavalry, Fyzabad, with 83 men detached at Alipore	75	78	76	...	...	221	450	...	4	2	164	170	...	...	...	620
8	8th Bengal Cavalry, Bareilly	121	89	...	...	...	89	299	43	77	6	190	316	...	...	...	615
9	14th Bengal Lancers, Allahabad	3	...	...	...	...	590	593	...	6	...	14	20	2	...	...	615
10	1st Central India Horse, Goona, with 20 men detached at Gwalior	55	239	...	...	...	54	348	...	73	58	128	259	...	...	...	607
11	2nd Central India Horse, Agar, with 29 men detached at Indore	25	244	...	...	...	94	363	3	66	19	161	249	3	...	...	615
12	Bengal Sappers and Miners, Roorkee, with 197 men detached at Rawalpindi, Peshawar, and Quetta	128	464	22	10	...	165	789	...	398	98	129	625	2	...	...	1416
13	Depôt 1st Bengal Infantry, Jhansi	1	...	...	...	...	100	101	...	...	...	...	...	1	...	...	102
14	2nd Bengal Infantry, Agra	751	...	...	...	...	92	843	...	...	1	40	41	17	...	...	901
15	3rd Bengal Infantry, Allahabad	1	...	...	...	...	816	817	...	...	...	51	51	8	...	...	876
16	4th Bengal Infantry, Fort William, with 54 men detached at Dum-Dum	780	12	...	...	...	23	815	...	...	...	51	51	9	...	...	875
17	5th Bengal Infantry, Alipore, with 81 men detached at Dum-Dum	1	1	1	1	...	13	17	...	6	1	877	884	6	...	...	907
18	6th Bengal Infantry, Meerut	...	...	...	...	...	855	855	...	...	...	40	40	...	...	...	895
19	7th Bengal Infantry, Doranda	437	2	...	...	...	14	453	...	...	...	49	49	4	...	...	506
20	Wing, 7th Bengal Infantry, Buxa	327	3	...	1	...	31	362	...	...	...	6	6	...	...	...	368
21	Depôt, 8th Bengal Infantry, Nowgong	139	4	1	...	...	15	159	...	2	...	26	28	...	...	...	187
22	Depôt, 9th Gurkha Rifles, Lansdowne	...	...	3	101	...	13	117	...	3	...	9	12	14	...	...	143
23	10th Bengal Infantry, Silchar	2	1	...	...	...	491	494	...	3	...	17	20	17	...	...	531
24	Wing, 10th Bengal Infantry, Dibrugarh, with 18 men detached at Sadiya	...	...	...	...	...	429	429	...	3	...	12	15	9	...	...	453
25	11th Bengal Infantry, Lucknow	758	...	...	...	...	91	849	...	2	...	51	53	6	...	...	908
26	12th Bengal Infantry, Bareilly	1	3	...	...	...	10	14	...	31	3	856	890	6	...	...	910
27	Depôt, 13th Bengal Infantry, Fyzabad	138	4	...	1	...	24	167	...	...	...	...	...	1	...	...	168
28	16th Bengal Infantry, Cawnpore, with 50 men detached at Fatehgarh	772	23	1	...	...	13	809	...	4	...	32	36	9	...	...	854
29	17th Bengal Infantry, Benares, with 298 men detached at Dibrugarh and Sadiya	...	2	...	...	...	6	8	...	25	...	853	878	15	...	...	901
30	18th Bengal Infantry, Dinapore, with 186 men detached at Gantak	...	...	...	1	...	9	10	...	10	...	873	883	3	...	...	896
31	20th Punjab Infantry, Delhi	...	226	228	...	...	6	460	...	12	424	1	437	...	...	...	897
32	Depôt, 39th Garhwal Rifles, Lansdowne	...	...	...	4	152	15	171	...	...	...	...	...	...	...	...	171
33	42nd Gurkha Rifles, Shillong	...	...	...	870	...	1	871	...	...	...	3	3	...	...	...	874
34	43rd Gurkha Rifles, Kohima, with 60 men detached at Manipur	...	...	...	886	...	3	889	...	...	...	5	5	1	...	...	895
35	44th Gurkha Rifles, Manipur	1	...	...	863	...	9	873	...	...	...	5	5	...	...	...	878
36	Bhopal Battalion, Sehore, with 68 men detached at Indore	174	193	81	...	...	249	697	...	22	...	194	216	8	...	...	921
37	5th Madras Infantry, Nowgong, with 43 men detached at Fatehgarh	22	...	...	...	...	373	395	...	6	...	341	347	62	...	...	804
38	6th Madras Infantry, Jhansi, with 103 men detached at Meerut, Nowgong, and Bangalore	11	...	...	...	...	445	456	...	...	...	245	245	68	...	...	769

TABLE XXXIX—*continued.*

STATISTICS OF REGIMENTS.

B.—Race Composition, and Location of Detachments.

Serial No.	Corps and their Detachments.	Rajputs.	Sikhs.	Dogras or other Hill Hindus.	Gurkhas.	Garhwalis.	Other Hindus.	Total Hindus.	Rohillas.	Punjabi Mussalmans.	Trans-Indus Pathans.	Other Mussalmans.	Total Mussalmans.	Native Christians.	Burmans.	Jews.	Total.
39	8th Madras Infantry, Barrackpore, with 18 men detached at Bangalore	34	...	...	...	...	365	399	...	...	...	331	331	69	...	...	799
40	Wing, 22nd Madras Infantry, Cuttack	9	...	...	...	...	242	251	...	...	...	102	102	8	...	...	361
41	7th Bombay Infantry, Jubbulpore	63	22	9	...	...	418	512	...	2	...	243	245	14	...	3	774
42	12th Bombay Infantry, Saugor	...	34	...	...	...	529	563	...	175	1	16	192	9	...	9	773
43	1-2nd Gurkha Rifles, Dehra Dun	...	...	...	884	...	...	884	...	...	...	...	...	...	...	...	884
44	Depôt, 2-2nd Gurkha Rifles, Dehra Dun	...	...	...	199	...	...	199	...	...	...	...	...	...	...	...	199
45	1-3rd Gurkha Rifles, Almora, with 45 men detached at Ranikhet	...	...	...	878	...	5	883	...	...	...	...	...	...	...	...	883
46	2-3rd Gurkha Rifles, Lansdowne, with 158 men detached at Naini Tal and Almora	...	...	...	884	...	2	886	...	...	...	...	...	...	...	...	886
47	Drivers, No. 9 Mountain Battery, Royal Artillery, Darjeeling	1	52	3	...	...	16	72	...	48	...	29	77	...	...	...	149
48	3rd Bengal Cavalry, Kohat, with 26 men detached at Usterzai	76	152	...	...	...	155	383	...	4	1	236	241	...	...	...	624
49	Depôt, 3rd Bengal Cavalry, Jullundur	15	22	...	...	...	27	64	...	2	...	57	59	...	...	...	123
50	9th Bengal Lancers, Mooltan, with 32 men detached at Rawalpindi	1	231	68	...	...	12	312	...	229	78	5	312	...	...	...	624
51	10th Bengal Lancers, Nowshera	...	242	120	...	...	31	393	...	149	77	5	231	...	...	...	624
52	11th Bengal Lancers, Jhelum	1	268	134	...	...	44	447	...	101	67	4	172	1	...	...	620
53	12th Bengal Cavalry, Peshawar, with 44 men detached at Fort Jamrud	...	333	101	...	...	20	454	...	152	5	4	161	...	...	...	615
54	13th Bengal Lancers, Rawalpindi	...	202	124	...	...	49	375	...	176	42	15	233	...	...	...	608
55	15th Bengal Lancers, Ferozepore	...	2	...	...	...	3	5	...	222	380	12	614	...	...	...	619
56	16th Bengal Cavalry, Umballa	1	310	151	...	...	149	611	...	8	...	4	12	...	...	...	623
57	17th Bengal Cavalry, Meean Meer, with 50 men detached at Ferozepore	...	...	...	...	...	2	2	...	312	303	8	623	...	...	...	625
58	18th Bengal Lancers, Sialkot	...	140	...	...	...	7	147	...	460	1	8	469	...	...	...	616
59	1st Punjab Cavalry, Kohat, with 180 men detached at Jandola, Miran Shah, Datta Khel, Boya, Idak, Saidgi, Khajuri, and Sarwekai	...	202	71	...	...	25	298	...	17	145	159	321	...	...	...	619
60	2nd Punjab Cavalry, Edwardesabad, with 235 men detached at Wana, Khajuri Kach, Tank, Jatta, Draband, Jandola, and Sarwekai	77	229	...	...	...	...	306	...	118	114	86	318	...	...	...	624
61	3rd Punjab Cavalry, Kohat, with 31 men detached at Bahadur Khel and Edwardesabad	12	214	50	...	...	31	307	...	98	74	140	312	...	...	...	619
62	5th Punjab Cavalry, Dera Ismail Khan, with 20 men detached at Mangrota	5	238	66	...	...	9	308	...	151	77	89	317	...	...	...	625
63	8th Bengal Infantry, Miran Shah, with 45 men detached at Peshawar and Hari Singh-Ka-Burj	728	10	4	...	...	113	855	...	7	...	29	36	...	...	...	891
64	13th Bengal Infantry, Peshawar, with 39 men detached at Cherat, Bara, and Fort Jamrud	723	28	...	24	...	37	812	...	21	...	23	44	4	...	...	860
65	14th Sikh Infantry, Nowshera, with 163 men detached at Ferozepore, Miran Shah, Idak, Khajuri, Saidgi, and Chapri	...	873	...	...	...	3	876	...	6	...	...	6	2	...	...	884
66	15th Sikh Infantry, Ferozepore	...	848	...	4	...	8	860	...	8	...	6	14	4	...	...	878
67	19th Punjab Infantry, Sialkot	...	454	2	...	...	...	456	...	226	226	2	454	...	...	...	910
68	Depôt, 21st Punjab Infantry, Sialkot	...	49	20	...	...	1	70	...	21	68	...	89	...	...	...	159
69	Depôt, 22nd Punjab Infantry, Jhelum	...	52	1	...	...	1	54	...	91	13	1	105	2	...	...	161
70	23rd Pioneers, Umballa, with 313 men detached at Amritsar, Ludhiana, Jhelum, and Sialkot	...	845	...	...	...	34	879	...	13	...	6	19	2	...	...	900
71	24th Punjab Infantry, Peshawar, with 45 men detached at Mooltan and Sialkot	...	413	106	...	...	2	521	...	135	213	35	383	...	...	...	904
72	25th Punjab Infantry, Rawalpindi, with 85 men detached at Attock and Murree	...	337	193	...	...	27	557	...	234	103	7	344	3	...	...	904

Serial No.	Corps and their Detachments.	Rajputs.	Sikhs.	Dogras or other Hill Hindus.	Gurkhas.	Garhwalis.	Other Hindus.	Total Hindus.	Rohillas.	Punjabi Mussalmans.	Trans-Indus Pathans.	Other Mussalmans.	Total Mussalmans.	Native Christians.	Burmans.	Jews.	Total.
73	26th Punjab Infantry, Jullundur, with 206 men detached at Meean Meer and Peshawar	...	434	103	...	...	13	550	...	23	312	20	355	2	...	...	907
74	27th Punjab Infantry, Peshawar, with 61 men detached at Rawalpindi	...	308	106	...	...	36	450	...	245	218	5	468	...	...	...	918
75	28th Punjab Infantry, Ferozepore, with 61 men detached at Attock and Amritsar	...	334	110	...	...	2	446	...	149	306	...	455	...	...	...	901
76	Depôt, 29th Punjab Infantry, Peshawar	1	88	33	...	...	3	125	...	41	1	2	44	7	...	...	176
77	Depôt, 30th Punjab Infantry, Peshawar	...	72	42	1	...	...	115	...	38	...	1	39	...	...	...	154
78	31st Punjab Infantry, Sialkot	...	435	199	...	...	8	642	...	206	15	15	236	4	...	...	882
79	32nd Pioneers, Meean Meer	...	880	...	2	...	1	883	...	...	...	7	7	...	...	...	890
80	33rd Punjab Infantry, Datta Khel, with 250 men detached at Edwardesabad, Boya, and Miran Shah	...	1	...	...	...	...	1	...	911	...	3	914	...	...	...	915
81	Depôt, 34th Pioneers, Jhelum	...	170	...	...	...	...	170	...	3	...	...	3	...	...	...	173
82	35th Sikh Infantry, Peshawar	...	877	...	...	...	2	879	...	5	...	...	5	...	...	...	884
83	36th Sikh Infantry, Rawalpindi, with 50 men detached at Attock	...	870	1	...	...	3	874	...	14	...	...	14	...	...	...	888
84	37th Dogras, Idak, with 477 men detached at Sialkot, Cherat, Gilgit, Hari Singh-Ka-Burj, Peshawar, Khajuri, Saidgi, Edwardesabad, and Miran Shah	...	3	897	...	...	...	900	...	3	...	...	3	1	...	...	904
85	Depôt, 38th Dogras, Nowshera	...	2	144	...	...	7	153	...	6	...	3	9	8	...	...	170
86	40th Pathans, Meean Meer	...	2	...	...	...	4	6	...	7	853	3	863	...	...	...	869
87	45th Sikh Infantry, Mooltan	...	857	1	...	...	4	862	...	21	...	8	29	...	...	...	891
88	1st Punjab Infantry, Edwardesabad, with 79 men detached at Boya, Miran Shah, Khajuri, Saidgi and Jani Khel	...	210	101	...	...	2	313	...	218	366	...	584	...	...	...	897
89	2nd Punjab Infantry, Kohat, with 19 men detached at Abbottabad	...	328	115	...	...	7	450	...	359	106	...	465	...	...	...	915
90	4th Punjab Infantry, Kohat, with 65 men detached at Dera Ismail Khan, and Bahadur Khel	2	223	213	...	...	9	447	...	255	229	5	489	...	...	...	936
91	5th Punjab Infantry, Dera Ismail Khan, with 286 men detached at Jandola and Sarwekai	...	346	101	...	...	13	460	...	169	286	2	457	...	...	...	917
92	6th Punjab Infantry, Dera Ghazi Khan, with 104 men detached at Tank, Jatta, Draband, and Mangrota	1	107	116	...	...	9	233	...	88	193	1	282	...	...	...	515
93	Wing 6th Punjab Infantry, Khajuri Kach	4	100	88	...	...	10	202	...	40	121	...	161	...	...	...	363
94	1st Sikh Infantry, Dera Ismail Khan, with 30 men detached at Jani Khel, Miran Shah, and Tank	...	429	109	...	...	3	541	...	136	220	4	360	...	...	...	901
95	2nd Sikh Infantry, Kohat, with 55 men detached at Edwardesabad and Bahadur Khel	...	222	333	...	...	...	555	...	241	107	2	350	...	...	...	905
96	3rd Sikh Infantry, Kohat	...	444	103	...	...	3	550	...	120	223	13	356	...	...	...	906
97	4th Sikh Infantry, Wana, with 156 men detached at Dera Ismail Khan and Jandola	...	450	112	...	...	4	566	...	229	108	1	338	...	...	...	904
98	Corps of Guides, Mardan	...	406	145	107	...	63	721	...	250	391	11	652	...	...	...	1,373
99	1-1st Gurkha Rifles, Dharmsala	...	1	2	882	...	1	886	...	...	...	...	...	4	...	...	890
100	2-1st Gurkha Rifles, Dharmsala	...	1	3	883	...	2	889	...	...	...	...	...	1	...	...	890
101	1-4th Gurkha Rifles, Bakloh	...	1	3	903	...	...	907	...	...	...	1	1	...	...	...	908
102	2-4th Gurkha Rifles, Bakloh	2	1	2	873	...	10	888	...	...	...	...	...	...	...	...	888
103	1-5th Gurkha Rifles, Abbottabad, with 129 men detached at Simla	...	...	...	884	...	3	887	...	...	...	...	...	...	...	...	887
104	2-5th Gurkha Rifles, Abbottabad	...	...	...	901	...	4	905	...	...	...	1	1	...	...	...	906
105	No. 2 Derajat Mountain Battery, Edwardesabad, with 41 men detached at Wana	...	120	...	...	...	6	126	...	130	...	...	130	...	...	...	256
106	No. 3 Peshawar Mountain Battery, Abbottabad	...	123	2	...	...	3	128	...	127	...	...	127	...	...	...	255

TABLE XXXIX—*continued.*

STATISTICS OF REGIMENTS.

B.—Race Composition, and Location of Detachments.

Serial No.	Corps and their Detachments.	Rajputs.	Sikhs.	Dogras or other Hill Hindus.	Gurkhas.	Garhwalis.	Other Hindus.	Total Hindus.	Rohillas.	Punjabi Mussalmans.	Trans-Indus Pathans.	Other Mussalmans.	Total Mussalmans.	Native Christians.	Burmans.	Jews.	Total.
107	No. 4 Hazara Mountain Battery, Datta Khel	...	119	...	...	...	2	121	...	125	...	...	125	...	...	...	246
108	Punjab Garrison Battery, Kohat	...	32	...	...	...	4	36	...	38	...	...	38	...	...	...	74
109	No. 8 Bengal Mountain Battery, Kohat	...	107	11	...	...	5	123	...	126	...	...	126	...	...	...	249
110	No. 6 Bombay Mountain Battery, Dera Ismail Khan, with 22 men detached at Wana	2	110	...	...	...	14	126	...	122	...	1	123	...	...	...	249
111	Drivers, No. 1 Mountain Battery, Royal Artillery, Rawalpindi	...	35	1	...	...	38	74	...	71	...	3	74	...	...	...	148
112	Drivers, No. 5 Mountain Battery, Royal Artillery, Rawalpindi	11	22	1	...	...	34	68	..	75	...	1	76	...	...	...	144
113	Drivers, No. 7 Mountain Battery, Royal Artillery, Rawalpindi	1	71	...	...	...	3	75	...	74	...	...	74	...	...	...	149
114	Drivers, No. 8 Mountain Battery, Royal Artillery, Jutogh	...	26	3	...	...	19	48	...	100	2	...	102	...	...	...	150
115	Governor's Body-Guard, Madras	4	...	...	...	...	3	7	...	...	5	53	58	5	...	...	70
116	1st Madras Lancers, Bellary	33	...	...	...	...	68	101	...	...	...	465	465	26	...	...	592
117	2nd Madras Lancers, Bangalore, with 19 men detached at Madras	43	...	...	...	...	94	137	...	...	...	424	424	26	...	...	587
118	3rd Madras Lancers, Secunderabad	53	...	...	...	...	46	99	...	1	50	406	457	26	...	...	582
119	Madras Sappers and Miners, Bangalore, with 456 men detached at Secunderabad, Fort Dufferin, and Maymyo	3	...	...	...	...	904	907	...	...	...	57	57	209	169	...	1,432
120	1st Madras Pioneers, Bangalore	2	...	...	...	...	537	539	...	...	...	189	189	84	...	...	812
121	2nd Madras Infantry, Vizianagram	17	...	...	...	...	427	444	...	...	...	305	305	78	...	...	827
122	3rd Madras Infantry, Secunderabad	11	...	...	...	...	383	394	...	...	...	348	348	76	...	...	818
123	4th Madras Infantry, Trichinopoly	1	...	...	...	...	523	524	...	...	2	179	181	111	...	...	816
124	7th Madras Infantry, Rangoon, with 96 men detached at Trichinopoly and Sitabaldi	20	...	...	...	...	351	371	...	...	...	381	381	68	...	...	820
125	9th Madras Infantry, Bellary	9	...	...	...	...	428	437	...	...	...	298	298	84	...	...	819
126	1st Burma Rifles (10th Madras Infantry), Mandalay, with 101 men detached at Maymyo	...	...	...	728	...	49	777	...	...	...	4	4	...	...	...	781
127	11th Madras Infantry, Secunderabad	16	...	...	...	...	474	490	...	...	...	270	270	69	...	...	829
128	2nd Burma Battalion (12th Madras Infantry), Bhamo, with 45 men detached at Thabeitkyin	...	416	2	...	...	...	418	...	233	178	1	412	1	...	...	831
129	14th Madras Infantry, St. Thomas' Mount, with 19 men detached at Ootacamund	5	...	...	...	...	518	523	...	...	...	224	224	77	...	...	824
130	15th Madras Infantry, Rangoon, with 311 men detached at Port Blair	10	...	...	...	...	295	305	...	...	...	428	428	60	...	...	793
131	16th Madras Infantry, Berhampur	11	...	...	...	...	404	415	...	66	...	292	358	56	...	...	829
132	17th Madras Infantry, Bangalore	13	...	...	...	...	425	438	...	...	...	298	298	81	...	...	817
133	19th Madras Infantry, Secunderabad	26	...	...	...	...	390	416	...	...	...	314	314	72	...	...	802
134	20th Madras Infantry, Cannanore	7	...	...	...	...	317	324	...	...	...	391	391	70	...	...	735
135	21st Madras Infantry, Belgam	11	...	...	...	...	509	520	...	...	...	164	164	100	...	...	784
136	Head-Quarters, 22nd Madras Infantry, Berhampur	...	...	...	...	...	144	144	...	...	...	232	232	71	...	...	447
137	23rd Madras Infantry, Secunderabad	6	...	...	...	...	379	385	...	3	...	371	374	62	...	...	821
138	24th Madras Infantry, Quilon, with 196 men detached at Trichoor and Trivandrum	7	...	...	..	...	335	342	...	...	...	389	389	83	...	...	814
139	25th Madras Infantry, Cannanore	7	...	...	...	...	277	284	...	...	...	468	468	66	...	...	818
140	26th Madras Infantry, Belgam	5	...	...	...	...	509	514	...	...	...	197	197	84	...	...	795
141	27th Madras Infantry, Trichinopoly, with 24 men detached at Ootacamund	22	...	...	...	...	499	521	...	...	...	242	242	67	...	...	831
142	28th Madras Infantry, Madras, with 79 men detached at Pallavaram	41	...	...	...	...	419	460	...	...	...	298	298	73	...	...	831

Serial No.	Corps and their Detachments.	Rajputs.	Sikhs.	Dogras or other Hill Hindus.	Gurkhas.	Garhwalis.	Other Hindus.	Total Hindus.	Rohillas.	Punjabi Mussalmans.	Trans-Indus Pathans.	Other Mussalmans.	Total Mussalmans.	Native Christians.	Burmans.	Jews.	Total.
3	7th Burma Battalion (29th Madras Infantry), Fort Stedman, with 230 men detached at Bampon, Loikaw, Toungyi, and Thamakan	93	287	...	1	...	96	477	...	301	4	...	305	25	...	...	807
4	5th Burma Battalion (30th Madras Infantry), Mandalay	67	457	7	...	...	85	616	...	199	...	2	201	1	...	...	818
5	6th Burma Battalion (31st Madras Infantry), Maktila	7	202	195	...	3	40	447	...	301	...	46	347	29	...	...	823
6	4th Burma Battalion (32nd Madras Infantry), Mandalay	...	377	3	...	...	22	402	...	377	16	17	410	30	...	...	842
7	3rd Burma Battalion (33rd Madras Infantry), Keng Tung	...	488	...	1	...	1	490	...	212	102	...	314	...	...	...	804
8	No. 7 Bengal Mountain Battery, Bhamo	...	93	...	...	...	17	110	...	108	...	...	108	...	...	...	218
9	Drivers, No. 6 Mountain Battery, Royal Artillery, Mandalay	...	70	1	...	...	3	74	...	75	...	...	75	...	...	...	149
0	Governor's Body-Guard, Poona	2	...	...	...	...	37	39	...	...	...	31	31	...	...	...	70
1	1st Bombay Lancers, Poona	...	135	...	...	...	278	413	...	4	80	102	186	9	...	...	608
2	2nd Bombay Lancers, Deesa, with 115 men detached at Rajkot	94	145	...	...	...	148	387	...	1	...	210	211	2	...	1	601
3	3rd Bombay Cavalry, Neemuch, with 135 men detached at Rajkot and Nasirabad	28	158	...	...	...	170	356	...	2	5	225	232	2	...	...	590
4	4th Bombay Cavalry, Sirur	167	36	...	...	...	30	233	...	157	...	224	381	...	...	1	615
5	5th Bombay Cavalry, Fort Sandeman, with 126 men detached at Chaman, Peshin, Khan Mohamed Kot, and Mir Ali Khel	5	158	...	...	...	5	168	...	11	402	30	443	...	...	...	611
6	6th Bombay Cavalry, Quetta, with 86 men detached at Chaman and Peshin	...	153	...	...	...	11	164	...	226	138	88	452	...	...	...	616
7	7th Bombay Lancers, Jacobabad, with 28 men detached at Khan Mohamed Kot and Mir Ali Khel	...	157	...	...	...	...	157	...	124	121	206	451	...	...	...	608
8	19th Bengal Lancers, Loralai, with 19 men detached at Gumbaz, Murgha, and Kila Saifulla	...	212	73	1	...	8	294	...	231	66	17	314	...	...	...	608
9	Aden Troop, Khormaksar	14	...	...	...	...	...	14	...	6	...	80	86	...	...	...	100
0	Bombay Sappers and Miners, Kirkee, with 243 men detached at Aden and Quetta	126	77	1	...	...	508	712	...	67	...	101	168	...	...	3	883
1	1st Bombay Infantry, Kurrachee, with 75 men detached at Bhuj	19	3	...	...	...	427	449	...	192	...	101	293	11	...	1	754
2	2nd Bombay Infantry, Poona	2	13	...	...	...	562	577	...	174	...	6	180	15	...	4	776
3	Depôt, 3rd Bombay Infantry, Satara	...	...	...	...	...	90	90	...	...	...	24	24	...	...	2	116
4	4th Bombay Rifles, Mhow, with 358 men detached at Ahmedabad, Sadra, and Indore	150	20	...	...	...	396	566	...	196	1	15	212	2	...	2	782
5	5th Bombay Infantry, Rajkot, with 108 men detached at Deesa, Ahmedabad, and Sadra	...	15	...	...	...	628	643	...	1	...	141	142	5	...	4	794
6	8th Bombay Infantry, Baroda, with 119 men detached at Bombay	11	5	...	...	...	450	466	...	194	1	105	300	4	...	7	777
7	9th Bombay Infantry, Ahmednagar, with 95 men detached at Malegaon	3	33	...	...	...	465	501	...	159	...	116	275	11	...	3	790
8	10th Bombay Infantry, Aden, with 192 men detached at Zaila, Perim, Bulhar, Berbera, and Sheikh Othman	16	12	...	...	...	578	606	...	7	...	157	164	9	...	6	785
9	13th Bombay Infantry, Deesa	7	17	...	...	...	511	535	...	202	1	8	211	4	...	1	751
0	14th Bombay Infantry, Poona	2	31	...	...	...	606	639	...	2	...	99	101	10	...	7	757
1	16th Bombay Infantry, Peshin, with 66 men detached at Mir Ali Khel	15	7	1	...	...	644	667	...	5	...	118	123	9	...	2	801
2	17th Bombay Infantry, Fort Sandeman, with 159 men detached at Bhuj, Sibi, Sharigh, Quetta, and Mir Ali Khel	29	8	...	...	...	653	690	...	6	...	71	77	11	...	2	780
3	19th Bombay Infantry, Poona, with 54 men detached at Kirkee	94	...	1	...	...	482	577	...	...	...	197	197	3	...	3	780

TABLE XXXIX—*concluded.*

STATISTICS OF REGIMENTS.

B.—Race Composition, and Location of Detachments.

Serial No.	Corps and their Detachments.	Rajputs.	Sikhs.	Dogras or other Hill Hindus.	Gurkhas.	Garhwalis.	Other Hindus.	Total Hindus.	Rohillas.	Punjabi Mussalmans.	Trans-Indus Pathans.	Other Mussalmans.	Total Mussalmans.	Native Christians.	Burmans.	Jews.	Total.
174	20th Bombay Infantry, Mhow, with 186 men detached at Indore and Asirgarh	126	19	...	...	...	474	619	...	2	2	151	155	14	...	...	788
175	21st Bombay Infantry, Bombay, with 219 men detached at Chabbar, Jask, Bushire, Bagdad, Muscat, and Indian Marine Ship *Lawrence*	...	...	...	...	...	355	355	...	3	...	425	428	17	...	...	800
176	22nd Bombay Infantry, Quetta, with 143 men detached at Shelabagh, Sharigh, Spinwana, Sibi, and Thana	118	1	...	...	...	472	591	...	1	...	181	182	19	...	13	805
177	23rd Bombay Infantry, Nasirabad	182	20	...	...	...	340	542	...	180	...	33	213	17	...	...	772
178	24th Bombay Infantry, Quetta, with 28 men detached at Peshin and Shelabagh	1	8	...	1	...	2	12	...	267	263	253	783	...	...	...	795
179	25th Bombay Infantry, Bombay, with 99 men detached at Sibi, Thana, Nasik, and Butcher's Island	197	2	...	...	...	353	552	...	205	...	8	213	2	...	2	769
180	26th Bombay Infantry, Loralai, with 67 men detached at Murgha and Hindubagh	...	30	...	...	...	4	34	...	33	241	442	716	...	...	...	750
181	Depôt, 1st Baluch Battalion (27th Bombay Infantry), Kurrachee	...	5	...	...	...	...	5	...	32	68	53	153	...	...	...	158
182	28th Bombay Pioneers, Kirkee	12	81	...	2	...	407	502	...	3	191	33	227	2	...	3	734
183	2nd Baluch Battalion (29th Bombay Infantry), Hyderabad, with 93 men detached at Spinwana and Jacobabad	...	...	1	...	...	...	1	...	256	243	301	800	...	...	...	801
184	3rd Baluch Battalion (30th Bombay Infantry), Chaman, with 68 men detached at Hyderabad, Jacobabad, Shelabagh and Spinwana	1	5	1	...	...	7	14	...	309	153	317	779	...	...	...	793
185	Malwa Bhil Corps, Sirdarpore, with 148 men detached at Jhabwa, Alirajpore, and Barwani	...	...	...	...	...	607	607	...	...	...	...	...	...	...	...	607
186	Mewar Bhil Corps, Kherwara, with 222 men detached at Udaipur and Kotra	9	...	...	...	...	678	687	...	1	...	20	21	...	...	...	708
187	Merwara Battalion, Ajmer, with 70 men detached at Beawar and Sambhar	7	...	...	...	...	682	689	...	...	...	23	23	...	...	...	712
188	Deoli Irregular Force, Deoli, with 161 men detached at Jhalawar, Jaipur, and Kotah	120	99	...	...	...	554	773	...	9	...	33	42	...	...	...	815
189	Erinpura Irregular Force, Erinpura, with 137 men detached at Bikaner, Mount Abu, and Pachbodra	128	73	...	...	...	490	691	...	8	...	115	123	...	...	...	814
190	13th Madras Infantry, Raipur	20	...	...	...	...	194	214	...	...	...	186	186	56	...	...	456
191	Wing, 13th Madras Infantry, Sambalpur	16	...	...	...	..	162	178	...	...	...	150	150	21	...	...	349
192	Drivers, No. 2 Mountain Battery, Royal Artillery, Quetta	3	26	9	...	...	36	74	...	75	...	...	75	...	...	...	149
193	1st Lancers, Hyderabad Contingent, Mominabad	61	147	...	...	...	75	283	...	1	...	214	215	...	...	...	498
194	2nd Lancers, Hyderabad Contingent, Bolarum	14	161	...	...	...	106	281	...	...	...	209	209	1	...	...	491
195	3rd Lancers, Hyderabad Contingent, Aurangabad	...	171	...	...	...	37	208	...	2	...	289	291	...	...	...	499
196	4th Lancers, Hyderabad Contingent, Hingoli	9	162	...	...	...	71	242	...	6	...	248	254	2	...	...	498
197	1st Infantry, Hyderabad Contingent, Jalna	195	...	...	...	...	303	498	...	...	...	301	301	4	...	...	803
198	2nd Infantry, Hyderabad Contingent, Raichur	247	...	...	...	...	313	560	...	...	...	235	235	14	...	...	809
199	3rd Infantry, Hyderabad Contingent, Aurangabad	213	...	...	...	...	299	512	...	2	...	298	300	6	...	...	818
200	4th Infantry, Hyderabad Contingent, Ellichpur	180	...	...	...	...	342	522	2	...	...	259	261	11	...	...	794
201	5th Infantry, Hyderabad Contingent, Bolarum	142	24	...	...	...	492	658	...	6	...	158	164	8	...	...	830
202	6th Infantry, Hyderabad Contingent, Hingoli	289	...	...	...	...	220	509	...	...	...	303	303	4	...	...	816
203	No. 1 Field Battery, Hyderabad Contingent, Bolarum	27	...	...	...	...	31	58	...	...	...	48	48	...	...	...	106
204	No. 2 Field Battery, Hyderabad Contingent, Aurangabad	27	...	...	...	...	26	53	...	2	...	51	53	1	...	...	107
205	No. 3 Field Battery, Hyderabad Contingent, Hingoli	26	...	...	...	...	37	63	...	...	...	49	49	1	...	...	113
206	No. 4 Field Battery, Hyderabad Contingent, Ellichpur	27	...	...	...	...	29	56	...	...	...	53	53	...	...	...	109

Commands.	Rajputs.	Sikhs.	Dogras or other Hill Hindus.	Gurkhas.	Garhwalis.	Other Hindus.	Total Hindus.	Rohillas.	Punjabi Mussalmans.	Trans-Indus Pathans.	Other Mussalmans.	Total Mussalmans.	Native Christians.	Burmans.	Jews.	Total.
Bengal	5,143	2,275	468	5,583	152	7,616	21,237	46	1,099	618	7,612	9,375	371	...	12	30,995
Punjab	1,663	16,051	4,411	5,464	...	1,144	28,733	...	7,726	6,044	1,054	14,824	45	...	...	43,602
Madras	550	2,390	208	730	3	10,061	13,942	...	1,876	357	7,753	9,986	1,970	169	...	26,067
Bombay	1,724	1,764	87	4	...	13,504	17,083	...	3,351	1,976	5,196	10,523	255	...	67	27,928
Hyderabad Contingent	1,457	665	...	...	...	2,381	4,503	2	19	...	2,715	2,736	52	...	...	7,291
1st Bengal Infantry, Mauritius	1	3	...	...	...	759	763	...	5	...	20	25	8	...	...	796
INDIA	10,538	23,148	5,174	11,781	155	35,465	86,261	48	14,076	8,995	24,350	47,469	2,701	169	79	136,679

*Death-rate per 1,000 of strength.**

	Bengal.	Punjab.	Madras.	Bombay.	Hyderabad Contingent.	India.
Rajputs	1·70	1·04	·47	·58	1·84	·92
Sikhs	·78	5·66	1·51	1·34	·14	2·25
Dogras or other Hill Hindus	·07	2·35	·04	·04	...	·67
Gurkhas	4·23	2·22	·54	...	...	1·58
Garhwalis	·14	...	...	...	...	·03
Other Hindus	3·95	·33	5·31	6·12	2·12	3·15
Total Hindus	10·91	11·60	7·87	8·08	4·11	8·60
Rohillas	...	...	...	...	...	...
Punjabi Mussalmans	·65	3·56	·43	·80	...	1·34
Trans-Indus Pathans	·10	1·97	·12	·76	...	·73
Other Mussalmans	2·59	·40	2·83	1·23	2·69	1·52
Total Mussalmans	3·34	5·94	3·37	2·79	2·69	3·59
Native Christians	·41	·03	1·01	·04	...	·28
Burmans	...	...	·04	...	...	·01
Jews	...	...	...	...	...	...

* As far as data are available.

III.—PRISONERS, 1898.

TABLE K.

JAILS by ADMINISTRATIONS.

JAILS.	Height above the sea level in feet.*	Authority for height.†
ANDAMANS :—		
Port Blair Convict Settlement	85	S. G.
BURMA :—		
Mergui	14	S. G.
Tavoy	69	,,
Moulmein‡	288	,,
Shwegyin	128	,,
Toungoo	156	,,
Rangoon Central, Europeans	14	,,
,, ,, natives		
Maubin	...	...
Bassein Central	40	S. G.
Insein Central	34	,,
Henzada	44	,,
Myanaung	74	,,
Sandoway	...	...
Kyaukpyu	...	...
Akyab	32	S. G.
Paungdi	...	...
Prome	...	...
Thayetmyo Central	145	S. G.
Taungdwingyi	492	,,
Magwe	...	...
Minbu	...	...
Yamethin	653	S. G.
Meiktila	298	,,
Pagan	...	...
Pakôkku	...	...
Myingyan Central	243	S. G.
Mandalay Central	249	,,
Monywa	...	...
Shwebo	600	M. O.
Bhamo	351	S. G.
Katha	329	,,
Kindat	361	,,
ASSAM :—		
Cachar (Silchar)	104	M. D.
Sibsagar	318	S. G.
Dibrugarh	342	,,
Tezpur	292	,,
Nowgong	208	,,
Gauhati	134	I. B.
Dhubri	158	S. G.
Sylhet	257	M. D.
Shillong	4,987	S. G.
BENGAL :—		
Mymensingh	59	M. D.
Dacca Central	20	,,
Tippera (Comilla)	36	,,
Chittagong	87	,,
Noakhali	43	,,
Backergunge (Barisal)	13	,,
Khulna	...	...
Jessore	33	M. D.
Baraset	...	...
Presidency Central, Europeans	17	S. G.
,, ,, natives		
Alipore Central	21	I. B.
Hooghly	34	S. G.
Burdwan	97	,,
Krishnagar (Nadia)	32	,,
Faridpur	46	M. D.
Pabna	...	...
Murshidabad (Berhampore)	67	M. D.
Rajshahi Central (Rampur Boalia)	70	,,
Bogra	61	,,
Malda	72	,,
Dinajpur	123	,,
Rangpur	123	,,
Jalpaiguri	284	,,
Purneah	120	S. G.
Naya Dumka	489	M. D.
Suri (Birbhum)	...	...
Bankura	298	M. D.
Midnapore Central	149	,,
Balasore	59	S. G.
Cuttack	74	,,
Puri	17	,,
Angul	...	...
Chaibassa (Singhbhum)	745	S. G.
Purulia (Manbhum)	...	...
Ranchi (Lohardaga)	2,128	S. G.
Palamau (Daltonganj)	...	...
Hazaribagh Central	1,997	S. G.
Gaya	375	M. D.
Bhagalpur Central	147	S. G.
BENGAL :—*contd.*		
Monghyr	148	S. G.
Darbhanga	167	,,
Champarun (Motihari)	217	,,
Muzaffarpur	179	,,
Patna (Bankipore)	177	,,
Arrah (Shahabad)	191	,,
Chapra (Saran)	181	M. D.
Buxar Central	204	S. G.
Darjeeling	7,168	,,
N.-W. P. AND OUDH :—		
Ghazipur	227	S. G.
Azamgarh	256	,,
Gorakhpur	255	,,
Basti	292	,,
Fyzabad	336	,,
Sultanpur	305	I. B
Rai Bareli	351	S. G.
Partabgarh	311	,,
Jaunpur	263	,,
Benares Central	256	,,
,, District		
Chunar§	280	I. B.
Mirzapur	283	S. G.
Allahabad Central	298	,,
,, District		
Banda	415	,,
Fatehpur	373	,,
Hamirpur	367	,,
Orai (Jalaun)	...	...
Cawnpore	417	S. G.
Unao	412	,,
Lucknow Central	400	,,
,, District		
Barabanki	378	,,
Gonda	...	...
Bahraich	398	S. G.
Kheri	471	,,
Sitapur	449	,,
Hardoi	462	,,
Etawah	498	,,
Mainpuri	511	,,
Etah	550	,,
Fatehgarh Central	444	I. B.
,, District		
Shahjahanpur	597	S. G.
Bareilly Central	560	,,
,, District		
Budaon	544	,,
Aligarh	610	,,
Bulandshahr	727	,,
Moradabad	655	,,
Bijnor	772	,,
Dehra Dun	2,229	,,
Saharanpur	903	,,
Muzaffarnagar	790	,,
Meerut	739	,,
Muttra	576	,,
Agra Central	554	,,
,, District		
Jhansi	860	,,
Almora	5,494	,,
PUNJAB :—		
Delhi	715	S. G.
Rohtak	712	,,
Hissar	689	I. B.
Karnal	809	S. G.
Umballa	902	,,
Ludhiana	806	,,
Hoshiarpur	1,058	,,
Jullundur	900	,,
Ferozepore	645	,,
Amritsar	756	,,
Lahore Central	706	,,
,, District		
,, Female		
Gurdaspur	...	...
Gujranwala	...	...
Sialkot	829	S. G.
Gujrat	...	...
Mung Rasul, Central	...	...
Jhelum	827	S. G.
Rawalpindi	1,707	,,
Peshawar	1,165	,,
Kohat	1,768	,,
Bannu	1,279	,,
Shahpur	644	,,
Jhang	...	...
Montgomery Central	600	I. B.
Mooltan Central	402	S. G.
PUNJAB :—*contd.*		
Mooltan District	402	S. G.
Dera Ismail Khan	571	,,
Dera Ghazi Khan	395	,,
Simla	7,230	,,
Dharmsala	6,111	,,
Abbottabad	4,152	,,
BOMBAY :—		
Shikarpur	194	S. G.
Sind Gang	...	...
Hyderabad Central	134	I. B.
Kurrachee	28	S. G.
Rajkot	417	,,
Ahmedabad Central	170	,,
Dhulia	842	,,
Yerrowda Central (Poona)	1,951	I. B.
Bijapur District	1,998	S. G.
Deccan Gang	...	...
Dharwar	2,385	S. G.
Thana	24	,,
Bombay Common	20	,,
,, House of Correction		
Ratnagiri	110	M. D.
Karwar	12	S. G.
Aden	26	,,
BERAR AND SECUNDERABAD :—		
Secunderabad	1,732	S. G.
Yeotmahl	1,476	,,
Amraoti Central	1,194	,,
Ellichpur	1,218	,,
Akola Central	920	,,
Basim	1,842	,,
Buldana	2,132	M. D.
CENTRAL PROVINCES :—		
Damoh	1,236	S. G.
Saugor	1,753	,,
Jubbulpore Central	1,306	,,
Narsinghpur	1,305	I. B.
Mandla	1,487	S. G.
Bilaspur	884	,,
Sambalpur	490	,,
Raipur Central	975	,,
Balaghat (Burha)	...	...
Seoni	2,043	S. G.
Chhindwara	2,236	,,
Hoshangabad	1,030	,,
Nimar (Khandwa)	1,042	I. B.
Betul	2,189	S. G.
Nagpur Central	1,025	,,
Bhandara	861	,,
Wardha	935	,,
Chanda	658	,,
Sironcha	406	,,
MADRAS :—		
Mangalore	42	S. G.
Cannanore Central	47	,,
Bellary	1,483	,,
Salem Central	919	,,
Coimbatore Central	1,348	M. D.
Palamcottah	129	S. G.
Madura	438	,,
Trichinopoly Central	274	,,
Tanjore	193	,,
Cuddalore	19	,,
Vellore Central	698	,,
Madras Debtors, natives	15	,,
,, Penitentiary, Central, natives		
Madras Penitentiary, Central, Europeans		
Madras Debtors, Europeans		
Nellore	57	,,
Guntur	...	...
Rajamundry Central	112	M. D.
Vizagapatam	14	S. G.
Berhampur	60	,,
Russellkonda	...	...
RAJPUTANA :—		
Ajmer	1,627	S. G.
BALUCHISTAN :—		
Quetta	5,511	S. G.
COORG :—		
Mercara	3,835	S. G.

* These are not the exact heights of the jails themselves above sea-level, but usually those of the survey-marks or of the mercury-surface in barometer cisterns in the stations in which the jails are situated.

† S. G. = Surveyor-General of India; I. B. = Intelligence Branch of the Quarter-Master-General's Department; M. D. = Meteorological Department; M. O. = Medical officers in charge of Station Hospitals in their Sanitary Reports.

‡ Reduced to the status of a district jail in the first quarter of 1898.

§ Closed on the 15th October 1898.

TABLE XL.

RATIOS of ADMINISTRATIONS.

The ratios of admissions and deaths to strength are taken from Table XLII. The actuals will be found in Table XLIII.

	Ratio per 1,000 of the Average Strength.										
	Andamans.	Burma.	Assam.	Bengal.	N.-W. P. and Oudh.	Punjab.	Bombay.	Berar and Secunderabad.	Central Provinces.	Madras.	India.*
I. Average Annual Strength	10,890	12,674	1,276	18,007	31,535	12,554	8,461	1,612	5,054	8,844	111,344
II. Constantly sick-rate of each month—											
January	40·7	30·0	48·9	31·6	51·9	36·7	29·7	16·5	82·5	46·9	42·4
February	37·9	28·8	41·3	31·6	50·4	33·0	29·0	16·5	72·3	50·4	40·6
March	39·1	30·2	43·5	35·9	50·6	30·8	29·1	18·8	58·4	35·9	39·7
April	39·9	29·1	64·4	36·0	52·7	32·4	25·6	13·2	50·6	31·7	39·5
May	49·5	31·6	67·1	30·4	44·9	33·7	23·8	14·8	39·4	26·8	36·7
June	56·9	34·6	68·9	30·4	40·7	35·1	26·4	14·4	41·9	26·9	37·1
July	62·6	33·8	71·3	31·0	38·9	35·8	27·9	12·8	44·2	27·4	37·4
August	52·5	35·4	63·7	38·2	43·3	39·9	31·3	17·6	57·1	26·7	40·2
September	50·7	34·6	53·0	39·4	50·9	36·8	32·6	19·1	49·3	20·7	41·0
October	49·0	31·1	51·0	37·8	51·4	44·2	31·2	20·1	38·8	20·9	40·6
November	49·4	29·5	51·3	37·5	46·8	43·3	30·7	18·9	38·2	23·3	39·1
December	47·1	28·8	39·8	36·5	46·0	35·4	28·7	12·4	30·8	22·8	36·8
Of the year	48·0	31·5	54·9†	34·7	47·3	36·6	29·0	16·7	51·6	29·6	39·3
Including Subsidiary Jails and Lock-ups	...	...	53·7‡	34·0	47·3§	36·5	27·0	...	...	26·8	38·3
III. Admission-rate of the year—											
Influenza	...	17·3	...	29·2	40·9	·2	·6	4·3	34·0	12·7	21·0
Cholera	...	·9	1·6	·2	...	...	...	...	...	·5	·2
Small-pox	...	·4	...	·1	·9	·2	·1	·6	...	2·7	·6
Enteric Fever	...	·1	...	·2	·1	·2	·1	...	1·0	·6	·2
Intermittent Fever	673·6	92·6	370·7	301·2	323·1	657·0	248·8	149·5	317·8	133·0	341·3
Remittent Fever	11·5	2·7	7·1	8·9	4·1	4·7	14·1	1·9	4·4	·5	6·0
Simple Continued Fever	24·5	38·3	...	50·9	4·5	3·2	·9	44·7	4·4	79·6	24·9
Tubercle of the lungs	7·2	7·1	1·6	9·1	7·2	7·2	5·2	5·6	5·9	15·2	7·8
Pneumonia	2·5	9·1	5·5	16·8	20·5	24·5	18·4	16·1	15·2	9·4	15·8
Other Respiratory Diseases	64·7	14·6	21·9	38·9	26·5	48·4	36·3	23·6	26·1	61·3	36·8
Dysentery	99·1	67·9	180·3	198·1	61·9	91·8	35·3	22·3	114·0	61·3	92·6
Diarrhœa	39·6	27·9	134·0	80·7	49·1	73·9	40·2	16·1	85·7	5·0	51·8
Spleen Diseases	2·6	·4	...	1·3	1·6	5·2	·9	2·5	·8	·1	1·7
Scurvy	·7	2·0	·8	·9	·3	1·7	2·7	2·5	20·6	·2	1·9
Anæmia and Debility	22·5	5·6	51·7	13·4	42·9	14·0	18·0	24·2	44·7	7·7	23·7
Abscess, Ulcer, and Boil	130·8	94·0	40·8	37·9	96·5	179·2	72·1	47·8	83·3	48·2	91·7
All Causes	1,405·2	619·4	1,018·0	1,003·9	930·0	1,368·8	760·1	581·3	1,142·5	715·2	976·5
Including Subsidiary Jails and Lock-ups	...	...	1,185·7	1,009·4	931·3	1,362·5	756·1	...	...	...	959·3
IV. Death-rate of the year—											
Cholera	...	·47	1·57	·17	·03	...	...	...	...	·23	·13
Small-pox	...	...	...	·06	...	...	...	...	...	·11	·02
Enteric Fever	...	·08	...	·11	·06	·08	·12	...	·40	...	·08
Intermittent Fever	·28	·32	7·05	1·44	1·46	·49	...	...	·40	1·36	·97
Remittent Fever	2·57	·55	3·13	·94	·35	1·04	2·25	·62	·59	...	·95
Simple Continued Fever	...	...	...	·06	·03	...	...	...	...	·11	·03
Tubercle of the lungs	5·69	4·18	...	2·78	3·08	2·23	1·77	1·24	3·56	4·18	3·25
Pneumonia	1·29	2·92	1·57	4·11	4·37	5·81	4·85	3·10	2·77	3·73	3·94
Other Respiratory Diseases	·92	·55	1·57	·83	1·14	·80	·83	1·24	1·39	·79	·94
Dysentery	9·18	4·73	8·62	5·11	6·28	4·06	1·54	·62	11·67	5·88	5·72
Diarrhœa	1·56	·71	4·70	1·11	1·74	1·59	2·01	...	3·36	...	1·48
Hepatic Abscess	·09	...	...	·06	·03	·08	·12	...	...	·11	·05
Anæmia and Debility	·83	·39	6·27	·67	4·82	·24	1·54	3·10	3·17	·11	2·01
Phagedæna, Slough, and Gangrene	...	...	...	·06	·03	·08	·24	...	·20	...	·05
All Causes	27·09	20·59	37·62	22·77	29·14	23·50	22·46	14·89	34·63	28·38	25·87
Including Subsidiary Jails and Lock-ups	...	...	36·64	22·59	29·06	23·22	21·24	...	...	26·24	25·47
V. Percentage in 100 admissions—											
Influenza	...	2·79	...	2·90	4·40	·02	·08	·75	2·98	1·77	2·15
Cholera	...	·15	·15	·02	...	...	...	...	...	·06	·02
Small-pox	...	·06	...	·01	·10	·01	·02	·11	...	·38	·06
Enteric Fever	...	·01	...	·02	·01	·01	·02	...	·09	·08	·02
Intermittent Fever	47·94	14·96	36·41	30·00	34·74	48·06	32·73	25·72	27·81	18·59	34·97
Remittent Fever	·82	·43	·69	·89	·44	·34	1·85	·32	·38	·06	·62
Simple Continued Fever	1·74	6·18	...	5·07	·48	·23	·12	7·68	·38	11·13	2·45
Tubercle of the lungs	·51	1·15	·15	·91	·77	·53	·68	·96	·52	2·12	·80
Pneumonia	·18	1·46	·54	1·67	2·21	1·79	2·43	2·77	1·33	1·31	1·61
Other Respiratory Diseases	4·61	2·36	2·16	3·87	2·85	3·54	4·77	4·06	2·29	8·57	3·77
Dysentery	7·05	10·96	17·71	19·74	6·65	6·70	4·65	3·84	9·98	8·57	9·48
Diarrhœa	2·82	4·50	13·16	8·04	5·28	5·55	5·29	2·77	7·50	·70	5·30
Spleen Diseases	·18	·06	...	·13	·17	·38	·12	·43	·07	·02	·17
Scurvy	·05	·32	·08	·09	·03	·12	·36	·43	1·80	·03	·19
Anæmia and Debility	1·60	·90	5·08	1·34	4·61	1·02	2·36	4·16	3·91	1·08	2·43
Abscess, Ulcer, and Boil	9·31	15·17	4·00	3·77	10·37	13·09	9·49	8·22	7·29	6·74	9·39
VI. Percentage in 100 deaths—											
Cholera	...	2·3	4·2	·7	·1	...	...	...	...	·8	·5
Small-pox	...	...	...	·2	...	...	...	...	...	·4	·1
Enteric Fever	...	·4	...	·5	·2	·3	·5	...	1·1	...	·3
Intermittent Fever	1·0	1·5	18·8	6·3	5·0	1·7	...	...	1·1	4·8	3·7
Remittent Fever	9·5	2·7	8·3	4·1	1·2	4·4	10·0	4·2	1·7	...	3·7
Simple Continued Fever	...	...	...	·2	·1	...	...	...	...	·4	·1
Tubercle of the lungs	21·0	20·3	...	12·2	10·6	9·5	7·9	8·3	10·3	14·7	12·6
Pneumonia	4·7	14·2	4·2	18·0	15·7	24·7	21·6	20·8	8·0	13·1	15·2
Other Respiratory Diseases	3·4	2·7	4·2	3·7	3·9	3·4	3·7	8·3	4·0	2·8	3·7
Dysentery	33·9	23·0	22·9	22·4	21·5	17·3	6·8	4·2	33·7	20·7	22·1
Diarrhœa	5·8	3·5	12·5	4·9	6·0	6·8	8·9	...	9·7	...	5·7
Hepatic Abscess	·3	...	...	·2	·1	·3	·5	...	...	·4	·2
Anæmia and Debility	3·1	1·9	16·7	2·9	16·5	1·0	6·8	20·8	9·1	·4	7·8
Phagedæna, Slough, and Gangrene	...	...	...	·2	·1	·3	1·1	...	·6	...	·2

* Including Ajmer, Quetta, and Mercara. For complete detail of diseases see Table LIII.
† Including subsidiary jails.
‡ Lock-ups only.
§ Including 5th class jails.

TABLE XLI.

RATIOS of GEOGRAPHICAL GROUPS.

The ratios of admissions and deaths to strength are taken from Table XLII. The actuals will be found in Table XLIII.

	Ratio per 1,000 of the Average Strength.												
	I Burma Coast and Bay Islands.	II Burma Inland.	III Assam.	IV Bengal and Orissa.	V Gangetic Plain and Chutia Nagpur.	VI Upper Sub-Himalaya.	VII N.-W. Frontier, Indus Valley, and N. W. Rajputana.	VIII S. E. Rajputana, Central India, and Gujarat.	IX Deccan.	X Western Coast.	XI Southern India.	XII Hills.	India.*
I.—Average Annual Strength	19,186	4,378	1,229	11,450	27,834	13,522	7,463	4,973	10,106	2,713	7,829	628	111,344
II.—Constantly sick-rate of each month—													
January	37·1	25·2	50·8	34·3	44·4	41·1	39·5	60·7	54·9	25·3	49·9	25·3	42·4
February	35·7	21·1	43·3	34·3	43·2	38·4	34·5	60·6	49·8	24·3	53·8	24·0	40·6
March	37·6	20·1	45·7	40·2	45·3	33·3	33·5	61·8	42·6	25·1	37·5	31·7	39·7
April	37·9	16·9	66·6	39·6	44·9	40·8	29·6	64·1	37·7	23·3	32·3	32·6	39·5
May	45·5	14·8	68·2	33·3	39·2	37·6	29·2	48·4	32·7	22·6	27·2	29·0	36·7
June	50·3	20·9	70·0	33·8	35·2	36·8	30·4	44·8	35·6	28·9	26·0	38·8	37·1
July	53·2	19·7	71·7	34·1	35·2	34·9	32·3	37·9	37·6	33·6	26·2	34·0	37·4
August	48·6	19·3	63·6	39·6	40·8	38·2	34·9	43·3	46·9	37·6	25·1	43·5	40·2
September	46·8	21·0	52·6	35·9	49·1	39·9	31·1	52·8	44·7	31·2	19·5	38·9	41·0
October	44·2	19·0	51·8	32·3	50·8	42·4	36·3	52·4	39·8	24·8	20·7	34·9	40·6
November	43·4	19·5	49·6	37·3	45·2	40·2	37·1	47·7	37·7	25·3	23·0	38·2	39·1
December	42·5	15·7	37·8	37·2	43·5	34·4	33·9	47·5	32·5	21·9	23·3	29·9	36·8
Of the year	43·6	19·0	55·3	36·0	43·1	37·9	33·9	51·9	41·5	27·3	29·9	31·8	39·3
III.—Admission-rate of the year—													
Influenza	11·4	...	...	45·6	21·7	32·0	·5	54·3	17·7	8·5	11·4	...	21·0
Cholera	·4	1·1	1·6	·3	·1	...	...	...	...	...	·5	...	·2
Small-pox	·2	·2	...	·1	1·0	...	·3	·4	·1	·7	·9	25·5	·6
Enteric Fever	·1	...	...	·2	·1	...	·3	...	·6	1·1	·3	...	·2
Intermittent Fever	423·4	88·2	330·3	226·3	339·2	555·0	418·6	315·5	317·5	120·2	141·7	375·8	341·5
Remittent Fever	7·5	3·7	7·3	9·8	5·5	3·9	6·0	1·6	2·6	35·4	·4	8·0	6·0
Simple Continued Fever	37·9	5·7	...	64·1	10·2	5·1	·8	·4	10·0	15·8	84·4	22·3	24·0
Tubercle of the lungs	6·9	8·2	1·6	10·4	7·7	5·9	6·7	5·4	4·7	9·6	16·9	3·2	7·8
Pneumonia	5·5	8·5	4·9	22·4	13·7	24·1	37·3	28·4	11·7	7·0	9·7	20·7	15·8
Other Respiratory Diseases	44·3	9·1	22·8	41·4	27·8	37·3	41·1	46·9	27·5	36·1	62·8	31·8	36·8
Dysentery	87·9	57·8	180·6	231·8	81·5	87·3	52·5	57·3	69·8	31·3	67·8	71·7	92·6
Diarrhœa	35·0	25·6	126·1	67·3	59·4	73·1	48·4	45·0	63·0	25·4	5·5	129·0	51·8
Spleen Diseases	1·5	1·1	...	1·5	1·5	4·8	2·3	·4	1·0	·4	...	3·2	1·7
Scurvy	1·7	·2	·8	1·3	·1	·8	3·9	1·2	10·8	1·1	·1	...	1·9
Anæmia and Debility	14·7	7·8	53·7	12·8	43·4	14·5	19·2	24·5	34·4	7·0	8·3	20·7	23·7
Abscess, Ulcer, and Boil	128·9	32·2	39·9	32·8	82·3	133·3	159·3	92·5	88·8	30·6	47·5	113·1	91·7
All Causes	1,124·5	360·4	969·9	1,007·2	936·4	1,205·6	1,016·9	926·2	1,028·5	534·1	735·7	1,089·2	976·5
IV.—Death-rate of the year—													
Cholera	·21	·46	1·63	·17	·07	...	...	...	...	...	·26	...	·13
Small-pox	...	...	...	...	·04	...	...	...	...	...	...	1·59	·02
Enteric Fever	·05	...	...	·09	·11	...	·13	...	·30	...	...	...	·08
Intermittent Fever	·36	...	7·32	1·14	1·80	·74	·40	·29	·20	·37	1·41	1·59	·97
Remittent Fever	1·56	1·14	3·25	1·31	·43	·30	1·88	·40	·40	4·79	...	4·78	·95
Simple Continued Fever	...	...	...	·09	·04	...	...	...	...	...	·13	...	·03
Tubercle of the lungs	4·74	5·48	...	3·14	2·98	1·63	2·01	4·22	2·37	2·95	4·60	3·18	3·25
Pneumonia	1·82	3·65	1·63	5·50	3·45	4·81	8·71	6·43	2·37	3·69	3·83	1·59	3·94
Other Respiratory Diseases	·73	·69	1·63	·87	·93	·81	1·07	1·61	1·29	·74	·77	3·18	·94
Dysentery	7·71	2·74	8·14	5·50	6·40	4·51	2·55	4·62	6·53	1·84	6·39	3·18	5·72
Diarrhœa	1·04	1·37	4·07	·87	1·83	1·41	1·47	1·21	2·37	2·21	...	11·15	1·48
Hepatic Abscess	·05	...	...	·09	·04	·07	...	...	...	·37	·13	...	·05
Anæmia and Debility	·63	·46	6·51	·70	5·35	·22	1·34	·80	2·28	1·11	·13	1·59	2·01
Phagedæna, Slough, and Gangrene	...	...	...	...	·04	·07	·27	..	·20	...	...	...	·05
All Causes	24·44	19·87	37·43	24·72	29·39	20·56	26·53	23·93	24·94	27·64	29·76	35·03	25·87
V.—Percentage in 100 admissions—													
Influenza	1·02	...	...	4·53	2·31	2·66	·05	5·86	1·72	1·39	1·55	..	2·15
Cholera	·03	·32	·17	·03	·01	...	...	...	...	...	·07	...	·02
Small-pox	·02	·06	..	·01	·11	...	·03	·04	·01	·14	·12	2·34	·06
Enteric Fever	...	...	...	·02	·02	...	·03	...	·06	·21	·03	...	·02
Intermittent Fever	37·65	24·46	34·06	22·47	36·22	46·04	41·16	34·06	30·87	22·50	19·25	34·50	34·97
Remittent Fever	·66	1·01	·76	·97	·59	·33	·59	·17	·25	6·63	·05	·73	·62
Simple Continued Fever	3·37	1·58	...	6·36	1·09	·42	·08	·04	·97	2·97	11·48	2·05	2·45
Tubercle of the lungs	·61	2·28	·17	1·03	·82	·49	·66	·59	·46	1·79	2·29	·29	·80
Pneumonia	·49	2·34	·50	2·22	1·46	2·00	3·66	3·06	1·14	1·31	1·32	1·90	1·61
Other Respiratory Diseases	3·04	2·53	2·35	4·11	2·97	3·10	4·05	5·06	2·67	6·76	8·54	2·92	3·77
Dysentery	7·81	16·03	18·62	23·01	8·70	7·24	5·17	6·19	6·78	5·87	9·22	6·58	9·48
Diarrhœa	3·11	7·10	13·00	6·69	6·34	6·07	4·76	4·86	6·13	4·76	·75	11·84	5·30
Spleen Diseases	·13	·32	...	·15	·16	·40	·22	·04	·10	·07	...	·29	·17
Scurvy	·15	·06	·08	·13	·02	·07	·38	·13	1·05	·21	·02	...	·19
Anæmia and Debility	1·31	2·15	5·54	1·27	4·63	1·20	1·88	2·65	3·35	1·31	1·13	1·90	2·43
Abscess, Ulcer, and Boil	11·47	8·94	4·11	3·26	8·79	11·06	15·67	9·99	8·63	5·73	6·46	10·38	9·39
VI.—Percentage in 100 deaths—													
Cholera	·9	2·3	4·3	·7	·2	...	...	...	...	...	·9	...	·5
Small-pox	...	...	...	...	·1	...	...	...	...	...	...	4·5	·1
Enteric Fever	·2	...	...	·4	·4	...	·5	...	1·2	...	...	...	·3
Intermittent Fever	1·5	...	19·6	4·6	6·1	3·6	1·5	·8	·8	1·3	4·7	4·5	3·7
Remittent Fever	6·4	5·7	8·7	5·3	1·5	1·4	7·1	1·7	1·6	17·3	...	13·6	3·7
Simple Continued Fever	...	...	...	·4	·1	...	...	...	...	...	·4	...	·1
Tubercle of the lungs	19·4	27·6	...	12·7	10·1	7·9	7·6	17·6	9·5	10·7	15·5	9·1	12·6
Pneumonia	7·5	18·4	4·3	22·3	11·7	23·4	32·8	26·9	9·5	13·3	12·9	4·5	15·2
Other Respiratory Diseases	3·0	3·4	4·3	3·5	3·2	4·0	4·0	6·7	5·2	2·7	2·6	9·1	3·7
Dysentery	31·6	13·8	21·7	22·3	21·8	21·9	9·6	19·3	26·2	6·7	21·5	9·1	22·1
Diarrhœa	4·3	6·9	10·9	3·5	6·2	6·8	5·6	5·0	9·5	8·0	...	31·8	5·7
Hepatic Abscess	·2	...	...	·4	·1	·4	...	...	...	1·3	·4	...	·2
Anæmia and Debility	2·6	2·3	17·4	2·8	18·2	1·1	5·1	3·4	9·1	4·0	·4	4·5	7·8
Phagedæna, Slough, and Gangrene	...	...	...	...	·1	·4	1·0	...	·8	...	...	...	·2

*Including Aden. For complete detail of diseases see Table LIII.

TABLE XLII.

RATIOS of JAILS, GROUPS, and ADMINISTRATIONS. For actuals see Table LIII.

Jails.	Average annual strength.	1. Admission-rate. Influenza.	Cholera.	Small-pox.	Enteric Fever.	Intermittent Fever.	Remittent Fever.	2. Death-rate, per 1,000 of strength. Simple Continued Fever.	Tubercle of the lungs.	Pneumonia.	Other Respiratory Diseases.	Dysentery.	Diarrhœa.	Hepatic Abscess.	Spleen Diseases.	Scurvy.	Anæmia and Debility.	Abscess, Ulcer, and Boil.	Phagedæna, Slough, and Gangrene.	All Causes.	Average constantly sick per 1,000 of strength.
Port Blair .	10,890	...	...	...	...	673·6	11·5	24·5	7·2	2·5	64·7	99·1	39·6	·2	2·6	·7	22·5	130·8	·2	1,405·2	48·0
		...	...	...	...	·28	2·57	...	5·69	1·29	·92	9·18	1·56	·09	...	...	·83	...	...	27·09	
Mergui .	28	...	...	...	...	107·1	...	...	...	...	...	...	...	...	...	...	...	...	...	142·9	5·4*
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Tavoy . .	103	...	...	...	...	68·0	19·4	...	...	9·7	...	19·4	...	...	...	...	9·7	19·4	...	213·6	9·7
		...	...	...	...	...	9·71	...	...	9·71	...	...	...	...	...	...	...	...	...	19·42	
Moulmein .	570	114·0	3·5	...	...	47·4	14·0	245·6	22·8	5·3	36·8	494·7	140·4	...	...	1·8	3·5	305·3	...	1,998·2	68·4
		...	...	...	...	...	...	...	8·77	1·75	...	33·33	...	...	...	...	...	...	...	50·88	
Shwegyin .	179	...	...	...	...	312·8	...	...	...	...	16·8	111·7	61·5	...	...	...	...	167·6	...	1,061·5	55·9
		...	...	...	...	...	...	...	...	...	...	11·17	...	...	...	...	...	...	...	11·17	
Toungoo .	565	...	...	...	...	111·5	...	...	15·9	31·9	5·3	19·5	10·6	...	...	1·8	...	10·6	...	313·3	17·7
		...	...	...	...	...	...	...	8·85	3·54	...	7·08	...	...	...	...	...	...	...	26·55	
Rangoon, Central, Europeans.	17	...	...	...	...	...	...	...	...	...	...	58·8	...	...	...	...	...	...	...	235·3	24·5*
		...	...	...	...	...	...	...	...	...	...	58·82	...	...	...	...	...	...	...	58·82	
Rangoon, Central, natives.	2,166	18·5	...	·9	...	67·9	...	107·1	5·1	16·6	30·5	17·5	13·9	...	...	8·8	·5	199·0	...	815·3	44·3
		1·85	...	...	...	1·85	...	...	5·08	5·54	·92	1·39	·46	...	...	...	·46	...	...	27·70	
Maubin .	396	22·7	2·5	2·5	...	22·7	...	37·9	...	5·1	10·1	20·2	10·1	...	...	...	7·6	75·8	...	361·1	20·2
		...	2·53	...	...	...	...	...	...	...	2·53	12·63	...	...	...	...	...	...	...	27·78	
Bassein, Central	1,124	...	...	...	·9	79·2	...	64·9	4·4	1·8	11·6	17·8	7·1	...	...	1·8	1·8	108·5	...	504·4	34·7
		...	...	...	·89	...	...	...	1·78	...	...	1·78	...	...	...	...	...	...	...	8·90	
Insein, Central	1,981	53·0	...	...	...	134·8	3·5	...	6·1	4·0	12·6	85·3	41·4	...	...	·5	9·6	105·5	...	879·9	44·4
		...	...	...	...	...	...	...	1·51	·50	·50	2·52	...	...	...	...	·50	...	...	8·58	
Henzada .	425	...	...	2·4	...	30·6	...	...	4·7	...	14·1	4·7	...	...	...	...	...	18·8	...	402·4	28·2
		...	...	...	...	...	...	...	4·71	...	...	...	...	...	...	...	...	...	...	9·41	
Myanaung .	73	...	...	...	...	109·6	...	...	13·7	...	...	41·1	27·4	...	...	...	...	232·9	...	698·6	27·4
		...	...	...	...	...	...	...	13·70	...	...	...	...	...	...	...	...	...	...	13·70	
Kandoway .	52	...	...	...	...	19·2	...	...	...	...	...	38·5	...	...	...	...	...	76·9	...	211·5	7·3*
		...	...	...	...	...	...	...	...	...	...	38·46	...	...	...	...	...	...	...	38·46	
Kyaukpyu .	180	...	...	...	...	350·0	...	...	...	...	11·1	111·1	88·9	...	...	...	11·1	77·8	...	788·9	16·7
		...	...	...	...	...	...	...	...	5·56	...	16·67	11·11	...	...	...	...	...	...	44·44	
Akyab . .	437	...	9·2	...	...	80·1	2·3	...	2·3	18·3	4·6	66·4	4·6	...	...	...	16·0	6·9	...	324·9	11·4
		...	6·86	...	...	...	2·29	...		6·86	...	4·58	...	...	...	...	2·29	...	...	27·46	
Group I.—Burma Coast and Bay Islands	19,186	11·4	·4	·2	·1	423·4	7·5	37·9	6·9	5·5	44·3	87·9	35·0	·1	1·5	·7	14·7	128·9	·1	1,124·5	43·6
		·21	·21	...	·05	·36	1·56	...	4·74	1·82	·73	7·71	1·04	·05	...	...	·63	...	...	24·44	
Paungdi .	41	...	...	...	...	146·3	...	...	...	24·4	...	97·6	97·6	...	...	...	24·4	73·2	...	561·0	24·4
		...	...	...	...	...	...	...	...	24·39	...	...	24·39	...	...	...	...	...	...	73·17	
Prome . .	201	...	14·9	...	...	14·9	...	...	...	...	5·0	5·0	...	...	...	...	10·0	39·8	...	169·2	19·9
		...	9·95	...	...	...	...	...	...	...	...	...	...	...	...	...	4·98	...	...	14·93	
Thayetmyo, Central.	1,115	...	...	...	...	52·9	·9	...	4·5	12·6	7·2	5·4	1·8	...	...	...	9·0	14·3	...	197·3	8·1
		...	...	...	...	...	...	...	2·69	2·69	...	...	...	...	...	...	·90	...	...	7·17	
Taungdwingyi	75	...	...	...	...	26·7	...	...	...	...	13·3	13·3	...	...	...	...	...	13·3	...	120·0	13·3
		...	...	...	...	...	...	...	...	...	13·33	...	...	...	...	...	...	...	...	13·33	
Magwe .	136	...	...	...	...	...	...	31·7	...	...	7·9	23·8	15·9	...	...	...	...	31·7	...	198·4	7·9
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Minbu . .	120	...	...	...	...	16·7	...	...	8·3	...	8·3	33·3	...	...	8·3	...	...	91·7	...	283·3	8·3
		...	...	...	...	...	...	...	8·33	...	...	...	...	...	...	...	...	...	...	8·33	
Yamethin .	113	...	...	8·8	...	61·9	...	...	...	...	17·7	17·7	8·8	...	...	...	8·8	26·5	...	265·5	17·7
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Meiktila .	191	...	...	...	...	36·6	...	...	10·5	...	...	26·2	...	...	...	...	...	83·8	...	371·7	31·4
		...	...	...	...	...	...	...	10·47	...	...	5·24	...	...	...	...	...	...	...	26·18	
Pagan . .	98	...	...	...	...	30·6	...	...	...	...	...	20·2	40·8	...	...	...	...	...	...	275·5	10·2
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	20·41	
Pakôkku .	67	...	...	...	...	14·9	14·9	...	...	...	44·8	...	29·9	...	...	...	29·9	44·8	...	343·3	14·9
		...	...	...	...	...	...	...	...	...	...	...	14·93	...	...	...	...	...	...	14·93	
Myingyan, Central.	818	...	2·4	...	...	81·9	8·6	...	1·2	3·7	3·7	28·1	29·3	...	...	...	12·2	28·1	...	283·6	14·7
		1·22	...	...	...	...	1·22	...	1·22	2·44	...	1·22	...	...	...	...	...	...	...	7·33	
Mandalay, Central.	942	...	...	...	...	157·1	...	...	25·5	11·7	12·7	160·3	43·5	...	...	...	2·1	19·1	...	546·7	31·8
		...	...	...	...	...	...	...	16·99	6·37	2·12	7·43	...	...	...	...	...	...	...	41·49	
Monywa .	99	...	...	...	...	30·3	...	40·4	...	...	10·1	30·3	20·2	...	...	...	...	131·3	...	434·3	30·3
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Shwebo .	132	...	...	...	...	68·2	22·7	113·6	7·6	37·9	15·2	53·0	30·3	...	30·3	7·6	...	90·9	...	750·0	37·9
		...	...	...	...	...	22·73	...	7·56	15·15	...	15·15	...	...	...	...	...	...	...	75·76	
Bhamo .	87	...	...	...	...	448·3	...	...	...	34·5	...	333·3	252·9	...	...	...	57·5	23·0	...	1,252·9	57·5
		...	...	...	...	...	...	...	...	22·99	...	11·49	34·48	...	...	...	...	...	...	68·97	
Katha . .	84	...	...	...	...	309·5	11·9	...	11·9	...	47·6	71·4	47·6	...	...	...	...	47·6	...	678·6	23·8
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Kindat . .	69	...	...	...	...	58·0	43·5	29·0	14·5	...	14·5	87·0	...	...	...	...	14·5	58·0	...	391·3	29·0
		...	...	...	...	...	14·49	...	...	...	...	...	14·49	...	...	...	...	...	...	28·99	
Group II.—Burma Inland.	4,378	...	1·1	·2	...	88·2	3·7	5·7	8·2	8·5	9·1	57·8	25·6	...	1·1	·2	7·8	32·2	...	360·4	19·6
		·23	·46	...	...	...	1·14	...	5·48	3·65	·69	2·74	1·37	...	...	...	·46	...	...	19·87	

* Worked on the aggregates.

TABLE XLII—*continued.*

RATIOS of JAILS, GROUPS, and ADMINISTRATIONS. **For actuals see Table XLIII.**

Jails.	Average annual strength.	1. Admission-rate. Influenza.	Cholera.	Small-pox.	Enteric Fever.	Intermittent Fever.	Remittent Fever.	Simple Continued Fever.	2. Death-rate, per 1,000 of strength. Tubercle of the lungs.	Pneumonia.	Other Respiratory Diseases.	Dysentery.	Diarrhœa.	Hepatic Abscess.	Spleen Diseases.	Scurvy.	Anæmia and Debility.	Abscess, Ulcer, and Boil.	Phagedæna, Slough, and Gangrene.	All Causes.	Average constantly sick per 1,000
Cachar	65	...	15·4	...	...	138·5	30·8	...	...	...	15·4	261·5	123·1	...	...	...	15·4	46·2	...	938·5	61
		...	15·38	...	...	...	30·77	...	...	...	...	...	...	...	...	...	...	...	...	61·54	
Sibsagar	73	...	...	...	...	479·5	...	...	...	...	13·7	123·3	328·8	...	...	13·7	27·4	205·5	...	1,684·9	41
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Dibrugarh	67	...	...	...	...	1,059·7	14·9	...	29·9	29·9	59·7	850·7	328·4	...	...	...	119·4	44·8	...	3,059·7	89
		...	...	...	...	...	...	...	...	...	14·93	14·93	...	...	...	...	...	...	...	29·85	
Tezpur	229	...	4·4	...	...	314·4	...	...	...	...	56·8	126·6	113·5	...	...	...	83·0	39·3	...	877·7	52
		...	4·37	...	...	4·37	...	...	...	...	...	4·37	13·10	...	...	...	26·20	...	...	56·77	
Nowgong	56	...	...	...	...	553·6	...	...	...	...	71·4	107·1	17·9	...	...	...	107·1	53·6	...	1,392·9	71
		...	...	...	...	...	...	...	...	...	...	17·86	...	...	...	...	...	...	...	17·86	
Gauhati	174	...	...	...	...	195·3	...	...	...	11·5	...	229·9	80·5	...	...	...	5·7	34·5	...	620·7	40
		...	...	...	...	22·99	...	...	...	...	...	17·24	...	...	...	...	...	...	...	40·23	
Dhubri	22	...	...	...	...	227·3	...	...	...	...	...	90·9	90·9	...	...	...	...	45·5	...	545·5	17
		...	...	...	...	...	...	...	...	...	...	...	45·45	...	...	...	...	...	...	45·45	
Sylhet	543	...	...	...	...	274·4	11·0	...	...	3·7	9·2	114·2	106·8	...	...	...	53·4	16·6	...	744·0	58
		...	...	...	...	7·37	3·68	...	...	3·68	1·84	7·37	1·84	...	...	...	3·68	...	...	33·15	
Group III.—Assam.	1,229	...	1·6	...	...	330·3	7·3	...	1·6	4·9	22·8	180·6	126·1	...	...	·8	53·7	39·9	...	969·9	55
		...	1·63	...	...	7·32	3·25	...	...	1·63	1·63	8·14	4·07	...	...	...	6·51	...	...	37·43	
Mymensingh	406	...	...	...	...	202·0	...	...	14·8	17·2	32·0	101·0	78·8	...	2·5	...	17·2	32·0	...	741·4	32
		...	...	...	...	...	...	...	2·46	7·39	...	7·39	...	...	...	...	...	...	...	19·70	
Dacca, Central	1,682	123·8	...	...	...	318·9	·9	50·8	10·2	19·4	77·6	310·5	47·1	...	·9	...	7·4	23·1	...	1,176·5	44
		...	...	...	...	...	...	...	3·70	4·62	·92	1·85	...	...	...	...	1·85	...	...	12·94	
Tippera	242	...	...	...	...	33·1	...	318·2	12·4	4·1	20·7	395·8	210·7	...	...	4·1	...	41·3	...	1,111·6	28
		...	...	...	...	...	...	...	4·13	...	...	8·26	...	...	...	...	...	...	...	16·53	
Chittagong	228	...	...	...	4·4	184·2	...	...	8·8	48·2	17·5	307·0	70·2	...	...	...	4·4	13·2	...	719·3	21
		...	...	...	4·39	...	...	...	4·39	8·77	...	8·77	...	...	...	...	...	...	...	30·70	
Noakhali	110	...	...	...	...	300·0	...	...	...	...	...	354·5	72·7	...	...	...	...	81·8	...	918·2	36
		...	...	...	...	...	...	...	...	...	...	9·09	...	...	...	...	...	...	...	9·09	
Backergunge	477	...	2·1	...	...	264·2	6·3	...	...	8·4	35·6	486·4	199·2	...	...	2·1	18·9	21·0	...	1,299·8	65
		...	2·10	...	...	...	6·29	...	...	2·10	2·10	16·77	...	...	...	...	2·10	...	...	44·03	
Khulna	42	...	...	23·8	...	71·4	...	261·9	...	23·8	...	166·7	71·4	...	...	...	...	71·4	...	809·5	23
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Jessore	405	111·1	...	...	...	711·1	4·9	...	2·5	76·5	19·8	713·6	4·9	...	...	2·5	2·5	7·4	...	1,804·9	79
		...	...	...	...	...	...	...	...	24·69	2·47	7·41	2·47	...	...	2·47	...	...	...	39·51	
Baraset	130	...	...	...	...	892·3	30·8	...	23·1	38·5	23·1	661·5	61·5	...	...	7·7	...	61·5	...	2,223·1	53
		...	...	...	...	7·69	...	...	...	23·08	...	23·08	...	...	...	...	...	...	...	69·23	
Presidency, Central, Europeans.	33	30·3	...	...	30·3	60·6	...	...	30·3	...	...	121·2	90·9	...	...	...	...	...	...	636·4	30
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Presidency, Central, natives.	1,235	55·9	...	...	...	103·6	...	4·0	9·7	2·4	13·0	132·8	14·6	...	...	1·6	·8	8·1	...	447·8	21
		·81	...	...	...	4·05	...	...	·81	1·62	...	6·48	...	...	...	...	...	...	...	19·43	
Alipore, Central	1,910	...	...	...	...	41·9	·5	221·5	18·3	34·0	82·2	160·2	14·1	·5	7·9	·5	26·2	53·9	...	1,216·2	35
		...	...	...	...	1·57	...	·52	4·71	3·66	1·05	1·57	...	·52	...	...	1·05	...	...	18·85	
Hooghly	375	165·3	...	...	...	128·0	...	...	2·7	34·7	18·7	450·7	253·3	...	...	...	8·0	10·7	...	1,114·7	26
		2·67	...	...	...	...	...	...	2·67	13·33	5·33	2·67	2·67	...	...	...	2·67	...	...	34·67	
Burdwan	209	...	...	...	...	186·6	9·6	28·7	14·4	23·9	4·8	134·0	...	...	...	...	14·4	86·1	...	722·5	47
		...	...	...	...	...	...	...	4·78	4·78	...	9·57	...	...	...	...	...	...	...	23·92	
Krishnagar	210	9·5	...	...	...	128·6	19·0	...	4·8	4·8	...	176·2	14·3	...	...	...	9·5	9·5	...	433·3	33
		...	...	...	...	4·76	9·52	...	9·52	4·76	...	4·76	...	...	...	...	...	...	...	33·33	
Faridpur	405	96·3	...	...	...	130·9	14·8	214·8	2·5	46·9	49·4	518·5	46·9	...	...	4·9	4·9	7·4	...	1,271·6	64
		...	...	...	...	2·47	2·47	...	2·47	19·75	...	14·81	...	...	...	...	...	...	...	46·91	
Pabna	155	154·8	...	...	...	516·1	19·4	51·6	...	6·5	58·1	167·7	219·4	...	...	...	...	96·8	...	1,535·5	58
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	6·45	
Murshidabad	229	...	...	...	...	170·3	30·6	65·5	...	21·8	30·6	266·4	56·8	...	...	...	...	56·8	...	1,000·0	43
		...	...	...	...	...	...	...	...	4·37	...	8·73	...	...	...	...	...	...	...	17·47	
Rajshahi, Central.	710	200·0	...	...	...	333·8	54·9	7·0	18·3	19·7	60·6	52·1	49·3	...	...	1·4	1·4	9·9	...	1,067·6	35
		...	...	...	...	...	5·63	...	4·23	5·63	1·41	4·23	4·23	...	...	...	...	...	...	28·17	
Bogra	125	...	...	...	...	712·0	32·0	32·0	24·0	...	16·0	720·0	64·0	...	...	...	...	16·0	...	1,816·0	40
		...	...	...	...	...	...	...	8·00	...	...	16·00	...	...	...	...	...	...	...	24·00	
Malda	102	...	...	...	...	745·1	...	...	...	...	29·4	98·0	29·4	...	...	...	29·4	9·8	...	1,245·1	39
		...	...	...	...	...	...	...	...	...	...	9·80	...	...	...	...	...	...	...	9·80	
Dinajpur	196	...	...	...	...	193·9	15·3	...	...	...	51·0	107·1	15·3	...	...	5·1	10·2	25·5	...	525·5	25
		...	...	...	...	...	5·10	...	...	...	...	5·10	...	...	...	...	...	...	...	20·41	
Rangpur	138	...	...	...	...	637·7	50·7	29·0	...	...	21·7	347·8	246·4	...	...	...	72·5	130·4	...	2,014·5	43
		...	...	...	...	7·25	...	...	...	...	...	7·25	7·25	...	...	...	...	...	...	43·48	

* Worked on the aggregates.

Jails.	Average annual strength.	1. Admission-rate. Influenza.	Cholera.	Small-pox.	Enteric Fever.	Intermittent Fever.	Remittent Fever.	Simple Continued Fever.	Tubercle of the lungs.	Pneumonia.	Other Respiratory Diseases.	2. Death-rate, per 1,000 of strength. Dysentery.	Diarrhœa.	Hepatic Abscess.	Spleen Diseases.	Scurvy.	Anæmia and Debility.	Abscess, Ulcer, and Boil.	Phagedæna, Slough, and Gangrene.	All Causes.	Average constantly sick per 1,000 of strength.
alpaiguri .	88	...	...	...	...	170·5	...	...	11·4	...	56·8	102·3	11·4	...	...	...	...	113·6	...	1,125·0	22·7
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	11·36	
urneah .	184	...	...	...	...	543·5	76·1	184·8	27·2	54·3	27·2	298·9	152·2	...	...	...	21·7	5·4	...	1,489·1	59·8
		...	...	...	...	...	5·43	...	27·17	10·87	...	...	...	...	...	...	5·43	...	...	54·35	
laya Dumka	71	...	...	...	...	84·5	...	...	14·1	...	...	56·3	...	...	...	...	14·1	14·1	14·1	239·4	14·1
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	14·08	
uri . .	300	3·3	...	...	...	100·0	3·3	...	...	20·0	6·7	63·3	20·0	...	...	...	...	30·0	...	340·0	13·3
		...	...	...	...	3·33	...	...	...	3·33	3·33	10·00	6·67	...	3·33	...	...	...	...	40·00	
ankura .	245	...	...	...	...	375·5	...	...	24·5	...	20·4	224·5	330·6	...	...	...	98·0	40·8	...	1,473·5	24·5
		...	...	...	...	...	...	...	4·08	...	...	...	4·08	...	...	...	...	...	...	8·16	
Midnapore Central.	914	...	2·2	...	...	213·3	6·6	...	6·6	30·6	37·2	90·8	52·5	...	...	...	8·8	50·3	...	636·8	20·8
		...	1·09	...	...	...	2·19	...	2·19	6·56	1·09	...	1·09	...	...	...	1·09	...	...	26·26	
alasore .	112	26·8	...	...	...	133·9	26·8	...	...	...	17·9	125·0	142·9	...	...	...	...	17·9	...	526·8	17·9
		...	...	...	...	...	8·93	...	...	...	...	35·71	...	...	...	...	...	...	...	44·64	
uttack .	233	...	...	...	...	283·3	...	...	17·2	17·2	38·6	128·8	115·9	...	...	17·2	12·9	47·2	...	798·3	25·8
		...	...	...	...	...	...	...	8·58	4·29	...	4·29	...	...	...	...	...	...	...	21·46	
uri . .	122	...	...	...	...	41·0	16·4	...	...	8·2	...	...	24·6	...	...	...	24·6	...	...	254·1	16·4
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
ngul . .	27	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	37·0	...	259·3	12·5*
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
roup IV.—Bengal and Orissa.	11,430	45·6	·3	·1	·2	226·3	9·8	64·1	10·4	22·4	41·4	231·8	67·3	·1	1·5	1·3	12·8	32·8	·1	1,007·2	36·0
		·17	·17	...	·09	1·14	1·31	·09	3·14	5·50	·87	5·50	·87	·09	·09	·09	·70	...	...	24·72	
A.																					
haibassa .	157	...	...	...	...	554·1	38·2	...	...	12·7	19·1	636·9	280·3	...	...	...	...	31·8	...	1,808·9	51·0
		...	...	...	...	...	6·37	...	6·37	12·74	...	6·37	6·37	...	...	...	...	...	...	44·59	
urulia . .	203	...	...	...	...	221·7	...	...	...	9·9	34·5	73·9	39·1	...	...	...	9·9	...	...	448·3	9·9
		...	...	...	...	...	...	...	...	9·85	...	9·85	...	...	...	...	...	...	...	24·63	
nchi . .	199	...	...	...	...	30·2	...	...	5·0	5·0	15·1	100·5	30·2	...	...	...	...	25·1	...	296·5	15·1
		...	...	...	...	...	...	...	...	...	5·03	20·10	...	...	...	...	...	...	...	25·13	
alamau .	71	...	...	...	...	154·9	...	...	...	...	...	84·5	28·2	...	...	...	...	...	...	309·9	14·1
		...	...	...	...	28·17	...	...	...	...	...	14·08	...	...	...	...	...	...	...	42·25	
Hazaribagh Central.	936	...	...	...	...	96·2	21·4	170·9	5·3	12·8	20·3	101·5	80·1	...	2·1	1·1	...	43·8	1·1	699·8	25·6
		...	...	...	...	2·14	1·07	...	2·14	1·07	...	1·07	...	...	...	...	...	...	1·07	11·75	
B.																					
ya . .	421	...	...	...	...	864·6	11·9	11·9	4·8	7·1	21·4	42·8	187·6	...	2·4	...	4·8	47·5	...	1,380·0	33·3
		...	...	...	...	...	...	...	2·38	...	...	4·75	9·50	...	...	...	...	...	...	28·50	
hagalpur Central.	1,530	...	...	...	...	158·8	2·0	...	13·4	2·0	41·8	91·5	62·1	...	...	...	6·5	56·9	...	659·5	21·6
		...	...	...	...	·65	...	...	2·61	·65	...	1·96	...	...	...	...	·65	...	...	11·76	
onghyr .	237	...	...	...	...	814·3	4·2	...	...	4·2	130·8	101·3	439·4	...	...	...	4·2	118·1	...	1,924·1	50·6
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4·22	
rbhanga .	310	...	...	3·2	...	206·5	3·2	...	3·2	9·7	54·8	171·0	312·9	...	...	...	41·9	83·9	...	1,022·6	38·7
		...	...	3·23	...	...	...	...	...	3·23	3·23	6·45	6·45	...	...	...	...	...	...	32·26	
hamparun .	275	...	...	...	...	378·2	7·3	...	14·5	18·2	3·6	436·4	134·5	...	...	...	32·7	47·3	...	1,200·0	47·3
		...	...	...	...	3·64	...	...	7·27	3·64	...	7·27	...	...	...	...	...	...	...	25·45	
zaffarpur .	302	9·9	...	...	3·3	205·3	33·1	56·3	3·3	6·6	33·1	132·5	102·6	...	9·9	...	26·5	13·2	...	738·4	33·1
		...	...	...	3·31	3·31	...	...	...	3·31	6·62	19·87	3·31	...	3·31	...	...	...	...	49·67	
tna . .	282	...	...	...	...	248·2	3·5	...	3·5	...	17·7	81·6	113·5	...	...	...	14·2	49·6	...	794·3	31·9
		...	...	...	...	3·55	...	...	...	...	...	3·55	...	...	...	...	3·55	...	...	10·64	
rah . .	211	...	...	...	...	199·1	...	...	...	23·7	19·0	118·5	19·0	...	...	...	75·8	23·7	...	564·0	28·4
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4·74	
apra .	239	...	4·2	...	...	334·7	...	...	8·4	...	50·2	439·3	83·7	...	...	...	12·6	25·1	...	1,200·8	37·7
		...	4·18	...	...	8·37	...	...	4·18	...	...	4·18	...	...	...	...	...	...	...	25·10	
ixar Central	1,094	...	...	...	...	1,201·1	...	...	8·2	6·4	34·7	112·4	31·1	...	...	...	24·7	46·6	...	1,637·1	49·4
		...	...	...	...	2·74	...	...	2·74	1·83	...	2·74	1·83	...	...	...	1·83	...	...	20·11	
haripur .	511	...	...	...	...	234·8	...	...	3·9	11·7	23·5	23·5	7·8	...	...	...	17·6	115·5	...	594·9	21·5
		...	...	...	...	3·91	...	...	1·96	...	...	1·96	...	...	...	...	...	...	...	9·78	
zamgarh .	376	252·7	...	2·7	...	364·4	2·7	5·3	16·0	26·6	21·3	77·1	58·5	...	2·7	...	29·3	101·1	...	1375·0	50·5
		21·28	...	...	...	2·66	2·66	...	2·66	2·66	...	7·98	...	...	...	...	...	...	...	47·87	
orakhpur .	493	2·0	...	...	...	235·3	4·1	...	...	12·2	16·2	60·9	28·4	...	...	...	34·5	111·6	...	829·6	48·7
		...	...	...	...	...	2·03	...	...	...	...	2·03	...	...	...	...	...	...	...	4·06	
asti . .	426	...	...	2·3	...	234·7	9·4	63·4	4·7	28·2	39·9	166·7	108·0	...	28·2	...	79·8	98·9	...	1,166·7	49·3
		...	...	...	...	...	2·35	...	2·35	11·74	4·69	11·74	2·35	...	...	...	2·35	...	...	39·91	
yabad .	578	69·2	...	...	...	205·9	3·5	1·7	3·5	17·3	17·3	160·9	160·9	...	...	...	62·3	67·5	...	1,079·6	62·3
		...	...	...	...	...	...	1·73	1·73	5·19	...	8·65	3·46	...	...	...	...	...	...	24·22	
ultanpur .	377	34·5	...	...	...	464·2	...	8·0	2·7	13·3	8·0	18·6	37·1	...	...	...	76·9	21·2	...	878·0	29·2
		...	...	...	...	2·65	...	...	2·65	5·31	...	2·65	5·31	...	...	...	2·65	...	...	21·22	
e Bareli .	604	14·9	...	...	...	127·5	...	...	11·6	3·3	29·8	3·3	19·9	...	...	...	154·0	49·7	...	609·3	43·0
		...	...	...	...	...	...	...	4·97	...	8·28	...	8·28	...	...	...	4·97	...	...	41·39	

* Worked in the aggregates.

TABLE XLII—*continued.*

RATIOS of JAILS, GROUPS, and ADMINISTRATIONS. For actuals see Table XLIII.

JAILS.	Average annual strength.	1. ADMISSION-RATE. Influenza.	Cholera.	Small-pox.	Enteric Fever.	Intermittent Fever.	Remittent Fever.	Simple Continued Fever.	2. DEATH-RATE, PER 1,000 OF STRENGTH. Tubercle of the lungs.	Pneumonia.	Other Respiratory Diseases.	Dysentery.	Diarrhœa.	Hepatic Abscess.	Spleen Diseases.	Scurvy.	Anæmia and Debility.	Abscess, Ulcer, and Boil.	Phagedæna, Slough, and Gangrene.	ALL CAUSES.	Average constantly sick per 1,000 of strength.
Partabgarh	255	...	...	...	...	235·3	...	...	...	...	35·3	70·6	23·5	3·9	...	...	86·3	51·0	...	709·8	31·
		...	...	...	...	...	...	...	...	...	3·92	11·8	...	...	...	...	...	...	...	19·61	
Jaunpur	375	...	...	5·3	...	333·3	...	...	...	5·3	32·0	32·0	13·3	...	...	...	13·3	109·3	...	781·3	34·
		...	...	...	...	...	...	...	...	...	...	5·33	...	...	...	...	...	...	...	10·67	
Benares Central.	2,215	...	...	...	...	233·4	1·8	...	8·6	9·5	21·2	37·9	25·3	...	...	...	27·5	69·5	...	605·9	38·
		...	...	...	...	1·35	·90	...	4·97	3·16	·90	9·48	2·71	...	...	...	2·71	...	...	34·76	
,, District.	566	...	...	...	...	254·4	1·8	...	1·8	7·1	17·7	100·7	38·9	...	...	...	31·8	95·4	...	683·7	4 5·
		...	...	...	...	1·77	...	...	...	...	1·77	7·07	1·77	...	...	...	3·53	1·77	...	21·20	
Chunar	1,142	...	...	...	...	195·3	14·9	...	29·8	14·0	12·3	35·9	35·9	...	...	...	230·3	127·8	...	885·3	60·
		...	...	...	...	10·51	2·63	...	15·76	3·50	1·75	4·38	5·25	...	...	...	166·83	...	...	158·49	
Mirzapur	304	3·3	...	42·8	...	434·2	134·9	3·3	9·9	92·1	82·2	148·0	78·9	...	...	...	39·5	305·9	...	1,881·6	78·
		...	...	...	...	3·29	3·29	...	3·29	26·32	6·58	32·89	...	...	...	...	...	...	...	88·82	
Allahabad Central.	2,248	59·6	...	·9	...	197·1	·9	...	3·6	7·6	11·6	20·9	14·2	...	...	...	35·1	71·6	...	652·6	31·
		1·78	...	...	...	·44	...	...	1·78	1·78	·44	3·56	...	...	...	...	1·78	...	...	16·46	
,, District.	725	206·9	...	9·7	...	237·2	1·4	...	2·8	35·9	45·5	29·0	19·3	...	8·3	...	30·3	128·3	...	1,131·0	57·
		2·76	...	...	...	...	...	...	1·38	11·03	1·38	8·28	2·76	...	...	...	...	...	...	34·48	
Banda	271	70·1	...	...	...	660·5	3·7	...	...	51·7	14·8	99·6	77·5	...	...	...	11·1	243·5	...	1,631·0	70·
		3·69	...	...	..	7·38	...	...	...	18·45	...	...	7·38	...	...	...	3·69	3·69	...	62·73	
Fatehpur	324	30·9	...	...	...	691·4	...	6·2	6·2	21·6	67·9	71·0	71·0	...	...	6·2	27·8	101·9	...	1,478·4	71
		6·17	...	...	...	...	...	...	3·09	12·35	3·09	12·35	3·09	...	...	...	3·09	...	...	46·30	
Hamirpur	177	...	...	...	...	1,209·0	...	...	22·6	73·4	84·7	146·9	197·7	...	...	...	265·5	435·0	...	3,096·0	129
		...	...	...	...	...	...	...	5·65	11·30	...	...	...	...	...	...	...	...	...	22·60	
Orai	173	92·5	...	...	...	699·4	...	23·1	11·6	28·9	57·8	46·2	69·4	...	...	...	46·2	121·4	...	1,554·9	63
		...	...	...	...	...	...	...	5·78	...	...	...	...	...	...	...	...	...	...	17·34	
Cawnpore	340	...	...	...	...	323·5	17·6	...	...	23·5	32·4	38·2	52·9	...	2·9	2·9	426·5	120·6	...	1,417·6	102
		...	...	...	...	2·94	...	...	...	5·88	...	5·88	2·94	...	...	...	2·94	...	...	26·47	
Unao	326	15·3	...	...	...	248·5	6·1	67·5	3·1	6·1	36·8	36·8	101·2	...	...	...	15·3	42·9	...	886·5	27
		...	...	...	...	...	...	...	...	3·07	...	...	...	...	...	...	...	...	...	6·13	
Lucknow Central.	1,720	2·9	·6	...	...	209·9	·6	...	5·8	8·7	14·5	55·2	45·9	...	1·2	...	16·9	47·7	...	539·0	26
		...	·58	...	...	...	...	...	2·33	1·16	...	6·40	2·33	...	...	...	...	...	...	16·86	
,, District.	584	8·6	...	...	...	530·8	...	...	3·4	6·8	34·2	135·3	56·5	1·7	5·1	...	49·7	83·9	...	1,277·4	46
		...	...	...	...	...	...	...	1·71	...	...	6·85	...	...	...	...	1·71	...	...	10·27	
Barabanki	418	19·1	...	...	...	110·0	...	26·3	7·2	7·2	9·6	33·5	7·2	...	2·4	...	...	59·8	...	358·9	16
		2·39	...	...	...	...	...	...	2·39	4·78	...	2·39	...	...	...	...	...	...	...	14·35	
Gonda	598	...	...	...	...	364·5	...	...	5·0	8·4	8·4	65·2	15·1	...	...	...	1·7	35·1	...	645·5	45
		...	...	...	...	8·36	...	...	3·34	1·67	1·67	11·71	1·67	...	...	...	1·67	...	...	31·77	
Bahraich	421	...	...	...	...	871·7	2·4	...	2·4	35·6	11·9	258·9	9·5	...	...	...	...	199·5	...	1,795·7	82
		...	...	...	...	...	...	...	...	2·38	...	...	...	...	...	...	...	...	...	4·75	
Kheri	329	...	...	...	...	598·8	...	51·7	6·1	15·2	15·2	42·6	57·8	...	...	...	48·6	91·2	...	1,437·7	45
		...	...	...	...	...	...	...	...	6·08	...	...	...	...	...	...	...	...	...	9·12	
Sitapur	742	4·0	...	1·3	...	117·3	...	...	6·7	22·9	9·4	27·0	43·1	...	...	...	18·9	45·8	...	470·4	20
		...	...	...	...	...	...	...	4·04	8·09	...	5·39	4·04	...	...	...	...	...	...	22·91	
Hardoi	477	...	...	...	...	511·5	31·4	27·3	2·1	2·1	10·5	31·4	94·3	...	...	...	...	119·5	...	1,054·5	48
		...	...	...	...	12·58	...	...	2·10	2·10	2·10	4·19	2·10	...	...	...	...	...	...	29·35	
Etawah	282	...	...	...	...	67·4	7·1	...	3·5	31·9	28·4	31·9	14·2	...	17·7	...	21·3	53·2	...	436·2	2·
		...	...	...	...	...	3·55	...	...	17·73	...	7·09	...	...	...	...	...	...	...	39·01	
Mainpuri	398	...	...	...	...	492·5	...	...	2·5	42·7	32·7	62·8	72·9	...	10·1	...	32·7	108·0	...	1,027·6	3·
		...	...	...	...	...	...	...	2·51	12·56	2·51	2·51	7·54	...	...	...	...	...	...	30·15	
Etah	321	3·2	...	...	...	548·3	...	...	6·2	21·8	37·4	9·3	71·7	3·2	...	...	196·3	224·3	...	1,395·6	8·
		...	...	...	...	...	...	...	...	6·23	...	3·12	...	3·12	...	...	3·12	...	...	15·58	
Fatehgarh Central.	1,805	23·2	...	...	1·1	357·8	1·1	...	20·1	10·0	51·2	100·3	67·0	...	...	...	6·9	74·9	...	1,130·3	6·
		...	...	...	·53	...	...	...	4·75	·53	·53	17·41	...	...	...	...	...	...	...	28·50	
,, District	376	109·0	...	...	2·7	476·1	...	...	13·3	10·6	47·9	188·8	77·1	...	...	...	2·7	143·6	...	1,523·9	6·
		...	...	...	2·66	...	...	...	2·66	2·66	...	5·32	...	...	...	...	...	...	...	18·62	
GROUP V.—GANGETIC PLAIN AND CHUTIA NAGPUR.	27,834	21·7	·1	1·0	·1	339·2	5·5	10·2	7·7	13·7	27·8	81·5	59·4	·1	1·5	·1	43·4	82·3	...	936·4	4
		·65	·07	·04	·11	1·80	·43	·04	2·98	3·45	·93	6·40	1·83	·04	·04	...	5·35	·07	·04	29·39	
A.																					
Shahjahanpur	378	13·2	...	...	...	637·6	...	...	13·2	63·5	18·5	158·7	13·2	...	...	...	45·0	50·3	...	1,185·2	3
		...	...	...	...	2·65	...	...	5·29	10·58	2·65	7·94	...	...	...	...	...	...	...	34·39	
Bareilly Central.	2,403	...	...	...	...	289·2	1·2	...	3·7	25·8	5·0	15·8	6·2	...	2·9	...	11·7	116·1	...	602·2	3
		...	...	...	...	...	...	...	·42	3·33	·42	3·75	·42	...	...	...	·42	...	...	10·40	
,, District.	930	250·5	...	...	...	386·0	12·9	...	10·8	41·9	21·5	71·0	192·5	...	7·5	...	20·4	69·9	...	1,329·0	5
		8·60	...	...	...	1·08	...	...	1·08	8·60	...	4·30	3·23	...	...	...	1·08	...	...	32·26	

Jails.	Average annual strength.	1. Admission-rate.											2. Death-rate, per 1,000 of strength.								Average constantly sick per 1,000 of strength.
		Influenza.	Cholera.	Small-pox.	Enteric Fever.	Intermittent Fever.	Remittent Fever.	Simple Continued Fever.	Tubercle of the lungs.	Pneumonia.	Other Respiratory Diseases.	Dysentery.	Diarrhœa.	Hepatic Abscess	Spleen Diseases.	Scurvy.	Anæmia and Debility.	Abscess, Ulcer, and Boil.	Phagedæna, Slough, and Gangrene.	All Causes.	
Budaon.	389	7·7	...	...	...	257·1	7·7	2·6	5·1	43·7	20·6	64·3	41·1	...	...	...	15·4	64·3	...	717·2	20·6
		...	...	...	...	...	...	...	2·57	7·71	...	2·57	...	...	...	...	...	...	...	15·42	
Aligarh	429	221·4	...	...	...	517·5	...	...	4·7	21·0	32·6	90·9	86·2	...	...	...	2·3	181·8	2·3	1,424·2	35·0
		...	...	...	...	2·33	...	...	2·33	2·33	2·33	...	...	...	...	...	...	...	2·33	13·99	
Bulandshahr	270	...	...	...	...	281·5	3·7	...	3·7	7·4	25·9	66·7	70·4	...	...	...	22·2	125·9	...	900·0	37·0
		...	...	...	...	...	...	...	...	3·70	...	3·70	...	...	...	...	...	...	...	7·41	
Moradabad	394	27·9	...	...	...	413·7	...	53·3	...	60·9	58·4	121·8	40·6	...	...	...	55·8	76·1	...	1,187·8	53·3
		...	...	...	...	...	...	...	...	10·15	2·54	2·54	...	...	...	...	...	...	...	25·38	
Bijnor	243	...	...	...	...	164·6	4·1	4·1	...	16·5	57·6	4·1	16·5	...	...	...	12·3	82·3	...	473·3	12·3
		...	...	...	...	...	...	...	...	4·12	8·23	...	...	...	...	...	...	...	...	12·35	
Dehra Dun	57	...	...	...	...	193·0	...	...	17·5	17·5	70·2	140·4	210·5	...	...	...	52·6	35·1	...	982·5	105·3
		...	...	...	...	...	...	...	17·54	...	...	...	...	...	...	...	17·54	...	...	35·09	
Saharanpur	294	...	...	...	...	204·1	...	...	...	10·2	30·6	81·6	37·4	...	...	...	17·0	122·4	...	826·5	44·2
		...	...	...	...	...	...	...	...	...	...	10·20	...	...	...	...	...	...	...	13·61	
Muzaffarnagar	179	212·3	...	...	...	374·3	5·6	...	...	11·2	50·3	117·3	162·0	...	...	...	22·3	83·8	...	1,340·8	44·7
		...	...	...	...	...	...	...	...	...	...	...	10·76	...	...	...	...	...	...	27·93	
Meerut	605	74·4	...	...	...	322·3	...	19·8	5·0	9·9	14·9	64·5	69·4	...	...	...	9·9	107·4	...	917·4	54·5
		1·65	...	...	...	8·26	...	...	3·31	1·65	1·65	6·61	3·31	...	...	...	...	...	...	28·10	
Delhi	461	...	...	...	...	1,663·8	...	...	4·3	73·8	21·7	32·5	43·4	...	...	8·7	...	156·2	...	2,195·2	41·2
		...	...	...	...	2·17	...	...	4·34	19·52	...	2·17	2·17	...	...	...	...	...	...	30·88	
Rohtak	155	...	...	...	...	1,406·5	...	...	...	25·8	19·4	45·2	129·0	...	25·8	...	6·5	503·2	...	2,335·5	45·2
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Hissar	234	...	...	...	...	410·3	...	...	4·3	8·5	...	...	8·5	...	...	...	4·3	47·0	...	645·3	17·1
		...	...	...	...	...	...	...	...	4·27	...	...	...	...	...	...	...	...	...	4·27	
Karnal	133	...	...	...	...	300·8	...	...	...	15·0	30·1	37·6	22·6	...	37·6	...	...	67·7	...	797·0	15·0
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	15·03	
Umballa B.	704	...	...	...	...	306·8	1·4	...	4·3	14·2	21·3	100·9	136·4	...	2·8	1·4	4·3	140·6	...	926·1	28·4
		...	...	...	...	...	...	...	1·42	1·42	...	2·84	1·42	...	...	...	...	...	...	14·20	
Ludhiana	248	...	...	...	...	455·6	...	...	...	12·1	4·0	60·5	116·9	...	4·0	...	4·0	56·5	...	891·1	16·1
		...	...	...	...	...	...	...	...	...	...	4·03	...	...	...	...	...	...	...	4·03	
Hoshiarpur	48	...	...	...	...	229·2	...	...	...	20·8	20·8	83·3	20·8	...	...	...	...	270·8	...	916·7	20·8
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Jullundur	244	...	...	...	...	118·9	4·1	...	...	...	8·2	86·1	20·5	...	4·1	...	4·1	94·3	...	467·2	16·4
		...	...	...	...	...	4·10	...	...	...	...	8·20	4·10	...	...	...	...	...	...	24·59	
Ferozepore	389	...	...	...	...	61·7	...	...	18·0	5·1	7·7	23·1	...	...	2·6	2·6	18·0	46·3	...	339·3	15·4
		...	...	...	...	...	...	...	...	...	2·57	...	...	...	...	...	...	...	...	16·28	
Amritsar	177	...	...	...	...	892·7	11·3	...	...	16·9	11·3	22·6	67·8	...	...	...	56·5	67·8	...	1,254·2	28·2
		...	...	...	...	...	5·65	...	...	...	...	...	5·65	...	...	...	...	...	...	16·95	
Lahore Central.	1,487	...	...	...	...	1,029·6	9·4	...	10·1	16·8	166·1	245·5	138·5	·7	...	·7	6·1	217·9	...	2,244·8	51·1
		...	...	...	...	·67	·67	...	4·71	5·38	·67	12·78	2·69	...	...	...	...	...	...	30·99	
,, District	517	...	...	...	...	889·7	1·9	...	3·9	21·3	34·8	156·7	32·9	1·9	23·2	...	5·8	176·0	...	1,611·2	44·5
		...	...	...	...	...	...	...	1·93	5·80	...	13·54	1·93	1·93	1·93	...	...	...	...	30·95	
,, Female	137	...	...	...	...	1,160·6	7·3	...	7·3	...	58·4	109·5	65·7	...	51·1	7·3	14·6	131·4	...	2,029·2	58·4
		...	...	...	...	...	...	...	...	...	...	...	7·30	...	...	...	...	...	...	21·90	
Gurdaspur	202	...	...	...	...	44·6	...	...	9·9	5·0	5·0	24·8	34·7	...	...	...	...	19·8	...	242·6	9·9
		...	...	...	...	...	...	...	...	4·95	...	4·95	...	...	...	...	...	...	...	19·80	
Gujranwala	343	2·9	...	...	...	262·4	...	2·9	11·7	2·9	11·7	102·0	46·6	...	...	...	11·7	131·2	...	696·8	26·2
		...	...	...	...	...	...	...	...	2·92	...	...	...	...	...	...	...	...	...	2·92	
Sialkot	384	...	...	...	...	205·7	13·0	2·6	5·2	7·8	13·0	59·9	57·3	...	...	...	20·8	106·8	...	664·1	23·4
		...	...	...	...	...	...	...	...	2·60	...	5·21	...	...	...	...	...	...	...	18·23	
Gujrat	77	...	...	...	...	90·9	39·0	...	...	13·0	39·0	26·0	13·0	...	...	...	51·9	77·9	...	571·4	13·0
		...	...	...	...	...	...	...	...	...	12·99	...	...	...	...	...	...	...	...	25·97	
Mung Rasul Central.	20	...	...	...	...	650·0	...	...	...	...	50·0	150·0	150·0	...	...	...	...	350·0	...	1,500·0	20·2*
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Jhelum	235	...	...	...	...	1,514·9	12·8	...	...	25·5	8·5	59·6	157·4	...	...	...	4·3	178·7	...	2,123·4	34·0
		...	...	...	...	...	...	...	...	8·51	...	...	...	...	...	...	...	...	...	12·77	
Rawalpindi	756	2·6	...	...	...	1,190·5	1·3	42·3	10·6	31·7	51·6	132·3	129·6	...	23·8	4·0	27·8	275·1	...	2,354·5	43·7
		...	...	...	...	...	1·32	...	2·65	9·20	1·32	...	...	...	...	...	...	...	...	26·46	
Group VI.—Upper Sub-Himalaya.	13,522	32·0	...	...	...	555·0	3·9	5·1	5·9	24·1	37·3	87·3	73·1	·1	4·8	·8	14·5	133·3	·1	1,205·6	3·9
		·67	...	...	...	·74	·30	...	1·63	4·81	·81	4·51	1·41	·07	·07	...	·22	...	·07	29·56	

* Worked on the aggregates.

TABLE XLII—*continued.*

RATIOS of JAILS, GROUPS, and ADMINISTRATIONS. For actuals see Table XLIII.

Jails.	Average annual strength.	1. Admission rate. Influenza.	Cholera.	Small-pox.	Enteric Fever.	Intermittent Fever.	Remittent Fever.	Simple Continued Fever.	2. Death-rate, per 1,000 of strength. Tubercle of the lungs.	Pneumonia.	Other Respiratory Diseases.	Dysentery.	Diarrhœa.	Hepatic Abscess.	Spleen Diseases.	Scurvy.	Anæmia and Debility.	Abscess, Ulcer, and Boil.	Phagedæna, Slough, and Gangrene.	All Causes.	Average constantly sick per 1,000 of strength.
A																					
Peshawar .	460	...	...	...	...	1,128·3	...	...	4·4	15·2	17·4	147·8	93·5	...	6·5	2·2	21·7	197·8	...	1,850·2	73·6
		...	...	...	...	2·17	...	...	...	6·52	2·17	2·17	6·52	...	...	...	...	...	...	26·09	
Kohat . .	87	...	...	...	...	413·8	34·5	...	...	57·5	...	80·5	11·5	...	...	...	46·0	275·9	...	1,137·9	34·5
		...	...	...	...	...	...	...	...	34·48	...	...	...	...	...	...	...	...	...	57·47	
Bannu . .	105	...	...	...	...	504·8	9·5	...	...	...	9·5	142·9	200·0	...	...	...	9·5	314·3	...	1,790·5	47·6
		...	...	...	...	...	...	...	...	...	...	19·05	9·52	...	...	...	...	...	9·52	38·10	
Shahpur .	220	...	...	...	...	495·5	4·5	...	...	13·6	22·7	27·3	18·2	...	4·5	4·5	18·2	240·9	...	1,245·5	31·8
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4·53	
Jhang . .	271	...	...	7·4	...	819·2	...	...	...	55·4	84·9	210·3	199·3	...	25·8	...	22·1	151·3	...	1,859·8	40·0
		...	...	...	...	...	...	...	...	18·45	3·69	3·69	3·69	...	...	...	...	...	...	40·59	
Montgomery Central.	1,860	...	...	...	1·1	460·2	4·3	...	9·7	22·6	50·0	30·1	63·4	...	·5	...	4·8	280·6	...	1,166·1	32·8
		...	...	...	·54	1·08	1·61	...	4·84	3·76	·54	...	1·08	...	...	...	1·08	1·08	...	20·97	
Mooltan Central.	988	...	...	...	...	715·6	...	...	19·2	37·4	52·6	87·0	58·7	...	...	5·1	51·6	160·9	...	1,478·7	56·7
		...	...	...	...	...	...	...	3·04	5·06	2·02	9·11	...	...	...	...	...	...	...	25·30	
,, District.	693	...	...	...	...	327·6	1·4	1·4	4·3	40·4	37·5	30·3	2·9	...	...	2·9	1·4	50·5	...	607·5	20·2
		...	...	...	...	...	1·44	...	1·44	10·10	1·44	1·44	...	...	...	...	...	...	...	17·32	
Dera Ismail Khan.	354	...	...	...	...	316·4	25·3	14·1	2·8	62·1	45·2	31·1	11·3	...	...	··	8·5	189·3	...	1,011·3	33·9
		...	...	...	...	...	8·47	...	...	14·12	...	2·82	2·82	...	...	...	...	...	...	39·55	
Dera Ghazi Khan.	396	...	...	...	...	199·5	2·5	...	...	25·3	25·3	53·0	22·7	...	...	2·5	12·6	159·1	...	674·2	25·3
		...	...	...	...	...	2·53	...	...	7·58	...	2·53	2·53	...	...	...	2·53	...	...	30·30	
C																					
Shikarpur .	510	...	...	...	...	117·6	...	...	...	92·2	15·7	31·4	11·8	...	3·9	21·6	25·5	27·5	...	423·5	21·6
		...	...	...	...	...	...	...	...	25·49	...	1·96	3·92	...	...	1·96	13·73	...	...	58·82	
Sind Gang .	326	12·3	...	...	...	64·4	36·8	...	...	150·3	98·2	46·0	30·7	...	6·1	...	18·4	30·7	3·1	598·2	21·5
		...	...	...	...	...	12·27	...	...	39·88	3·07	...	...	...	...	...	...	...	3·07	64·42	
Hyderabad Central.	901	...	...	...	...	66·6	4·4	...	5·5	6·7	22·2	5·5	33·2	...	1·1	8·9	31·1	49·9	3·3	426·2	16·6
		...	...	...	...	...	1·11	...	2·22	...	...	1·11	...	...	...	...	...	...	...	7·77	
Kurrachee .	292	...	...	..	...	215·8	17·1	...	6·8	24·0	44·5	27·4	6·8	...	...	...	6·8	109·6	...	688·4	24·6
		...	...	...	...	...	3·42	...	...	3·42	3·42	3·42	...	...	...	...	...	...	...	17·12	
Group VII.—N. W. Frontier, Indus Valley, and N. W. Rajputana.	7,463	·5	...	·3	·3	418·6	6·0	·8	6·7	37·3	41·1	52·5	48·4	...	2·3	3·9	19·2	159·3	·5	1,016·9	33·9
		...	...	...	·13	·40	1·88	...	2·01	8·71	1·07	2·55	1·47	...	...	·13	1·34	·27	·27	26·53	
A																					
Rajkot . .	101	...	...	...	...	237·6	9·9	...	...	...	19·8	19·8	59·4	...	9·9	...	...	158·4	...	683·2	29·7
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	9·90	
Ahmedabad Central.	1,075	...	...	...	...	233·5	·9	...	3·7	17·7	68·8	77·2	38·1	...	...	·9	3·7	45·6	...	687·4	21·4
		...	...	...	...	...	...	...	1·86	1·86	...	·93	1·86	...	...	...	·93	...	...	13·02	
B																					
Ajmere . .	288	34·7	...	...	...	24·3	6·9	...	...	17·4	20·8	10·4	...	...	...	...	...	41·7	...	243·1	13·9
		...	...	...	...	...	3·47	...	...	6·94	3·47	...	...	...	...	...	...	...	...	13·89	
Muttra . .	273	...	...	...	...	289·4	14·7	...	3·7	95·2	47·6	65·9	7·3	...	...	7·3	7·3	25·6	...	794·9	40·7
		...	...	...	...	...	3·66	...	...	14·65	...	3·66	...	...	...	...	...	...	...	25·64	
Agra Central	2,401	97·5	...	...	...	396·9	...	...	5·0	20·0	46·6	44·1	44·1	...	·4	·4	36·7	110·8	...	1,073·3	60·0
		...	...	...	...	·42	...	...	5·00	5·83	2·92	6·25	·83	...	...	...	1·25	...	...	26·24	
,, District	611	...	...	...	...	294·6	...	...	14·7	58·9	37·6	94·9	78·6	...	...	1·6	42·6	127·7	...	1,111·3	96·0
		...	...	...	...	...	...	...	9·82	13·09	...	9·82	...	...	...	...	...	...	...	40·92	
Jhansi . .	224	116·1	...	8·9	...	334·8	...	8·9	4·5	31·3	13·4	67·0	93·8	...	...	4·5	8·9	142·9	...	1,138·4	62·5
		...	...	...	...	...	...	...	4·46	8·93	...	...	8·93	...	...	...	...	...	...	22·32	
Group VIII.—S. E. Rajputana, Central India, and Gujarat.	4,973	54·3	...	·4	...	315·5	1·6	·4	5·4	28·4	46·9	57·3	45·0	...	·4	1·2	24·5	92·5	...	926·2	51·9
		...	...	...	...	·20	·40	...	4·22	6·43	1·61	4·62	1·21	...	...	...	·80	...	...	23·93	

Jails.	Average annual strength.	1. Admission-rate.							2. Death-rate, per 1,000 of strength.											Average constantly sick per 1,000 of strength.
		Influenza.	Cholera.	Small-pox.	Enteric Fever.	Intermittent Fever.	Remittent Fever.	Simple Continued Fever.	Tubercle of the lungs.	Pneumonia.	Other Respiratory Diseases.	Dysentery.	Diarrhœa.	Hepatic Abscess.	Spleen Diseases.	Scurvy.	Anæmia and Debility.	Abscess, Ulcer, and Boil.	Phagedæna, Slough, and Gangrene.	All Causes.	
A.																					
Damoh	79	...	...	...	...	113·9	...	...	12·7	25·3	12·7	75·9	12·7	...	...	12·7	...	38·0	...	658·2	38·0
		...	...	...	...	...	...	...	...	...	...	12·66	...	...	...	...	...	...	...	50·63	
Saugor	219	...	...	...	...	424·7	...	9·1	4·6	...	77·6	68·5	155·3	...	...	105·0	182·6	237·4	...	2,009·1	73·1
		...	...	...	...	4·57	...	...	4·57	...	...	9·13	...	...	...	...	4·57	...	...	27·40	
Jubbulpore Central.	1,340	109·0	...	...	...	415·7	...	...	2·2	26·1	15·7	214·2	129·1	...	2·2	...	40·3	56·7	...	1,423·9	52·2
		...	...	...	...	...	...	...	2·99	2·99	·75	24·63	...	...	...	...	2·99	...	...	38·06	
Narsinghpur	117	...	...	...	...	837·6	...	...	42·7	...	102·6	102·6	393·2	...	...	...	333·3	367·5	...	3,068·4	68·4
		...	...	...	...	...	...	...	...	...	...	8·55	...	...	...	...	...	...	...	8·55	
Mandla	83	...	...	...	...	518·1	12·0	...	...	60·2	72·3	192·8	60·2	...	...	...	60·2	361·4	...	1,831·3	84·3
		...	...	...	...	...	...	...	...	12·05	...	12·05	...	...	...	...	12·05	...	...	48·19	
Bilaspur	253	11·9	...	...	...	181·8	7·9	...	4·0	7·9	4·0	138·3	27·7	...	...	...	166·0	83·0	...	1,083·0	114·6
		...	...	...	...	...	7·91	...	3·95	7·91	...	35·57	3·95	...	...	...	19·76	...	...	86·96	
Sambalpur	195	...	...	...	...	66·7	41·0	10·3	10·3	...	...	153·8	15·4	...	...	...	...	...	5·1	379·5	20·5
		...	...	...	...	...	5·13	...	10·26	...	...	10·26	...	...	...	...	...	...	5·13	30·77	
Raipur Central.	839	...	...	...	...	124·0	...	...	13·1	8·3	44·1	75·1	27·4	...	1·2	1·2	16·7	44·1	...	829·6	62·0
		...	...	...	...	...	...	...	4·77	3·58	4·77	5·96	9·54	...	...	...	1·19	...	...	40·52	
Balaghat	66	...	...	...	...	...	30·3	...	...	15·2	15·2	15·2	90·9	...	...	...	...	...	...	242·4	15·2
		...	...	...	...	...	...	...	...	15·15	...	...	45·45	...	...	...	...	...	...	60·61	
Seoni	104	...	...	...	...	490·4	19·2	...	...	57·7	96·2	96·2	86·5	...	...	9·6	19·2	48·1	...	1,134·6	38·5
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Chhindwara	95	...	...	...	...	600·0	10·5	...	...	42·1	10·5	...	178·9	...	...	...	21·1	315·8	...	1,768·4	52·6
		...	...	...	...	...	...	...	...	10·53	...	...	...	...	...	...	...	...	...	10·53	
Hoshangabad	186	...	...	...	...	349·5	26·9	...	...	5·4	21·5	107·5	177·4	...	...	268·8	43·0	64·5	...	1,268·8	59·1
		...	...	...	...	...	...	...	...	...	5·38	5·38	5·38	...	...	5·38	16·13	...	...	37·63	
Nimar	75	...	...	...	...	146·7	...	...	...	...	26·7	66·7	80·0	...	...	...	13·3	26·7	...	506·7	13·3
		...	...	...	...	13·33	...	...	...	...	...	...	...	...	...	...	...	...	...	13·33	
Betul	95	42·1	...	...	...	252·6	...	...	...	31·6	21·1	400·0	...	...	...	...	31·6	147·4	...	1,147·4	42·1
		...	...	...	...	...	...	...	...	10·53	...	10·53	...	...	...	...	...	21·05	...	52·63	
Nagpur Central.	1,087	...	...	...	4·6	297·1	...	...	5·5	3·7	11·0	29·4	38·6	...	...	25·8	3·7	73·6	...	754·4	30·4
		...	...	...	1·84	...	...	...	4·60	...	·92	2·76	3·68	...	...	...	·92	...	...	23·00	
Bhandara	84	226·2	...	...	...	452·4	...	214·3	...	35·7	47·6	23·8	47·6	...	...	...	83·3	47·6	...	1,845·2	83·3
		...	...	...	...	...	...	...	11·90	11·90	...	...	...	...	...	...	...	...	...	35·71	
Wardha	58	...	...	...	...	913·8	...	...	...	17·2	...	69·0	379·3	...	...	...	51·7	155·2	...	2,000·0	69·0
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Chanda	76	...	...	...	...	276·3	13·2	...	...	39·5	13·2	...	26·3	...	...	...	26·3	39·5	...	565·8	26·3
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	13·16	
Sironcha	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
B.																					
Secunderabad	95	42·1	...	...	...	294·7	...	...	...	...	10·5	31·6	10·5	...	...	...	...	84·2	...	842·1	21·1
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Yeotmahl	64	46·9	...	...	...	281·2	...	...	15·6	...	78·1	15·6	78·1	...	...	...	...	109·4	...	1,234·4	31·2
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Amraoti Central.	569	...	...	...	...	98·4	...	21·1	...	24·6	22·8	12·3	7·0	...	...	...	8·8	52·7	...	425·3	14·1
		...	...	...	...	...	...	...	...	5·27	1·76	...	...	...	...	...	1·76	...	...	15·82	
Ellichpur	51	...	...	...	...	588·2	...	...	...	39·2	78·4	...	39·2	...	...	...	39·2	137·3	...	1,176·5	39·2
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	19·61	...	...	19·61	
Akola Central	667	...	...	...	...	122·9	4·5	88·5	12·0	13·5	16·5	36·0	19·5	...	6·0	6·0	40·5	33·0	...	619·2	16·5
		...	...	...	...	...	1·50	...	3·00	3·00	...	1·50	...	...	...	...	3·00	...	...	14·99	
Basim	98	...	...	10·2	...	71·4	...	...	...	...	40·8	...	10·2	...	...	...	10·2	20·4	...	255·1	10·2
		...	...	...	...	...	...	...	...	...	10·20	...	...	...	...	...	10·20	...	...	30·61	
Buldana	68	...	...	...	...	294·1	...	14·7	...	14·7	...	14·7	...	...	...	...	58·8	14·7	...	558·8	14·7
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	14·71	
Dhulia	379	...	...	...	...	176·8	...	...	...	...	10·6	71·2	18·5	...	2·6	...	...	23·7	...	456·5	21·1
		...	...	...	...	...	...	...	...	...	...	7·92	2·64	...	...	...	...	...	...	18·47	
Yerrowda Central.	2,079	...	...	...	·5	504·1	...	...	4·3	3·8	39·9	23·1	67·3	...	...	...	37·5	162·1	1·4	1,378·1	49·1
		...	...	...	·48	...	...	...	1·92	1·92	1·44	·48	1·44	...	...	...	·96	...	·48	14·91	
Bijapur District	347	...	...	...	...	308·4	...	20·2	...	5·8	28·8	23·1	25·9	...	...	...	...	63·4	...	726·2	17·3
		...	...	...	...	...	...	...	...	...	...	2·88	...	...	...	...	...	...	...	2·88	
Deccan Gang	278	...	...	...	...	338·1	3·6	...	...	10·8	21·6	18·0	71·9	...	3·6	3·6	10·8	68·3	...	899·3	33·4
		...	...	...	...	...	...	...	...	...	3·60	3·60	3·60	...	...	...	...	...	...	10·79	
Dharwar	357	...	...	...	...	128·9	...	...	...	5·6	14·0	14·0	5·6	...	...	...	5·6	33·6	...	400·6	16·8
		...	...	...	...	...	...	...	...	2·80	...	...	5·60	...	...	...	...	...	...	30·81	
Group IX.—Deccan	10,106	17·7	...	·1	·6	317·5	2·6	10·0	4·7	11·7	27·5	69·8	63·0	...	1·0	10·8	34·4	88·8	·4	1,028·5	41·5
		...	...	...	·30	·20	·40	...	2·37	2·37	1·29	6·53	2·37	...	...	·10	2·28	·20	·20	24·94	

TABLE XLII—*continued.*

RATIOS of JAILS, GROUPS, and ADMINISTRATIONS.

For actuals see Table XLIII.

JAILS.	Average annual strength.	1. ADMISSION-RATE. Influenza.	Cholera.	Small-pox.	Enteric Fever.	Intermittent Fever.	Remittent Fever.	Simple Continued Fever.	Tubercle of the lungs.	Pneumonia.	Other Respiratory Diseases.	Dysentery.	Diarrhœa.	Hepatic Abscess.	Spleen Diseases.	Scurvy.	Anæmia and Debility.	Abscess, Ulcer, and Boil.	Phagedæna, Slough, and Gangrene.	ALL CAUSES.	Average constantly sick per 1,000 of strength.
Thana	824	...	...	...	...	185·7	100·7	...	10·9	2·4	36·4	24·3	34·0	...	...	...	7·3	31·6	...	591·0	34·0
		...	...	...	...	...	12·14	...	3·04	1·21	1·21	...	3·64	...	...	...	2·43	...	...	26·70	
Bombay Common	397	...	...	...	...	63·0	17·6	...	20·2	12·6	10·1	25·2	42·8	...	...	...	7·6	15·1	...	352·6	12·6
		...	...	...	...	...	...	...	5·04	10·08	...	5·04	5·04	...	...	...	...	...	...	52·90	
Bombay House of Correction	293	...	...	...	...	174·1	6·8	...	17·1	13·7	30·7	3·4	71·7	3·4	...	3·4	13·7	20·5	...	549·5	23·9
		...	...	...	...	...	10·24	...	3·41	6·83	...	...	3·41	3·41	...	...	3·41	...	...	44·37	
Ratnagiri	140	...	...	...	...	157·1	...	...	14·3	...	28·6	121·4	14·3	...	...	7·1	7·1	28·6	...	571·4	35·7
		...	...	...	...	...	...	...	7·14	...	...	...	...	...	...	...	...	...	...	14·29	
Karwar	129	...	...	7·8	...	100·8	23·32	...	...	15·5	15·5	217·1	...	...	-	...	15·5	15·5	...	550·4	23·1
		...	...	...	...	...	...	...	...	...	...	7·75	...	...	...	...	...	...	...	7·75	
Mangalore	169	...	...	5·9	17·8	76·9	5·9	53·3	...	17·8	94·7	29·6	5·9	...	...	...	...	59·2	...	662·7	23·7
		..	..	...	...	...	...	...	...	...	5·92	...	...	...	...	...	...	...	...	5·92	
Cannanore Central	761	30·2	...	...	...	64·4	...	44·7	2·6	3·9	43·4	5·3	...	...	1·3	1·3	3·9	38·1	...	523·0	28·9
		...	...	...	...	1·31	...	...	1·31	3·94	...	2·63	...	...	...	...	...	...	...	19·71	
GROUP X.—WESTERN COAST.	2,713	8·5	...	·7	1·1	120·2	35·4	15·8	9·6	7·0	36·1	31·3	25·4	·4	·4	1·1	7·0	30·6	...	534·1	27·3
		...	...	...	...	·37	4·79	...	2·95	3·69	·74	1·84	2·21	·37	...	...	1·11	...	...	27·64	
A																					
Bellary	361	2·8	...	...	...	149·6	...	58·2	2·8	5·5	30·5	110·8	...	...	...	...	24·9	13·9	...	750·7	27·7
		...	...	...	...	2·77	...	...	...	5·54	...	...	...	...	...	...	2·77	...	...	19·39	
Salem Central	588	1·7	...	...	...	27·2	...	11·9	1·7	6·8	22·1	42·5	...	...	...	...	...	17·0	...	227·9	10·2
		...	...	...	...	...	...	...	...	...	1·70	1·70	...	...	...	...	...	...	...	8·50	
Coimbatore Central	949	...	...	2·1	...	28·5	...	30·6	16·9	9·5	81·1	40·0	21·1	...	...	...	2·1	16·9	...	419·4	19·0
		...	...	...	...	...	...	...	5·27	5·27	...	1·05	...	...	...	...	...	...	...	15·81	
B																					
Palamcottah	341	117·3	...	...	...	...	2·9	96·8	...	8·8	11·7	55·7	...	...	...	...	8·8	44·0	...	607·0	23·5
		...	...	...	...	...	...	...	...	2·93	2·93	5·87	...	...	...	...	...	...	...	20·53	
Madura	372	...	...	...	2·7	51·1	...	10·8	5·4	5·4	13·4	34·9	...	...	...	2·7	...	...	...	274·2	16·1
		...	...	...	...	...	...	...	5·35	...	...	2·69	...	...	...	...	...	...	...	8·06	
Trichinopoly Central	1,063	41·4	...	...	...	210·7	...	50·8	14·1	3·8	70·6	80·0	9·4	...	...	...	4·7	71·5	...	711·2	21·6
		...	...	...	...	1·88	...	...	0·59	2·82	·94	2·82	...	...	...	...	...	...	...	31·04	
Tanjore	346	...	...	...	...	23·1	...	34·7	2·9	...	8·7	40·5	...	...	...	...	17·3	8·7	...	260·1	20·2
		...	...	...	...	2·89	...	2·89	2·89	...	...	5·78	...	...	...	...	...	...	...	23·12	
Cuddalore	378	...	...	2·6	...	10·6	...	21·2	7·9	2·6	18·5	68·8	...	...	...	...	7·9	103·2	...	473·5	18·5
		...	...	...	...	...	...	...	...	...	...	10·58	...	...	...	...	...	...	...	10·58	
Vellore Central	1,168	...	...	...	...	63·4	...	116·4	18·0	3·4	43·7	31·7	...	...	...	...	11·1	76·2	...	625·9	26·5
		...	...	...	...	...	...	...	3·42	·86	...	1·71	...	...	...	...	...	...	...	12·84	
Madras Debtors' (natives)	28	...	...	35·7	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	107·1	2·1*
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Madras Penitentiary, Central, (natives)	858	3·5	2·3	...	...	51·3	...	169·0	21·0	4·7	110·7	37·3	1·2	...	...	...	23·3	54·8	...	965·0	26·8
		...	1·17	...	...	...	...	...	4·66	1·17	...	1·17	...	...	...	...	...	...	...	16·32	
Madras Penitentiary, Central, (Europeans)	12	...	...	...	83·3	...	...	333·3	...	...	500·0	...	...	...	...	...	83·3	...	...	1,250·0	25·7*
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Madras Debtors' (Europeans)	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Nellore	176	...	...	...	...	159·1	5·7	113·6	5·7	...	79·5	45·5	51·1	...	...	...	...	90·9	...	789·8	22·7
		...	...	...	...	...	...	...	...	...	...	5·68	...	...	...	...	...	...	...	5·68	
Guntur	129	...	...	...	...	23·3	...	93·0	7·8	...	23·3	31·0	...	...	...	...	...	7·8	...	403·1	7·8
		...	...	...	...	...	...	...	...	...	...	...	...	..	...	...	...	...	...	...	
C																					
Rajamundry Central	502	...	4·0	...	...	1,031·9	...	310·8	67·7	49·8	155·4	274·9	...	2·0	...	...	...	43·8	...	2,764·9	123·5
		5·98	1·99	...	...	11·95	...	...	17·93	25·99	3·98	41·83	...	1·99	...	...	...	...	...	193·23	
Vizagapatam	406	...	...	...	...	152·7	2·5	36·9	36·9	41·9	83·7	113·3	7·4	2·5	...	...	7·4	17·2	...	795·6	59·1
		...	...	...	...	2·46	...	...	7·39	9·85	...	24·63	...	...	...	...	...	...	...	49·26	
Berhampur	152	...	...	19·7	...	184·2	...	32·9	19·7	6·6	105·3	39·5	...	...	...	...	...	171·1	...	947·4	26·3
		...	...	...	...	...	...	...	6·58	...	6·58	6·58	...	...	...	...	...	...	...	26·32	
GROUP XI.—SOUTHERN INDIA.	7,829	11·4	·5	·9	·3	141·7	·4	84·4	16·9	9·7	62·8	67·8	5·5	·3	...	·1	8·3	47·5	...	735·7	29·4
		·38	·26	...	...	1·41	...	·13	4·00	3·83	·77	6·39	...	·13	...	...	·13	...	...	29·76	

* Worked on the aggregates.

Jails and Administrations.	Average annual strength.	1. Admission-rate. Influenza.	Cholera	Small-pox.	Enteric Fever.	Intermittent Fever.	Remittent Fever.	Simple Continued Fever.	2. Death-rate, per 1,000 of strength. Tubercle of the lungs.	Pneumonia.	Other Respiratory Diseases.	Dysentery.	Diarrhœa.	Hepatic Abscess.	Spleen Diseases.	Scurvy.	Anæmia and Debility.	Abscess, Ulcer, and Boil.	Phagedæna, Slough, and Gangrene.	All Causes.	Average constantly sick per 1,000 of strength.
Shillong .	47	...	...	...	...	1,425·5	...	...	...	21·3	...	170·2	340·4	...	...	...	...	63·8	...	2,276·6	42·6
		...	...	...	...	...	...	...	...	...	...	21·28	21·28	...	...	...	...	...	...	42·55	
Darjeeling .	90	...	...	...	...	633·3	...	...	...	...	33·3	77·8	144·4	...	...	...	11·1	11·1	...	1,077·8	33·3
		...	...	...	...	...	...	...	...	...	11·11	...	...	...	...	...	...	...	...	11·11	
Almora .	88	...	...	...	...	79·5	...	22·7	11·4	34·1	...	68·2	45·5	...	...	...	22·7	56·8	...	477·3	45·5
		...	...	...	...	...	...	...	...	...	...	11·36	11·36	...	...	...	11·36	...	...	45·45	
Simla . .	10	...	...	...	...	500·0	...	...	...	...	200·0	...	...	...	...	...	...	...	...	1,100·0	29·0*
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Dharmsala .	77	...	...	...	...	480·5	...	...	13·0	26·0	39·0	103·9	233·8	...	26·0	...	77·9	194·8	...	1,805·2	51·9
		...	...	...	...	...	...	...	25·97	..	...	...	12·99	...	...	...	...	...	...	38·96	
Abbottabad .	82	...	...	...	...	256·1	36·6	...	...	48·8	...	24·4	207·3	...	...	...	...	146·3	...	975·6	24·4
		...	...	...	...	...	12·20	...	...	12·20	...	...	...	...	...	...	...	...	...	24·39	
Quetta . .	62	...	...	...	...	371·0	...	145·2	...	...	112·9	32·3	...	...	...	...	...	193·5	...	1,241·9	16·1
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Mercara .	87	...	...	...	...	160·9	23·0	34·5	...	23·0	46·0	114·9	149·4	...	...	...	46·0	92·0	...	873·6	23·0
		...	...	...	...	11·49	22·99	...	...	...	11·49	...	45·98	...	...	...	...	...	...	91·95	
Russellkonda .	85	...	...	188·2	...	58·8	...	...	...	11·8	11·8	23·5	...	...	...	...	...	176·5	...	647·1	23·5
		...	...	11·76	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	23·53	
Group XII.—Hills.	628	...	...	25·5	...	375·8	8·0	22·3	3·2	20·7	31·8	71·7	129·0	...	3·2	...	20·7	113·1	...	1,089·2	31·8
		...	...	1·59	...	1·59	4·78	...	3·18	1·59	3·18	3·18	11·15	...	...	...	1·59	...	...	35·03	
Extra India—Aden .	33	30·3	...	...	...	...	...	30·3	...	...	30·3	30·3	...	...	...	...	...	30·3	...	151·5	2·4*
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
INDIA .	111,344	21·0	·2	·6	·2	341·5	6·0	24·0	7·8	15·8	36·8	92·6	51·8	·1	1·7	1·9	23·7	91·7	·1	976·5	39·3
		·33	·13	·02	·08	·97	·95	·03	3·25	3·94	·94	5·72	1·48	·05	·03	·03	2·01	·05	·05	25·87	
Andamans .	10,890	...	...	...	...	673·6	11·5	24·5	7·2	2·5	64·7	99·1	39·6	·2	2·6	·7	22·5	130·8	·2	1,405·2	48·0
		...	...	...	...	·28	2·57	...	5·69	1·29	·92	9·18	1·56	·09	...	...	·83	...	...	27·09	
Burma .	12,674	17·3	·9	·4	·1	92·6	2·7	38·3	7·1	9·1	14·6	67·9	27·9	...	·4	2·0	5·6	94·0	...	619·4	31·5
		·39	·47	...	·08	·32	·55	...	4·18	2·92	·55	4·73	·71	...	...	...	·39	...	...	20·59	
Assam . .	1,276	...	1·6	...	...	370·7	7·1	...	1·6	5·5	21·9	180·3	134·0	...	...	·8	51·7	40·8	...	1,018·0	54·9
		...	1·57	...	...	7·05	3·13	...	...	1·57	1·57	8·62	4·70	...	...	...	6·27	...	...	37·62	
Bengal .	18,007	29·2	·2	·1	·2	301·2	8·9	50·9	9·1	16·8	38·9	198·1	80·7	·1	1·3	·9	13·4	37·9	·1	1,003·9	34·7
		·11	·17	·06	·11	1·44	·94	·06	2·78	4·11	·83	5·11	1·11	·06	·11	·06	·67	...	·06	22·77	
N.-W. Provinces and Oudh.	31,535	40·9	...	·9	·1	323·1	4·1	4·5	7·2	20·5	26·5	61·9	49·1	·1	1·6	·3	42·9	96·5	...	930·0	47·3
		·80	·03	...	·06	1·46	·35	·03	3·08	4·57	1·14	6·28	1·74	·03	...	...	4·82	·06	·03	29·14	
Punjab .	12,554	·2	...	·2	·2	657·9	4·7	3·2	7·2	24·5	48·4	91·8	75·9	·2	5·2	1·7	14·0	179·2	...	1,368·8	36·6
		...	...	...	·08	·40	1·04	...	2·23	5·81	·80	4·06	1·59	·08	·08	...	·24	·16	·08	23·50	
Bombay .	8,461	·6	...	·1	·1	248·8	14·1	·9	5·2	18·4	36·3	35·3	40·2	·1	·9	2·7	18·0	72·1	·8	760·1	29·0
		...	...	...	·12	...	2·25	...	1·77	4·85	·83	1·54	2·01	·12	...	·12	1·54	...	·24	22·46	
Berar and Secunderabad	1,612	4·3	...	·6	...	149·5	1·9	44·7	5·6	16·1	23·6	22·3	16·1	...	2·5	2·5	24·2	47·8	...	581·3	16·7
		...	...	...	...	...	·02	...	1·24	3·10	1·24	·02	...	...	...	...	3·10	...	...	14·89	
Central Provinces.	5,054	34·0	...	...	1·0	317·8	4·4	4·4	5·9	15·2	26·1	114·0	85·7	...	·8	20·6	44·7	83·3	·2	1,142·5	51·6
		...	...	...	·40	·40	·59	...	3·56	2·77	1·39	11·67	3·36	...	...	·20	3·17	·40	·20	34·03	
Madras .	8,844	12·7	·5	2·7	·6	133·0	·5	79·6	15·2	9·4	61·3	61·3	5·0	·2	·1	·2	7·7	48·2	...	715·2	29·6
		·34	·23	·11	...	1·36	...	·11	4·18	3·73	·79	5·83	...	·11	...	...	·11	...	...	28·38	
Non-British Jails:—																					
Sadra .	36	...	...	...	...	...	27·8	...	27·8	...	55·6	27·8	27·8	...	...	...	...	...	...	361·1	27·8
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Kolhapur .	230	...	...	...	...	191·3	...	521·7	4·3	26·1	17·4	60·9	21·7	...	...	17·4	...	30·4	...	973·9	17·4
		...	...	...	...	...	...	...	...	...	...	4·35	4·35	...	...	...	...	...	...	8·70	
Savantvadi .	52	365·4	...	...	...	76·9	57·7	...	19·2	...	19·2	76·9	19·2	...	...	...	...	38·5	...	846·2	38·5
		...	...	...	...	...	...	...	19·23	...	...	...	...	...	...	...	...	...	...	19·23	

* Worked on the aggregates.

TABLE XLIII.

ACTUALS of JAILS, GROUPS, and ADMINISTRATIONS on which the ratios in Tables XL—XLII have been calculated.

JAILS.	Average annual strength.	1. ADMISSIONS.																2. DEATHS.										Average number constantly sick.
		Influenza.	Cholera.	Small-pox.	Enteric Fever.	Intermittent Fever.	Remittent Fever.	Simple Continued Fever.	Tubercle of the lungs.	Pneumonia.	Other Respiratory Diseases.	Dysentery.	Diarrhœa.	Hepatic Abscess.	Spleen Diseases.	Scurvy.	Anæmia and Debility.	Abscess, Ulcer, and Boil.	Phagedæna, Slough, and Gangrene.	ALL CAUSES.	Tænia.	Ascaris lumbricoides.	Dracunculus Medinensis.	Strongylus duodenalis.	Other Entozoa.		
Port Blair	10,890	...	...	...	...	7,336	125	267	78	27	705	1,079	431	2	28	8	245	1,424	2	15,303	...	...	1	...	2		523
		...	...	...	...	3	28	...	62	14	10	100	17	1	...	...	9	...	...	295	...	...	...	...	1		
Mergui	28	...	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...	4	...	...	...	...	...		...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
Tavoy	103	...	...	...	...	7	2	...	...	1	...	2	...	...	...	...	1	2	...	22	...	...	...	...	...		1
		...	...	...	...	...	1	...	...	1	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...		
Moulmein	570	65	2	...	...	27	8	140	13	3	21	282	80	...	...	1	2	174	...	1,139	3	...	...	...	...		39
		...	...	...	...	...	...	...	5	1	...	19	...	...	...	...	...	...	...	29	...	...	...	...	...		
Shwegyin	179	...	...	...	...	56	...	...	...	...	3	20	11	...	...	...	...	30	...	190	...	...	...	...	...		10
		...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	2	...	...	...	...	...		
Toungoo	565	...	...	...	...	63	...	...	9	18	3	11	6	...	...	1	...	6	...	177	...	...	...	1	...		10
		...	...	...	...	...	...	...	5	2	...	4	...	...	...	...	...	...	...	15	...	...	...	1	...		
Rangoon Central, Europeans	17	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	4	...	...	...	...	...		...
		...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1	...	...	...	...	...		
Rangoon Central, natives.	2,166	40	...	2	...	147	...	232	11	36	66	38	30	...	...	19	1	431	...	1,766	...	3	...	...	...		96
		4	...	...	...	4	...	...	11	12	2	3	1	...	...	...	1	...	...	60	...	1	...	...	...		
Maubin	396	9	1	1	...	9	...	15	...	2	4	8	4	...	...	...	3	30	...	143	...	...	...	...	...		8
		...	1	...	...	...	...	...	...	...	1	5	...	...	...	...	...	...	...	11	...	...	...	...	...		
Bassein Central	1,124	...	...	...	1	89	...	73	5	2	13	20	8	...	...	2	2	122	...	567	1	...	...	...	...		39
		...	...	...	1	...	...	...	2	...	...	2	...	...	...	...	...	...	...	10	1	...	...	...	...		
Insein Central	1,981	105	...	...	...	267	7	...	12	8	25	169	82	...	...	1	19	209	...	1,743	...	...	...	...	...		88
		...	...	...	...	...	...	...	3	1	1	5	...	...	...	...	1	...	...	17	...	...	...	...	...		
Henzada	425	...	...	1	...	13	...	...	2	...	6	2	...	...	...	...	...	8	...	171	...	...	...	...	...		12
		...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	4	...	...	...	...	...		
Myanaung	73	...	...	...	...	8	...	...	1	...	...	3	2	...	...	...	...	17	...	51	...	...	...	...	...		2
		...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...		
Sandoway	52	...	...	...	...	1	...	...	...	...	...	2	...	...	...	...	...	4	...	11	...	...	...	...	...		...
		...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	2	...	...	...	...	...		
Kyaukpyu	180	...	...	...	...	63	...	...	...	...	2	20	16	...	...	...	2	14	...	142	...	...	...	...	...		3
		...	...	...	...	...	...	...	...	1	...	3	2	...	...	...	...	...	...	8	...	...	...	...	...		
Akyab	437	...	4	...	...	35	1	...	1	8	2	29	2	...	...	...	7	3	...	142	...	...	...	...	...		5
		...	3	...	...	...	1	...	...	3	...	2	...	...	...	...	1	...	...	12	...	...	...	...	...		
GROUP I.—BURMA COAST AND BAY ISLANDS.	19,186	219	7	4	1	8,124	143	727	132	105	850	1,686	672	2	28	32	282	2,474	2	21,575	4	3	1	1	...		836
		4	4	...	1	7	30	...	91	35	14	148	20	1	...	...	12	...	...	469	1	1	...	1	...		
Paungdi	41	...	...	...	...	6	...	...	...	1	...	4	4	...	...	...	1	3	...	23	...	...	...	...	...		1
		...	...	...	...	...	...	...	...	1	...	...	1	...	...	...	...	...	...	3	...	...	...	...	...		
Prome	201	...	3	...	...	3	...	...	...	...	1	1	...	...	...	...	2	8	...	34	...	...	...	...	...		4
		...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	3	...	...	...	...	...		
Thayetmyo Central.	1,115	...	...	...	...	59	1	...	5	14	8	6	2	...	...	...	10	16	...	220	...	...	...	...	...		6
		...	...	...	...	...	...	...	3	3	...	...	...	...	...	...	1	...	...	8	...	...	...	...	...		
Taungdwingyi	75	...	...	...	...	2	...	...	...	...	1	1	...	...	...	...	...	1	...	9	...	...	...	...	...		1
		...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	1	...	...	...	...	...		
Magwe	126	...	...	...	...	...	...	4	...	...	1	3	1	...	...	...	...	4	...	25	...	...	...	...	...		1
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
Minbu	120	...	...	...	...	2	...	...	1	...	1	4	...	...	1	...	...	11	...	34	...	...	...	...	...		1
		...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...		
Yamethin	113	...	...	1	...	7	...	...	...	...	2	2	1	...	...	...	1	3	...	30	...	...	...	...	...		2
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
Meiktila	191	...	...	...	...	7	...	...	2	...	...	5	...	...	...	...	...	16	...	71	...	...	...	...	...		6
		...	...	...	...	...	...	...	2	...	...	1	...	...	...	...	...	...	...	5	...	...	...	...	...		
Pagan	98	...	...	...	...	3	...	...	...	...	...	2	4	...	...	...	...	...	...	27	...	...	...	...	...		1
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...		
Pakôkku	67	...	...	...	...	1	1	...	...	...	3	...	2	...	...	...	2	3	...	23	...	1	...	...	...		1
		...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	1	...	...	...	...	...		
Myingyan, Central.	818	...	2	...	...	67	7	...	1	3	3	23	24	...	...	...	10	23	...	232	...	...	...	...	...		12
		1	...	...	...	...	1	...	1	2	...	1	...	...	...	...	...	...	...	6	...	...	...	...	...		
Mandalay, Central.	942	...	...	...	...	148	...	...	24	11	12	151	41	...	...	...	2	18	...	515	...	...	...	...	...		30
		...	...	...	...	...	...	...	16	6	2	7	...	...	...	...	...	...	...	39	...	...	...	...	...		
Monywa	99	...	...	...	...	3	...	4	...	...	1	3	2	...	...	...	...	13	...	43	...	...	...	...	...		3
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
Shwebo	132	...	...	...	...	9	3	15	1	5	2	7	4	...	4	1	...	12	...	99	...	...	...	...	...		5
		...	...	...	...	...	3	...	1	1	...	2	...	...	...	...	...	...	...	10	...	...	...	...	...		
Bhamo	87	...	...	...	...	39	...	...	...	3	...	29	22	...	...	...	5	2	...	109	1	...	...	...	...		5
		...	...	...	...	...	...	...	...	2	...	1	3	...	...	...	...	...	...	6	...	...	...	...	...		
Katha	84	...	...	...	...	26	1	...	1	...	4	6	4	...	...	...	...	4	...	57	...	...	...	...	...		2
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
Kindat	69	...	...	...	...	4	3	2	1	...	1	6	...	...	...	...	1	4	...	27	...	...	...	...	...		2
		...	...	...	...	...	1	...	...	...	...	...	1	...	...	...	...	...	...	2	...	...	...	...	...		
GROUP II.—BURMA INLAND.	4,378	...	5	1	...	386	16	25	36	37	40	253	112	...	5	1	34	141	...	1,578	1	1	...	...	...		86
		1	2	...	...	...	5	...	24	16	3	12	6	...	...	...	2	...	...	87	...	...	...	...	...		

Jails.	Average annual strength.	1. Admissions.																	2. Deaths.							Average number constantly sick.
		Influenza.	Cholera.	Small-pox.	Enteric Fever.	Intermittent Fever.	Remittent Fever.	Simple Continued Fever.	Tubercle of the lungs.	Pneumonia.	Other Respiratory Diseases.	Dysentery.	Diarrhœa.	Hepatic Abscess.	Spleen Diseases.	Scurvy.	Anæmia and Debility.	Abscess, Ulcer, and Boil.	Phagedæna, Slough, and Gangrene.	All Causes.	Tænia.	Ascaris lumbricoides.	Dracunculus Medinensis.	Strongylus duodenalis.	Other Entozoa.	
Cachar	65	...	1	...	...	9	2	...	...	...	1	17	8	...	...	...	1	3	...	61	...	...	...	...	...	4
		...	1	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	4	...	...	...	...	...	
Sibsagar	73	...	...	...	...	35	...	...	...	...	1	9	24	...	...	1	2	15	...	123	...	...	...	...	...	3
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Dibrugarh	67	...	...	...	...	71	1	...	2	2	4	57	22	...	...	...	8	3	...	205	...	...	...	...	...	6
		...	...	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...	2	...	...	...	...	...	
Tezpur	229	...	1	...	...	72	...	...	...	...	13	29	26	...	...	...	19	9	...	201	...	...	...	...	...	12
		...	1	...	...	1	...	...	...	...	...	1	3	...	...	...	6	...	...	13	...	...	...	...	...	
Nowgong	56	...	...	...	...	31	...	...	...	...	4	6	1	...	...	...	6	3	...	78	...	...	...	...	...	4
		...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1	...	...	...	...	...	
Gauhati	174	...	...	...	...	34	...	...	...	2	...	40	14	...	...	...	1	6	...	108	...	...	...	...	...	7
		...	...	...	...	4	...	...	...	...	...	3	...	...	...	...	...	...	...	7	...	...	...	...	...	
Dhubri	22	...	..	...	...	5	...	...	...	...	...	2	2	...	...	...	...	1	...	12	...	...	...	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	1	...	...	...	...	...	
Sylhet	543	...	...	...	...	149	6	...	...	2	5	62	58	...	...	...	29	9	...	404	...	...	...	...	...	32
		...	...	...	...	4	2	...	...	2	1	4	1	...	...	...	2	...	...	18	...	...	...	...	...	
Group III.—Assam.	1,229	...	2	...	...	406	9	...	2	6	28	222	155	...	...	1	66	49	...	1,192	...	...	...	...	...	68
		...	2	...	...	9	4	...	...	2	2	10	5	...	...	...	8	...	...	40	...	...	...	...	...	
Mymensingh	406	...	...	...	...	82	...	...	6	7	13	41	32	...	1	...	7	13	...	301	...	...	...	...	...	13
		...	...	...	...	...	...	...	1	3	...	3	...	...	...	...	...	...	...	8	...	...	...	...	...	
Dacca Central	1,082	134	...	...	...	345	1	55	11	21	84	336	51	...	1	...	8	25	...	1,273	...	...	...	...	...	48
		...	...	...	...	...	...	...	4	5	1	2	...	...	...	...	2	...	...	14	...	...	...	...	...	
Tippera	242	...	...	...	...	8	...	77	3	1	5	74	51	...	...	1	...	10	...	269	...	...	...	...	...	7
		...	...	...	...	...	...	...	1	...	...	2	...	...	...	...	...	...	...	4	...	...	...	...	...	
Chittagong	228	...	...	...	1	42	...	...	2	11	4	70	16	...	...	...	1	3	...	164	...	...	...	...	...	5
		...	...	...	1	...	...	...	1	2	...	2	...	...	...	...	...	...	...	7	...	...	...	...	...	
Noakhali	110	...	...	...	...	33	...	...	...	...	...	39	8	...	...	...	...	9	...	101	...	...	...	...	...	4
		...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1	...	...	...	...	...	
Backergunge	477	...	1	...	...	126	3	...	...	4	17	232	95	...	...	1	9	10	...	620	...	...	...	...	...	31
		...	1	...	...	...	3	...	...	1	1	8	...	...	...	...	1	...	...	21	...	...	...	...	...	
Jhulna	42	...	...	1	...	3	...	11	...	1	...	7	3	...	...	...	...	3	...	34	...	...	...	...	...	1
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Jessore	405	45	...	...	...	288	2	...	1	31	8	289	2	...	...	1	1	3	...	731	...	...	...	...	...	32
		...	...	...	...	...	...	...	...	10	1	3	1	...	...	1	...	...	...	16	...	...	...	...	...	
Faraset	130	...	...	...	...	116	4	...	3	5	3	86	8	...	...	1	...	8	...	289	...	...	...	...	...	7
		...	...	...	...	1	...	...	...	3	...	3	...	...	...	...	...	...	...	9	...	...	...	...	...	
Presidency Central, Europeans.	33	1	...	...	1	2	...	...	1	...	...	4	3	...	...	...	...	...	...	21	...	...	...	1	...	1
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Presidency Central, natives.	1,235	69	...	...	...	128	...	5	12	3	16	164	18	...	...	2	1	10	...	553	1	...	...	...	...	26
		1	...	...	...	5	...	...	1	2	...	8	...	...	...	...	...	...	...	24	...	...	...	...	...	
Hijore Central	1,910	...	...	...	...	80	1	423	35	65	157	306	27	1	15	1	50	103	...	2,323	1	...	...	...	...	67
		...	...	...	...	3	...	1	9	7	2	3	...	1	...	...	2	...	...	36	...	...	...	...	...	
Hooghly	375	62	...	...	...	48	...	...	1	13	7	169	95	...	...	...	3	4	...	418	...	...	...	...	1	10
		1	...	...	...	...	...	...	1	5	2	1	1	...	...	...	1	...	...	13	...	...	...	...	...	
Burdwan	209	...	...	...	...	39	2	6	3	5	1	28	...	...	...	...	3	18	...	151	...	...	...	...	...	10
		...	...	...	...	...	...	...	1	1	...	2	...	...	...	...	...	...	...	5	...	...	...	...	...	
Krishnagar	210	2	...	...	...	27	4	...	1	1	...	37	3	...	...	...	2	2	...	91	...	...	...	...	...	7
		...	...	...	...	1	2	...	2	1	...	1	...	...	...	...	...	...	...	7	...	...	...	...	...	
Faridpur	405	39	...	...	...	53	6	87	1	19	20	210	19	...	...	2	2	3	...	515	...	...	...	...	...	26
		...	...	...	...	1	1	...	1	8	...	6	...	...	...	...	...	...	...	19	...	...	...	...	...	
Jabna	155	24	...	...	...	80	3	8	...	1	9	26	34	...	...	...	...	15	...	238	...	...	...	...	...	9
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	
Murshidabad	229	...	...	...	...	39	7	15	...	5	7	61	13	...	...	...	...	13	...	229	3	...	...	...	...	10
		...	...	...	...	...	...	...	...	1	...	2	...	...	...	...	...	...	...	4	...	...	...	...	...	
Rajshahi Central.	710	142	...	...	...	237	39	5	13	14	43	37	35	...	...	1	1	7	...	758	...	...	...	...	...	25
		...	...	...	...	...	4	...	3	4	1	3	3	...	...	...	...	...	...	20	...	...	...	...	...	
Agra	125	...	...	...	...	89	4	4	3	...	2	90	8	...	...	...	...	2	...	227	...	...	...	...	...	5
		...	...	...	...	...	...	...	1	...	...	2	...	...	...	...	...	...	...	3	...	...	...	...	...	
Malda	102	...	...	...	...	76	...	...	...	...	3	10	3	...	...	...	3	1	...	127	...	...	...	...	...	4
		...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1	...	...	...	...	...	
Dinajpur	196	...	...	..	...	38	3	...	...	...	10	21	3	..	...	1	2	5	...	103	...	...	...	...	...	5
		...	...	...	...	...	1	...	...	...	...	1	...	...	...	...	...	...	...	4	...	...	...	...	...	

TABLE XLIII—*continued.*

ACTUALS of JAILS, GROUPS, and ADMINISTRATIONS on which the ratios in Tables XL—XLII have been calculated.

Jails.	Average annual strength.	1. Admissions.								2. Deaths.															Average number constantly sick.
		Influenza.	Cholera.	Small-pox.	Enteric Fever.	Intermittent Fever.	Remittent Fever.	Simple Continued Fever.	Tubercle of the lungs.	Pneumonia.	Other Respiratory Diseases.	Dysentery.	Diarrhœa.	Hepatic Abscess.	Spleen Diseases.	Scurvy.	Anæmia and Debility.	Abscess, Ulcer, and Boil.	Phagedæna, Sloogh, and Gangrene.	All Causes.	Tænia.	Ascaris lumbricoides.	Dracunculus Medinensis.	Strongylus duodenalis.	Other Entozoa.	
Rangpur	138	...	...	...	...	88	7	4	...	...	3	48	34	...	...	...	10	18	...	278	...	...	...	...	...	6
		...	...	...	...	1	...	...	...	...	...	1	1	...	...	...	...	...	...	6	...	...	...	...	...	
Jalpaiguri	88	...	...	...	...	15	...	...	1	...	5	9	1	...	...	...	...	10	...	99	...	...	...	...	...	2
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	
Purnea	184	...	...	1	...	100	14	34	5	10	5	55	28	...	...	...	4	1	...	274	...	...	...	...	...	11
		...	...	1	...	...	1	...	5	2	...	...	...	...	...	...	1	...	...	10	...	...	...	...	...	
Naya Dumka	71	...	...	...	...	6	...	..	1	...	...	4	...	...	...	...	1	1	1	17	...	...	...	...	...	1
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	
Suri	300	1	...	...	...	30	1	...	...	6	2	19	6	..	...	...	...	9	...	102	...	...	...	...	...	4
		...	...	...	...	1	...	...	...	1	1	3	2	...	1	...	...	...	...	12	...	...	...	...	...	
Bankura	245	...	...	...	...	92	...	...	6	...	5	55	81	...	...	...	24	10	...	361	...	...	...	...	...	6
		...	...	...	...	...	...	...	1	...	...	...	1	...	...	...	...	...	...	2	...	...	...	...	...	
Midnapore Central.	914	...	2	...	...	195	6	...	6	28	34	83	48	..	...	...	8	46	...	582	...	...	...	...	...	19
		...	1	...	...	...	2	...	2	6	1	...	1	...	...	...	1	...	...	24	...	...	...	...	...	
Balasore	112	3	...	...	...	15	3	...	...	...	2	14	16	...	...	...	...	2	...	59	...	...	...	...	...	2
		...	...	...	...	...	1	...	...	...	...	4	...	...	...	...	...	...	..	5	...	...	...	...	...	
Cuttack	233	...	..	...	...	66	...	...	4	4	9	30	27	...	...	4	3	11	...	186	...	...	...	...	...	6
		...	...	...	...	...	...		2	1	...	1	...	...	...	...	...	...	...	5	...	...	...	...	...	
Puri	122	...	...	...	...	5	2	...	...	1	...	...	3	...	...	...	3	...	...	31	...	...	...	...	...	2
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Angul	27	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	7	...	...	...	..	...	...
		...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Group IV.—Bengal and Orissa.	11,450	522	35	1	2	2,591	112	734	119	256	474	2,634	771	1	17	15	146	376	1	11,512	5	...	...	...	2	412
		2	2	..	1	13	15	1	36	63	10	63	10	1	1	1	8	...	...	283	...	...	...	...	...	
A. Chaibassa	157	...	...	...	...	87	6	...	...	2	3	100	44	...	...	...	...	5	...	284	1	...	...	...	...	8
		...	...	...	...	...	1	...	1	2	...	1	1	...	...	...	...	...	...	7	...	...	...	...	...	
Purulia	203	...	...	...	...	45	...	...	...	2	7	15	12	...	...	...	2	...	...	91	...	...	...	...	...	2
		...	...	...	...	...	...	...	...	2	...	2	...	...	...	...	...	...	...	5	...	...	...	...	...	
Ranchi	199	...	.	...	...	6	...	...	1	1	3	20	6	...	...	...	...	5	...	59	...	...	...	...	...	3
		...	...	...	...	...	...	...	...	...	1	4	...	...	...	...	...	...	...	5	...	...	...	...	...	
Palamau	71	...	...	...	...	11	...	...	...	...	...	6	2	...	...	...	...	...	...	22	...	...	...	...	...	1
		...	...	...	...	2	...	...	...	...	...	1	...	...	...	...	...	...	...	3	...	...	...	...	...	
Hazaribagh Central.	936	...	..	...	...	90	20	160	5	12	19	95	75	...	2	1	...	41	1	655	1	...	...	...	...	24
		...	...	...	...	2	1	...	2	1	...	1	...	...	...	...	...	...	1	11	...	...	...	...	...	
B. Gaya	421	...	...	...	...	364	5	5	2	3	9	18	79	...	1	...	2	20	...	581	...	...	...	...	...	14
		...	...	...	...	...	...	...	1	...	...	2	4	...	...	...	...	...	...	12	...	...	...	...	...	
Bhagalpur Central	1,530	...	...	...	...	243	3	...	19	3	64	140	95	...	...	...	10	87	...	1,009	...	...	...	...	...	33
		...	...	...	...	1	...	...	4	1	...	3	...	...	...	...	1	...	...	18	...	...	..	...	..	
Monghyr	237	...	..	...	...	193	1	...	...	1	31	24	102	...	...	...	1	28	...	456	1	...	...	...	...	12
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	
Darbhanga	310	...	...	1	...	64	1	...	1	3	17	53	97	...	...	...	13	26	...	317	...	...	...	...	...	12
		...	...	1	...	...	...	...	...	1	1	2	2	...	...	...	...	...	...	10	...	...	...	...	...	
Champaran	275	...	..	...	..	104	2	...	4	5	1	120	37	...	...	...	9	13	...	330	...	...	...	...	...	13
		...	...	...	...	1	...	...	2	1	...	2	...	...	...	...	...	...	...	7	...	...	...	...	...	
Muzaffarpur	302	3	...	...	1	62	10	17	1	2	10	40	31	...	3	...	8	4	...	223	...	...	...	...	...	10
		...	...	...	1	1	...	...	...	1	2	6	1	...	1	...	...	...	...	15	...	...	...	...	...	
Patna	282	...	...	...	...	70	1	...	1	...	5	23	32	...	...	...	4	14	...	224	...	...	...	...	...	9
		...	...	...	...	1	...	...	...	...	...	1	...	...	...	...	1	...	...	3	...	...	...	...	...	
Arrah	211	...	...	...	...	42	...	...	...	5	4	25	4	...	...	...	16	5	...	119	...	...	...	...	...	6
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	
Chapra	239	...	1	...	...	80	...	...	2	...	12	105	20	...	...	...	3	6	...	287	2	22	...	...	...	9
		...	1	...	...	2	...	..	1	...	...	1	...	...	...	...	...	...	...	6	...	...	...	...	...	
Buxar Central	1,094	...	...	...	...	1,314	...	...	9	7	38	123	34	...	...	...	27	51	...	1,791	...	...	1	...	...	54
		...	...	...	...	3	...	...	3	2	...	3	2	...	...	...	2	...	...	22	...	...	...	...	...	
Ghazipur	511	...	...	...	...	120	...	...	2	6	12	12	4	...	...	...	9	59	...	304	...	...	...	...	...	11
		...	...	...	...	2	...	...	1	...	...	1	...	...	...	...	...	...	...	5	...	...	...	...	...	
Azamgarh	376	95	...	1	...	137	1	2	6	10	8	29	22	...	1	...	11	38	...	517	..	...	...	...	...	19
		8	...	...	...	1	1	...	1	1	...	3	...	...	...	...	...	...	...	18	...	...	...	...	...	
Gorakhpur	493	1	...	...	..	116	2	...	...	6	8	30	14	...	...	...	17	55	...	409	1	1	...	1	...	24
		...	...	...	...	...	1	...	...	...	...	1	...	...	...	...	...	...	...	2	...	...	...	...	...	
Basti	426	...	.	1	...	100	4	27	2	12	17	71	46	...	12	...	34	42	...	497	2	1	...	...	...	21
		...	...	...	...	...	1	...	1	5	2	5	1	...	...	...	1	...	...	17	..	...	...	...	...	
Fyzabad	578	40	...	...	...	119	2	1	2	10	10	93	93	...	...	...	36	39	...	624	...	...	...	...	...	36
		...	...	...	...	...	...	1	1	3	...	5	2	...	...	...	...	...	...	14	...	...	...	...	...	
Sultanpur	377	13	...	...	...	175	...	3	1	5	3	7	14	...	...	...	29	8	...	331	...	...	...	...	...	11
		...	...	...	...	1	...	...	1	2	...	1	2	...	...	...	1	...	...	8	...	...	...	...	...	

Jails.	Average annual strength.	1. Admissions. 2. Deaths.																										Average number constantly sick.
		Influenza.	Cholera.	Small-pox.	Enteric Fever.	Intermittent Fever.	Remittent Fever.	Simple Continued Fever.	Tubercle of the lungs.	Pneumonia.	Other Respiratory Diseases.	Dysentery.	Diarrhœa.	Hepatic Abscess.	Spleen Diseases.	Scurvy.	Anæmia and Debility.	Abscess, Ulcer, and Boil.	Phagedæna, Slough, and Gangrene.	All Causes.	Tænia.	Ascaris lumbricoides.	Dracunculus Medinensis.	Strongylus duodenalis.	Other Entozoa.	
Rai Bareli .	604	9	..	..	..	77	...	...	7	2	18	2	12	...	...	....	93	30	...	368	...	...	...	...	...	26
		...	...	...	...	...	...	...	3	...	15	...	5	...	...	...	3	...	...	25	...	...	...	...	...	
Partabgarh .	255	...	...	...	...	60	...	...	...	...	9	18	6	1	...	...	22	13	...	181	..	...	...	...	...	8
		...	..	..	..	...	...	...	...	...	1	3	...	..	...	...	...	...	...	5	...	...	...	...	...	
Jaunpur . .	375	...	..	2	...	125	...	...	...	2	12	12	5	...	...	...	5	41	...	293	...	...	...	...	...	13
		...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	4	...	...	...	...	...	
Benares, Central.	2,215	...	...	...	...	517	4	...	19	21	47	84	56	...	...	...	61	154	...	1,342	...	...	...	...	1	85
		...	...	...	...	3	2	...	11	7	2	21	6	...	...	...	6	...	...	77	...	...	...	...	...	
„ District	566	...	...	...	...	144	1	...	1	4	10	57	22	...	...	...	18	54	...	387	...	...	...	...	...	26
		...	...	...	...	1	...	...	...	...	1	4	1	...	...	...	2	1	...	12	...	...	...	...	...	
Chunar . .	1,142	...	...	...	...	223	17	...	34	16	14	41	41	...	...	...	263	146	...	1,011	...	...	...	...	...	69
		...	...	...	...	12	3	...	18	4	2	5	6	...	...	...	122	...	...	181	...	...	...	...	...	
Mirzapur .	304	1	...	13	...	132	41	1	3	28	25	45	24	...	...	...	12	93	...	572	...	...	...	...	...	24
		...	...	...	...	1	1	...	1	8	2	10	...	...	...	...	...	...	...	27	..	...	...	...	...	
Allahabad, Central.	2,248	134	...	2	...	443	2	...	8	17	26	47	32	...	...	...	79	161	...	1,467	...	...	...	...	...	70
		4	...	...	...	1	...	...	4	4	1	8	...	...	...	...	4	...	...	37	...	...	...	...	...	
„ District	725	150	...	7	...	172	1	...	2	26	33	21	14	...	6	...	22	93	...	820	3	1	...	...	...	42
		2	...	...	...	...	...	...	1	8	1	6	2	...	...	...	...	...	...	25	..	...	...	...	...	
Banda . .	271	19	..	...	...	179	1	...	...	14	4	27	21	...	...	...	3	66	...	442	...	...	...	...	...	19
		1	...	..	...	2	...	...	...	5	...	...	2	...	...	...	1	1	...	17	...	...	...	...	...	
Patehpur .	324	10	...	...	...	224	...	2	2	7	22	23	23	...	...	2	9	33	...	479	...	...	1	...	...	23
		2	...	...	...	...	...	...	1	4	1	4	1	...	...	...	1	...	...	15	...	...	...	...	...	
Hamirpur .	177	...	...	...	...	214	...	...	4	13	15	26	35	...	...	...	47	77	...	548	...	...	...	...	...	23
		...	...	...	...	...	...	...	1	2	...	...	...	...	...	...	...	...	...	4	...	...	...	...	...	
Orai . .	173	16	...	...	...	121	...	4	2	5	10	8	12	...	...	...	8	21	...	269	...	...	...	...	...	11
		...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	3	...	...	...	...	...	
Cawnpore .	340	...	...	...	...	110	6	...	...	8	11	13	18	...	1	1	145	41	...	482	...	...	...	...	...	35
		...	...	...	...	1	...	...	...	2	...	2	1	...	...	...	1	...	...	9	...	...	...	...	...	
Unao . .	326	5	...	...	...	81	2	22	1	2	12	12	33	...	...	...	5	14	...	289	2	...	...	...	...	9
		...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	
Lucknow, Central.	1,720	5	1	...	...	361	1	...	10	15	25	95	79	...	2	...	29	82	...	927	...	...	...	...	...	46
		...	1	...	...	1	...	...	4	2	...	11	4	...	...	...	...	...	...	29	...	...	...	...	...	
„ District	584	5	...	...	...	310	...	...	2	4	20	79	33	1	3	...	29	49	...	746	...	...	...	...	...	27
		...	...	...	...	...	...	...	1	...	...	4	...	...	...	...	1	...	...	6	...	...	...	...	...	
Barabanki .	418	8	...	...	..	46	...	11	3	3	4	14	3	...	1	...	...	25	...	150	...	...	...	...	...	7
		1	...	...	...	...	...	...	1	2	...	1	...	...	...	...	...	...	...	6	...	...	...	...	...	
Gonda . .	598	...	...	...	...	218	...	...	3	5	5	39	9	...	...	...	1	21	...	386	...	...	...	...	...	29
		...	...	...	...	5	...	...	2	1	1	7	1	...	...	...	1	...	...	19	...	...	...	...	...	
Bahraich .	421	...	...	...	...	367	1	...	1	15	5	109	4	...	...	...	...	84	...	756	...	...	...	...	...	35
		...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	
Kheri . .	329	...	...	...	...	197	...	17	2	5	5	14	19	...	...	...	16	30	...	473	1	...	...	...	1	16
		...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	3	...	...	...	...	...	
Sitapur . .	742	3	...	1	...	87	...	...	5	17	7	20	32	...	...	...	14	34	...	349	4	...	...	...	...	15
		...	...	...	...	...	...	...	3	6	...	4	3	...	...	...	...	...	...	17	...	...	...	...	...	
Hardoi . .	477	...	...	...	...	244	15	13	1	1	5	15	45	...	...	...	...	57	...	503	...	1	...	...	...	23
		...	...	...	...	6	...	...	1	1	1	2	1	...	...	...	...	...	...	14	...	...	...	...	...	
Etawah . .	282	...	...	...	...	19	2	...	1	9	8	9	4	...	5	...	6	15	...	123	1	...	1	...	...	7
		...	...	...	...	...	1	...	...	5	...	2	...	...	...	...	...	...	...	11	...	...	...	...	...	
Mainpuri .	398	...	...	...	...	196	...	...	1	17	13	25	29	...	4	...	13	43	...	409	...	...	...	...	...	15
		...	...	...	...	...	...	...	1	5	1	1	3	...	...	...	...	...	...	12	...	...	...	...	...	
Etah . .	321	1	...	...	...	176	...	...	2	7	12	3	23	1	...	...	63	72	...	448	...	...	...	...	...	27
		...	...	...	...	...	...	...	...	2	...	1	...	1	...	...	1	...	...	5	...	...	...	...	...	
Fatehgarh, Central.	1,895	44	...	...	2	678	2	...	38	19	97	190	127	...	...	...	13	142	...	2,142	1	...	1	...	...	114
		...	...	...	1	...	...	...	9	1	1	33	...	...	...	...	...	...	...	54	...	...	...	...	...	
„ District	376	41	...	...	1	179	...	...	5	4	18	71	29	...	...	...	1	54	...	573	4	1	...	...	...	23
		...	...	...	1	...	...	...	1	1	...	2	...	...	...	...	...	...	...	7	...	...	...	...	...	
Group V.—Gangetic Plain and Chutia Nagpur.	27,834	603	2	28	4	9,442	154	285	215	381	773	2,268	1,653	3	41	4	1,208	2,291	1	26,065	24	27	4	1	1	1,199
		18	2	1	3	50	12	1	83	96	26	178	51	1	1	...	149	2	1	818	...	...	...	...	...	
A. Shahjahanpur.	378	5	...	...	...	241	...	...	5	24	7	60	5	...	...	...	17	19	...	448	...	1	...	...	...	12
		...	...	...	...	1	...	...	2	4	1	3	...	...	...	...	...	...	...	13	...	...	...	...	...	
Bareilly, Central.	2,403	...	...	...	...	695	3	...	9	62	12	38	15	...	7	...	28	279	...	1,447	...	...	...	...	...	90
		...	...	...	...	...	...	...	1	8	1	9	1	...	...	...	1	...	...	25	...	...	...	...	...	
„ District	930	233	...	...	...	359	12	...	10	39	20	66	179	...	7	...	19	65	...	1,236	...	...	...	...	...	52
		8	...	...	...	1	...	...	1	8	...	4	3	...	...	...	1	...	...	30	...	...	...	...	...	

TABLE XLIII—*continued.*

ACTUALS of JAILS, GROUPS, and ADMINISTRATIONS on which the ratios in Tables XL—XLII have been calculated.

JAILS.	Average annual strength.	1. ADMISSIONS.																		2. DEATHS.										Average number constantly sick.
		Influenza.	Cholera.	Small-pox.	Enteric Fever.	Intermittent Fever.	Remittent Fever.	Simple Continued Fever.	Tubercle of the lungs.	Pneumonia.	Other Respiratory Diseases.	Dysentery.	Diarrhœa.	Hepatic Abscess.	Spleen Diseases.	Scurvy.	Anæmia and Debility.	Abscess, Ulcer, and Boil.	Phagedæna, Slough, and Gangrene.	All Causes.	Tænia.	Ascaris lumbricoides.	Dracunculus Medinensis.	Strongylus duodenalis.	Other Entozoa.					
Budaon	389	3	...	...	...	100	3	1	2	17	8	25	16	...	...	...	6	25	...	279	...	...	...	...	...				8
		...	...	...	...	...	...	...	1	3	...	1	...	...	...	...	...	...	...	6	...	...	...	...	...				
Aligarh	429	95	...	...	...	222	...	...	2	9	14	39	37	...	...	...	1	78	1	611	...	...	2	...	...				15
		...	...	...	...	1	...	...	1	1	1	...	...	...	...	...	...	...	1	6	...	...	...	...	...				
Bulandshahr	270	...	...	...	...	76	1	...	1	2	7	18	19	...	...	...	6	34	...	243	...	...	...	...	...				10
		...	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	2	...	...	...	...	...				
Moradabad	394	11	...	...	...	163	...	21	...	24	23	48	16	...	..	...	22	30	...	468	...	...	...	...	...				21
		...	...	...	...	...	...	...	...	4	1	1	...	...	...	...	...	...	...	10	...	...	...	...	...				
Bijnor	243	...	...	...	...	40	1	1	...	4	14	1	4	...	...	...	3	20	...	115	...	...	...	...	...				3
		...	...	...	...	...	...	...	...	1	2	...	...	...	...	...	...	...	...	3	...	...	...	...	...				
Dehra Dun	57	...	...	...	...	11	...	...	1	1	4	8	12	...	...	...	3	2	...	56	...	...	...	...	...				6
		...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1	...	...	2	...	...	...	...	...				
Saharanpur	294	...	...	...	...	60	...	...	...	3	9	24	11	...	...	...	5	36	...	243	...	...	...	3	...				13
		...	...	...	...	...	...	...	...	...	...	3	...	...	...	...	...	...	...	4	...	...	...	...	...				
Muzaffarnagar	179	38	...	...	...	67	1	...	...	2	9	21	29	...	...	...	4	15	...	240	...	...	...	...	...				8
		...	...	...	...	...	...	...	...	...	...	...	3	...	...	...	...	...	...	5	...	...	...	...	...				
Meerut	605	45	...	...	...	195	...	12	3	6	9	39	42	...	...	...	6	65	...	555	...	...	...	...	...				33
		1	...	...	...	5	...	...	2	1	1	4	2	...	...	...	...	...	...	17	...	...	...	...	...				
Delhi	461	...	...	...	...	767	...	...	2	34	10	15	20	...	...	4	...	72	...	1,012	...	...	...	...	...				19
		...	...	...	...	1	...	...	2	9	...	1	1	...	...	...	...	...	...	17	...	...	...	...	...				
Rohtak	155	...	...	...	...	218	...	...	...	4	3	7	10	...	4	...	1	78	...	362	...	...	1	...	...				7
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...				
Hissar	234	...	...	...	...	96	...	...	1	2	...	...	2	...	...	...	1	11	...	151	1	...	16	...	...				4
		...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...				
Karnal	133	...	...	...	...	40	...	...	...	2	4	5	3	...	5	...	...	9	...	106	...	...	...	...	...				2
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...				
Umballa	704	...	...	...	...	216	1	...	3	10	15	71	96	...	2	1	3	99	...	652	...	...	3	...	...				20
		...	...	...	...	...	...	...	1	1	...	2	1	...	...	...	...	...	...	10	...	...	...	...	...				
B																														
Ludhiana	248	...	...	...	...	113	...	...	...	3	1	15	29	...	1	...	1	14	...	221	...	...	...	...	...				4
		...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1	...	...	...	...	...				
Hoshiarpur	48	...	...	...	...	11	...	...	...	1	1	4	1	...	...	...	...	13	...	44	...	...	...	...	...				1
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...				
Jullundur	244	...	...	...	...	29	1	...	...	...	2	21	5	...	1	...	1	23	...	114	...	...	1	...	...				4
		...	...	...	...	...	1	...	...	...	...	2	1	...	...	...	...	...	...	6	...	...	...	...	...				
Ferozepore	389	...	...	...	...	24	...	...	7	2	3	9	...	...	1	1	7	18	...	132	...	...	3	...	...				6
		...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	4	...	...	...	...	...				
Amritsar	177	...	...	...	...	158	2	...	...	3	2	4	12	...	...	...	10	12	...	222	...	...	...	...	...				5
		...	...	...	...	...	1	...	...	...	...	...	1	...	...	...	...	...	...	3	...	...	...	...	...				
Lahore Central	1,487	...	...	...	...	1,531	14	...	15	25	247	365	206	1	...	1	9	324	...	3,338	2	...	6	...	...				76
		...	...	...	...	1	1	...	7	8	1	19	4	...	...	...	...	...	...	55	...	...	...	...	...				
,, District	517	...	...	...	...	460	1	...	2	11	18	81	17	1	12	...	3	91	...	833	...	...	...	..	..				23
		...	...	...	...	...	...	...	1	3	...	7	1	1	1	...	...	...	...	16	...	...	...	...	...				
,, Female	137	...	...	...	...	159	1	...	1	...	8	15	9	...	7	1	2	18	...	278	...	...	1	...	...				8
		...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	3	...	...	...	...	...				
Gurdaspur	202	...	...	...	...	9	...	...	2	1	1	5	7	...	...	...	...	4	...	49	...	...	...	...	...				2
		...	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	4	...	...	...	...	...				
Gujranwala	343	1	...	...	...	90	...	1	4	1	4	35	16	...	...	...	4	45	...	239	...	...	...	...	...				9
		...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...				
Sialkot	384	...	...	...	...	79	5	1	2	3	5	23	22	...	...	...	8	41	...	255	...	...	2	...	...				9
		...	...	...	...	...	...	...	...	1	...	2	...	...	...	...	...	...	...	7	...	...	...	...	...				
Gujrat	77	...	...	...	...	7	3	...	...	1	3	2	1	...	...	...	4	6	...	44	...	...	...	...	...				1
		...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	2	...	...	...	...	...				
Mung Rasul, Central.	20	...	...	...	...	13	...	...	...	...	1	3	3	...	...	...	...	7	...	30	...	...	...	...	...				...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...				
Jhelum	235	...	...	...	...	356	3	...	...	6	2	14	37	...	...	...	1	42	...	499	...	...	5	...	...				8
		...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	3	...	...	...	...	...				
Rawalpindi	756	2	...	...	...	960	1	32	8	24	39	100	98	...	18	3	21	208	...	1,780	...	...	3	...	...				33
		...	...	...	...	...	1	...	2	7	1	...	...	...	...	...	...	...	...	20	...	...	...	...	...				
GROUP VI.—UPPER SUB-HIMALAYA	13,522	433	...	...	...	7,505	53	69	80	326	505	1,181	989	2	65	11	196	1,803	1	16,302	3	1	43	3	...				513
		9	...	...	...	10	4	...	22	65	11	61	19	1	1	...	3	...	1	278	...	...	...	...	...				

Jails.	Average annual strength.	1. Admissions.									2. Deaths.													Average number constantly sick.
		Influenza.	Cholera.	Small-pox.	Enteric Fever.	Intermittent Fever.	Remittent Fever.	Simple Continued Fever.	Tubercle of the lungs.	Pneumonia.	Other Respiratory Diseases.	Dysentery.	Diarrhœa.	Hepatic Abscess.	Spleen Diseases.	Scurvy.	Anæmia and Debility.	Abscess, Ulcer, and Boil.	Phagedæna, Slough, and Gangrene.	All Causes.	Tænia.	Ascaris lumbricoides.	Dracunculus Medinensis.	Strongylus duodenalis.	Other Entozoa.	
A																									
Peshawar	460	...	...	...	...	519	...	...	2	7	8	68	43	...	3	1	10	91	...	852	...	...	...	...	34
		...	...	...	...	1	...	...	...	3	1	1	3	...	...	...	...	...	...	12	...	...	...	...	
Kohat	87	...	...	...	...	36	3	...	...	5	...	7	1	...	...	...	4	24	...	99	...	...	...	...	3
		...	...	...	...	...	...	...	...	3	...	...	...	...	...	...	...	...	...	5	...	...	...	...	
Bannu	105	...	...	...	...	53	1	...	...	...	1	15	21	...	...	...	1	33	...	188	...	...	11	...	5
		...	...	...	...	...	...	...	...	...	...	2	1	...	...	...	...	...	1	4	...	...	...	...	
Shahpur	220	...	...	...	...	109	1	...	...	3	5	6	4	...	1	1	4	53	...	274	1	...	5	...	7
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	
Jhang	271	...	...	2	...	222	...	...	...	15	23	57	54	...	7	...	6	41	...	504	1	...	...	...	11
		...	...	...	...	...	...	...	...	5	1	1	1	...	...	...	...	...	...	11	...	...	...	...	
Montgomery, Central.	1,860	...	...	...	2	856	8	...	18	42	93	56	118	...	1	...	9	522	...	2,169	...	...	11	...	61
		...	...	...	1	2	3	...	9	7	1	...	2	...	...	...	2	2	...	39	...	...	...	...	
Mooltan, Central.	988	...	...	...	...	707	...	...	19	37	52	86	58	...	...	5	51	159	...	1,461	...	...	1	...	56
		...	...	...	...	...	...	...	3	5	2	9	...	...	...	...	...	...	...	25	...	...	...	...	
,, District	693	...	...	...	...	227	1	1	3	28	26	21	2	...	...	2	1	35	...	421	...	...	4	...	14
		...	...	...	...	...	1	...	1	7	1	1	...	...	...	...	...	...	...	12	...	...	...	...	
Dera Ismail Khan.	354	...	...	...	...	112	9	5	1	22	16	11	4	...	...	...	3	67	...	358	...	...	21	...	12
		...	...	...	...	...	3	...	...	5	...	1	1	...	...	...	...	...	...	14	...	...	...	...	
Dera Ghazi Khan.	396	...	...	...	...	79	1	...	...	10	10	21	9	...	...	1	5	63	...	267	...	...	...	...	10
		...	...	...	...	...	1	...	...	3	...	1	1	...	...	...	1	...	...	12	...	...	...	...	
C																									
Shikarpur	510	...	...	...	...	60	...	...	...	47	8	16	6	...	2	11	13	14	...	216	...	...	...	...	11
		...	...	...	...	...	...	...	...	13	...	1	2	...	...	1	7	...	...	30	...	...	...	...	
Sind Gang	326	4	...	...	...	21	12	...	...	49	32	15	10	...	2	...	6	10	1	195	...	...	...	...	7
		...	...	...	...	...	4	...	...	13	1	...	...	...	...	...	...	...	1	21	...	...	...	...	
Hyderabad, Central.	901	...	...	...	...	60	4	...	5	6	20	5	29	...	1	8	28	45	3	384	2	...	2	...	15
		...	...	...	...	...	1	...	2	...	...	1	...	...	...	...	...	...	...	7	...	...	...	...	
Kurrachee	292	...	...	...	...	63	5	...	2	7	13	8	2	...	...	...	2	32	...	201	...	...	2	...	7
		...	...	...	...	...	1	...	...	1	1	1	...	...	...	...	...	...	...	5	...	...	...	...	
Group VII.—N.-W. Frontier, Indus Valley, and N.-W. Rajputana.	7,463	4	...	2	2	3,124	45	6	50	278	307	392	361	...	17	29	143	1,189	4	7,589	4	...	57	...	253
		...	...	...	1	3	14	...	15	65	8	19	11	...	...	1	10	2	2	198	...	...	...	...	
A																									
Rajkot	161	...	...	...	...	24	1	...	...	...	2	2	6	...	1	...	...	16	...	69	...	...	1	...	3
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	
Ahmedabad, Central.	1,075	...	...	...	...	251	1	...	4	19	74	83	41	...	...	1	4	49	...	739	1	...	12	...	23
		...	...	...	...	...	...	...	2	2	...	1	2	...	...	...	1	...	...	14	...	...	...	...	
B																									
Ajmer	288	10	...	...	...	7	2	...	...	5	6	3	...	...	...	...	...	12	...	70	...	...	1	...	4
		...	...	...	...	...	1	...	...	2	1	...	...	...	...	...	...	...	...	4	...	...	...	...	
Muttra	273	...	...	...	...	79	4	...	1	26	13	18	2	...	...	2	2	7	...	217	...	...	...	...	11
		...	...	...	...	...	1	...	...	4	...	1	...	...	...	...	...	...	...	7	...	...	...	...	
Agra, Central	2,401	234	...	...	...	953	...	...	12	48	112	106	106	...	1	1	88	266	...	2,577	...	...	1	...	144
		...	...	...	...	1	...	...	12	14	7	15	2	...	...	...	3	...	...	63	...	...	...	...	
,, District	611	...	...	...	...	180	...	...	9	36	23	58	48	...	...	1	26	78	...	679	1	...	1	...	59
		...	...	...	...	...	...	...	6	8	...	6	...	...	...	...	...	...	...	25	...	...	...	...	
Jhansi	224	26	...	2	...	75	...	2	1	7	3	15	21	...	...	1	2	32	...	255	...	...	...	...	14
		...	...	...	...	...	...	...	1	2	...	...	2	...	...	...	...	...	...	5	...	...	...	...	
Group VIII.—S. E. Rajputana, Central India, and Gujarat.	4,973	270	...	2	...	1,569	8	2	27	141	233	285	224	...	2	6	122	460	...	4,606	2	...	16	...	1	258
		...	...	...	...	1	2	...	21	32	8	23	6	...	...	...	4	...	...	119	...	...	...	...	...	

TABLE XLIII—*continued.*

ACTUALS of JAILS, GROUPS, and ADMINISTRATIONS on which the ratios in Tables XL—XLII have been calculated.

JAILS.	Average annual strength.	1. ADMISSIONS. Influenza.	Cholera.	Small-pox.	Enteric Fever.	Intermittent Fever.	Remittent Fever.	Simple Continued Fever.	Tubercle of the lungs.	Pneumonia.	Other Respiratory Diseases.	Dysentery.	Diarrhœa.	Hepatic Abscess.	Spleen Diseases.	Scurvy.	Anæmia and Debility.	Abscess, Ulcer, and Boil.	Phagedæna, Slough, and Gangrene.	2. DEATHS. ALL CAUSES.	Tænia.	Ascaris lumbricoides.	Dracunculus Medinensis.	Strongylus duodenalis.	Other Entozoa.	Average number constantly sick.
A																										
Damoh	79	...	...	...	...	9	...	...	1	2	1	6	1	...	...	1	...	3	...	52	...	...	6	...	...	3
		...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	4	...	...	...	...	...	
Saugor	219	...	...	...	...	93	...	2	1	...	17	15	34	...	...	23	40	52	...	440	...	1	1	...	...	16
		...	...	...	...	1	...	...	1	...	...	2	...	...	...	...	1	...	...	6	...	...	...	...	...	
Jubbulpore, Central	1,340	146	...	...	...	557	...	...	3	35	21	287	173	...	...	3	54	76	...	1,908	2	...	2	...	...	70
		...	...	...	...	...	...	...	4	4	1	33	...	...	...	...	4	...	...	51	...	...	...	...	...	
Narsinghpur	117	...	...	...	...	98	...	...	5	...	19	12	46	...	...	...	39	43	...	359	...	...	...	...	...	8
		...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1	...	...	...	...	...	
Mandla	83	...	...	...	...	43	1	...	...	5	6	16	5	...	...	...	5	30	...	152	...	...	...	...	...	7
		...	...	...	...	...	...	...	...	1	...	1	...	...	...	...	1	...	...	4	...	...	...	...	...	
Bilaspur	253	3	...	...	...	46	2	...	1	2	1	35	7	...	...	...	42	21	...	274	1	...	...	...	...	29
		...	...	...	...	...	2	...	1	2	...	9	1	...	...	...	5	...	...	22	...	...	...	...	...	
Sambalpur	195	...	...	...	...	13	8	2	2	...	...	30	3	...	...	...	...	...	1	74	...	...	...	...	...	4
		...	...	...	...	...	1	...	2	...	...	2	...	...	...	...	...	...	1	6	...	...	...	...	...	
Raipur, Central	839	...	...	...	...	104	...	...	11	7	37	63	23	...	1	1	14	37	...	696	6	...	...	...	...	52
		...	...	...	...	...	...	...	4	3	4	5	8	...	...	...	1	...	...	34	...	...	...	...	...	
Balaghat	66	...	...	...	...	...	2	...	...	1	1	1	6	...	...	...	...	...	...	16	...	...	...	...	...	1
		...	...	...	...	...	...	...	...	1	...	...	3	...	...	...	...	...	...	4	...	...	...	...	...	
Seoni	104	...	...	...	...	51	2	...	...	6	10	10	9	...	...	1	2	5	...	118	...	...	...	...	...	4
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Chhindwara	95	...	...	...	...	57	1	...	...	4	1	...	17	...	...	...	2	30	...	168	...	...	...	...	...	5
		...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	
Hoshangabad	186	...	...	...	...	65	5	...	...	1	4	20	33	...	...	50	8	12	...	236	...	...	1	...	...	11
		...	...	...	...	...	...	...	...	...	1	1	1	...	...	1	3	...	...	7	...	...	...	...	...	
Nimar	75	...	...	...	...	11	...	...	...	...	2	5	6	...	...	...	1	2	...	38	...	...	...	...	...	1
		...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	
Betul	95	4	...	...	...	24	...	...	...	3	2	38	...	...	...	...	3	14	...	109	...	...	...	...	...	4
		...	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...	2	...	5	...	...	...	...	...	
Nagpur, Central	1,087	...	...	...	5	323	...	...	6	4	12	32	42	...	...	28	4	80	...	820	...	...	1	...	...	33
		...	...	...	2	...	...	...	5	...	1	3	4	...	...	1	1	...	...	25	...	...	...	...	...	
Bhandara	84	19	...	...	...	38	...	18	...	3	4	2	4	...	...	...	7	4	...	155	...	...	...	...	...	7
		...	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...	...	...	3	...	...	...	...	...	
Wardha	58	...	...	...	...	53	...	...	...	1	...	4	22	...	...	...	3	9	...	116	...	...	...	...	...	4
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Chanda	76	...	...	...	...	21	1	...	...	3	1	...	2	...	...	...	2	3	...	43	...	...	...	...	...	2
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	
Sironcha	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
B																										
Secunderabad	95	4	...	...	...	28	...	...	...	...	1	3	1	...	...	...	...	8	...	80	...	...	4	...	...	2
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Yeotmahl	64	3	...	...	...	18	...	...	1	...	5	1	5	...	...	...	...	7	...	79	...	...	...	...	...	2
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Amraoti, Central	569	...	...	...	...	56	...	12	...	14	13	7	4	...	...	...	5	30	...	242	...	...	...	...	...	8
		...	...	...	...	...	...	...	...	3	1	...	...	...	...	...	1	...	...	9	...	...	...	...	...	
Ellichpur	51	...	...	...	...	30	...	...	...	2	4	...	2	...	...	...	2	7	...	60	...	...	...	...	...	2
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	1	...	...	...	...	...	
Akola, Central	667	...	...	...	...	82	3	59	8	9	11	24	13	...	4	4	27	22	...	413	...	...	4	...	...	11
		...	...	...	...	...	1	...	2	2	...	1	...	...	...	...	2	...	...	10	...	...	...	...	...	
Basim	98	...	...	1	...	7	...	...	...	...	4	...	1	...	...	...	1	2	...	25	...	...	1	...	...	1
		...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	1	...	...	3	...	...	...	...	...	
Buldana	68	...	...	...	...	20	...	1	...	1	...	1	...	...	...	...	4	1	...	38	...	...	1	...	...	1
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	
Dhulia	379	...	...	...	...	67	...	...	...	...	4	27	7	...	1	...	...	9	...	173	...	...	18	...	...	8
		...	...	...	...	...	...	...	...	...	...	3	1	...	...	...	...	...	...	7	...	...	...	...	...	
Yerrowda, Central	2,079	...	...	...	1	1,048	...	...	9	8	83	48	140	...	...	...	78	337	3	2,865	1	...	84	...	...	102
		...	...	...	1	...	...	...	4	4	3	1	3	...	...	...	2	...	1	31	...	...	...	...	...	
Bijapur District	347	...	...	...	...	107	...	7	...	2	10	8	9	...	...	...	...	22	...	252	...	...	34	...	...	6
		...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1	...	...	...	...	...	
Deccan Gang	278	...	...	...	...	94	1	...	...	3	6	5	20	...	1	1	3	19	...	250	...	...	17	...	...	9
		...	...	...	...	...	...	...	...	...	1	1	1	...	...	...	...	...	...	3	...	...	...	...	...	
Dharwar	357	...	...	...	...	46	...	...	...	2	5	5	2	...	...	...	2	12	...	143	...	...	34	...	...	6
		...	...	...	...	...	...	...	...	1	...	...	2	...	...	...	...	...	...	11	...	...	...	...	...	
GROUP IX.—DECCAN	10,106	179	...	1	6	3,209	26	101	48	118	278	705	637	...	10	109	348	897	4	10,394	10	1	208	...	...	419
		...	...	...	3	2	4	...	24	24	13	66	24	...	...	1	23	2	2	252	...	...	...	...	...	

Jails.	Average annual strength.	1. Admissions.																		2. Deaths.							Average number constantly sick.
		Influenza.	Cholera.	Small-pox.	Enteric Fever.	Intermittent Fever.	Remittent Fever.	Simple Continued Fever.	Tubercle of the lungs.	Pneumonia.	Other Respiratory Diseases.	Dysentery.	Diarrhœa.	Hepatic Abscess.	Spleen Diseases.	Scurvy.	Anæmia and Debility.	Abscess, Ulcer, and Boil.	Phagedæna, Slough, and Gangrene.	All Causes.	Tænia.	Ascaris lumbricoides.	Dracunculus Medinensis.	Strongylus duodenalis.	Other Entozoa.	
Thana	824	...	...	...	...	153	83	...	9	2	30	20	28	...	...	...	6	26	...	487	...	...	29	...	...	28
		...	...	...	...	...	10	...	3	1	1	...	3	...	...	...	2	...	...	22	...	...	...	...	...	
Bombay, Common.	397	...	...	...	...	25	7	...	8	5	4	10	17	...	...	...	3	6	...	140	...	...	...	...	...	5
		...	...	...	...	...	...	...	2	4	...	2	2	...	...	...	...	...	...	21	...	...	...	...	...	
,, House of Correction.	293	...	...	...	...	51	2	...	5	4	9	1	21	1	...	1	4	6	...	161	...	...	2	...	...	7
		...	...	...	...	...	3	...	1	2	...	...	1	1	...	...	1	...	...	13	...	...	...	...	...	
Ratnagiri	140	...	...	...	...	22	...	...	2	...	4	17	2	...	...	1	1	4	...	80	...	...	1	...	...	5
		...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	
Karwar	129	...	...	1	...	13	3	...	...	2	2	28	...	...	...	...	2	2	...	71	...	...	1	...	...	3
		...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1	...	...	...	...	...	
Mangalore	169	...	...	1	3	13	1	9	...	3	16	5	1	...	...	...	...	10	...	112	...	2	...	1	...	4
		...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	1	...	...	...	...	...	
Cannanore, Central.	761	23	...	...	...	49	...	34	2	3	33	4	...	...	1	1	3	29	...	398	...	4	...	30	...	22
		...	...	...	...	1	...	...	1	3	...	2	...	...	...	...	...	...	...	15	...	...	...	4	...	
Group X.—Western Coast.	2,713	23	...	2	3	376	96	43	26	19	98	85	69	1	1	3	19	83	...	1,149	...	6	33	31	...	74
		...	...	...	...	1	13	...	8	10	2	5	6	1	...	...	3	...	...	75	...	...	...	4	...	
A																										
Bellary	361	1	...	...	...	54	...	21	1	2	11	40	...	...	...	...	9	5	...	271	1	...	30	...	...	10
		...	...	...	...	1	...	...	...	2	...	...	...	...	...	...	1	...	...	7	...	...	...	...	...	
Salem, Central	588	1	...	...	...	16	...	7	1	4	13	25	...	...	...	...	...	10	...	134	...	...	15	...	...	6
		...	...	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...	5	...	...	...	...	...	
Coimbatore, Central.	949	...	...	2	...	27	...	29	16	9	77	38	20	...	...	...	2	16	...	398	...	1	23	...	...	18
		...	...	...	...	...	...	...	5	5	...	1	...	...	...	...	...	...	...	15	...	...	...	...	...	
B																										
Palamcottah	341	40	...	...	...	...	1	33	...	3	4	19	...	...	...	...	3	15	...	207	...	1	6	...	...	8
		...	...	...	...	...	...	...	...	1	1	2	...	...	...	...	...	...	...	7	...	...	...	...	...	
Madura	372	...	...	...	1	19	...	4	2	2	5	13	...	...	...	1	...	...	...	102	...	...	4	...	...	6
		...	...	...	...	...	...	...	2	...	...	1	...	...	...	...	...	...	...	3	...	...	...	...	...	
Trichinopoly, Central.	1,063	44	...	...	...	224	...	54	15	4	75	85	10	...	...	...	5	76	...	756	...	...	14	...	...	23
		...	...	...	...	2	...	...	7	3	1	3	...	...	...	...	...	...	...	33	...	...	...	...	...	
Tanjore	346	...	...	...	...	8	...	12	1	...	3	14	...	...	...	...	6	3	...	90	...	...	2	...	...	7
		...	...	...	...	1	...	1	1	...	...	2	...	...	...	...	...	...	...	8	...	...	...	...	...	
Cuddalore	378	...	...	1	...	4	...	8	3	1	7	26	...	...	...	...	3	39	...	179	...	...	5	...	...	7
		...	...	...	...	...	...	...	...	...	...	4	...	...	...	...	...	...	...	4	...	...	...	...	...	
Vellore, Central	1,168	...	...	...	...	74	...	136	21	4	51	37	...	...	...	...	13	89	...	731	...	...	10	1	...	31
		...	...	...	...	...	...	...	4	1	...	2	...	...	...	...	...	...	...	15	...	...	...	1	...	
Madras Debtors' (natives)	28	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	...	...	...	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Madras Penitentiary, Central, (natives).	858	3	2	...	...	44	...	145	18	4	95	32	1	...	...	...	20	47	...	828	...	1	11	...	...	23
		...	1	...	...	...	...	...	4	1	...	1	...	...	...	...	...	...	...	14	...	...	...	...	...	
Madras, Penitentiary, Central, (Europeans)	12	...	...	...	1	...	...	4	...	...	6	...	...	...	...	...	1	...	...	15	...	...	...	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Madras Debtors' (Europeans).	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Nellore	176	...	...	...	...	28	1	20	1	...	14	8	9	...	...	...	...	16	...	139	...	...	1	...	...	4
		...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1	...	...	...	...	...	
Guntur	129	...	...	...	...	3	...	12	1	...	3	4	...	...	...	...	...	1	...	52	...	1	3	...	...	1
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
C																										
Rajamundry, Central.	502	...	2	...	...	518	...	156	34	25	78	138	...	1	...	...	...	22	...	1,388	2	26	11	35	...	62
		3	1	...	...	6	...	...	9	13	2	21	...	1	...	...	...	...	...	97	1	2	...	...	...	
Vizagapatam	406	...	...	...	...	62	1	15	15	17	34	46	3	1	...	...	3	7	...	323	3	...	...	...	...	24
		...	...	...	...	1	...	...	3	4	...	10	...	...	...	...	...	...	...	20	1	...	...	...	...	
Berhampur	152	...	...	3	...	28	...	5	3	1	16	6	...	...	...	...	...	26	...	144	...	...	...	...	...	4
		...	...	...	...	...	...	...	1	...	1	1	...	...	...	...	...	...	...	4	...	...	...	...	...	
Group XI.—Southern India.	7,829	89	4	7	2	1,109	3	661	132	76	492	531	43	2	...	1	65	372	...	5,760	6	30	135	36	...	234
		3	2	...	...	11	...	1	36	30	6	50	...	1	...	...	1	...	...	233	2	2	...	1	...	

TABLE XLIII—*continued.*

ACTUALS of JAILS, GROUPS, and ADMINISTRATIONS on which the ratios in Tables XL—XLII have been calculated.

Jails and Administrations.	Average annual strength.	1. Admissions.									2. Deaths.														Average number constantly sick.
		Influenza.	Cholera.	Small-pox.	Enteric Fever.	Intermittent Fever.	Remittent Fever.	Simple Continued Fever.	Tubercle of the lungs.	Pneumonia.	Other Respiratory Diseases.	Dysentery.	Diarrhœa.	Hepatic Abscess.	Spleen Diseases.	Scurvy.	Anæmia and Debility.	Abscess, Ulcer and Boil.	Phagedæna, Slough, and Gangrene.	All Causes.	Tænia.	Ascaris lumbricoides.	Dracunculus Medinensis.	Strongylus duodenalis.	Other Entozoa.	
Shillong	47	...	...	...	...	67	...	...	...	1	...	8	16	...	...	...	...	3	...	107	..	...	...	...	...	2
		...	...	..	..	...	...	...	...	...	...	1	1	...	...	...	...	...	...	2	...	...	...	...	...	
Darjeeling	90	...	...	...	...	57	...	...	...	...	3	7	13	...	...	...	1	1	...	97	2	...	...	...	...	3
		...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	1	...	...	...	...	...	
Almora	88	...	...	...	...	7	...	2	1	3	...	6	4	...	...	...	2	5	...	42	...	...	...	...	...	4
		...	...	...	...	...	...	...	...	...	...	1	1	...	...	...	1	...	...	4	...	...	...	...	...	
Simla	10	...	...	...	...	5	...	...	...	...	2	...	...	...	...	...	...	...	...	11	...	...	...	...	...	...
		...	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Dharmsala	77	...	...	...	...	37	...	...	1	2	3	8	18	...	2	...	6	15	...	139	...	...	...	...	...	4
		...	...	...	...	...	...	...	2	...	...	...	1	...	...	...	...	...	...	3	...	...	...	...	...	
Abbottabad	82	...	...	...	...	21	3	...	...	4	...	2	17	...	...	...	...	12	...	80	...	...	...	...	...	2
		...	...	...	...	...	1	...	...	1	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	
Quetta	62	...	...	...	...	23	...	9	...	...	7	2	...	...	...	...	...	12	...	77	...	...	...	...	...	1
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Mercara	87	...	..	...	...	14	2	3	...	2	4	10	13	...	...	...	4	8	...	76	...	4	...	...	...	2
		...	...	...	...	1	2	...	...	...	1	...	4	...	...	...	...	...	...	8	...	...	...	...	...	
Russellkonda	85	...	...	16	...	5	...	...	...	1	1	2	...	...	...	...	...	15	...	55	...	...	...	...	...	2
		...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	
Group XII.—Hills.	628	...	...	16	...	236	5	14	2	13	20	45	81	...	2	...	13	71	...	684	2	4	...	...	...	20
		...	...	1	...	1	3	...	2	1	2	2	7	...	...	...	1	...	...	22	...	...	...	...	...	
Extra India.—Aden	33	1	...	...	...	...	...	1	...	...	1	1	...	...	...	...	...	1	...	5	...	...	...	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
INDIA†(a) * Remaining from 1897	111,344	10	2	...	4	1,075	28	81	104	148	208	522	144	1	20	39	318	367	5	4,538	3	4	7	7	...	4,372
Admitted		2,343	23	64	20	38,027	670	2,668	869	1,736	4,099	10,308	5,767	11	188	212	2,642	10,207	13	108,731	61	73	497	72	6	
Died		37	14	2	9	108	106	3	362	439	105	637	165	6	3	3	224	6	6	2,880	3	3	...	6	...	
* Died out of hospital		...	...	...	...	...	...	...	2	...	1	...	1	...	...	...	...	...	...	60	...	...	...	...	...	
Andamans	10,890	...	...	...	...	7,336	125	267	78	27	705	1,079	431	2	28	8	245	1,424	2	15,303	...	...	1	...	2	525
		...	...	...	...	3	28	...	62	14	10	100	17	1	...	...	9	...	...	295	...	...	...	...	...	
Burma	12,674	219	12	5	1	1,174	34	485	90	115	185	860	353	...	5	25	71	1,191	...	7,850	5	4	...	1	...	399
		5	6	...	1	4	7	...	53	37	7	60	9	..	...	...	5	...	...	261	1	1	...	1	...	
Assam	1,276	...	2	...	...	473	9	...	2	7	28	230	171	...	...	1	66	52	...	1,299	...	...	...	...	...	70
		...	2	...	...	9	4	...	...	2	2	11	6	...	...	...	8	...	...	48	...	...	...	...	...	
Bengal	18,007	525	4	2	3	5,423	161	916	164	302	700	3,568	1,454	1	23	16	242	682	2	18,077	12	22	1	...	2	625
		2	3	1	2	26	17	1	50	74	15	92	20	1	2	1	12	...	1	410	...	...	...	...	...	
N.-W.-Provinces and Oudh	31,535	1,290	1	29	3	10,190	130	142	227	648	837	1,951	1,549	3	50	8	1,353	3,042	1	29,328	20	6	7	4	2	1,403
		27	1	...	2	46	11	1	97	144	36	198	55	1	...	...	152	2	1	919	...	...	...	...	...	
Punjab	12,554	3	...	2	2	8,259	59	40	91	308	608	1,152	953	2	65	21	176	2,250	...	17,184	5	...	94	...	...	460
		...	...	...	1	5	13	...	28	73	10	51	20	1	1	...	3	2	1	295	...	...	...	...	...	
Bombay	8,461	5	...	1	1	2,105	119	8	44	156	307	299	340	1	8	23	152	610	7	6,431	4	...	237	...	...	245
		...	...	...	1	...	19	...	15	41	7	13	17	1	...	1	13	...	2	190	...	...	...	...	...	
Berar and Secunderabad	1,612	7	...	1	...	241	3	72	9	26	38	36	26	..	4	4	39	77	...	937	...	...	10	...	...	27
		...	...	...	...	...	1	...	2	5	2	1	...	...	...	...	5	...	...	24	...	...	...	...	...	
Central Provinces	5,054	172	...	...	5	1,606	22	22	30	77	132	576	433	...	4	104	226	421	1	5,774	9	1	11	...	...	261
		...	...	...	2	2	3	...	18	14	7	59	17	...	...	1	16	2	1	175	...	...	...	...	...	
Madras	8,844	112	4	24	5	1,176	4	704	134	83	542	542	44	2	1	2	68	426	...	6,325	6	36	135	67	...	262
		3	2	1	...	12	...	1	37	33	7	52	...	1	...	...	1	...	...	251	2	2	...	5	...	
Non-British Jails:—																										
Sadra	36	...	...	...	...	...	1	...	1	...	2	1	1	...	...	...	...	...	...	13	...	...	...	...	...	1
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Kolhapur	230	...	...	...	...	44	...	120	1	6	4	14	5	...	...	4	...	7	...	224	...	...	5	...	...	4
		...	...	...	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...	2	...	...	...	...	...	
Savantvadi	52	19	...	...	...	4	3	...	1	...	1	4	1	...	...	...	...	2	...	44	...	...	...	...	...	2
		...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	

* Remaining + admitted = total treated; Remaining + admitted + died out of hospital = total cases.

(a) Including the subsidiary jails, the total figures are:— Average strength. 116,860 Average constantly sick. 4,481 Number of deaths. 2,976 Number of admissions. 112,098

† Including Ajmer, Quetta, and Mercara.

Geographical Groups.	1. Average strength. 2. Constantly sick.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Average for the year.
Group I.—Burma Coast and Bay Islands.	1	18,918	18,846	18,879	19,027	19,225	19,498	19,461	19,489	19,411	19,205	19,219	19,030	19,186
	2	702	673	709	722	874	980	1,036	948	909	849	834	809	836
Group II.—Burma Inland	1	4,402	4,367	4,327	4,307	4,384	4,395	4,366	4,349	4,372	4,413	4,453	4,407	4,378
	2	111	92	87	73	65	92	86	84	92	84	87	69	86
Group III.—Assam	1	1,221	1,132	1,160	1,201	1,232	1,215	1,269	1,320	1,351	1,294	1,231	1,218	1,239
	2	57	49	53	80	84	85	91	84	71	67	61	46	68
Group IV.—Bengal and Orissa	1	11,297	11,175	11,017	11,324	11,414	11,639	11,773	11,627	11,648	11,674	11,382	11,338	11,450
	2	387	383	444	448	389	393	401	461	418	377	424	422	412
Group V.—Gangetic Plain and Chutia Nagpur.	1	29,259	28,836	28,501	28,272	28,183	28,002	27,767	27,736	27,502	27,267	26,596	26,132	27,834
	2	1,298	1,246	1,202	1,270	1,105	987	978	1,131	1,350	1,385	1,202	1,136	1,190
Group VI.—Upper Sub-Himalaya	1	13,640	13,417	13,356	13,467	13,487	13,578	13,735	13,572	13,517	13,595	13,398	13,498	13,522
	2	561	515	445	550	507	500	479	518	539	576	538	464	513
Group VII.—N.-W. Frontier, Indus Valley, and N.-W. Rajputana.	1	7,108	7,071	7,094	7,093	7,218	7,445	7,581	7,632	7,774	7,900	7,890	7,722	7,463
	2	281	244	238	210	211	226	245	256	242	287	293	262	253
Group VIII.—S.-E. Rajputana, Central India, and Gujarat.	1	5,123	5,029	4,905	4,880	4,856	4,884	4,923	4,901	5,097	5,156	5,028	4,881	4,973
	2	311	305	303	313	235	219	187	212	269	270	240	232	253
Group IX.—Deccan	1	11,381	10,991	10,532	10,326	10,241	10,157	9,964	9,825	9,809	9,561	9,319	9,191	10,166
	2	625	547	451	389	335	362	375	461	438	381	351	299	419
Group X.—Western Coast	1	2,611	2,512	2,632	2,875	2,703	2,526	2,586	2,658	2,761	2,862	2,930	2,877	2,713
	2	66	61	66	67	61	73	87	100	86	71	74	63	74
Group XI.—Southern India	1	7,569	7,510	7,518	7,520	7,566	7,684	7,835	7,967	8,143	8,193	8,234	8,164	7,829
	2	378	404	282	243	206	200	205	200	159	170	189	190	234
Group XII.—Hills	1	633	626	630	644	656	618	617	620	592	601	628	669	628
	2	16	15	20	21	19	24	21	27	23	21	24	20	20
INDIA*	1	113,086	111,539	110,672	110,962	111,193	111,670	111,920	111,734	112,017	111,759	110,350	109,163	111,344
	2	4,793	4,534	4,390	4,386	4,082	4,141	4,191	4,492	4,595	4,538	4,317	4,012	4,372

Administrations.	1. Average strength. 2. Constantly sick.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Average for the year.
Andamans	1	10,538	10,585	10,637	10,697	10,702	11,023	11,000	11,026	11,019	11,091	11,165	11,093	10,890
	2	429	401	416	427	534	627	689	579	559	544	532	522	523
Burma	1	12,782	12,628	12,569	12,637	12,817	12,870	12,827	12,812	12,764	12,527	12,507	12,344	12,674
	2	384	364	380	368	405	445	433	453	442	389	369	356	399
Assam	1	1,165	1,185	1,217	1,257	1,281	1,263	1,318	1,361	1,397	1,333	1,267	1,257	1,276
	2	57	49	53	81	86	87	94	87	74	68	65	59	70
Bengal	1	18,364	17,934	17,540	17,843	17,875	18,052	18,277	18,242	18,194	18,196	17,822	17,807	18,007
	2	578	566	629	643	543	548	596	696	716	687	668	650	625
N.-W. P. and Oudh	1	32,867	32,441	32,362	32,180	32,087	32,014	31,639	31,311	31,152	30,879	30,668	29,452	31,535
	2	1,705	1,634	1,658	1,696	1,442	1,303	1,232	1,356	1,587	1,586	1,408	1,355	1,493
Punjab	1	12,578	12,437	12,286	12,197	12,225	12,338	12,572	12,558	12,692	12,951	12,919	12,897	12,554
	2	462	410	378	395	412	434	450	501	467	572	539	455	460
Bombay	1	7,940	7,829	7,975	8,208	8,333	8,346	8,516	8,639	8,921	8,998	8,904	8,820	8,451
	2	236	227	231	212	198	220	238	270	291	281	273	253	245
Berar and Secunderabad	1	1,876	1,819	1,752	1,668	1,622	1,601	1,563	1,530	1,517	1,491	1,481	1,451	1,627
	2	31	30	33	22	24	23	20	27	29	30	28	18	27
Central Provinces	1	6,073	5,819	5,493	5,309	5,179	5,086	4,930	4,796	4,689	4,563	4,451	4,317	15,056
	2	501	421	321	268	204	213	218	274	231	177	170	133	261
Madras	1	8,589	8,437	8,429	8,496	8,560	8,687	8,856	9,005	9,209	9,271	9,296	9,266	8,844
	2	401	425	303	269	229	234	243	240	191	194	217	211	262
INDIA†	1	113,086	111,539	110,672	110,962	111,193	111,670	111,920	111,734	112,017	111,759	110,350	109,163	111,344
	2	4,793	4,534	4,390	4,386	4,082	4,141	4,191	4,492	4,595	4,538	4,317	4,012	4,372

* Including Aden.

† Including Ajmer, Quetta, and Mercara.

TABLE XLIV.

ABSTRACT of the SANITARY SHEETS of the most UNHEALTHY JAILS.

The ratios of sickness and mortality will be found in Table XLII.

Jails.	Provinces.	Sanitary defects, improvements, suggestions, etc.
Moulmein	Burma	There was no overcrowding. The jail is situated close to crowded bazars, and is in a basin. The sub-soil water being always high in the work-yard area, it receives the sub-soil drainage from the whole of the neighbourhood, and is therefore damp. Owing to the site being surrounded by higher ground all round and the jail walls, the work-yard area is stuffy and the work-sheds are always hot and oppressive. There was no sanitary defect as regards the quantity of diet, and everything was done to ensure good quality. For many years a variety of *paddy* named "*shanglay*" has been used; but it is now proposed to supply "*kenkgyee*" which is more digestible, and the grain mostly eaten by the natives in this part of Burma. During the year men working at carpentry and sawing timber lost weight. This was remedied by lighter tasks and extra food. The chief and most important cause of the unhealthiness of the jail is its low-lying site. The second and minor cause is its close proximity to a crowded and insanitary native quarter of the town. There are in this jail two chief causes of disease, *viz.*, dysentery and tuberculosis; and this is just what might be expected from the situation of this jail, especially of the work-yard in which men spend more than one-third of their imprisonment. No remedy short of removing the whole jail to a higher and drier site with a lower sub-soil water, will ever lead to a permanent improvement in the health of this jail. There is, and has been for years, some influence in this jail which adversely affects the health of the prisoners. Bowel diseases have been especially prevalent and fatal during this year. Prisoners when attacked by dysentery show very slow recuperative power and are very subject to relapses, even when very carefully treated, after convalescence has been apparently quite established. Tuberculosis also is common. The prevalence of tuberculosis and the low vitality generally in all the prisoners, which leads to chronic dysentery, are to be ascribed to the faulty site of the jail, especially the work-yard. The connecting centre block of the main dormitories was demolished, by which two separate buildings were formed; and in this way ventilation of the main jail was much improved. No. 10 work-shed, not being required, was demolished, thus giving freer ventilation to the remaining work-sheds. The lower block of cells was re-roofed with concrete, and the surgery building was also re-roofed. It is proposed to construct covered ways from the work-sheds to the main jail building, in order that convicts may pass from one to the other in the heavy rains without getting wet and catching chills. Each prisoner was given a rain-hat during the rains.
Paungdi	"	There was no overcrowding. The sickness and mortality were due to natural and climatic effects, except in the case of one man, who was an opium eater, and who used to take R3 worth of opium daily. This man suffered from diarrhœa in consequence of not receiving the same quantity in jail.
Shwebo	"	There was no overcrowding. The surface drains are not properly levelled, and hand labour is used to assist in flushing them. The well water is unusable on account of its salinity. The drinking water is obtained daily from the civil hospital well, which is found by analysis to be fair in quality, and is sufficient in quantity. Of the admissions, dysentery and ague were due to climatic causes, malarial diseases to contagion prior to admission and to transfers from Bhamo and Katha districts; diarrhœa principally to seasonal causes; and respiratory diseases to cold and damp.
Bhamo	"	There was overcrowding in all the wards from January to May and August to September. The sickness and mortality were due to indifferent and bad health of prisoners on commitment to jail, anæmia from previous attacks of malarial fever, and privations in food and clothing.
Cachar	Assam	During the month of September there was slight overcrowding among the convicts which was remedied by putting the excess number in civil and hospital wards, and subsequently by transferring a batch of 13 convicts to Sylhet jail. The excreta from the jail are now carried to the cinerator and burnt. The water for drinking and cooking purposes is now obtained from the new well, constructed in the jail compound, and is boiled and filtered. It is good and sufficient. A sample of this water has been sent to the Chemical Examiner to the Government for analysis. The general site of the jail, being on a high *tila* with a stony soil renders the place healthy in spite of the known malarious climate of the place.

Jails.	Provinces.	Sanitary defects, improvements, suggestions, etc.
Cachar—*concld.*	Assam	The prevailing diseases amongst the prison population were ague, dysentery, and diarrhœa, mostly due to climatic causes. The state of health of the three prisoners who died in hospital was bad on admission into the jail. The case of choleraic diarrhœa brought in from Haflong on the night of the 9th June, was admitted into hospital the following morning. He contracted the disease *en route*, and died on the 11th June.
Tezpur	,, ...	There was slight overcrowding in four of the criminal wards in July and August for three nights each. The district has become malarious. *Kala azar* is increasing in the neighbourhood of the jail, as well as in other places of the district. The large number of admissions from ague was due to the prevalence of malaria. Of the 13 deaths, which occurred in the jail, 6 were from anæmia and *kala azar*. All the earthquake damages of the jail have been repaired, and a *pucca* bathing reservoir was built during the year.
Dibrugarh	,, ...	There was no overcrowding. The ventilation of the solitary cells was improved in December 1898. The chief causes of sickness were malarial fever, dysentery, and diarrhœa; a large proportion of the prisoners being received in a weakly, anæmic, and half starved condition, which doubtless increased their liability to disease. Recommendations were made during the year with regard to the provision of a Larymore boiler and to other points.
Backergunge	Bengal	There was no overcrowding in the sleeping wards, the excess number of prisoners having been accommodated in the work-sheds. The drains in some parts sadly need repairs. It is understood that some of the repairs are to be done by the Jail Department and the others by the Public Works Department. Both the departments are soon to be moved on the subject. The water-supply is fairly satisfactory. It is obtained from a reserved tank known as the "*kutcherry* tank." It is feared that on analysis the water will not be found as wholesome as would be desirable. The dampness of the district, and especially of the site of the jail premises is a prolific source of illness. The *khal* or canal just outside the jail wall overflows during the rains, and the river water inundates the jail grounds. The sickness has been chiefly of the following kinds:—fevers of the malarial type; diarrhœa and dysentery, and conjunctivitis (catarrhal and gonorrhœal). All, except, of course, the gonorrhæal variety of conjunctivitis, are associated particularly with the malarious and damp nature of the district. The mortality consisted of 21 deaths in 1898, against 41 in the previous year, which is attributed to improved methods in the treatment of dysentery, recently introduced into the jail. Sanction has been received for the erection of a new latrine on the standard plan, in place of an old and insufficient one. Correspondence continues with regard to the putting up of a feeding shed, so essential to the requirements of this jail.
Cossore	,, ...	Almost all the wards were more or less overcrowded during the greater part of the year, except the female and hospital wards. The overcrowding was somewhat relieved by making some short-term prisoners sleep in the work-shed and hospital verandah. A new temporary shed is under construction. As reported in former years, the ventilation of some of the wards is defective, each prisoner not getting the regulation allowance of ten square feet. The existence of the silted up old bed of the river Bhyrub, close to the jail wall on the south, is a permanent source of unhealthiness to the jail and its surroundings. The water contained in this river is more or less stagnant, there being hardly any current. It is never replenished by fresh water from the Pudda Ganges, or any other main river, nor does the tide bring in fresh water from the south. Aquatic plants have taken root in its bed; and they thrive, die, and decompose, and also help slowly to raise its bed. Only during the rains it received some extra water from *bheels*. During the year the volume of water was larger than in the two previous years, which made the soil on the north and south extremely damp, and was followed by a great increase of fever in the town. Further the drainage of the town, to a considerable extent, falls into the river and this adds to its injuriousness. Besides the river Bhyrub, which is a perennial source of unhealthiness to the town, as well as to the jail, the extreme dampness of the soil and atmosphere of the place is a fruitful source of illness. The range of temperature is very great. The maximum temperature rises up to nearly 105°F in the hot months, and goes down in the months of December and January to nearly 40°F. Even the diurnal range is very great. This change in the temperature and the extreme dampness of the air are the most potent

TABLE XLIV—*continued.*

ABSTRACT of the SANITARY SHEETS of the most UNHEALTHY JAILS.

The ratios of sickness and mortality will be found in Table XLII.

Jails.	Province.	Sanitary defects, improvements, suggestions, etc.
Jessore—*concld.*	Bengal	causes of chest complaints, which prevail here to so great an extent. They are also factors in rousing up inflammation in those who are subject to dysentery, etc., and the repeated relapses of malarial fever are indirectly due to them. To this a further cause should be added: the state of health in which the prisoners are received into the jail. The whole district being unhealthy, prisoners are received in ill-health with enlarged spleen, malarial cachexia, chronic dysentery, dyspepsia, indicated by a raw cracked and fissured tongue sometimes denuded of epithelium, spongy blue gums, etc. Recommendations were made to extend the drain near the new ward towards the main drain, and to prolong that towards the river; to improve the ventilation of the wards, including the female and hospital wards; to remove the day latrine from its present objectionable site near the new two-storied wards towards the south-east of the compound. Plans and estimates for the improvements were prepared and submitted, but owing to want of funds the work could not be taken up. The long confinement of a large body of men under one roof, must to a certain extent be inimical to health, more particularly as these very men, when they are free, live in the open air for nearly eighteen hours in the day and night. The restrictions in regard to visiting the latrine and the withholding of tobacco, have no doubt something to do with the diarrhœa and dysentery in the jail. The cooking of food by male prisoners who have never done any cooking at home cannot be very satisfactory, even under most careful supervision. But these are large questions which cannot be sufficiently described here.
Barase	"	There was overcrowding from 1st January to 4th July 1898. The excess number was made to sleep in the mid-halls. The surroundings of the jail are very defective. Besides the defective drainage and conservancy of the town, and of the adjacent villages, there is an extensive rice-field close to the jail towards the south, which is a permanent source of nuisance to the jail. Malaria and low vitality are the principal causes of sickness and mortality in this jail. Besides, exposure to the heat during the summer months, to the cold during winter, and to the damp weather during the rainy season, has much to do with the sickness and mortality. The sudden change of habits as regards food, bathing, clothing, and sleeping are the principal causes of dysentery in jail. The cooling tank should have a *pucca* masonry arch over it, to protect the drinking water from being defiled. The "Trevor dighy," the principal source of water-supply, should be fenced with barbed galvanized wire.
Faridpur	"	There was overcrowding in the female ward for 128 days, and general overcrowding in all the other wards for 50 days. The drains are not in order in some places. The outside main drain, which is situated just on the western side of the jail wall, is under repairs. The latrine is situated right in front of the cook-shed and feeding ground, and is very objectionable. This will shortly be removed, as a new set of latrines have already been constructed. There is not a sufficient supply of clothing in stock for the number of prisoners; but a new supply is shortly expected. The water is obtained from the jail tank, and is filtered and boiled before distribution. It is good in quality. The surroundings of the jail are clean. This place, like all the Eastern Bengal districts, is very damp and low-lying; and consequently fever and dysentery are among the commonest diseases from which the prisoners suffer. These diseases being also very common in the interior of the district, the prisoners come predisposed to them. Many of the prisoners had had one or more attacks of dysentery before they came into the jail. There was an epidemic of influenza in the town which partly affected the jail. There were nineteen deaths during the year, eight of them from pneumonia, including six from the secondary effects of influenza. In addition, two men were admitted into hospital with high fever and cough which turned into pneumonia and proved fatal. Of the six men who died from dysentery, most were admitted into jail in bad and indifferent health, and had been suffering from the disease more than thrice before admission into the jail. Three of them were admitted with dysentery on them.
Rangpur	"	There was overcrowding almost throughout the year in all the wards. The repairs to the building damaged by the earthquake not being completed, this overcrowding was unavoidable, notwithstanding frequent transfers of convicts to other jails. No workshop was used for accommodating the extra number but the Superintendent's office room and the main gate were used to relieve overcrowding. The old range of buildings in use during the year are not well ventilated. The ventilation of the two-storied building, which was occupied towards the end of the year, was very satisfactory.

Jails.	Provinces.	Sanitary defects, improvements, suggestions, etc.
Rangpur—*contd.*	Bengal	According to the orders of the Inspector-General of Jails, Bengal, even the convicts in good health are made to work lighter here than in healthy jails. The water-supply is good. The Pasteur filter in use for a few months in 1897 having been damaged by the late earthquake, the water-supply could not be improved. The surroundings of the jail are unsatisfactory, owing to jungle and trees being allowed to grow all round on private and municipal lands. Rangpur is notoriously malarious: hence fevers, enlarged spleen, and dysentery are very common among the people throughout the district. Ague and dysentery were the principal diseases during the year. All the cases had fever, with or without enlarged spleen, before admission into the jail, and the slightest exposure brought on a fresh attack while in the jail The two-storied barrack was repaired during the year; iron gratings ordered to be put up over the doors and windows to improve ventilation; a new hospital building taken in hand on the top of a part of the old range of buildings; the drains inside the jail enclosure thoroughly repaired; a new cow-shed for milch cows built; and the old range of buildings thoroughly repaired. Recommendations were made for improvement of the ventilation in the old range of buildings; for cage latrines for the two-storied building; for improvement of the drains inside as well as outside the jail enclosure; for the construction of a new day latrine; and for the removal of the store godowns from the old range of buildings. The transfer of sickly prisoners, and chiefly of those who have to be always kept in the convalescent or special gangs, to drier and healthier jails is highly desirable.
Purneah	„	There was overcrowding during the months of April, May, and June, and for fourteen days in July and one day in December 1898. The overcrowding was relieved by allowing prisoners to sleep in the work-shed, the capacity of which is 72 and the maximum number located in which was 56. The ventilation of the female ward is not satisfactory, and steps will be taken soon to improve it. The sickness was due chiefly to malaria, dysentery, and diarrhœa. The former is due to the geographical position of the district, where, south of the Himalayas and terai, fever is always rife; the latter chiefly to errors in diet, most of the cases also occurring in prisoners who had suffered from these diseases prior to their admission into the jail. The mortality was mostly due to tubercle of the lungs, the patients being admitted with the disease.
Chaibassa	„ . . .	There was overcrowding throughout the year. The overcrowding in the wards was avoided by the use of verandahs, godowns, and office rooms. At a distance of 75 feet from the main gate of the jail, a *hát* (market) is held once a week. The leaves and other refuse left by the gathering are not properly cleaned up. Sickness was partly due to climatic influences, as the majority of admissions from fever and bowel-complaints were during the wet and changeable months; and also to overcrowding, as the jail was overcrowded during the major portion of the year, particularly during the hot and rainy seasons. One saucer-shaped drain was constructed during the year to carry off the refuse water from the bathing platform and the kitchen, and a new latrine and a cooking range on an improved plan were also constructed. A stone-paved floor for the outside cow-shed which has recently been sanctioned will shortly be taken in hand.
Azamgarh	N.-W. P. and Oudh .	There was general overcrowding from 1st January to 4th February and from 29th August to 2nd September 1898. The female convict ward, the hospital, and wards Nos. 13, 14, 15, and 16 were occasionally overcrowded. To prevent overcrowding, the corridor of No. 8 barrack, in which the cells are situated, was used throughout the year as a dormitory for the surplus prisoners. The surplus hospital patients were sent at night to a barrack outside the hospital enclosure. By the choloroform test the *atta* was found at times to contain a certain proportion of mud, and an excess of bran; the former due to a faulty method of cleaning the grain and of straining the *atta* on the ground, and the latter to the want of proper sieves. These defects have been, and are, being dealt with. The ghee and the milk for hospital diets have been frequently of inferior quality and unsatisfactory. The main causes of sickness were ague, influenza, and mumps. The prevelance of ague must be attributed to climatic causes, *viz.*, malaria and chills; that of influenza to the introduction of the infection from without in the first instance and to its subsequent spread in the jail, owing to the imperfect means available for the isolation of cases; that of mumps to the fact that the disease, which appeared in the jail in September 1897, did not cease until

TABLE XLIV—*continued.*

ABSTRACT of the SANITARY SHEETS of the most UNHEALTHY JAILS.

The ratios of sickness and mortality will be found in Table XLII.

Jails.	Province.	Sanitary defects, improvements, suggestions, etc.
Azamgarh—*concld.*	N.-W. P. and Oudh.	July 1898. The long continuance of this disease was in all probability due to the cases being discharged from hospital too soon, *viz.*, after ten or twelve days instead of after four weeks or so. Influenza of pneumonic type was the principal cause of mortality. A considerable proportion of the sickness and mortality appears to have been due to causes in operation beyond the jail walls, for about two-thirds of the prisoners who were admitted into hospital were in indifferent health on admission into jail. This remark is more directly applicable to the etiology of a certain number of the cases of ague, and of dysentery and diarrhœa, and of almost all, if not all, the cases of tubercle of the lungs, of ascites, of parasitic skin disease, and of venereal disease. It is not improbable that the overcrowding that existed at times helped to swell the sick and the mortality rates, though direct proof is not adducible. In regard to dysentery and diarrhœa, it is possible that the excess of bran which was found present in the *atta* in October was the exciting, if not the predisposing, cause in some of the cases arising in the jail. Malaria, chills, bad food, and bad water were probably the chief etiological factors in the cases admitted from without. Dysentery is credited with three deaths, but as in two at the *post mortem* examination tubercle of the lungs was found in addition to the ulceration of the large intestines, the question arises whether these two cases were not cases of tubercle affecting the intestines as well as the lungs. To prevent excessive ventilation in the barracks during the cold weather, *kutcha* earthen screens were built in the grated openings. To minimize the introduction of dust and earth into the *atta* the flooring of the mill house and the area in which the wheat and flour are cleaned and sifted have been made *pucca* and cemented. Greater care has also been taken to free the flour of husk. A better milk supply is urgently required, as good cows and good milk are not locally obtainable. The Inspector-General of Prisons has been addressed on the subject. To obviate crowding, the transfer to other jails of the excess population has been recommended on several occasions during the year, and the recommendation has, on each occasion, been readily sanctioned by the Inspector-General. The health of the prisoners has been better in the latter half of the year than in the first half. The health being worse in the first half of the year is said to have been partly due to the effects of the famine of 1897 not having quite passed off, whereas in the latter half of the year food stuffs were plentiful and the general condition of the people good.
Basti	"	There being overcrowding in the female jail during the first 6 months of the year, the mill houses had to be utilized for the accommodation of the females. There is outside the jail wall a *kutcha* drain, which should be made *pucca*. The pump often breaks down, putting the main well temporarily out of use. There has been a great deal of dysentery and bowel complaints throughout the year. If a little more care had been paid to the thorough cleaning of grain and sifting of *atta*, there would have been fewer admissions for bowel complaints. The two chief causes of mortality were dysentery and pneumonia. A brick and mortar trough in the kitchen in which the dough was kneaded was done away with, and a metal trough substituted; a brick and mortar tank in the kitchen, used for storing water, and which was in a most insanitary state, was removed and water brought to the kitchen in cans.
Fyzabad	"	There was no overcrowding. The sickness was due to seasonal and climatic causes, for which no particular reason can be assigned. With the exception of a slight outbreak of mumps no epidemic disease appeared in the jail during the year. Four night latrines were constructed, and a brick-on-edge floor was laid down in the hospital.
Rai Bareli	"	There was no overcrowding. Of the 72 cases shown as admitted into hospital for malarial fevers, five were received whilst suffering from the disease, and apparently contracted it outside; and the rest occurred within the jail during the months of July, August, September, and October. An epidemic of malaria prevailed in 1898 throughout the district, and affected the jail population to a slight extent during the latter part of the year. Thirty-two cases of leprosy were received from other jails in this province. None contracted the disease whilst residing in this prison. The remaining admissions were all from other jails, mostly from Chunar, and were admitted in bad health.
Benares, Central	"	There was slight overcrowding in the months of October and November 1898, the excess being accommodated in the corridors of the cell-blocks. The special diseases from which prisoners suffer are dysentery and malaria, due to climatic causes. The prisoners were in a better condition than in 1897.

Jails.	Province.	Sanitary defects, improvements, suggestions, etc.
Chunar	N.-W. P. and Oudh.	There was no overcrowding. Three-fourths of the population arrived at Chunar in bad and indifferent health with chronic diseases on them.
Mirzapur	,, ...	There was no overcrowding during the year. The surroundings of the jail are very insanitary. On one side there is a tank with dirty water giving out an offensive smell, and on the other there is a pit which is generally kept in a dirty condition. Dysentery, ague, and remittent fever were due to climatic causes. No cause can be assigned for the cases of cerebro-spinal fever admitted during the year. The barrack in which these cases occurred was scrubbed and whitewashed, and disinfectants were sprinkled in it.
Allahabad District . .	,, ...	There was overcrowding for 2 days in May, 6 days in June, 3 days in August, and 9 days in September. Arrangements were made, by use of godowns, etc., to obviate the overcrowding. The water-supply is still from wells, although heavy taxes are paid to the municipality as water rate. An early supply of municipal filtered water appears to be most desirable, and could be obtained at a moderate cost. There is a large village very close to the jail, which is a source of danger when epidemics are prevalent. There were still a considerable number of cases in which semi-starvation was the principal cause of disease. The cases of pneumonia principally occurred in the cold months, January and February, and were for the most part in old broken down individuals. Those who died of dysentery came into jail in very bad health, 5 of them suffering from the disease at the time of admission. The jail is not malarious. The servants attached to it suffer very little from fever, and also long term prisoners. Most of the malarial fevers were acquired outside. Erysipelas, for which only 2* cases were admitted this year, used to be very prevalent in the jail. At the same time pneumonia has steadily fallen in its occurrence also. There were 150 admissions for influenza with 2 deaths. The year was much healthier than the previous one, specially the latter part of it. The prisoners admitted during the year were on the whole in much better health than in the two previous years.
Banda	,, ...	The slight overcrowding lasted from 11th to 15th August 1898. The year has been a very healthy one. Climatic conditions have been the chief cause of illness. Malaria has been the cause of admissions and deaths, then boils and ulcers. Two new barracks have been pulled down and rebuilt, with the view of raising the roof and affording freer ventilation.
Fatehpur	,, . .	Overcrowding lasted for 76 days. The hospital was overcrowded during the months of October and November, but the overcrowding was relieved at night by sending the simple cases to sleep in their barracks. The floors of the latrines, especially those used at night, had become foul, and had to be dug up to a depth of 2 feet, and fresh earth had to be rammed in. The bathing parades were not regularly carried out, judging from the odour emitted from the bodies of the prisoners. There was a heavy rainfall during the moosoon season, and it is noticeable that in the two months, October and November, when the drying up of the ground after the rains was in progress, the largest number of admissions and deaths took place.
Hamirpur	,, . .	None of the barracks were overcrowded at any time during the year. The sickness and mortality were due to the bad condition of the prisoners on admission. There was a great deal of malarial fever in the district from July to November, many of the new admissions being found to be suffering from ague, from anæmia, and from enlarged liver and spleen. Of the four deaths, three occurred in the case of men admitted direct to hospital. All openings in the mill house were protected by wire-netting; a partition wall was built in the female barrack (No. 9) for segregation of female under-trials; the roofs of the factory buildings were renewed and some beams changed in the blacksmith and carpenter's shop, prisoners' property godown, and barrack No. 2.
Orai	,, . .	Slight overcrowding existed during May, June, and August, particularly in the *hawalat* ward. Malarial fever was the prevailing disease, due to late and heavy rains. There were only three deaths during the year, two of the men being in a dying state on admission into the jail, and the third case dying from heat apoplexy.

* Seven cases in the returns.

TABLE XLIV—*continued.*

ABSTRACT of the SANITARY SHEETS of the most UNHEALTHY JAILS.

The ratios of sickness and mortality will be found in Table XLII.

Jails.	Province.	Sanitary defects, improvements, suggestions, etc.
Cawnpore	N.-W. P. and Oudh	There was some overcrowding during the following periods:—1st to 11th January, 11th to 14th July, and on 18th July 1898. Accommodation, however, to meet this overcrowding was obtained by utilizing the factories for the time being. Of the men admitted into the jail, 238 were sent direct to hospital, having been found to be suffering from disease and unfit for labour. Among those who died, one was in very bad health on admission to jail, four were in a bad state of health, and four were in indifferent health. There does not appear to be any cause operative in the condition of jail life or jail surroundings to which any of the sickness or mortality can be attributed. Re-roofing of some of the barracks is in progress.
Gonda	" "	Overcrowding existed on 31st January, 21st February to 9th March, 17th to 31st March, and 1st to 24th April 1898. The *hawalat* was overcrowded from January to April. To relieve overcrowding, the corridor of the solitary cells was used during the night but not during the day. Owing to the high ground outside the east wall of the jail, rain-water cannot escape from the jail quickly enough. To remedy this, the Deputy Commissioner has been asked to cut a drain through the high level ground. The estimate has not yet been sanctioned. Malaria and dysentery were the chief causes of sickness and mortality in the jail. Some of the dysentery cases seemed to be due to malarial poisoning: other men seemed to contract the disease from pre-existing cases while in hospital for the treatment of other affections. Arrangements are being made to incinerate dysenteric stools.
Mainpuri	" "	There was overcrowding from March to September 1898. The *hawalat* was particularly overcrowded. Tents were used in circle enclosures during the period overcrowding occurred in the *hawalat*. The chief causes of sickness during the year were ague, dysentery, diarrhœa, skin and local diseases. Ague was epidemic throughout the district from January to April. The cases of dysentery and diarrhœa were chiefly amongst new admissions to jail. No cholera occurred among prisoners during the year. The following improvements were made during the year:—Building a partition wall dividing the female prisoners' barrack from that of the female under-trials; constructing a bathing platform and a latrine for female *hawalaties*; laying a brick-on-edge flooring in the hospital; and making *pucca* the floors of both the mill houses and platforms.
Etah	" "	Overcrowding existed in January 18 days, February 26 days, March 25 days, April 12 days, May 12 days, June 23 days, July 29 days, and August 29 days. Barrack No. 5 was particularly overcrowded. The drainage of the surroundings of the jail is defective. The site on which the jail is situated being low, the drainage inside the jail is as good as it is possible to make it. Considering that there is no outfall, the same remark applies to the whole of Etah town. The inmates of the jail suffer from the same diseases as the free population, there being no special cause operating inside the jail. Indeed, a large number of persons improve in health after admission to jail, the admissions to hospital being largely due to the debilitating influences of the climate, malarial poisoning, and exposure incidental to occupation.
Fatehgarh, Central	" "	Overcrowding is entirely avoided by occupying the corridors of the right circle barracks, in which there is ample space for several hundred prisoners. The chief cause of sickness was, as usual, malarial fever. In the early months of the year there was an epidemic of mumps introduced by a prisoner received from Azamgarh. Influenza began in April, and caused a few admissions during April and the next two months: it was of a very mild nature. There was an unusually large number of admissions for jaundice. When there was no doubt of the cause being ague, they were returned as such, but in those shown as jaundice, there were none of the symptoms of ague, such as fever and enlarged spleen. Dysentery was the chief cause of mortality. Owing to the transfer of 100 prisoners from Chunar almost without exception in wretched health, the mortality was greatly increased, no fewer than 12 of these dying of dysentery and tubercle of the lungs. The floor of the hospital barracks was constructed of brick throughout, having been formerly of earth. Special attention was paid to having all the mill-stands made *pucca*; so that there should be no chipping off and admixture with the flour.
Fatehgarh, District	" "	There was no overcrowding. Two workshops were occupied also at night from 5th March to 9th May, averaging about 10 prisoners each. There is no proper outfall for the drainage which is entirely surface; so that the overflow water is apt to stagnate. This must be prejudicial to the health of the jail.

Jails.	Province.	Sanitary defects, improvements, suggestions, etc.
Fatehgarh District—*concld.*	N.-W. P. and Oudh	The admissions for ague were due in the earlier months of the year probably to chill, inducing the disease in patients already under the influence of malaria; and there was the usual rise in the number of admissions after and during the rains, also due to malaria. Malaria may also be considered to have been the predisposing cause in the admissions for dysentery, aided, no doubt, by indiscretion in regard to diet on the part of the prisoners. The large numbers admitted for jaundice may have been occasioned, during the four colder months of the year by chill, during the warmer and rainy months by malaria; although there was nothing to show that it was malaria, no microscopic examination of the blood having been made. Diarrhœa was due chiefly to indigestion; respiratory affections to chill or to influenza The floor of the hospital was constructed of brick instead of earth. The mill-stands were all made *pucca* so as to avoid chipping and admixture of earth with the flour.
Bareilly, District	„ „ . .	In June and July there was slight overcrowding in consequence of barrack No. 2 having been evacuated for the purpose of having its gratings replaced. All the male barracks occupied by convicted prisoners were particularly overcrowded. In rainy weather barracks Nos. 5, 6, and 7 were used as factories during the day, and were also occupied at night. As there is no factory in the female enclosure, barracks Nos. 2 and 4 were used by day and occupied also at night. The drainage around the jail is most unsatisfactory. The surface water from half the station runs into three small tanks, which lie in front of the jail, carrying with it filth of all kinds. Dysentery was caused by infection through flies, which alternately alight on the stools and on the food and drink of the prisoners. The actual germ is not known. Ague was due to the *plasmodium malariæ*. Large numbers of the prisoners on admission were the subjects of malarial cachexia, and these, even without re-infection, frequently suffered from ague. In addition, mosquitoes abound in the jail, and some of these probably act as transmitters of disease. There are numerous damp spots about the jail where they can breed. Primary syphilis was in every case acquired before admission into the jail. Pneumonia was due in most cases to the influenza germ, aided, no doubt, in many cases, by the *diplococcus pneumoniæ* and other pyogenic organisms. Influenza was due to its own specific germ. Whether there was a recrudescence of the disease from germs which had been lying dormant in the soil since the epidemic of the previous year, or whether it was introduced from the city, where the disease was extensively prevalent, it is difficult to say. Diarrhœa too was possibly due to infection by flies. In many cases it was the initial symptom of what turned out subsequently to be an attack of dysentery; in others, it was undoubtedly a manifestation of influenzal intoxication. A bathing platform was erected in the habitual prisoners' enclosure, and a wall built to separate them from the other prisoners. Recommendation was made that the drainage around the jail should be improved. The health of the prisoners throughout the year was very indifferent. About one prisoner in every three admitted to the jail was either in indifferent or bad health, the result partly of the famine of the previous year, and partly of a very severe epidemic of malarial fever which prevailed at the end of the previous year.
Dehra Dun	„	There was no overcrowding. It is difficult to get some of the hill-men sent to jail to keep themselves clean: they are naturally a dirty lot. The canal water-supply has been sufficient, but it is not good in quality. The water for drinking and cooking purposes is brought by the prisoners from the reservoir near the *kutcherry*. The project for supplying water to the jail from this reservoir has been taken in hand. The principal causes of admission were malarial fever, dysentery, and diarrhœa; and these were, no doubt, in some measure due to the deleterious effects of climate at certain seasons of the year.
Agra, Central . . .	„	Slight overcrowding occurred in January, February, April, and May, which was obviated, as far as possible, by the use of cell corridors as sleeping barracks. The ill-health at the close of the previous year continued in the beginning of this year. Ague, dysentery, and diarrhœa were very prevalent. In addition, influenza appeared in the jail in January, and a large proportion of the prisoners suffered. Though no direct mortality is recorded, the disease was prevalent for about three months, and there is no doubt that it was the indirect cause of much subsequent ill-health and many deaths. Ague and dysentery, carried over from 1897, are believed to have been due to the excessive rainfall and consequent malaria in that year. Phthisis was more than usually prevalent. As previously

TABLE XLIV—*concluded.*

ABSTRACT of the SANITARY SHEETS of the most UNHEALTHY JAILS.

The ratios of sickness and mortality will be found in Table XLII.

JAILS.	PROVINCES.	Sanitary defects, improvements, suggestions, etc.
Agra Central—*concld.*	N.-W. P. and Oudh	reported, the carpet industry is considered to give rise to a tendency to this disease in those who are long engaged in it. Out of 50 prisoners transferred from Chunar on the closing of that jail in September, 6 died before the end of the year, thus largely swelling the mortality of this jail. All these prisoners were in very bad health on admission. Weighments were carefully recorded during the year and the tasks changed according to gain or loss.
Agra, District	,,	Slight overcrowding existed from the beginning of January to the beginning of February. Prisoners in excess were placed in the cell corridors when necessary. Sickness and mortality were due to accidental causes, and not to disease contracted in the jail.
Jhansi	,,	Overcrowding existed during the months of March, September, and October. By far the largest number of admissions into hospital was due to ague, which caused nearly one-third of the total. The ague was not of a severe type, and it must be ascribed to climatic causes, as there was no source of it within the jail. Of the five men who died during the year, three were admitted in bad health, and died of tubercle of the lungs, diarrhœa, and pneumonia. All the wells of the jail were deepened by seven to ten feet, establishing a better water-supply for the future, and it is hoped that now, even in seasons of drought, the supply will never become short. A stone floor was laid in the hospital. Recommendations were made for increasing the hospital accommodation, and building a cook-house for the hospital.
Almora	,,	There was no overcrowding, and no special cause of sickness.
Delhi	Punjab	There was no overcrowding. The ventilation of both the casual and the habitual barracks is defective. Chemically the water used is not of good quality; but bowel complaints have not been prevalent. As regards the sickness and mortality, the usual causes were at work that exist in such parts of India. Malaria, intense heat, and specific poisons or germs causing pneumonia, dysentery, and phthisis, no doubt, acted their part. Most of the sickness and mortality was due to malaria.
Lahore, Central	,,	No overcrowding existed. Tents pitched in the well-enclosure were used to relieve the number in the barracks; but the jail was never actually overcrowded. The only local cause of disease known is the presence of malaria. The same remark, however, applies to the whole of the Lahore district. Ague caused the greatest number of admissions into hospital, half of the whole number treated during the year being due to it. The cause of ague is the malarial poison. Dysentery was exceedingly prevalent, and caused a high mortality, specially during the months of March, April, and May. It was considered at the time to be due to, or, at any rate, influenced by a deficiency of the antiscorbutic element in the dietary. Pneumonia was, no doubt, due to infection, the activity of the specific germ being retarded by free ventilation. The ventilation of the cells has been greatly improved; two more latrines have been roofed; and the kitchen and cooking arrangements have been changed, so as to render the preparation of the food more thorough and cleanly. A new mortuary is also under construction, and will shortly be completed. The health of the jail has not been up to the average of the last five years. The two chief diseases dealt with were ague and dysentery. To combat the former cinchonidine sulphate was issued daily as a prophylactic, and to obviate the latter a ration of potatoes was given. Both measures were attended with partial success. At the end of the year the general health had much improved; but the hospital still contained some chronic cases, whose ultimate recovery was impossible, and who will contribute to the mortality of 1899.
Lahore, District	,,	There was overcrowding from 1st January to 16th February 1898. Prisoners were made to sleep in tents pitched inside the jail. Ventilation is insufficient in all the barracks, specially in those surrounding the weaving-yard. Drainage is not satisfactory, in as much as no real outfall has been secured, and some drains are not brick-lined. Latrines are not protected from rain. There was ample vegetable supply throughout the year. There are no local causes of disease, so far as is known. Ague, as usual, shows the greatest number of admissions, and next in importance is dysentery. It is difficult to ascribe a cause for the prevalence of dysentery; but the generally accepted view, that the disease is closely connected with malaria and a deficiency of antiscorbutic elements in the dietary, has many arguments in its favour. As for the occurrence of pneumonia, there are reasons for thinking that this disease requires defective ventilation as one of its predisposing causes.

Jails.	Province.	Sanitary defects, improvements, suggestions, etc.
Lahore District—*concld.*	Punjab	During the year funds have been allotted for protection of the latrines from rain and for the construction of a sanitary mortuary. Both the works were in progress at the close of the year. Recommendations have been made, and a plan drawn out, to improve the drainage of the jail.
Lahore Female	"	No overcrowding existed during the year. The drains are surface ones without brick lining. There are no local causes of disease beyond the presence of malaria, which, however, is a condition common to the whole district. The two chief causes of admission into hospital were ague and dysentery. The former disease showed an increase on the figures of last year, due probably to what in ordinary language is called 'a bad fever year,' *i.e.*, favourable developing conditions for the malarial parasite. Admissions from dysentery decreased. May this decrease be due to the large amount of freshly expressed lime-juice issued daily to each prisoner in the jail during the latter four months of the year?
Peshawar	"	The jail was overcrowded for 3 days in September and 9 days in December 1898. There was on other occasions crowding of portions of the jail. The lock-up was crowded for a very long time, and under-trial prisoners had to be put in the main jail. Solitary cells 20 to 30, the female barracks, the solitary cells for female prisoners, and the paper-pounding shed are all insufficiently ventilated. The barracks for the reserve warder guard are situated too near the enclosure wall of the lock-up, and barracks 11 to 15 of the main jail are situated too near the main wall. A masonry drain is required outside the wall of the jail. Night latrines are required for the barracks. The main bathing platform is too small. There are no suitable means of bathing for prisoners in cold and windy weather. There is no proper apparatus for boiling jail clothing. The site of the jail is lowlying and malarious. Sickness and mortality were due to malarial fevers and bowel-complaints. The prisoners newly admitted were in a worse physical state of health during the last couple of years than formerly. It is possible that the high prices of necessaries, due to the famine down country and the frontier risings, may have had something to do with this. The partition walls dividing the factory yards were demolished, thus allowing better circulation of air. A number of necessary improvements have been held over for want of funds.
Kohat	"	There was no overcrowding of the wards: whenever the numbers exceeded what the wards could accommodate, the extra number of prisoners were put in tents at night. All the wards require increased lateral ventilation. The judicial lock-up is very defective in roof and lateral ventilation. There has not been any serious illness in the jail during the year. The chief diseases, which caused the greatest number of admissons into hospital, *viz.*, dysentery, malarial fevers, and affections of the skin (abscess), were all due to climatic causes.
Bannu	"	The jail was overcrowded for 193 days during the year. There was no epidemic or unusual sickness in the jail during the year. Ague and dysentery are the more common diseases, and are attributable to climatic conditions. Dysentery accounts for most of the deaths.
Jhang	"	Overcrowding lasted for 109 days during the year. It existed in the under-trial wards, and was remedied by accommodating prisoners for whom there was no room in the sleeping wards, in tents pitched outside the main enclosure wall. The lateral ventilation of barracks, hospital, and cells is defective: the matter is under the consideration of the Inspector-General of Prisons, Punjab. The drains of the present bathing platforms have little or no slope: this defect is expected to be removed during 1899. There were no local causes of disease, except the defective ventilation of the sleeping wards. The chief causes of admission into hospital were ague, dysentery, and diarrhœa, apparently due to climatic influence. The general causes which combined to increase the death-rates, were:—the unfavourable meteorological conditions of the year; the general ill-health of the population; and the weak and emaciated condition in which many of the prisoners from Lyallpur were received into the jail. The improvements effected during the year were:—The floors of the hospital and of all the latrines have been dug up to the extent of three inches, and removed to a distance from the jail; the hospital walls have been thoroughly scraped, fumigated with sulphur, replastered, and whitewashed; the reeds and rafters of the hospital roof have been washed with corrosive sublimate lotion; all the barracks have been whitewashed; the roof of the kitchen has been renewed, all the five wells have been thoroughly cleaned

TABLE XLIV—*continued.*

ABSTRACT of the SANITARY SHEETS of the most UNHEALTHY JAILS.

The ratios of sickness and mortality will be found in Table XLII.

Jails.	Provinces.	Sanitary defects, improvements, suggestions, etc.
Jhang—*concld.*	Punjab	out, and permanganate of potash put in; thirteen iron receptacles and thirteen iron urinals have been provided for the latrines. Recommendations were made for the construction of proper bathing platforms on the Bengal pattern; for adequate ventilation in the solitary cells, hospital, and barracks; for renewal of metal over the pathways; for the erection of a double rail beam at the main well, the water of which is used for drinking, cooking, and bathing purposes; for the provision of kneading-troughs for the kitchen; for the construction of masonry domes over the three water tanks, the coverings of which are at present wooden and in a rotten state. The plinth of the hospital should be raised to the height of three feet from the ground-level, and the roof renewed by putting in tiles in place of reeds.
Dharmsala	"	There was no overcrowding. Latrine accommodation is deficient. The bathing platform is too small. The water is brought from a distance by hand from a supply that is liable to dry up and is not protected. In all probability the greater part of the sickness of the jail has been due to removal to a cooler climate, and to a place having a doubtful water-supply, of persons in a bad state of health from exposure to malarial miasma in the valley. The prisoners admitted to this jail are usually of poor physique, and many of them are debilitated in health on their admission.
Shikarpur	Bombay	The number of prisoners confined exceeded the jail capacity more or less throughout the year. During the hot months the prisoners slept in the open. Ventilation is not yet perfect, though improved in 1896 by making in the walls of the barracks a number of holes protected by tin cases. Excessive heat during summer is responsible for the cases of sunstroke and heat-stroke that occurred in the jail. The extreme variation in the temperature at different times of the day, greatly predisposed the prisoners to respiratory and intestinal affections, also to the malarial fever which is due to climatic causes and is endemic in the district. Malarial fever prevails very extensively during the autumn months. Scurvy was seen among certain Pathan prisoners on admission.
Sind Gang	"	There was overcrowding in all the barracks during the winter months. From about the middle of March to the end of October the prisoners sleep in the open, and not in the barracks. The quality of the water used from the only wells available was reported by the Chemical Analyser to Government to be bad. No other source is available. The natural drainage is not satisfactory: no elevated site could be had for the location of the gang. The diseases which chiefly prevailed were pneumonia, bronchitis, malarial fevers, and dysentery, and the principal causes of mortality were pneumonia and malarial remittent fever. The saturation of the soil by rain-water, extremes of heat and cold, and, to some extent, the unsatisfactory quality of the drinking water, appear to be the chief causes of the diseases enumerated above. The plinth of the barracks was raised one foot; the ventilation of the barracks was improved by cutting a large open window by the side of the entrance door in each barrack; and a *kutcha* drain was excavated all round the jail for the carrying off of storm water. The gang moves from place to place frequently, and no definite plan of building barracks can be adopted, much depending on the material procurable. As a rule, the barracks are simply made of grass, etc. (walls and roofs both). At this camp, as the gang was expected to remain for over three years, the walls were made of sun dried bricks, and the roofs of grass and other jungle materials. The gang moves to another camp next March.
Bombay Common	"	The prison was overcrowded during the whole year. The surroundings of the prison are bad from overcrowding. Bad habits prior to conviction have been the predominant feature in the causation of disease.
Damoh	Central Provinces	There was slight overcrowding in January, and then the work-shed was used for a fortnight. A temporary shed was used in March for *cancrum oris* cases. The latrine of the hospital being of an obsolete pattern, a new one on the standard plan is urgently required. The cases of dysentery admitted during the year did not appear to be of so contagious a character as in the previous year. From the history of the cases they appear to have been caused by malaria. *Cancrum oris* was not prevalent.

Jails.	Province.	Sanitary defects, improvements, suggestions, etc.
Damoh—*concld.*	Central Provinces	There was only one admission, and four cases remained in hospital from the previous year. They were not severe cases, and all recovered, except one, who remained in hospital from the previous year and had lingered for a long time. New night latrines were constructed, one new well sunk, and a cook-room enlarged.
Saugor	" "	Overcrowding existed in the jail up to 2nd April practically, but chiefly in the under-trial ward. The work-shops were used to accommodate the excess number of prisoners. The roof ventilation of all the wards, save No. 11, and the new hospital, requires improvement. The sickness and mortality were due to previous privations. The district still suffers from the effects of the famine. Improvements effected during the year were :— One night and two day-latrines and a bathing platform and a cistern were constructed; the cook-house chimney was improved; a new cook-house was built for under-trial prisoners; the wing walls, which obstructed ventilation, were demolished; the roof ventilation of barrack No. 11 was improved; and grass was sown all round the wards and work-sheds. The central tower is in course of demolition. Recommendations were made for the construction of *pucca* drains in the work-shed yards and for the supply of a pump and pipes for the well inside the jail.
Jubbulpore Central	" "	No. 10 barrack was overcrowded for one night, on which occasion the excess number of the prisoners was accommodated in the work-shed. Work-sheds were used from 1st January to 6th July. Temporary sheds were used for dysentery, diarrhœa, and stomatitis cases, and also for the purpose of observation. The want of ridge ventilation in the barracks is being remedied. There is some idea that the outer wall of the jail, being built on a rock, tends to keep in the rain-water. Chronic dysentery among the prisoners was due to a lowering of their vitality owing to prolonged privation.
Mandla	" "	There was overcrowding from January to May, and during those months a work-shed was used as a sleeping barrack. The diseases may be more or less attributed to climatic influences and to the impoverished conditions of those admitted into the jail. There has, however, been no undue mortality, and no special causes can be assigned for the sickness affecting the health of the prisoners. Three radial walls inside the jail, which divided the barracks, have been dismantled.
Bilaspur	" "	Overcrowding existed from 1st January to 26th June, from 19th to 23rd September, and from 10th November to 1st December 1898. All the wards up to June, and subsequently the under-trial and the female wards, were particularly overcrowded. Surface drainage is defective: a deep drain is required on the south, outside the jail. The latrine in the female ward has no lateral openings. The day latrine in the undertrial yard should be made *pucca*. The diseases causing most admissions were dysentery, debility, and malarial fevers. These diseases led to most admissions in the earlier part of the year, when the general condition of the people had not had time to recover. Towards the end of the year, when the people might be said to have completely recovered from the effects of famine, sickness and mortality were below normal. Improvements effected during the year were :—A range for flour mills was put up in the female work-shed; a temporary cooking shed was removed; a shed for boiling clothing was erected; wire-netting and angle iron racks for clothing and vegetables were put up; and the drains and the mouth of a well were repaired.
Raipur Central	" "	There was overcrowding on the 21st, 22nd, 27th, and 28th February, and on the 1st March 1898. Diarrhœa and dysentery prevailed at the beginning of the year. These diseases were no doubt the result of the weakly and debilitated condition in which a number of prisoners, who had been suffering from privation outside, were admitted. These diseases spread to a certain extent among the prisoners, who had been some time in jail, as a result of overcrowding. When the overcrowding was relieved, sickness and deaths fell to the normal number among the jail population. The diet scale of labouring prisoners has been improved during the year, and special diet is now given to all weakly and infirm prisoners, according to the recommendation of the Jail Committee.
Balaghat	"	There was overcrowding from 1st January to 8th March, and then work-shops were used at night for the accommodation of the prisoners. The male wards (convicts and under-trial) were particularly overcrowded.

TABLE XLIV—*continued.*

ABSTRACT of the SANITARY SHEETS of the most UNHEALTHY JAILS.

The ratios of sickness and mortality will be found in Table XLII.

JAILS.	PROVINCE.	Sanitary defects, improvements, suggestions, etc.
Balaghat—*concld.*	Central Provinces	There were four deaths during the year. In the first two, the cause of decease was chronic diarrhœa, which the prisoners were suffering from on admission. The remaining two were *ganja* smokers of long standing, and had several very big round worms in the intestines. They were brothers, and the diarrhœa was so obstinate that no medicine had any effect, and gradually they became weaker and weaker till they died.
Hoshangabad	„	There was overcrowding in the male convict wards from 1st January to 17th April 1898. Two work-sheds were used as sleeping barracks for male convicts, and during January as many as 90 were accommodated for sleeping there, some convict barracks being in use for hospital, quarantine, and scurvy gang purposes. The sickness mainly and mortality entirely were directly traceable to the famine conditions of 1897, and occurred among the weakly prisoner-balance remaining over from that year. The rainy season brought, as usual, a temporary rise in hospital admissions, but this subsided. The improvements effected during the year were:—A raised tinned (zinc sheet) table for kneading bread was provided in the kitchen; metal vessels were supplied for storing and supplying drinking water; the food godown was changed from its old proximity to the latrine; the ventilation of the barracks was more carefully regulated; a corrugated iron day-latrine was provided in the female barrack; the sleeping berths were made higher; all barracks and wards were whitewashed, wood work painted, and all floors and sleeping berths lime-washed; and arrangements were made for the issue of cotton sheets at night to sick and weakly prisoners. Recommendations were made to raise the surrounding walls; to supply a pump for drawing water; and to construct a better cook-house. There being no quarantine ward, special arrangements have to be made during epidemics. There is no separate ward for under-trial and convicted female prisoners. The female work-shed is very small and generally unsuitable.
Betul	„	Overcrowding existed in the convict barracks for the first ten days in January, and for part of July, and also in the under-trial ward in February, May, August, and December 1898. The maximum number locked up in the factory on any one night was 16. The ventilation of the hospital barrack being defective, patients were sometimes locked up in the factory. The work-shop was also used for the purpose when the hospital was being disinfected, or whitewashed. With the permission of the Inspector-General, the hospital is now transferred to an end barrack which is better lighted and ventilated. The former hospital is being used for locking up convicts at night. The lateral ventilation area of all the barracks is less than 10 square feet per prisoner, and requires enlarging. The well which supplies drinking water is not protected against surface impurities. Dysentery was mainly due to the presence of malnutrition among the convicts admitted into the jail, and to climatic causes; and malarial fevers to no local causes, but to the prisoners having suffered from them prior to admission, chill or fatigue being sufficient to bring them on again. Ulcers of gums were produced by prisoners themselves with a view to getting off hard labour and securing better diet; and pneumonia was due to chills. Two deaths which occurred from septic poisoning after abscesses, were due to the badly lighted and ventilated condition of the hospital, which opens on one side to the day and night-latrines, has a dead wall on two sides, and opens on the fourth side on to a deep verandah. The remaining three deaths were due to the bad condition of the prisoners on admission into the jail, and could not have been prevented. Recommendations were made for an extension of the cook-house to secure better ventilation; for the supply of a pump for the well inside the jail; for the introduction of pipe water into the kitchen; for the protection of the water-supply in the cistern, by certain alterations to the mouth of the well and to the reservoir cistern; for providing shutters to all sleeping barracks and to the new hospital barrack; and for the construction of quarantine and segregation wards.
Bhandara	„ „	There was no overcrowding. Sickness and mortality were mainly due to climatic causes, the continuous and penetrating character of the monsoon of the year being productive of chills, malarial fevers, and respiratory diseases. The night latrines in the convict barracks were reconstructed on the best sanitary principles. Recommendations were made for removal of encroachments on the hospital, and for a yard for male under-trials.

Jails.	Provinces.	Sanitary defects, improvements, suggestions, etc.
Rajamundry Central . . .	Madras	There was no overcrowding. Sheds erected on the jail camping ground were used in the early part of the year when the sickness was excessive. The drains are in urgent need of repairs, and an estimate for the same has been submitted. The whole jail is being renovated. The floors of all the wards have been dug up for a foot and the *débris* removed. The *pyals* on which the prisoners slept, which were composed of sun-dried bricks, *débris* of old buildings and other insanitary materials, have been demolished and removed; concrete has been put down on the floors, which have been cemented. The *pyals* have been built of bricks with concrete in the interior, and cemented over. Four of the blocks are being converted into separate cells. The latrines which were formerly too near the blocks are being removed to the middle of the yard close to the outer palisading. A sliding door has been made at this spot for passing out the urine and fæcal matter. This will prevent the necessity of the urine carts, etc., being brought long distances through the jail. The rubbish, etc., of each yard will be brought to this spot and passed out to the outer circle. It is proposed to have a crane on one of the turrets on the main wall in the rear part of the jail to hoist over all the insanitary materials, thereby curtailing the necessity of rubbish carts passing in and out of the jail. The new shower-baths have been placed close to the latrine, far away from the tap for drinking water. This arrangement is being introduced this year. The old stone cisterns have been broken up. The water-supply is considered as nearly perfect as possible. The water is pumped up to a close cistern, and is conveyed thence in closed pipes to the water taps and shower-baths. Formerly the grain was washed in one place, pounded in another, sifted in a third, ground in a fourth, and cooked in a fifth. The grain mills were in a ward at the end of a block, a most insanitary arrangement. The washing, drying, pounding, sifting, and grinding are to be done in one yard, close to the kitchen and Deputy Jailor's stores and under the supervision of that subordinate. Much work requires yet to be done to this jail before it can be filled up to its proper strength, *viz.*, re-roofing of the blocks, demolition of the old kitchens, rebuilding of the latrines, etc. No less than forty-two recommendations have been made regarding improvements to the jail, and the more urgent works are to be taken in hand. In the early part of the year malarial fever of a pernicious kind invaded the jail. It left the prisoners in such a weakened and anæmic condition that the jail had to be practically emptied. But there is no proof that the prisoners were suffering from beri-beri.
Vizagapatam.	"	During the last ten months of the year there was "overcrowding" so-called. Two rooms used for *raggi* grinding and one for wool beating were occupied at night. The water-supply was short but good. I consider that during my absence on leave a great mistake was made in treating dysentery cases inside the jail. In July, August, and September, dysentery cases were treated in hospital with ordinary cases of disease, with the result that some patients under treatment for ague were attacked with dysentery. A dysentery ward outside the jail has long been sanctioned, but, for want of funds, not yet taken in hands. Owing to the outbreak of sickness at Rajamundry 110 men, many in a hopeless state, were transferred to this jail in February and March, and of these men 9 died. Later in the year an order was passed that none but healthy men should be admitted to Rajamundry jail and that others should be sent to this jail; and of the men so sent 1 died. Of the 14 cases of phthisis, 3 men came into the jail with the disease; of the other 11, no less than 9 were admitted into the hospital in the three months, July, August and September, all of whom recovered. No cause can be assigned for so many admissions within so short a period.
Mercara	Coorg	There was some overcrowding in the male under-trial ward, but only for a short time. Sickness and mortality were due to climatic and constitutional influences. The main entrance and the fort wall, which were damaged during the monsoon of 1897, have been repaired. Three new drains, one latrine to No. 3 ward, and a kitchen for the guard-house have been constructed. The addition of the Munsiff's Court building to the jail premises was recommended. This has already been sanctioned, and will afford better accommodation for the female prisoners.

TABLE XLV.

INFLUENZA by months, jails, groups, and administrations.

TABLE XLVI.

CHOLERA by months, jails, groups, and administrations.

Jails.*	Admissions from Influenza in each month.													Admissions from Cholera in each month.											
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Moulmein	...	...	...	...	...	65	...	...	...	...	...	...	65	...	...	...	...	1	...	...	...	...	1	...	...	2
Rangoon Central, natives	...	...	...	28	9	3	...	...	...	...	...	...	40	...	...	...	...	...	...	...	...	...	...	...	...	...
Maubin	...	...	...	...	...	8	...	...	...	1	...	...	9	...	...	...	1	..	...	...	...	...	...	...	...	1
Insein Central	...	...	...	9	95	1	...	...	...	...	...	...	105	...	...	...	...	...	...	...	...	...	...	...	...	...
Akyab	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	2	1	...	...	...	...	...	...	4
Group I.—Burma Coast and Bay Islands	...	...	...	37	104	77	...	...	...	1	...	...	219	...	...	...	2	3	1	...	...	...	1	...	...	7
Prome	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	...	...	...	...	...	...	...	...	...	3
Myingyan Central	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	2
Group II.—Burma Inland	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	...	...	2	...	...	...	...	...	...	5
Cachar	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	1
Tezpur	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1
Group III.—Assam	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	1	.	...	...	...	...	...	2
Dacca Central	...	...	118	16	...	...	...	...	...	...	...	...	134	...	...	...	...	...	...	...	...	...	...	...	...	...
Backergunge	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1
Jessore	...	...	...	29	16	...	...	...	...	...	...	...	45	...	...	...	...	...	...	...	...	...	...	...	...	...
Presidency, Central, Europeans	...	1	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
Presidency, Central, natives	...	40	22	6	1	...	...	...	...	...	...	...	69	...	...	...	...	...	...	...	...	...	...	...	...	...
Hooghly	...	14	36	10	2	...	...	...	...	...	...	...	62	...	..	...	...	...	...	...	...	...	...	...	...	...
Krishnagar	...	...	...	1	1	...	...	...	...	...	...	...	2	..	.	...	...	...	...	...	...	...	...	...	...	...
Faridpur	...	...	34	4	1	...	...	...	...	...	...	...	39	...	...	...	...	...	...	...	...	...	...	...	...	...
Pabna	...	...	...	24	...	...	...	...	...	...	...	...	24	...	...	...	...	...	...	...	...	...	...	...	...	...
Rajshahi Central	...	...	5	13	7	9	4	90	11	...	3	141	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Suri	...	...	...	1	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
Midnapore Central	...	...	...	...	...	...	...	...	...	...	...	...	..	...	1	1	...	...	...	...	...	...	...	...	...	2
Balasore	...	...	3	...	...	...	...	...	...	...	...	...	3	...	...	...	...	...	...	...	...	..	...	...	...	...
Group IV.—Bengal and Orissa	...	55	218	104	28	9	4	90	11	...	...	3	522	...	1	1	...	1	...	...	...	...	...	...	...	3
B																										
Muzaffarpur	...	...	...	...	...	...	...	3	...	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...
Chapra	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1
Azamgarh	...	...	17	17	15	10	7	12	17	...	...	...	95	...	...	...	...	...	...	...	...	...	...	...	...	...
Gorakhpur	...	...	1	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
Fyzabad	...	...	...	22	18	...	...	...	...	...	...	...	40	...	...	...	...	...	...	...	...	...	...	...	...	...
Sultanpur	...	...	...	13	...	...	...	...	...	...	...	...	13	...	...	...	...	...	...	...	...	...	...	...	...	...
Rai Bareli	...	...	...	8	1	...	...	...	...	...	...	...	9	...	...	...	...	...	...	...	...	...	...	...	...	...
Mirzapur	...	...	...	1	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
Allahabad Central	...	26	96	11	1	...	...	...	...	...	...	...	134	...	...	...	...	...	...	...	...	...	...	...	...	...
,, District	1	119	23	3	4	...	...	...	...	...	...	...	150	...	...	...	...	...	...	...	...	...	...	...	...	...
Banda	4	5	5	5	...	...	...	...	...	...	...	...	19	...	...	...	...	...	...	...	...	...	...	...	...	...
Fatehpur	...	...	2	7	1	...	...	...	...	...	...	...	10	...	...	...	...	...	...	...	...	...	...	...	...	...
Orai	...	...	...	...	16	...	...	...	...	...	...	...	16	...	...	...	...	...	...	...	...	...	...	...	...	...
Unao	...	...	...	5	...	...	...	...	...	...	...	...	5	...	...	...	...	...	...	...	...	...	...	...	...	...
Lucknow Central	...	...	...	3	1	...	...	...	...	1	...	...	5	...	...	...	...	...	...	...	1	...	...	...	...	1
,, District	...	...	...	1	2	...	...	...	2	...	...	...	5	...	..	...	...	...	...	...	...	...	...	...	...	...
Barabanki	...	...	...	2	6	...	...	...	...	...	...	...	8	...	...	...	...	...	...	...	...	...	...	...	...	...
Sitapur	...	...	...	...	...	...	...	3	...	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...
Etah	...	...	...	1	...	...	...	...	...	...	...	...	1	...	..	...	..	...	...	...	...	...	...	...	...	...
Fatehgarh Central	...	...	...	14	28	2	...	...	...	...	...	...	44	...	...	...	...	...	...	...	...	...	...	...	...	...
,, District	...	...	...	17	14	10	...	...	...	...	...	...	41	...	...	...	...	...	...	...	...	...	...	...	...	...
Group V.—Gangetic Plain and Chutia Nagpur	5	150	144	130	107	22	7	18	19	1	...	...	603	...	...	...	...	1	...	1	...	...	...	...	...	2
A																										
Shahjahanpur	..	...	...	3	2	...	...	...	...	...	...	...	5	...	...	...	...	...	...	...	...	...	...	...	...	...
Bareilly District	...	...	3	78	39	43	7	36	10	1	11	5	233	..	...	...	...	...	...	...	...	...	...	...	...	...
Budaon	...	...	...	...	3	...	...	...	...	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...
Aligarh	...	...	7	59	21	8	...	...	...	...	...	...	95	...	...	...	...	...	...	...	...	...	...	...	...	...
Moradabad	...	3	...	...	...	1	...	2	5	...	...	...	11	...	...	...	...	...	...	...	...	...	...	...	...	...
Muzaffarnagar	...	...	...	38	...	...	...	...	...	...	...	...	38	...	...	...	...	...	...	...	...	...	...	...	...	...
Meerut	6	3	14	11	6	...	...	...	...	...	3	2	45	...	...	...	...	...	...	...	...	...	...	...	...	...
B																										
Gujranwala	...	1	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
Rawalpindi	...	...	...	...	2	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...
Group VI.—Upper Sub-Himalaya	6	7	24	189	73	52	7	38	15	1	14	7	433	...	...	...	...	...	...	...	...	...	...	...	...	...
C																										
Sind Gang	...	...	...	4	...	...	...	...	...	...	...	...	4	...	...	...	...	...	...	...	...	...	...	...	...	...
Group VII.—N.-W. Frontier, Indus Valley, and N.-W. Rajputana	...	...	...	4	...	...	...	...	...	...	...	...	4	...	...	...	...	...	...	...	...	...	...	...	...	...

* Jails where neither Influenza nor Cholera occurred are not shown in these tables. For the annual ratios see Table XLII.

Jails and Administrations.	Admissions from Influenza in each month.													Admissions from Cholera in each month.											
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
B																									
Ajmer	9	1	...	...	...	...	...	...	...	...	...	...	10	...	...	...	...	...	...	...	...	...	...	...	...	...
Agra Central	71	25	57	79	2	...	...	...	...	...	...	...	234	...	...	...	...	...	...	...	...	...	...	...	...	...
Jhansi	...	...	20	6	...	...	...	...	...	...	...	...	26	...	...	...	...	...	...	...	...	...	...	...	...	...
Group VIII.—S. E. Rajputana, Central India, and Gujarat	80	26	77	85	2	...	...	...	...	...	...	...	270	...	...	...	...	...	...	...	...	...	...	...	...	...
A																									
Jubbulpore Central	...	...	94	44	8	...	...	...	...	...	...	...	146	...	...	...	...	...	...	...	...	...	...	...	...	...
Bilaspur	...	...	...	3	...	...	...	...	...	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...
Betul	...	...	...	...	4	...	...	...	...	...	...	...	4	...	...	...	...	...	...	...	...	...	...	...	...	...
Bhandara	...	...	...	7	7	5	...	...	...	...	...	...	19	...	...	...	...	...	...	...	...	...	...	...	...	...
B																									
Secunderabad	...	...	4	...	...	...	...	...	...	...	...	...	4	...	...	...	...	...	...	...	...	...	...	...	...	...
Yeotmahl	...	...	...	2	1	...	...	...	...	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...
Group IX.—Deccan	...	...	98	56	20	5	...	...	...	...	...	...	179	...	...	...	...	...	...	...	...	...	...	...	...	...
Cannanore Central	...	...	...	19	4	...	...	...	...	...	...	...	23	...	...	...	...	...	...	...	...	...	...	...	...	...
Group X.—Western Coast	...	...	...	19	4	...	...	...	...	...	...	...	23	...	...	...	...	...	...	...	...	...	...	...	...	...
A																									
Bellary	...	...	...	1	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
Salem Central	...	1	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
B																									
Palamcottah	...	...	...	...	...	20	20	...	...	...	...	...	40	...	...	...	...	...	...	...	...	...	...	...	...	...
Trichinopoly Central	...	...	8	5	...	16	3	...	3	3	6	...	44	...	...	...	...	...	...	...	...	...	...	...	...	...
Madras Penitentiary, Central, natives	...	...	2	1	...	...	...	...	...	...	...	...	3	...	1	1	...	...	...	...	...	...	...	...	...	2
C																									
Rajamundry Central	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...	...	...	2
Group XI.—Southern India	...	1	10	7	...	36	23	...	3	3	6	...	89	...	2	2	...	...	...	...	...	...	...	...	...	4
Extra India.—Aden	...	...	1	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
INDIA*	91	239	572	631	338	201	41	146	48	6	20	10	2,343	...	3	7	2	5	4	1	...	...	1	...	...	23
Andamans	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Burma	...	...	...	37	104	77	...	...	...	1	...	...	219	...	...	3	2	3	3	...	...	...	1	...	...	12
Assam	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	1	...	...	...	...	...	...	2
Bengal	...	55	218	104	28	9	4	93	11	...	...	3	525	...	1	1	...	2	...	...	...	...	...	...	...	4
N.-W. Provinces and Oudh	82	181	245	404	180	74	14	53	34	2	14	7	1,290	...	...	...	...	...	...	1	...	...	...	...	...	1
Punjab	...	1	...	...	2	...	...	...	...	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...
Bombay	...	...	1	4	...	...	...	...	...	...	...	...	5	...	...	...	...	...	...	...	...	...	...	...	...	...
Berar and Secunderabad	...	...	4	2	1	...	...	...	...	...	...	...	7	...	...	...	...	...	...	...	...	...	...	...	...	...
Central Provinces	...	...	94	54	19	5	...	...	...	...	...	...	172	...	...	...	...	...	...	...	...	...	...	...	...	...
Madras	...	1	10	26	4	36	23	...	3	3	6	...	112	...	2	2	...	...	...	...	...	...	...	...	...	4
Non-British Jails.																										
Savantavadi	...	...	3	7	2	1	5	1	...	...	...	...	19	...	...	...	...	...	...	...	...	...	...	...	...	...

* Including Ajmer.

TABLE XLVII.

ENTERIC FEVER by months, jails, groups, and administrations.

TABLE XLVIII.

SIMPLE CONTINUED FEVER by months, jails, groups, and administrations.

JAILS.*	ADMISSIONS FROM ENTERIC FEVER IN EACH MONTH.													ADMISSIONS FROM SIMPLE CONTINUED FEVER IN EACH MONTH.											
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	TOTAL.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	TOTAL.
Port Blair	...	...	...	...	...	...	...	...	...	...	...	...	...	4	21	7	15	5	168	13	7	8	13	5	1	267
Moulmein	...	...	...	...	...	...	...	...	...	...	...	...	...	16	7	3	11	12	18	14	8	23	8	18	2	140
Rangoon Central, natives	...	...	...	...	...	...	...	...	...	...	...	...	...	35	16	24	38	14	25	17	30	17	11	3	2	232
Maubin	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	3	6	1	3	1	...	...	...	15
Bassein Central	...	...	1	...	...	...	...	...	...	...	...	...	1	1	...	17	21	9	6	3	6	2	2	2	4	73
GROUP I.—BURMA COAST AND BAY ISLANDS	...	...	1	...	...	...	...	...	...	...	...	...	1	57	44	51	85	43	223	48	54	51	34	28	9	727
Magwe	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1	...	2	...	...	...	...	...	4
Monywa	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...	1	1	...	...	...	...	4
Shwebo	...	...	...	...	...	...	...	...	...	...	...	...	...	2	1	...	...	2	2	3	2	2	1	...	...	15
Kindat	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	2
GROUP II.—BURMA INLAND	...	...	...	...	...	...	...	...	...	...	...	...	...	3	1	1	1	3	2	6	5	2	1	...	...	25
Dacca Central	...	...	...	...	...	...	...	...	...	...	...	...	...	9	21	10	15	...	...	...	...	...	...	...	...	55
Tippera	...	...	...	...	...	...	...	...	...	...	...	...	...	6	8	5	...	5	7	9	7	5	7	12	6	77
Chittagong	...	...	...	...	...	1	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
Khulna	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	1	3	...	2	1	...	1	1	11
Presidency Central, Europeans	...	...	...	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
Presidency Central, natives	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5	...	...	...	...	...	...	...	...	5
Alipore Central	...	...	...	...	...	...	...	...	...	...	...	...	...	35	25	35	11	23	23	26	51	55	42	45	52	423
Burdwan	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	2	...	...	1	...	1	...	...	...	...	6
Faridpur	...	...	...	...	...	...	...	...	...	...	...	...	...	13	5	8	...	5	6	7	11	9	4	12	7	87
Pabna	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	2	2	...	2	...	8
Murshidabad	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	5	1	...	3	5	...	...	...	...	...	15
Rajshahi Central	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	1	...	...	...	...	2	5
Bogra	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	2	...	...	...	...	...	...	...	...	4
Rangpur	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4	...	...	...	...	...	...	4
Purneah	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	1	...	...	4	10	8	10	34
GROUP IV.—BENGAL AND ORISSA	...	...	...	...	...	1	...	...	...	...	1	...	2	64	65	68	35	35	48	48	74	76	63	80	78	734
A																										
Hazaribagh Central	...	...	...	...	...	...	...	...	...	...	...	...	...	16	7	8	14	12	16	26	13	13	14	10	11	160
B																										
Gaya	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	2	1	...	1	5
Muzaffarpur	...	...	...	...	...	...	...	...	...	...	1	...	1	...	...	...	...	6	7	4	...	...	...	...	...	17
Azamgarh	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...	2
Basti	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	7	6	8	...	1	3	...	...	...	27
Fyzabad	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	1
Sultanpur	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	1	...	...	...	3
Mirzapur	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	1
Fatehpur	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	2
Orai	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4	...	...	...	...	...	...	...	...	...	4
Unao	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	2	7	10	1	...	1	...	...	...	...	22
Barabanki	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	6	...	1	1	...	...	...	...	11
Kheri	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	10	7	...	...	...	...	...	...	...	17
Hardoi	...	...	...	...	...	...	...	...	...	...	...	...	...	9	3	1	...	...	...	...	...	...	...	...	...	13
Fatehgarh Central	...	...	...	...	...	...	...	1	...	...	1	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...
,, District	...	...	...	1	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
GROUP V.—GANGETIC PLAIN AND CHUTIA NAGPUR	...	...	...	1	...	...	...	1	...	...	2	...	4	25	11	17	41	48	33	33	18	19	17	10	13	285
A																										
Budaon	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1
Moradabad	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	1	2	5	3	3	4	...	...	...	21
Bijnor	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1
Meerut	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4	7	1	...	...	...	...	...	...	12
B																										
Gujranwala	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1
Sialkot	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1
Rawalpindi	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	2	9	10	4	...	...	4	...	1	...	32
GROUP VI.—UPPER SUB-HIMALAYA	...	...	...	...	...	...	...	...	...	...	...	...	...	2	1	6	14	20	10	3	3	8	...	2	...	69

* Jails where neither Enteric Fever nor Simple Continued Fever occurred are not shown in these tables. For the annual ratios see Table XLII.

Jails and Administrations	Admissions from Enteric Fever in each month.													Admissions from Simple Continued Fever in each month.											
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
A																									
Montgomery Central	...	1	1	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...
Mooltan District	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	1
Dera Ismail Khan	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	3	1	...	...	...	...	5
Group VII.—N.-W. Frontier, Indus Valley, and N.-W. Rajputana	...	1	1	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	2	3	1	...	...	...	...	6
B																										
Jhansi	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	1	...	...	...	...	2
Group VIII.—South-Eastern Rajputana, Central India, and Gujarat	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	1	...	...	...	...	2
A																										
Saugor	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	2
Sambalpur	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...	2
Nagpur Central	1	...	...	2	1	...	...	1	...	...	...	...	5	...	...	...	...	...	...	...	...	...	...	...	...	...
Bhandara	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	5	2	1	5	2	1	18
B																										
Amraoti Central	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	6	3	12
Akola Central	...	...	...	...	...	...	...	...	...	...	...	...	...	4	9	24	7	4	1	...	...	...	5	3	2	... 59
Buldana	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	1
Yerrowda Central	...	...	...	...	...	...	...	...	...	1	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
Bijapur District	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	5	1	...	7
Group IX.—Deccan	1	...	...	2	1	...	...	1	...	1	...	...	6	4	9	26	10	5	2	6	2	11	12	10	4	101
Mangalore	...	...	...	...	...	...	...	...	1	2	...	...	3	2	...	1	...	...	2	...	...	1	2	1	...	9
Cannanore Central	...	...	...	...	...	...	...	...	...	...	...	...	...	2	3	3	1	4	9	10	2	...	...	...	...	34
Group X.—Western Coast	...	...	...	...	...	...	...	...	1	2	...	...	3	4	3	4	1	4	11	10	2	1	2	1	...	43
A																										
Bellary	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	6	15	21
Salem Central	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1	1	...	1	2	1	...	7
Coimbatore Central	...	...	...	...	...	...	...	...	...	...	...	...	...	1	3	...	...	...	...	3	8	5	2	5	2	29
B																										
Palamcottah	...	...	...	...	...	...	...	...	...	...	...	...	...	6	5	1	2	...	1	...	...	...	5	7	6	33
Madura	...	...	1	...	...	...	...	...	...	...	...	...	1	...	1	...	1	2	...	...	...	...	...	...	...	4
Trichinopoly Central	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	24	...	9	...	1	3	3	12	54
Tanjore	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	2	2	4	...	...	...	2	...	...	12
Cuddalore	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	3	1	1	1	...	...	8
Vellore Central	...	...	...	...	...	...	...	...	...	...	...	...	...	16	9	15	16	6	10	7	13	3	16	10	15	136
Madras Penitentiary, Central, natives	...	...	...	...	...	...	...	...	...	...	...	...	...	1	9	10	11	15	19	8	8	12	30	4	18	145
Madras Penitentiary, Central Europeans	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...	...	...	...	1	...	...	1	...	1	1	4
Nellore	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	2	5	...	3	...	1	...	1	1	4	20
Guntur	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4	5	3	...	...	...	...	...	12
C																										
Rajamundry Central	...	...	...	...	...	...	...	...	...	...	...	...	...	21	60	22	...	...	23	23	1	4	...	2	...	156
Vizagapatam	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	2	2	1	3	2	1	...	...	3	...	15
Berhampur	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	1	...	...	...	...	...	...	1	1	...	5
Group XI.—Southern India	...	...	1	...	...	...	...	...	...	...	...	1	2	47	93	56	39	55	71	59	33	28	63	44	73	661
Almora	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...	2
Quetta	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	...	...	...	...	1	5	...	...	...	...	9
Mercara	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	1	...	...	...	3
Group XII.—Hills	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	...	...	3	1	1	5	1	...	...	...	14
Extra India :—																										
Aden	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	1
INDIA*	1	1	3	3	1	1	...	2	1	3	3	1	20	206	230	229	226	217	404	217	198	197	192	175	177	2,668
Andamans	...	...	...	...	...	...	...	...	...	...	...	...	...	4	21	7	15	5	168	13	7	8	13	5	1	267
Burma	...	...	1	...	...	...	...	...	...	...	...	...	1	56	24	45	71	41	57	41	52	45	22	23	8	485
Assam	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Bengal	...	...	...	...	...	1	...	...	...	...	2	...	3	80	72	76	49	53	71	78	88	91	78	90	90	916
North-Western Provinces and Oudh	...	...	...	1	...	...	...	1	...	...	1	...	3	9	4	12	32	42	17	6	8	8	2	1	1	143
Punjab	...	1	1	...	...	...	...	...	...	...	...	...	2	2	1	3	9	10	6	3	1	4	...	1	...	40
Bombay	...	...	...	...	...	...	...	...	...	1	...	...	1	...	...	...	...	...	1	1	...	5	1	...	...	8
Berar and Secunderabad	...	...	...	...	...	...	...	...	...	...	...	...	...	4	9	24	8	4	1	...	...	5	6	8	3	72
Central Provinces	1	...	...	2	1	...	...	1	...	...	...	...	5	...	...	2	2	1	1	5	2	1	5	2	1	22
Madras	...	...	1	...	...	...	...	...	1	2	...	1	5	51	96	60	40	59	82	69	35	29	65	45	73	704
Non-British Jails— Kolhapur	...	...	...	...	...	...	...	...	...	...	...	...	...	5	7	10	11	7	7	6	4	9	9	13	32	120

* Including Quetta and Mercara.

TABLE XLIX.

INTERMITTENT FEVER by months, jails, groups, and administrations.

TABLE L.

REMITTENT FEVER by months, jail s groups, and administrations.

Jails.*	Admissions from Intermittent Fever in each month.													Admissions from Remittent Fever in each month.											
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Port Blair	393	260	359	417	731	1,226	1,213	663	536	497	511	530	7,336	7	12	10	6	15	10	6	15	6	12	7	19	125
Mergui	...	...	...	...	...	...	1	1	...	1	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...
Tavoy	...	...	1	...	1	...	1	1	...	...	2	1	7	1	1	...	...	...	...	...	...	...	...	...	...	2
Moulmein	1	1	1	1	1	8	5	2	...	2	...	5	27	1	3	1	...	...	1	...	1	1	...	...	...	8
Shwegyin	4	5	6	4	3	8	6	8	...	3	3	6	56	...	...	...	...	...	...	...	...	...	...	...	...	...
Toungoo	2	6	7	...	2	4	8	11	4	5	8	6	63	...	...	...	...	...	...	...	...	...	...	...	...	...
Rangoon Central, natives	11	6	9	13	11	12	2	15	18	15	20	15	147	...	...	...	...	...	...	...	...	...	...	...	...	...
Maubin	1	...	2	2	1	...	1	...	1	...	...	1	9	...	...	...	...	...	...	...	...	...	...	...	...	...
Bassein Central	6	2	19	11	3	3	4	3	4	1	12	21	89	...	...	...	...	...	...	...	...	...	...	...	...	...
Insein ,,	17	14	15	22	14	39	38	26	32	13	22	15	267	...	...	...	...	...	...	2	2	...	...	...	3	7
Henzada	...	1	...	...	...	1	3	2	1	3	1	1	13	...	...	...	...	...	...	...	...	...	...	...	...	...
Myanaung	...	...	...	...	...	4	1	...	1	...	1	1	8	...	...	...	...	...	...	...	...	...	...	...	...	...
Sandoway	...	...	...	...	...	...	...	...	...	1	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
Kyaukpyu	6	9	5	6	2	...	3	4	...	4	10	14	63	...	...	...	...	...	...	...	...	...	...	...	...	...
Akyab	...	1	10	2	1	2	2	...	1	5	8	3	35	...	...	1	...	...	...	...	...	...	...	...	...	1
Group I.—Burma Coast and Bay Islands	441	305	434	478	770	1,307	1,288	736	598	550	598	619	8,124	9	16	12	6	15	11	8	18	7	12	7	22	143
Paungdi	...	...	...	...	1	...	...	1	1	1	...	2	6	...	...	...	...	...	...	...	...	...	...	...	...	...
Prome	2	...	...	...	...	...	...	...	...	...	1	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...
Thayetmyo Central	14	3	8	1	1	1	5	2	6	6	6	6	59	...	1	...	...	...	...	...	...	...	...	...	...	1
Taungdwingyi	...	2	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...
Minbu	1	...	1	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...
Yamethin	1	2	2	...	...	...	...	...	...	2	...	...	7	...	...	...	...	...	...	...	...	...	...	...	...	...
Meiktila	...	1	...	...	2	...	...	...	1	...	1	2	7	...	...	...	...	...	...	...	...	...	...	...	...	...
Pagan	...	1	...	...	...	...	1	...	1	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...
Pakôkku	...	...	...	...	...	...	...	...	1	...	...	...	1	...	...	...	...	...	1	...	...	...	...	...	...	1
Myingyan Central	2	6	6	5	7	1	5	9	5	7	8	6	67	...	...	1	...	2	...	2	...	1	...	...	1	7
Mandalay ,,	24	20	18	8	14	9	12	16	6	6	9	6	148	...	...	...	...	...	...	...	...	...	...	...	...	...
Monywa	3	...	...	...	...	...	...	...	...	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...
Shwebo	1	...	1	...	...	...	...	...	...	...	4	3	9	...	1	...	...	...	2	...	...	...	...	...	...	3
Bhamo	2	1	2	1	6	12	5	1	1	2	4	2	39	...	...	...	...	...	...	...	...	...	...	...	...	...
Katha	1	2	3	1	2	1	2	2	4	4	4	...	26	...	...	1	...	...	...	...	...	...	...	...	...	1
Kindat	...	...	1	...	1	...	1	...	...	...	1	...	4	...	...	...	...	...	...	1	...	...	...	2	...	3
Group II.—Burma Inland	51	38	42	16	34	24	31	31	26	28	38	27	386	...	2	2	...	2	3	3	...	1	...	2	1	16
Cachar	...	1	...	1	1	2	...	...	1	1	2	...	9	...	...	...	2	...	...	...	...	...	...	...	...	2
Sibsagar	1	1	...	4	5	6	4	4	3	1	3	3	35	...	...	...	...	1	...	...	...	...	...	...	...	1
Dibrugarh	5	6	7	3	4	11	13	10	6	4	...	2	71	...	...	...	...	...	...	...	...	...	...	...	...	...
Tezpur	12	7	12	6	9	4	6	10	2	1	1	2	72	...	...	...	...	...	...	...	...	...	...	...	...	...
Nowgong	...	4	7	...	2	...	5	4	3	...	2	4	31	...	...	...	...	...	...	...	...	...	...	...	...	...
Gauhati	2	1	1	4	6	6	6	4	1	1	1	1	34	...	...	...	...	...	...	...	...	...	...	...	...	...
Dhubri	...	...	...	..	1	4	...	...	...	...	...	...	5	...	...	...	...	2	...	...	...	...	1	2	1	6
Sylhet	3	4	8	15	18	19	35	19	8	6	6	8	149	...	...	...	...	...	...	...	...	...	...	...	...	...
Group III.—Assam	23	24	35	33	46	52	69	51	24	14	15	20	406	..	...	...	2	3	...	..	...	...	1	2	1	9
Mymensingh	8	4	3	22	1	2	3	7	11	12	5	4	82	...	...	...	...	...	...	...	...	...	...	...	...	...
Dacca Central	12	16	8	18	16	22	20	39	62	48	29	55	345	..	1	...	..	...	...	...	...	...	...	...	...	1
Tippera	...	2	...	...	...	...	2	...	3	1	...	...	8	...	...	...	...	...	...	...	...	...	...	...	...	...
Chittagong	...	...	1	2	22	7	1	...	1	3	3	2	42	...	...	...	...	...	...	...	...	...	...	...	...	...
Noakhali	1	1	1	2	7	1	3	4	1	6	6	...	33	...	...	...	...	...	...	...	...	...	...	...	...	...
Backergunge	11	4	23	5	21	8	15	8	5	11	6	9	126	...	...	...	...	...	...	1	1	...	1	...	...	3
Khulna	...	...	...	...	...	...	3	...	...	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...
Jessore	13	12	17	31	23	44	30	10	25	45	25	13	288	1	...	...	...	...	1	...	...	...	...	...	...	2
Baraset	6	5	9	7	4	3	5	7	25	19	19	7	116	...	...	...	2	1	1	...	...	...	...	...	...	4
Presidency, Central, Europeans	...	...	...	...	...	...	...	...	...	1	1	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...
Presidency, Central, natives	9	8	3	19	3	7	9	14	14	20	14	8	128	...	...	...	...	...	...	...	...	...	...	1	...	...
Alipore Central	4	4	14	7	8	7	6	10	4	3	1	12	80	...	...	...	...	...	...	...	...	...	...	...	...	1
Hooghly	3	3	...	...	3	4	14	8	3	5	2	3	48	...	...	...	...	...	...	...	...	...	...	...	...	...
Burdwan	4	1	1	2	3	3	3	5	4	5	2	6	39	...	2	...	...	...	...	...	...	...	...	...	...	2
Krishnagar	1	2	...	...	4	3	7	1	1	3	3	2	27	...	...	...	...	1	1	2	...	...	...	...	...	4
Faridpur	4	2	4	3	4	2	4	8	6	3	7	6	53	...	...	...	...	...	...	...	4	1	...	...	1	6
Pabna	6	4	7	6	6	4	6	4	8	11	9	9	80	...	...	1	...	...	...	1	...	...	1	...	...	3
Murshidabad	3	...	2	2	2	..	1	8	9	5	6	1	39	1	1	...	...	1	1	...	...	1	1	1	...	7
Rajshahi Central	3	20	6	33	32	27	22	18	11	31	22	12	237	...	...	5	12	2	3	7	3	...	3	...	4	39
Rogra	5	...	4	1	6	3	6	21	15	10	12	6	80	...	1	2	...	...	...	1	...	...	...	...	...	4
Malda	9	9	7	8	8	10	6	...	7	3	3	6	76	...	...	...	...	...	...	...	...	...	...	...	...	...
Dinajpur	7	2	8	2	2	5	...	4	2	2	2	2	38	...	...	...	1	2	...	...	...	...	...	...	...	3
Rangpur	8	5	5	8	11	...	4	6	17	8	9	7	88	1	...	...	5	...	1	...	...	...	...	...	...	7
Jalpaiguri	...	...	1	2	2	2	3	...	...	...	1	4	15	...	...	...	...	...	...	...	...	...	...	...	...	...
Purneah	7	8	9	21	17	3	6	16	2	...	4	7	100	...	4	6	1	...	...	...	1	2	...	...	...	14
Naya Dumka	...	...	...	1	...	...	1	2	2	...	...	...	6	...	...	...	...	...	...	...	...	...	...	...	...	...
Suri	...	2	2	...	2	1	5	3	7	2	1	5	30	...	...	...	...	...	...	...	...	...	...	...	1	1
Bankura	4	7	4	6	3	8	8	16	3	13	12	8	92	...	...	...	...	...	...	...	...	...	...	...	...	...
Midnapur Central	14	6	20	21	11	3	16	12	23	31	24	14	195	...	...	2	3	1	...	...	...	...	...	...	...	6
Balasore	3	3	2	...	1	...	...	5	1	...	...	...	15	...	...	...	...	...	...	2	1	...	...	...	...	3
Cuttack	4	6	13	3	7	1	8	6	2	5	6	5	66	...	...	...	...	...	...	...	...	...	...	...	...	...
Puri	...	...	...	...	...	...	...	3	...	...	2	...	5	...	...	...	...	...	...	...	1	2	...	...	...	2
Group IV.—Bengal and Orissa	149	136	174	232	229	180	217	245	274	306	236	213	2,591	3	9	16	24	8	10	13	10	5	6	2	6	112

* Jails where neither Intermittent Fever nor Remittent Fever occurred are not shown in these tables.

For the annual ratios see Table XLII.

Jails.	Admissions from Intermittent Fever in each month.													Admissions from Remittent Fever in each month.											
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
A																									
Chaibassa	6	3	6	5	7	9	7	14	12	8	8	2	87	1	...	...	3	1	...	1	...	...	...	...	...	6
Purulia	2	...	4	10	1	1	4	8	1	5	4	5	45	...	...	...	...	...	...	...	...	...	...	...	...	...
Ranchi	...	2	...	...	...	...	...	3	1	...	...	...	6	...	...	...	...	...	...	...	...	...	...	...	...	...
Palamau	2	...	...	...	...	2	4	...	...	2	...	1	11	...	...	...	...	...	...	...	...	...	...	...	...	...
Hazaribagh Central	6	4	3	2	2	...	8	4	24	14	17	6	90	1	...	..	1	...	2	4	4	3	1	4	...	20
B																										
Gaya	40	32	32	9	13	8	33	45	42	53	43	14	364	1	...	1	2	...	1	...	...	...	...	...	...	5
Bhagalpur Central	17	14	25	20	6	9	14	40	26	13	28	31	243	...	...	...	2	1	...	...	...	...	...	...	...	3
Monghyr	4	4	6	15	6	7	16	31	31	27	27	19	193	...	...	...	1	...	...	...	...	...	...	...	...	1
Darbhanga	...	1	4	6	5	8	...	18	8	6	3	5	64	1	...	...	...	...	...	...	...	...	...	...	...	1
Champaran	5	1	12	13	14	1	7	9	5	28	6	3	104	...	...	...	1	...	...	...	1	...	...	...	...	2
Muzaffarpur	10	2	6	13	...	...	...	6	6	9	6	4	62	...	...	...	1	...	...	...	1	2	5	...	1	10
Patna	3	4	7	2	3	4	3	11	10	14	3	6	70	1	...	...	...	...	...	...	...	...	...	...	...	1
Arrah	4	...	2	7	6	7	2	3	4	4	1	2	42	...	...	...	...	...	...	...	...	...	...	...	...	...
Chapra	13	5	10	13	3	1	2	14	10	5	3	1	80	...	...	...	...	...	...	...	...	...	...	...	...	...
Buxar Central	45	37	39	83	76	51	51	101	290	269	173	99	1,314	...	...	...	...	...	...	...	...	...	...	...	...	...
Ghazipur	1	3	...	2	4	7	8	11	20	40	18	6	120	...	...	...	...	...	...	...	...	...	...	...	...	...
Azamgarh	9	8	17	...	...	3	1	3	9	49	16	22	137	...	...	...	1	...	...	...	...	...	...	...	...	1
Gorakhpur	7	6	1	10	9	3	12	23	15	10	9	5	116	...	...	...	1	...	...	...	...	1	...	...	...	2
Basti	6	6	5	3	7	5	15	7	16	14	11	5	100	1	...	...	...	...	...	...	...	...	...	3	...	4
Fyzabad	13	8	12	16	5	1	7	11	10	16	7	13	119	...	...	...	...	...	...	1	...	...	...	...	1	2
Sultanpur	5	3	2	13	8	5	3	7	38	39	31	21	175	...	...	...	...	...	...	...	...	...	...	...	...	...
Rai Bareli	2	1	3	2	2	1	10	13	24	10	3	6	77	...	...	...	...	...	...	...	...	...	...	...	...	...
Partabgarh	4	3	8	7	6	2	1	5	8	13	1	2	60	...	...	...	...	...	...	...	...	...	...	...	...	...
Jaunpur	7	5	3	1	6	4	4	16	30	22	14	13	125	...	...	...	...	...	...	...	...	...	...	...	...	...
Benares Central	55	25	23	32	56	11	18	34	61	70	76	56	517	...	...	...	...	...	2	1	...	...	1	...	...	4
,, District	10	9	3	11	1	8	9	13	26	33	9	12	144	...	...	...	...	...	...	...	...	...	...	1	...	1
Chunar	30	14	27	37	28	23	23	19	22	...	...	...	223	1	1	...	6	5	1	..	...	3	...	...	...	17
Mirzapur	12	10	14	9	4	12	11	6	15	24	11	4	132	...	4	1	1	...	...	3	1	6	6	11	8	41
Allahabad Central	18	36	5	22	21	5	27	46	117	92	35	19	443	...	...	...	...	...	...	...	2	...	...	...	...	2
,, District	30	1	...	7	6	18	15	12	28	40	13	2	172	...	...	...	1	...	...	...	...	...	...	...	...	1
Banda	7	2	9	8	5	6	5	10	48	48	19	12	179	...	...	...	...	...	...	1	...	...	...	...	...	1
Fatehpur	1	2	4	3	5	6	8	31	48	75	30	11	224	...	...	...	...	...	...	...	...	...	...	...	...	...
Hamirpur	15	5	8	15	26	24	17	8	24	43	19	10	214	...	...	...	...	...	...	...	...	...	...	...	...	...
Orai	9	5	12	3	7	5	3	9	20	42	6	...	121	...	...	...	...	...	...	...	...	...	...	...	...	...
Cawnpore	1	2	...	18	4	7	2	8	15	29	15	9	110	...	...	...	...	...	...	...	1	3	...	...	2	6
Unao	12	13	13	1	3	...	5	9	11	10	4	...	81	...	1	1	...	...	...	...	...	...	...	...	...	2
Lucknow Central	23	13	20	13	26	14	38	57	39	57	41	20	361	1	...	...	...	...	...	...	...	...	...	...	...	1
,, District	13	17	30	17	20	24	29	41	33	36	26	24	310	...	...	...	...	...	...	...	...	...	...	...	...	...
Barabanki	2	...	1	...	1	7	4	7	1	14	9	...	46	...	...	...	...	...	...	...	...	...	...	...	...	...
Gonda	10	9	4	12	17	27	19	42	24	20	21	13	218	...	...	...	...	...	...	...	...	...	...	...	...	...
Bahraich	13	23	14	27	23	43	32	37	47	42	34	32	367	...	...	...	...	...	...	...	...	...	1	...	...	1
Kheri	16	6	14	7	1	55	17	21	15	20	13	12	197	...	...	...	...	...	...	...	...	...	...	...	...	...
Sitapur	3	1	4	10	10	5	3	20	21	3	5	2	87	...	...	...	...	...	...	...	...	...	...	...	...	...
Hardoi	...	1	19	24	67	12	13	37	28	29	10	4	244	1	8	6	...	...	...	...	...	...	...	...	...	15
Etawah	...	...	3	3	...	1	1	1	2	5	3	...	19	...	...	...	...	...	2	...	...	...	...	...	...	2
Mainpuri	5	3	15	34	13	7	3	14	34	25	31	12	196	...	...	...	...	...	...	...	...	...	...	...	...	...
Etah	7	18	8	11	16	8	13	34	14	15	23	9	176	...	...	...	...	...	...	...	...	...	...	...	...	...
Fatehgarh Central	22	13	28	43	43	38	41	81	167	140	45	17	678	...	...	...	2	...	...	...	...	...	...	...	...	2
,, District	15	10	8	14	12	18	18	18	17	23	12	14	179	...	...	...	...	...	...	...	...	...	...	...	...	...
Group V.—Gangetic plain and Chutia Nagpur	540	390	493	633	604	523	586	1,018	1,517	1,611	942	585	9,442	9	14	9	23	9	7	10	11	18	14	19	12	154
A																										
Shahjahanpur	12	12	17	19	19	22	17	27	38	25	14	19	241	...	...	...	...	...	...	...	...	...	...	...	...	...
Bareilly Central	87	61	83	114	96	95	50	29	30	23	18	9	695	...	...	...	...	...	...	3	...	...	...	...	...	3
,, District	18	20	11	6	7	15	30	31	86	79	28	22	359	...	1	5	6	...	...	...	...	...	...	...	...	12
Budaon	1	1	6	17	16	5	7	13	15	11	5	3	100	...	1	...	2	...	...	...	...	...	...	...	...	3
Aligarh	14	7	9	...	...	27	26	22	59	46	16	5	222	...	...	...	...	...	...	...	...	...	...	...	...	...
Bulandshahr	3	2	4	24	12	7	8	4	2	4	5	1	76	...	...	...	...	...	1	...	...	...	...	...	...	1
Moradabad	9	19	6	9	9	8	20	29	23	13	12	6	163	...	...	...	...	...	...	...	...	...	...	...	...	...
Bijnor	...	...	2	5	2	2	2	6	5	8	4	4	40	...	...	1	...	...	...	...	...	...	...	...	...	1
Dehra Dun	...	...	...	2	1	2	...	2	3	1	...	...	11	...	...	...	...	...	...	...	...	...	...	...	...	...
Saharanpur	2	6	2	6	1	8	2	9	8	6	6	4	60	...	...	...	...	...	...	...	...	...	...	...	...	...
Muzaffarnagar	3	1	6	4	5	3	6	7	14	9	5	4	67	...	...	...	...	...	...	...	1	...	...	...	...	1
Meerut	39	11	2	3	17	9	8	1	14	43	26	22	195	...	...	...	...	...	...	...	...	...	...	...	...	...
Delhi	7	10	24	64	28	45	53	93	135	148	109	51	767	...	...	...	...	...	...	...	...	...	...	...	...	...
Rohtak	12	5	14	16	18	25	19	38	27	30	6	8	218	...	...	...	...	...	...	...	...	...	...	...	...	...
Hissar	...	2	1	10	4	3	2	12	6	14	30	12	96	...	...	...	...	...	...	...	...	...	...	...	...	...
Karnal	1	...	...	...	4	5	1	2	13	7	4	3	40	...	...	...	...	...	...	...	...	...	...	...	...	...
Umballa	10	12	21	19	13	27	19	26	23	19	13	14	216	...	...	...	1	...	...	...	...	...	...	...	...	1
B																										
Ludhiana	5	6	...	20	7	8	12	19	11	10	5	10	113	...	...	...	...	...	...	...	...	...	...	...	...	...
Hoshiarpur	...	...	...	...	1	3	2	2	1	1	1	...	11	...	...	...	...	...	...	...	...	...	...	...	...	...
Jullundur	2	...	...	4	6	...	...	5	4	4	1	3	29	...	...	...	...	...	...	...	1	..	...	...	...	1
Ferozepore	2	...	3	2	3	...	...	3	3	4	3	1	24	...	...	...	...	...	...	...	..	..	...	...	...	...
Amritsar	11	2	2	7	15	5	4	17	39	39	14	6	158	...	...	...	...	...	...	...	1	1	...	...	...	2
Lahore Central	111	47	41	83	85	80	70	148	151	313	256	146	1,531	2	...	3	1	5	...	...	1	1	1	...	...	14
,, District	70	33	16	20	20	26	21	37	19	71	91	36	460	...	...	...	...	...	...	...	1	...	—	...	...	1
,, Female	9	7	5	8	11	8	10	32	27	14	18	10	159	1	...	...	...	...	...	...	...	...	...	...	...	1
Gurdaspur	2	...	1	1	...	1	2	...	...	2	...	...	9	...	...	...	...	...	...	...	...	...	...	...	...	...
Gujranwala	8	10	10	2	8	6	9	10	12	4	5	6	90	...	...	...	...	...	...	...	...	...	...	...	...	...
Sialkot	5	6	7	...	11	4	6	9	4	16	6	5	79	...	4	1	...	...	...	...	...	...	...	...	...	5
Gujrat	3	1	...	...	1	...	...	1	...	1	...	...	7	...	...	2	...	...	...	1	...	...	...	...	...	3
Mung Rasul Central	...	...	...	...	...	...	...	...	...	...	...	13	13	...	...	...	...	...	...	...	...	...	...	...	...	...
Jhelum	20	8	13	17	19	17	4	38	45	63	66	40	356	2	1	...	...	...	...	...	...	...	...	...	...	3
Rawalpindi	46	29	36	39	42	49	30	101	132	152	177	67	900	...	...	...	...	...	...	1	...	...	...	...	...	1
Group VI.—Upper Sub-Himalaya	512	318	342	521	481	515	446	773	940	1,177	944	536	7,505	5	7	12	10	5	1	5	5	2	1	...	...	53

TABLE XLIX—*continued.*

INTERMITTENT FEVER by months, jails, groups, and administrations.

TABLE L—*continued.*

REMITTENT FEVER by months, jails, groups, and administrations.

Jails.	Admissions from Intermittent Fever in each month.													Admissions from Remittent Fever in each month.											
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
A																									
Peshawar	18	22	22	27	33	28	24	45	50	125	85	40	519	...	...	...	...	...	...	...	...	...	...	...	...
Kohat	3	...	...	1	1	2	2	3	11	8	4	1	36	1	...	...	...	...	...	1	...	1	...	...	3
Bannu	7	1	2	5	4	5	5	13	1	5	3	2	53	1	...	...	...	...	...	...	...	...	...	...	1
Shahpur	3	20	16	9	7	4	14	12	5	11	6	2	109	...	...	...	...	...	...	1	...	...	...	...	1
Jhang	19	12	15	3	19	18	21	16	15	33	26	25	222	...	...	...	...	...	...	...	...	...	...	...	...
Montgomery Central	92	41	69	47	75	51	50	63	55	82	139	92	850	...	...	...	...	1	5	...	1	...	...	1	8
Mooltan Central	71	39	42	61	76	51	48	27	42	112	81	57	707	...	...	...	...	...	...	...	...	...	...	...	...
,, District	26	8	12	22	5	18	15	18	22	48	21	12	227	...	...	...	...	...	...	...	...	...	1	...	1
Dera Ismail Khan	13	4	11	9	12	11	10	12	3	5	11	11	112	8	1	...	...	...	...	...	...	...	...	...	9
Dera Ghazi Khan	12	7	10	6	5	10	7	3	4	12	3	...	79	...	...	...	...	...	...	1	...	...	...	...	1
C																									
Shikarpur	3	1	2	...	...	3	3	8	11	9	9	11	60	...	...	...	...	...	...	...	...	...	...	...	...
Sind Gang	6	3	3	...	1	...	1	2	3	2	...	...	21	1	...	...	3	1	1	2	1	...	2	1	12
Hyderabad Central	14	13	7	8	2	...	3	5	4	3	1	...	60	...	...	...	...	...	1	2	...	1	...	...	4
Kurrachee	3	6	4	1	2	6	7	17	9	5	1	2	63	...	...	...	1	3	...	...	...	1	...	...	5
Group VII.—N.-W. Frontier, Indus Valley, and N.-W. Rajputana	290	177	215	199	242	207	210	244	235	460	390	255	3,124	11	1	...	4	5	7	7	2	3	2	2	1	45
A																									
Rajkot	1	...	2	1	4	...	3	2	2	6	3	...	24	...	...	...	1	...	...	...	...	...	...	...	1
Ahmedabad Central	43	26	32	27	15	15	14	6	7	26	24	16	251	1	...	...	...	...	...	...	...	...	...	...	1
B																									
Ajmer	...	...	...	2	...	...	...	2	1	1	...	1	7	...	...	...	...	...	...	...	...	1	...	1	2
Muttra	1	2	9	2	8	2	5	1	19	19	9	2	79	...	...	1	...	2	...	...	...	1	...	...	4
Agra Central	91	47	109	99	57	68	40	103	162	79	70	28	953	...	...	...	...	...	...	...	...	...	...	...	...
,, District	7	18	6	18	14	22	10	19	25	15	12	14	180	...	...	...	...	...	...	...	...	...	...	...	...
Jhansi	4	3	3	...	1	9	7	14	14	11	7	2	75	...	...	...	...	...	...	...	...	...	...	...	...
Group VIII.—S.-E. Rajputana, Central India, and Gujarat	147	96	161	149	99	116	79	147	230	157	125	63	1,569	1	...	1	1	2	...	...	...	1	1	...	1	8
A																									
Damoh	3	3	...	...	...	...	...	...	...	2	1	...	9	...	...	...	...	...	...	...	...	...	...	...	...
Saugor	9	1	13	4	3	6	4	5	13	17	10	8	93	...	...	...	...	...	...	...	...	...	...	...	...
Jubbulpore Central	57	40	...	2	55	31	33	88	57	81	50	63	557	...	...	...	...	...	...	...	...	...	...	...	...
Narsinghpur	10	2	2	9	10	18	1	7	11	8	12	8	98	...	...	...	...	...	...	...	...	...	...	...	...
Mandla	2	2	1	5	3	4	7	5	3	7	1	3	43	...	1	...	...	...	...	...	...	...	...	...	1
Bilaspur	6	1	...	...	3	9	5	8	3	4	5	2	46	...	...	...	...	...	...	1	1	...	...	...	2
Sambalpur	...	...	...	1	...	...	1	1	4	...	4	2	13	...	1	1	...	1	...	...	4	1	...	...	8
Raipur Central	5	9	3	4	1	2	3	9	21	15	20	12	104	...	...	...	...	...	...	...	...	...	...	...	...
Balaghat	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	2
Seoni	...	2	6	2	3	5	2	7	7	8	5	4	51	...	...	1	...	...	...	...	1	...	...	...	2
Chhindwara	4	2	27	3	3	...	4	2	3	4	2	3	57	...	...	...	...	...	...	...	1	...	...	...	1
Hoshangabad	2	2	3	20	1	...	2	1	1	22	9	2	65	...	1	4	...	...	...	...	...	...	...	...	5
Nimar	1	2	...	...	1	...	1	1	1	3	1	...	11	...	...	...	...	...	...	...	...	...	...	...	...
Betul	2	...	...	3	...	...	9	2	4	3	1	...	24	...	...	...	...	...	...	...	...	...	...	...	...
Nagpur Central	22	16	18	12	19	13	34	48	39	47	26	29	323	...	...	...	...	...	...	...	...	...	...	...	...
Bhandara	4	1	1	1	...	2	1	5	8	7	5	3	38	...	...	...	...	...	...	...	...	...	...	...	...
Wardha	8	5	12	4	5	3	2	4	1	2	3	4	53	...	...	...	...	...	...	...	...	...	...	...	...
Chanda	...	1	2	...	2	4	1	3	5	1	1	1	21	...	...	...	...	...	...	...	1	...	...	...	1
B																									
Secunderabad	1	2	12	...	...	...	1	1	2	2	4	3	28	...	...	...	...	...	...	...	...	...	...	...	...
Yeotmahl	5	...	1	...	1	2	1	1	5	2	...	...	18	...	...	...	...	...	...	...	...	...	...	...	...
Amraoti Central	8	6	5	1	1	1	8	5	10	6	3	2	56	...	...	...	...	...	...	...	...	...	...	...	...
Ellichpur	1	2	4	2	...	2	2	3	3	...	7	4	30	...	...	...	...	...	...	...	...	...	...	...	...
Akola Central	8	13	10	1	1	...	16	4	7	11	7	4	82	...	...	...	1	...	...	1	1	...	...	...	3
Basim	1	...	...	...	...	1	...	2	...	2	...	1	7	...	...	...	...	...	...	...	...	...	...	...	...
Buldana	1	...	...	2	2	...	2	4	2	5	2	...	20	...	...	...	...	...	...	...	...	...	...	...	...
Dhulia	7	...	5	3	4	2	1	7	14	5	9	10	67	...	...	...	...	...	...	...	...	...	...	...	...
Yerrowda Central	70	33	35	35	47	83	101	108	100	162	133	141	1,048	...	...	...	...	...	...	...	...	...	...	...	...
Bijapur District	7	...	10	9	2	2	8	4	5	13	30	17	107	...	...	...	...	...	...	...	...	...	...	...	...
Deccan Gang	5	2	2	1	4	3	14	20	6	11	8	18	94	...	1	...	...	...	...	...	...	...	...	...	1
Dharwar	...	...	...	5	6	7	11	3	2	2	8	2	46	...	...	...	...	...	...	...	...	...	...	...	...
Group IX.—Deccan	249	147	172	129	177	200	275	358	337	452	367	346	3,209	...	4	6	1	1	...	2	11	1	...	...	...	26
Thana	18	7	14	11	8	5	18	14	11	12	18	17	153	...	...	...	1	1	8	14	24	16	9	9	1	83
Bombay Common	2	1	2	1	4	4	1	2	1	...	3	4	25	...	...	2	...	...	...	...	...	2	3	...	...	7
,, House of Correction	2	3	6	4	6	2	5	3	3	7	3	7	51	1	...	1	...	...	...	...	...	...	...	...	...	2
Ratnagiri	2	...	2	2	...	2	2	1	2	2	4	3	22	...	...	...	...	...	...	...	...	...	...	...	...	...
Karwar	...	...	...	...	...	1	2	1	2	3	3	1	13	...	...	...	...	...	...	...	...	1	2	...	...	3
Mangalore	1	...	...	...	...	2	2	1	3	2	1	1	13	...	...	...	...	...	...	...	1	...	...	...	...	1
Cannanore Central	1	1	2	1	1	3	2	6	8	7	10	7	49	...	...	...	...	...	...	...	...	...	...	...	...	...
Group X.—Western Coast	26	12	26	19	19	19	32	28	30	33	42	40	326	1	...	3	1	1	8	14	25	19	14	9	1	96

Jails and Administrations.	Admissions from Intermittent Fever in each month.													Admissions from Remittent Fever in each month.											
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
A																									
Bellary	3	1	5	7	4	2	1	1	7	3	13	7	54	...	...	...	...	...	...	...	...	...	...	...	...
Salem Central	...	...	2	...	...	...	2	5	2	2	2	1	16	...	...	...	...	...	...	...	...	...	...	...	...
Coimbatore Central	1	...	1	2	2	2	3	1	1	5	4	5	27	...	...	...	...	...	...	...	...	...	...	...	...
B																									
Palamcottah	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1
Madura	4	...	...	1	2	3	3	...	3	2	1	...	19	...	...	...	...	...	...	...	...	...	...	...	...
Trichinopoly Central	7	14	19	33	21	18	15	8	18	24	29	18	224	...	...	...	...	...	...	...	...	...	...	...	...
Tanjore	1	...	1	...	...	1	...	...	...	1	3	1	8	...	...	...	...	...	...	...	...	...	...	...	...
Cuddalore	...	1	...	...	...	...	...	1	...	...	1	1	4	...	...	...	...	...	...	...	...	...	...	...	...
Vellore Central	4	2	8	6	3	7	2	4	2	8	14	14	74	...	...	...	...	...	...	...	...	...	...	...	...
Madras, Penitentiary, Central, natives	...	1	3	5	4	4	3	5	2	2	2	13	44	...	...	...	...	...	...	...	...	...	...	...	...
Nellore	...	...	...	9	7	9	1	1	1	...	...	...	28	...	...	...	1	...	...	...	...	...	...	...	1
Guntur	...	...	...	...	2	...	...	...	...	...	...	1	3	...	...	...	...	...	...	...	...	...	...	...	...
C																									
Rajamundry Central	63	121	155	59	25	2	22	15	7	9	21	19	518	...	...	...	...	...	...	...	...	...	...	...	...
Vizagapatam	...	...	23	3	2	14	8	5	3	2	1	1	62	...	...	...	...	...	1	...	...	...	...	...	1
Berhampur	1	...	...	13	2	3	1	2	2	...	2	2	28	...	...	...	...	...	...	...	...	...	...	...	...
Group XI.—Southern India	84	140	217	138	74	65	61	48	48	58	93	83	1,109	...	1	...	1	...	1	...	...	...	...	...	3
Shillong	...	...	...	1	4	3	4	10	16	9	11	9	67	...	...	...	...	...	...	...	...	...	...	...	...
Darjeeling	5	1	2	4	5	3	3	9	8	6	8	3	57	...	...	...	...	...	...	...	...	...	...	...	...
Almora	...	...	2	...	...	...	2	...	1	2	...	...	7	...	...	...	...	...	...	...	...	...	...	...	...
Simla	...	...	...	...	1	1	1	...	...	1	1	...	5	...	...	...	...	...	...	...	...	...	...	...	...
Dharmsala	3	3	4	5	5	4	3	1	6	3	...	...	37	...	...	...	...	...	...	...	...	...	...	...	...
Abbottabad	1	1	...	1	2	1	2	2	3	4	2	2	21	...	...	...	1	...	...	...	...	...	1	1	3
Quetta	...	...	...	...	2	2	...	2	4	5	6	2	23	...	...	...	1	...	...	...	...	...	...	1	2
Mercara	...	...	3	...	...	2	1	...	...	1	4	3	14	...	...	...	...	...	...	...	...	...	...	...	...
Russellkonda	...	...	...	...	...	1	...	1	1	...	1	1	5	...	...	...	...	...	...	...	...	...	...	...	...
Group XII.—Hills	9	5	11	11	19	17	16	25	39	31	33	20	236	...	...	...	2	...	...	...	...	...	1	2	5
INDIA*	2,521	1,788	2,322	2,558	2,794	3,225	3,310	3,704	4,298	4,877	3,823	2,807	38,027	39	54	61	75	51	48	62	81	57	52	45	45	670
Andamans	393	260	359	417	731	1,226	1,213	663	536	497	511	530	7,336	7	12	10	6	15	10	6	15	6	12	7	19	125
Burma	99	83	117	77	73	105	106	104	88	81	125	116	1,174	2	6	4	...	2	4	5	3	2	...	2	4	34
Assam	23	24	35	34	50	55	73	61	40	23	26	29	473	...	...	...	2	3	...	...	...	...	1	2	1	9
Bengal	311	246	332	434	376	291	371	561	752	769	566	414	5,423	8	9	17	35	10	13	18	16	10	12	6	7	161
N.-W. P. and Oudh	674	491	614	763	727	719	681	1,028	1,536	1,548	857	532	10,190	4	16	15	20	9	5	8	5	14	8	15	11	130
Punjab	592	336	397	508	541	516	466	808	869	1,358	1,187	681	8,259	15	6	6	3	6	5	5	5	3	2	2	1	59
Bombay	183	95	126	108	105	135	194	203	182	268	257	249	2,105	3	1	3	6	5	10	18	25	21	16	10	1	119
Berar and Secunderabad	25	23	32	6	5	6	30	20	29	28	23	14	241	...	...	...	1	...	...	1	1	...	...	...	...	3
Central Provinces	135	89	88	70	109	97	110	196	181	231	156	144	1,606	...	3	6	...	1	...	1	10	1	...	...	...	22
Madras	86	141	219	139	75	71	65	56	60	67	105	92	1,176	...	1	...	1	...	1	...	1	...	...	...	...	4
Non-British Jails—																									
Sadra	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	1
Kolhapur	1	1	...	1	...	5	6	3	9	2	7	9	44	...	...	...	...	...	...	...	...	...	...	...	...	...
Savantvadi	...	...	1	...	1	...	...	...	1	...	...	1	4	2	...	1	...	...	...	...	...	...	...	...	...	3

* Including Ajmer, Quetta, and Mercara.

TABLE LI.

PNEUMONIA by months, jails, groups, and administrations.

TABLE LII.

DYSENTERY by months, jails, groups, and administrations.

Jails.*	Admissions from Pneumonia in each month.													Admissions from Dysentery in each month.											
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Port Blair	1	1	1	1	1	2	5	2	2	2	4	5	27	46	44	39	52	70	131	111	94	107	110	137	138	1,07
Tavoy	...	...	...	...	...	1	...	...	...	...	...	...	1	...	...	...	...	...	...	1	...	...	...	1	...	
Moulmein	...	...	1	...	...	...	...	...	...	2	...	...	3	14	15	9	6	29	27	50	39	35	20	23	15	28
Shwegyin	...	...	...	...	...	...	...	...	...	...	...	...	...	5	...	...	2	2	4	2	1	...	...	4	...	2
Toungoo	...	4	6	3	...	1	2	1	...	...	...	1	18	2	1	1	...	2	...	3	...	1	...	1	...	1
Rangoon Central, Europeans	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	
Rangoon C. natives	2	6	7	6	1	1	1	2	4	1	3	2	36	2	...	...	...	3	5	10	2	3	2	8	3	35
Maubin	...	2	...	...	...	...	...	...	...	...	...	...	2	2	...	...	...	...	1	2	...	1	2	...	...	
Bassein Central	...	1	...	...	1	...	...	...	...	...	...	...	2	1	...	1	2	1	...	2	2	2	3	3	3	2
Insein ,,	1	...	1	1	1	1	1	...	...	1	...	1	8	9	6	3	6	5	22	45	21	9	10	17	16	16
Henzada	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	1	
Myanaung	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	1	...	...	
Sandoway	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...	...	
Kyaukpyu	...	...	...	...	...	...	...	...	...	...	...	...	...	6	2	2	2	1	2	...	1	...	...	3	1	20
Akyab	1	1	3	1	...	1	1	...	...	...	...	...	8	3	...	2	1	1	2	3	6	2	1	3	5	23
Group I.—Burma Coast and Bay Islands	5	15	19	12	4	7	10	5	6	6	7	9	105	99	68	57	71	114	195	230	169	161	249	200	182	1,68
Paungdi	...	...	...	...	...	...	...	1	...	...	...	...	1	...	...	...	...	1	1	...	...	...	...	2	...	
Prome	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	
Thayetmyo Central	6	2	...	1	...	2	...	...	2	...	...	1	14	...	...	...	...	...	3	...	...	...	...	2	1	
Taungdwingyi	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	
Magwe	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...	...	1	...	
Minbu	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1	2	
Yamethin	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...	
Meiktila	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	1	1	1	
Pagan	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...	...	...	
Myingyan Central	...	...	...	...	1	...	...	1	1	...	...	...	3	1	...	6	2	...	1	2	...	3	5	3	...	23
Mandalay ,,	2	...	2	4	1	...	1	1	...	...	...	...	11	34	17	8	11	10	12	13	8	17	7	7	7	151
Monywa	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	1	...	...	...	...	...	...	...	
Shwebo	...	...	1	...	...	1	...	1	...	...	...	2	5	1	...	...	1	1	...	1	1	1	1	...	...	
Bhamo	...	...	...	1	1	1	...	...	...	...	...	...	3	2	2	...	1	10	4	8	2	...	...	...	...	29
Katha	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	2	...	2	1	...	...	...	
Kindat	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	1	...	2	...	...	...	
Group II.—Burma Inland	8	2	3	6	3	4	1	4	3	...	...	3	37	38	19	17	15	25	28	28	14	26	14	17	12	253
Cachar	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4	1	...	2	2	...	1	3	1	2	1	17
Sibsagar	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	1	...	...	2	1	1	...	1	9
Dibrugarh	...	...	...	...	...	...	...	...	1	...	1	...	2	4	...	3	9	3	4	8	13	11	...	1	1	57
Tezpur	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	4	11	7	3	2	...	...	1	...	...	29
Nowgong	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...	2	1	...	1	6
Gauhati	...	...	...	1	1	...	...	...	...	...	...	...	2	2	...	5	3	2	5	6	7	1	3	5	1	40
Dhubri	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...	...	...	...	2
Sylhet	...	...	...	...	...	...	1	1	...	...	...	...	2	2	2	...	7	12	11	2	13	6	7	...	...	62
Group III.—Assam	...	...	...	1	1	...	1	1	1	...	1	...	6	9	6	13	33	28	27	18	37	24	14	8	5	222
Mymensingh	...	1	1	1	...	...	...	2	...	1	...	1	7	1	1	5	5	3	5	6	1	...	3	1	10	41
Dacca Central	...	4	10	1	...	...	1	...	...	2	...	3	21	9	22	14	19	21	27	39	60	38	29	37	21	335
Tippera	...	...	...	...	...	1	...	...	...	...	...	...	1	8	6	3	4	5	3	23	9	10	3	...	...	74
Chittagong	2	1	2	...	3	1	...	...	...	...	1	1	11	1	...	...	7	12	4	3	2	8	19	9	5	70
Noakhali	...	...	...	...	...	...	...	...	...	...	...	...	...	8	3	1	5	2	4	4	2	2	1	4	3	30
Backergunge	...	2	1	...	...	1	...	...	...	...	...	...	4	17	8	14	17	23	21	17	25	25	30	19	10	232
Khulna	...	...	1	...	...	...	...	...	...	...	...	...	1	...	...	...	2	2	...	2	1	...	...	...	...	7
Jessore	8	1	2	2	1	6	1	2	1	2	1	4	31	8	5	11	8	17	26	44	46	43	22	31	28	280
Baraset	1	...	...	...	1	1	...	...	...	...	1	1	5	3	2	3	14	25	9	6	5	3	7	2	7	86
Presidency Central, Europeans	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	2	1	...	4
Presidency Central, natives	1	...	...	...	1	1	...	...	...	...	...	...	3	8	5	1	2	...	1	12	12	7	44	33	39	164
Alipore Central	5	4	7	1	3	4	2	...	1	2	18	18	65	32	24	16	21	19	17	25	45	33	20	34	20	306
Hooghly	...	2	...	...	1	1	1	...	1	2	2	3	13	20	13	7	5	18	17	16	17	15	9	14	18	169
Burdwan	1	...	...	1	...	...	...	...	...	...	2	1	5	...	...	1	1	...	2	1	9	3	2	6	3	28
Krishnagar	...	...	...	...	...	1	...	...	...	...	...	...	1	...	...	...	5	2	12	4	1	5	5	2	1	37
Faridpur	1	...	11	...	2	3	...	...	...	...	...	2	19	5	7	20	13	22	22	18	25	27	24	20	7	210
Pabna	...	...	...	...	...	...	...	...	1	...	...	...	1	3	1	...	5	3	2	5	2	1	1	1	2	20
Murshidabad	1	1	2	...	...	...	...	1	...	...	...	...	5	...	2	8	5	2	5	11	6	4	4	5	9	61
Rajshahi Central	...	...	1	3	1	...	3	2	...	1	2	1	14	1	...	1	...	3	5	12	6	...	8	1	...	37
Bogra	...	...	...	...	...	...	...	...	...	...	...	...	...	1	10	8	9	11	14	8	8	4	3	7	7	90
Malda	...	...	...	...	...	...	...	...	...	...	...	...	...	4	1	...	...	1	2	...	...	...	1	...	1	10
Dinajpur	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	4	2	2	2	...	1	2	3	2	2	21
Rangpur	...	...	...	...	...	...	...	...	...	...	...	...	...	6	...	10	5	3	7	7	3	4	1	2	...	48
Jalpaiguri	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	2	3	...	2	...	...	1	...	...	...	9
Purneah	...	1	2	...	1	1	1	...	...	1	...	3	10	7	1	7	6	5	5	3	1	2	6	7	5	55
Naya Dumka	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	2	...	...	...	...	4
Suri	1	2	...	...	...	...	1	...	...	...	...	2	6	...	...	...	...	...	...	4	3	6	2	1	3	19
Bankura	...	...	...	...	...	...	...	...	...	...	...	...	...	2	2	2	4	2	4	2	8	9	5	5	10	55
Midnapore Central	4	3	3	1	3	4	1	3	3	2	1	...	28	3	5	1	1	3	3	15	13	13	8	5	13	83
Balasore	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	2	2	...	1	3	1	2	1	1	14
Cuttack	1	...	...	2	1	...	...	...	...	...	...	...	4	2	...	3	2	1	1	7	6	2	2	...	4	30
Puri	...	1	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
Grou IV.—Bengal and Orissa	26	23	43	12	18	25	11	10	7	13	28	40	256	151	119	143	172	209	222	207	322	268	266	250	235	2,654

Jails where neither Pneumonia nor Dysentery occurred are not shown in these tables. For the annual ratios see Table XLII.

Jails.	Admissions from Pneumonia in each month.													Admissions from Dysentery in each month.											
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
A																									
Chaibassa	...	...	...	...	...	...	...	1	...	...	...	1	2	3	7	9	...	1	11	28	12	1	8	9	11	100
Purulia	1	...	...	1	...	...	...	...	...	...	...	...	2	1	1	...	1	...	3	2	6	1	...	...	...	15
Ranchi	...	...	...	...	...	...	...	...	...	...	...	1	1	1	...	...	...	3	1	3	6	4	2	...	...	20
Palamau	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	1	...	1	1	2	...	6
Hazaribagh Central	1	...	...	...	...	...	...	...	...	2	6	3	12	4	1	4	6	1	2	18	34	12	8	...	5	95
B																										
Gaya	...	...	...	...	...	...	...	1	2	...	...	...	3	4	1	4	1	3	...	2	1	...	...	1	1	18
Bhagalpur Central	...	...	2	...	...	...	...	...	...	...	1	...	3	4	2	1	10	1	7	11	16	19	12	39	18	140
Monghyr	...	...	1	...	...	...	...	...	...	...	...	...	1	...	1	3	2	...	2	5	3	4	1	1	2	24
Darbhanga	...	...	1	1	...	...	...	...	...	...	...	1	3	1	...	2	5	3	6	6	7	10	3	7	3	53
Champarun	1	...	2	...	1	...	...	...	...	1	...	...	5	15	6	7	11	8	8	10	35	9	4	5	2	120
Muzaffarpur	...	...	...	...	...	...	2	...	...	...	...	...	2	1	1	3	1	1	3	1	7	12	3	5	2	40
Patna	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	2	4	1	...	4	4	3	1	2	23
Arrah	2	...	...	1	1	...	1	...	...	...	...	...	5	4	1	1	4	...	1	1	4	6	1	2	...	25
Chapra	...	...	...	...	...	...	...	...	...	...	...	...	...	4	2	15	7	3	9	26	9	11	9	4	6	105
Saxar Central	...	1	1	2	2	...	...	...	...	...	...	1	7	7	3	6	4	6	3	7	18	35	20	7	7	123
Ghazipur	...	...	1	...	1	...	...	2	1	1	...	...	6	1	1	2	2	1	...	...	1	1	...	3	...	12
Azamgarh	3	2	4	...	...	...	...	...	...	...	...	1	10	1	...	1	1	...	...	...	8	5	7	5	1	29
Goralchpur	1	...	...	...	...	...	...	...	...	3	...	2	6	3	3	4	4	4	...	2	2	1	2	2	3	30
Basti	...	...	...	...	1	...	...	1	3	1	3	3	12	4	5	10	3	5	2	10	4	3	9	7	9	71
Fyzabad	1	...	1	4	1	...	...	...	...	1	2	...	10	...	3	3	4	2	1	2	21	37	15	4	1	93
Sultanpur	1	1	...	2	...	...	...	...	...	...	1	...	5	2	...	...	...	1	...	1	...	1	1	...	1	7
Rai Bareli	...	...	...	...	...	...	...	...	...	...	2	...	2	...	...	...	...	...	1	...	...	...	...	...	1	2
Partabgarh	...	...	...	...	...	...	...	...	...	...	...	...	...	3	...	1	1	1	1	2	...	4	3	1	1	18
Jaunpur	...	1	1	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	1	6	1	2	2	...	12
Benares Central	6	...	2	5	1	...	...	1	1	1	1	3	21	8	7	11	5	6	4	4	6	6	11	9	7	84
,, District	1	...	...	...	...	...	...	...	...	1	1	1	4	5	6	2	4	...	3	4	9	10	5	8	1	57
Chunar	6	2	1	2	1	3	...	...	1	...	...	...	16	4	3	4	7	3	1	3	10	6	...	...	...	41
Mirzapur	1	3	...	...	...	...	...	...	...	1	7	16	28	2	3	4	3	5	4	2	1	3	13	5	...	45
Allahabad Central	1	...	...	...	2	2	5	...	2	1	3	1	17	2	2	4	2	2	...	4	2	14	9	4	2	47
,, District	3	3	6	7	1	...	...	1	1	...	1	3	26	3	1	1	1	1	...	4	4	2	4	...	...	21
Banda	1	1	6	...	...	2	...	1	1	2	...	...	14	3	1	3	2	...	...	1	3	3	...	...	8	27
Fatehpur	...	1	...	...	...	1	...	...	...	1	3	1	7	...	...	...	...	...	2	...	2	2	6	8	3	23
Hamirpur	1	2	...	1	1	2	1	...	...	...	3	2	13	6	2	3	3	...	2	...	2	3	1	3	1	26
Orai	...	3	...	...	1	...	1	...	...	...	...	...	5	...	2	1	...	1	1	...	2	...	1	...	...	8
Cawnpore	2	1	1	2	...	...	1	1	...	...	...	...	8	...	...	1	1	...	...	...	3	2	...	5	1	13
Unao	...	...	...	...	...	...	1	...	...	...	...	1	2	2	2	1	1	1	...	1	1	...	1	1	1	12
Lucknow Central	...	...	3	...	...	2	...	...	3	3	2	2	15	4	3	2	2	3	2	5	19	5	9	25	16	95
,, District	...	...	...	...	...	...	...	...	...	1	1	2	4	7	6	1	4	3	3	1	6	9	9	21	9	79
Barabanki	...	...	1	...	1	...	...	...	...	...	...	1	3	1	...	...	...	...	4	...	4	...	1	3	1	14
Gonda	...	1	1	1	...	1	1	...	...	...	...	...	5	1	1	4	10	3	4	2	6	3	2	1	2	39
Bahraich	4	3	3	1	...	1	2	...	...	...	...	1	15	11	15	9	9	8	14	9	14	10	6	1	3	109
Kheri	...	...	1	...	2	...	...	...	...	1	...	1	5	2	...	1	1	3	2	1	...	1	2	...	1	14
Sitapur	1	...	3	2	...	2	2	1	3	2	1	...	17	1	...	1	...	2	2	2	1	7	2	1	1	20
Hardoi	1	...	...	...	...	...	...	...	...	...	...	...	1	2	...	1	1	1	...	1	...	2	4	1	2	15
Etawah	1	...	1	1	...	1	...	...	...	1	2	2	9	1	1	...	1	...	...	...	1	1	1	2	1	9
Mainpuri	1	...	2	2	7	1	...	...	2	1	1	...	17	5	1	...	1	1	...	...	2	4	8	3	...	25
Etah	2	...	...	...	...	1	...	1	2	...	1	...	7	1	...	...	...	...	1	1	...	...	...	...	...	3
Fatehgarh Central	1	...	1	1	2	1	1	4	...	1	4	3	19	15	3	8	5	16	15	16	20	36	25	24	7	190
,, District	...	...	...	...	...	1	1	...	...	2	...	...	4	5	3	5	1	1	12	4	9	5	9	7	10	71
Group V.—Gangetic Plain and Chutia Nagpur	44	25	46	36	26	21	19	15	22	28	46	53	381	155	101	143	134	108	138	204	331	316	243	242	153	2,268
A																										
Shahjahanpur	3	7	4	4	5	1	...	...	...	...	...	...	24	7	5	4	6	3	3	4	6	8	8	4	2	60
Bareilly Central	2	3	7	4	12	23	5	...	4	2	...	...	62	2	1	2	1	1	2	...	12	10	1	2	4	35
,, District	9	5	5	2	6	...	2	...	2	1	1	6	39	3	1	3	3	6	2	4	9	13	3	8	11	66
Budaon	3	2	...	9	1	1	...	1	...	...	...	...	17	...	2	1	2	6	2	...	8	1	...	1	2	25
Aligarh	...	...	6	...	...	...	...	...	...	1	2	...	9	1	...	2	3	2	6	2	7	9	5	2	...	39
Bulandshahr	...	...	1	...	...	...	1	...	...	...	...	...	2	1	1	5	1	1	3	1	...	...	4	1	...	18
Moradabad	6	3	...	2	2	3	4	3	...	...	1	...	24	2	2	2	5	1	2	4	9	7	2	3	9	48
Bijnor	...	...	...	3	1	...	...	...	...	...	...	...	4	...	...	...	...	1	...	...	...	...	...	...	...	1
Dehra Dun	...	...	...	...	1	...	...	...	...	...	...	...	1	...	1	...	...	1	2	2	...	...	...	2	...	8
Saharanpur	1	...	...	...	...	1	...	...	...	1	...	...	3	...	1	1	4	2	1	1	6	...	2	5	1	24
Muzaffarnagar	...	1	...	...	...	...	...	...	...	...	1	...	2	6	...	...	2	...	...	3	3	1	4	1	1	21
Meerut	...	...	...	...	1	1	...	...	...	2	1	1	6	8	7	...	...	...	...	2	2	...	5	5	10	39
Delhi	5	4	4	3	1	1	1	...	...	5	6	4	34	1	1	...	1	...	2	2	1	1	1	3	2	15
Rohtak	...	1	...	...	...	...	...	...	...	...	2	1	4	...	...	1	1	...	1	...	1	1	...	2	...	7
Hissar	...	...	1	...	...	...	...	...	1	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...
Karnal	...	...	...	...	...	...	...	...	...	1	1	...	2	...	...	...	...	2	...	...	1	...	1	...	1	5
Umballa	...	...	1	...	...	...	...	...	5	1	...	3	10	3	1	2	4	5	1	8	11	5	7	18	6	71
B																										
Ludhiana	1	...	1	1	...	...	...	...	...	...	...	...	3	...	...	1	...	1	1	...	5	6	1	...	...	15
Hoshiarpur	...	...	...	1	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	2	1	1	...	4
Jullundur	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...	3	2	6	2	4	2	...	21
Ferozepore	...	...	...	...	...	...	...	...	...	...	2	...	2	3	...	...	1	2	...	...	2	1	...	...	...	9
Amritsar	2	...	...	...	...	...	...	...	...	1	...	...	3	...	...	...	...	...	...	...	2	1	1	...	...	4
Lahore Central	6	4	2	1	1	...	2	1	...	1	3	4	25	24	5	5	18	87	69	22	30	21	33	26	25	305
,, District	3	...	...	...	...	...	2	...	...	1	3	2	11	21	9	7	3	6	6	2	1	4	9	8	5	81
,, Female	...	...	...	...	...	...	...	...	...	...	...	...	...	3	1	2	1	1	3	2	1	...	...	...	1	13
Gurdaspur	...	...	...	1	...	...	...	...	...	...	...	...	1	...	1	...	1	...	...	...	...	1	...	2	...	5
Gujranwala	1	...	...	...	...	...	...	...	...	...	...	...	1	1	2	4	4	4	2	1	5	5	3	4	...	35
Sialkot	...	...	1	1	...	...	...	...	...	...	1	...	3	...	2	1	2	2	4	2	3	2	2	2	1	23
Gujrat	...	...	...	...	...	1	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	1	...	...	...	2
MungRasul Central	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	3
Jhelum	...	...	...	...	...	...	...	...	...	...	1	5	6	...	...	...	...	1	2	3	1	2	1	1	1	14
Rawalpindi	7	3	7	2	...	...	...	...	1	2	1	1	24	9	3	5	16	15	13	5	4	2	11	7	10	100
Group VI.—Upper Sub-Himalaya	49	33	40	34	31	32	17	5	13	19	25	28	326	95	48	49	80	151	131	71	136	106	109	110	95	1,181

TABLE LI—*continued.*

PNEUMONIA by months, jails, groups, and administrations.

TABLE LII—*continued.*

DYSENTERY by months, jails, groups, and administrations.

Jails.	Admissions from Pneumonia in each month.													Admissions from Dysentery in each month.											
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
A																									
Peshawar	3	...	1	...	1	...	...	...	...	...	...	2	7	...	8	3	6	4	4	10	6	6	9	10	2	68
Kohat	1	...	1	...	...	...	...	...	...	...	1	2	5	...	...	...	1	...	1	1	...	2	...	...	2	7
Bannu	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	2	...	...	1	...	2	3	2	1	2	15
Shahpur	...	...	...	...	...	...	...	...	...	...	1	2	3	...	...	...	1	1	...	2	1	...	1	...	...	6
Jhang	1	3	6	...	2	1	...	1	...	1	...	...	15	2	7	2	6	5	5	3	4	5	9	3	6	57
Montgomery Central	11	2	8	3	3	2	1	1	...	3	5	3	42	5	2	4	6	6	4	5	8	5	4	2	5	56
Mooltan Central	3	6	2	1	4	1	2	...	4	2	9	3	37	7	7	4	5	11	7	4	8	10	7	7	9	86
,, District	2	3	3	...	1	...	1	1	2	1	6	8	28	2	2	1	2	2	5	1	...	2	1	1	2	21
Dera Ismail Khan	11	4	1	1	...	...	1	...	...	...	3	1	22	2	...	...	2	...	1	...	1	2	1	2	...	11
Dera Ghazi Khan	6	1	...	...	...	...	...	...	2	1	...	...	10	4	2	1	3	2	3	1	...	1	1	1	2	21
C																										
Shikarpur	13	9	7	5	...	...	...	...	...	4	2	7	47	2	...	1	...	2	...	1	1	5	...	3	1	16
Sind Gang	29	2	7	1	1	...	...	2	...	4	1	2	49	...	...	...	3	1	2	1	1	1	1	4	1	15
Hyderabad Central	1	...	1	...	1	...	1	1	1	...	...	...	6	1	...	...	1	1	...	1	1	...	...	...	...	5
Kurrachee	...	2	2	...	...	...	...	...	1	1	...	1	7	...	1	...	...	2	...	1	1	...	3	...	...	8
Group VII.—N.-W. Frontier, Indus Valley, and North-Western Rajputana	81	32	39	11	13	4	6	6	10	17	28	31	278	27	29	18	36	37	33	31	34	42	39	34	32	392
A																										
Rajkot	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	1	2
Ahmedabad Central	1	...	3	...	...	...	1	4	1	3	6	...	19	16	7	10	6	10	4	6	2	...	6	9	7	85
B																										
Ajmer	1	1	...	...	...	...	...	...	...	...	...	3	5	...	1	1	...	...	...	...	1	...	...	...	...	1
Muttra	2	1	1	...	2	1	1	1	...	...	10	7	26	2	2	1	1	...	...	4	...	3	2	...	3	15
Agra Central	4	3	10	11	1	2	7	...	3	3	3	1	48	9	3	4	10	6	8	...	13	22	16	7	8	100
,, District	6	1	4	...	1	8	...	...	1	2	7	6	36	3	2	1	1	6	...	...	2	29	2	7	5	55
Jhansi	...	...	1	...	...	...	1	...	1	1	1	2	7	1	2	2	1	...	...	1	1	1	...	5	1	19
Group VIII.—South-Eastern Rajputana, Central India, and Gujarat	14	6	19	11	4	11	10	5	6	9	27	19	141	31	17	19	19	22	12	12	19	55	26	28	25	284
A																										
Damoh	...	...	...	...	...	1	...	...	...	...	...	1	2	4	2	...	...	...	...	...	...	...	...	...	...	6
Saugor	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	2	1	1	2	1	3	1	1	2	...	11
Jubbulpore Central	...	...	2	4	3	3	3	8	2	3	5	2	35	36	15	22	20	7	10	41	84	13	14	14	11	236
Narsinghpur	...	...	...	...	...	...	...	...	...	...	...	...	...	4	1	1	1	...	1	1	...	1	...	1	1	11
Mandla	2	...	...	1	1	...	1	...	...	...	...	...	5	2	5	4	4	...	...	...	1	...	...	...	...	12
Bilaspur	...	...	...	...	...	...	1	...	...	...	1	...	2	5	...	1	1	2	2	2	5	12	1	2	2	24
Sambalpur	...	...	...	...	...	...	...	...	...	...	...	...	...	3	1	4	5	2	2	6	5	...	1	...	1	30
Raipur Central	1	2	1	1	...	...	1	...	...	1	...	...	7	2	1	6	3	3	3	3	19	11	2	6	4	66
Balaghat	...	...	...	1	...	...	...	...	...	2	...	...	6	1	1	...	...	...	...	...	...	...	...	...	...	1
Seoni	...	1	2	1	...	...	...	...	...	...	...	...	4	2	3	...	1	2	...	1	1	...	...	...	...	10
Chhindwara	1	...	2	1	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
Hoshangabad	...	1	...	...	...	...	...	...	...	...	...	...	...	9	5	2	...	1	...	...	1	...	1	...	1	20
Nimar	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	1	...	...	1	...	...	2	...	4
Betul	...	...	...	...	...	...	...	...	...	...	3	...	3	1	5	4	2	4	1	3	12	3	1	...	2	30
Nagpur Central	...	1	...	...	...	1	...	1	...	...	1	...	4	4	...	1	...	2	2	7	8	4	2	2	...	35
Bhandara	2	...	...	...	...	...	...	...	...	1	...	...	3	...	...	...	...	...	...	...	1	...	...	...	1	2
Wardha	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...	2	1	...	1	...	...	4
Chanda	...	...	...	...	...	...	...	3	...	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...
B																										
Secunderabad	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	1	...	...	3
Yeotmahl	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	1
Amraoti Central	3	1	3	2	...	...	2	...	1	...	2	...	14	...	...	...	...	2	...	...	3	2	...	...	...	7
Ellichpur	...	...	...	...	...	1	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...
Akola Central	1	2	1	1	2	...	...	...	...	...	...	2	9	1	2	...	2	...	...	4	7	3	3	1	1	27
Buldana	...	...	...	...	1	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	1	...	1
Dhulia	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	2	...	7	3	3	5	1	4	23
Yerrowda Central	1	1	2	1	...	...	1	2	...	...	...	...	8	2	...	5	2	5	5	11	5	6	1	2	4	46
Bijapur District	...	...	...	1	1	...	...	...	...	...	...	...	2	...	...	...	...	...	1	...	2	4	...	1	...	8
Deccan Gang	...	...	...	2	...	1	...	...	...	...	...	...	3	...	...	...	...	...	...	3	1	...	1	...	...	5
Dharwar	...	...	...	...	1	...	...	...	...	...	1	...	2	...	2	...	1	...	...	1	1	...	...	...	...	4
Group IX.—Deccan	12	9	13	16	9	7	9	14	3	7	13	6	118	79	45	52	43	34	29	94	164	63	35	35	32	707
Thana	...	...	...	...	...	...	...	1	...	...	...	1	2	3	3	...	1	1	3	7	1	...	...	1	...	17
Bombay Common	...	...	1	1	2	...	1	...	...	1	...	...	5	...	1	2	1	...	...	...	1	1	1	2	1	11
,, House of Correction	...	...	2	1	...	...	...	...	...	...	...	1	4	...	...	...	...	...	...	...	...	...	...	...	1	1
Ratnagiri	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	9	...	...	3	4	17
Karwar	1	...	1	...	...	...	...	...	...	...	...	...	2	1	...	...	...	...	...	...	12	5	9	1	...	27
Mangalore	...	...	...	...	...	2	1	...	...	...	...	...	3	...	...	...	...	...	...	2	1	1	...	1	...	5
Cannanore Central	...	...	...	...	...	3	...	...	...	...	...	...	3	1	...	...	...	...	2	1	...	...	...	...	...	1
Group X.—Western Coast	1	...	4	2	2	5	1	1	...	1	...	2	19	5	5	2	2	1	5	10	24	7	10	8	6	62

Jails and Administrations.	Admissions from Pneumonia in each month.													Admissions from Dysentery in each month.											
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November	December.	Total.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
A																									
Bellary	...	...	1	...	1	...	...	...	...	...	...	...	2	1	1	1	...	...	...	5	3	4	8	7	10	40
Salem Central	1	...	...	...	...	1	...	...	1	...	1	1	4	2	1	1	...	...	1	2	1	2	6	6	3	25
Coimbatore Central	...	...	2	...	1	1	2	...	2	...	...	1	9	2	7	1	2	2	4	5	...	4	3	5	3	38
B																										
Palamcottah	...	...	...	...	1	...	...	...	...	...	2	...	3	3	3	2	3	1	...	...	...	...	1	...	6	19
Madura	...	...	...	...	1	...	...	...	1	...	...	...	2	4	3	2	...	...	...	...	...	...	1	2	1	13
Trichinopoly Central	...	...	...	...	...	1	...	1	...	1	1	...	4	3	...	4	6	14	12	10	9	5	9	7	6	85
Tanjore	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	2	...	...	...	1	...	1	5	3	1	14
Cuddalore	...	...	...	...	...	1	...	...	...	...	...	...	1	3	4	3	1	...	3	...	5	2	...	4	1	26
Vellore Central	...	1	1	...	...	...	...	...	1	...	1	...	4	2	...	1	5	2	4	6	6	4	3	4	...	37
Madras, Penitentiary, Central, natives	1	1	...	...	...	1	...	...	...	...	...	1	4	4	3	...	...	...	...	4	3	4	4	8	2	32
Nellore	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	4	...	...	...	...	1	1	...	1	8
Guntur	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	...	...	...	...	1	...	4
C																										
Rajamundry Central	13	3	2	5	...	...	...	...	...	...	...	2	25	33	33	35	8	6	2	4	8	6	2	1	...	138
Vizagapatam	...	...	3	2	2	2	...	3	1	3	1	...	17	...	3	7	2	1	5	15	7	4	...	1	1	46
Berhampur	...	...	...	...	1	...	...	...	...	...	...	...	1	1	...	2	...	...	...	1	...	...	2	...	...	6
Group XI.—Southern India	15	5	9	7	7	6	2	4	6	4	6	5	76	58	60	61	31	26	34	53	42	37	45	49	35	531
Shillong	...	...	...	1	...	...	...	...	...	...	...	...	1	...	...	...	...	2	...	1	2	...	1	1	1	8
Darjeeling	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	2	2	...	1	1	...	7
Almora	1	...	...	...	1	...	1	...	...	...	...	...	3	1	...	...	...	...	3	...	...	...	2	...	...	6
Dharmsala	1	...	...	...	1	...	...	...	...	...	...	...	2	...	1	1	1	...	1	...	1	...	2	1	...	8
Abbottabad	3	...	...	...	...	...	...	...	...	...	...	1	4	...	1	...	...	...	...	...	...	...	1	...	...	2
Quetta	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	2
Mercara	...	...	...	...	...	...	...	...	...	...	1	1	2	...	1	...	1	1	3	1	1	1	...	...	1	10
Russellkonda	...	...	...	...	...	...	...	...	...	1	...	...	1	...	...	...	...	1	...	1	...	...	...	...	...	2
Group XII.—Hills	5	...	...	1	2	...	1	...	...	1	1	2	13	1	3	1	2	4	8	7	6	1	7	3	2	45
Extra India:—Aden	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1
INDIA*	260	150	235	149	120	122	88	70	77	105	182	198	1,756	740	520	575	638	759	862	1,055	1,298	1,106	957	984	814	10,308
Andamans	1	1	1	1	1	2	5	2	2	2	4	5	27	46	44	39	52	70	131	111	94	107	110	137	138	1,079
Burma	12	16	21	17	6	9	6	7	7	4	3	7	115	82	43	35	34	69	92	147	89	80	53	80	56	860
Assam	...	...	...	2	1	...	1	1	1	...	1	...	7	9	6	13	33	30	27	19	39	24	15	9	6	230
Bengal	31	24	50	17	22	25	14	12	9	16	35	47	302	201	146	198	227	243	280	420	486	397	342	334	294	3,568
N.-W. Provinces and Oudh	76	50	78	66	56	62	38	18	31	38	65	70	648	151	104	116	119	110	115	111	247	291	224	212	151	1,951
Punjab	67	31	39	15	14	6	10	4	15	20	45	42	308	89	57	47	86	158	140	75	105	93	113	104	85	1,152
Bombay	46	14	26	12	6	1	3	10	3	13	10	12	156	28	15	18	15	24	15	40	41	25	27	27	24	299
Berar and Secunderabad	5	3	4	3	3	1	2	...	1	...	2	2	26	3	2	...	2	2	...	5	10	5	4	2	1	36
Central Provinces	6	5	7	9	4	5	6	12	2	7	10	4	77	72	41	47	38	25	23	67	142	45	24	29	23	576
Madras	15	5	9	7	7	11	3	4	6	5	6	5	83	59	60	61	31	27	36	57	43	38	45	50	35	542
Non-British Jails—Sadra	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	1
Kolhapur	1	1	...	...	...	1	...	1	...	...	...	2	6	...	...	1	2	1	1	3	1	2	...	1	2	14
Savantvadi	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	1	1	...	...	...	...	4

* Including Ajmere, Quetta, and Mercara.

IV.—TROOPS AND PRISONERS, 1898.

TABLE LIII.

DETAIL of DISEASES.

Diseases.	European Army of India. Men . . . 65,397				Women 3,118		Children 5,592		Native Army of India. Present . 121,318 Enrolled . 139,321			Jail Population of India, 111,344.	
	Admissions.	Constantly sick.	Deaths.	Invaliding.	Admissions.	Deaths.	Admissions.	Deaths.	Admissions.	Deaths.	Invaliding.	Admissions.	Deaths.
Small-pox	2	·22	...	...	4	1	...	...	25	1	...	64	2
Cow-pox	4	·05	...	...	...	...	...	...	12	...	...	84	...
Chicken-pox	2	·10	...	...	...	...	42	...	406	...	...	1,053	...
Measles	22	1·02	...	...	5	...	230	6	115	...	...	66	1
Rubella	7	·54	...	...	...	...	1	...	41	1	...	...	...
Scarlet fever	12	1·30	...	...	1	...	6	...	...	...	...	...	...
Typhus	...	...	...	...	...	...	...	...	...	...	...	14	1
Plague	8	·69	2	...	...	...	1	...	94	58	...	30	16
Dengue	2	·08	...	...	1	...	...	...	4	...	...	...	...
Influenza	563	25·24	1	...	15	...	19	...	1,034	4	1	2,343	37
Whooping cough	...	...	...	...	...	...	87	5	...	...	...	...	...
Mumps	8	·34	...	...	...	...	25	...	688	...	...	1,447	...
Diphtheria	5	·25	2	...	1	...	8	3	1	...	...	...	...
Cerebro spinal fever	...	...	...	...	...	...	...	...	1	1	...	24	15
Simple continued fever	2,867	119·99	3	3	67	...	181	6	794	4	...	2,568	3
Enteric fever	2,375	320·61	654	65	38	15	39	3	37	15	...	20	9
Malta fever	2	·21	...	...	...	...	...	...	...	...	...	...	...
Cholera	17	·43	14	...	...	...	1	...	45	42	...	23	14
Epidemic diarrhœa	...	...	...	...	...	...	...	...	16	4	...	18	1
Dysentery	1,946	140·54	51	127	61	2	81	12	5,203	57	12	10,308	637
Beri-beri	1	·11	...	1	...	...	...	...	90	11	6	148	14
Ague	26,232	893·18	19	464	450	1	680	7	41,356	70	119	38,027	108
Remittent fever	2,150	105·07	24	21	45	3	47	8	2,397	126	4	670	106
Phagedæna	1	·07	...	...	...	...	...	...	1	...	...	1	...
Sloughing phagedæna	1	·10	...	...	1	...	...	...	1	...	...	...	...
Erysipelas	89	4·91	1	1	3	...	3	...	43	8	...	166	16
„ phlegmonous	1	·03	...	...	...	...	...	...	...	...	...	...	...
Pyæmia	3	·32	2	...	...	...	...	...	6	3	...	4	3
„ puerperal	...	...	...	...	1	...	...	...	...	...	...	...	...
Septicæmia	...	...	...	...	4	3	...	...	3	1	...	2	2
Tetanus	2	·04	1	...	...	...	1	1	2	1	...	10	6
Tubercle, not defined	...	·06	...	...	...	...	2	...	...	...	...	1	...
„ general	6	·70	4	...	...	...	...	...	...	...	...	1	...
„ of membranes of the brain	1	·01	1	...	...	...	3	3	...	...	...	...	...
„ of the brain	...	...	...	...	...	...	...	...	2	2	...	1	1
„ of larynx	...	...	...	...	...	...	...	...	1	1	...	...	...
„ of lung	196	30·70	37	106	11	2	3	2	420	78	62	851	351
„ of lung, heart, and peritonæum	...	...	...	...	...	...	...	...	...	...	...	1	...
„ of lung, larynx, and intestines	...	...	...	...	...	...	...	...	...	...	...	...	1
„ of lung and intestines	...	...	...	...	...	...	...	...	...	...	...	14	6
„ of lung and liver	1	·38	...	...	...	...	...	...	...	...	...	1	1
„ of lung and peritonæum	...	·05	1	...	...	...	...	...	...	...	...	1	2
„ of lung and mesenteric glands.	...	...	...	...	...	...	...	...	...	...	...	...	1
„ of pleura	...	...	...	...	...	...	...	...	1	1	...	...	...
„ of intestines	1	·08	1	...	1	...	...	...	3	3	...	26	10
„ of peritonæum	...	...	...	...	...	...	...	...	5	2	...	5	4
„ of lymphatic glands	34	3·72	...	14	...	...	2	1	30	3	6	58	7
„ of abdomen	...	...	...	...	...	...	...	...	2	1	...	...	...
„ of testicles	2	·28	...	1	...	...	...	...	1	...	...	...	...
„ of bones	1	·08	...	1	...	...	2	...	3	...	...	...	...
„ of joints	7	·93	1	3	...	...	...	...	2	1	1	2	...
„ of skin	...	...	...	...	...	...	...	...	1	...	...	1	...
Leprosy	...	...	...	...	...	...	...	...	29	...	21	153	17
Primary syphilis	5,288	508·36	...	3	...	...	...	...	1,235	...	2	713	...
Secondary „	5,771	621·65	17	547	10	...	1	...	1,401	7	88	1,726	16
Inherited „	...	...	...	...	...	...	3	1	...	...	...	...	...
Tertiary „	...	...	...	...	...	...	...	...	3	...	...	...	...
Gonorrhœa	8,788	698·24	...	19	...	...	...	...	1,738	1	9	528	...
Hydrophobia	2	·02	2	...	...	...	...	...	3	3	...	1	1
Anthrax	...	...	...	...	...	...	...	...	...	...	...	1	1
Actinomycosis	...	...	...	...	...	...	...	...	...	...	...	1	...
Animal parasites, not defined	...	...	...	...	...	...	...	...	...	...	...	...	...
Bothriocephalus latus	...	...	...	...	...	...	...	...	2	...	...	...	...
Tænia solium	162	4·32	...	...	7	...	13	...	21	...	...	2	...
„ mediocanellata	6	·19	...	...	...	...	...	...	5	...	...	51	1
Echinococcus hominis	1	·06	1	...	...	...	...	...	...	...	...	7	...
Ascaris lumbricoides	3	·03	...	...	1	...	10	...	28	1	...	3	2
Guinea-worm	1	·23	...	...	...	...	...	...	637	...	6	73	3
Filaria sanguinis hominis	...	...	...	...	...	...	...	...	...	...	...	497	...
Strongylus duodenalis	...	...	...	...	...	...	...	...	...	...	...	1	...
Thread-worm	...	...	...	...	...	...	...	...	...	...	...	72	6
Musca domestica	1	·05	...	...	...	...	2	...	1	...	...	3	...
Pediculus vestimenti	...	...	...	...	...	...	...	...	...	...	...	...	...
Phthirius inguinalis	6	·15	...	...	...	...	...	...	...	...	...	1	...
Pulex irritans	...	...	...	...	...	...	...	...	...	...	...	...	...
Culex anxifer	3	·11	...	...	...	...	...	...	2	...	...	1	...
Scabies	96	3·64	...	...	...	...	...	...	1,305	...	...	907	1
Vegetable parasites, not defined	1	·04	...	...	...	...	...	...	...	...	...	...	...
Tinea favosa	4	·21	...	...	...	...	...	...	1	...	...	36	...
„ tonsurans	1	...	...	...	...	...	...	...	...	...	...	...	...
Ringworm	297	12·07	...	...	...	...	15	...	320	...	...	249	...
Tinea versicolor	5	·18	...	...	...	...	...	...	1	...	...	3	...
Oidium albicans	...	...	...	...	...	...	3	...	1	...	...	5	...
Surfeit	...	...	...	...	...	...	...	...	...	...	...	6	...
Scurvy	18	·89	1	1	...	...	...	...	306	3	10	212	3
Alcoholism	209	7·53	6	2	4	...	...	...	9	1	...	...	...
Delirium tremens	11	·40	1	...	...	...	...	...	2	1	...	...	...
Rheumatic fever	93	9·74	1	3	8	...	1	—	40	2	...	33	4
Rheumatism	1,919	129·04	...	62	28	...	3	...	2,401	1	187	1,369	7
Gout	14	·67	...	...	...	...	...	...	2	...	...	2	...
Osteoarthritis	8	·61	...	3	...	...	...	...	5	...	2	4	...
Cyst	17	·68	2	...	...	...	...	...	27	...	...	14	3
Non-malignant new growths, not defined	5	·05	...	...	...	...	...	...	23	1	2	20	1
Pterygium	3	·13	...	...	...	...	...	...	7	...	1	4	...
Lipoma	3	·28	...	...	...	...	...	...	11	...	...	8	...
Fibroma	19	1·08	...	...	...	...	...	...	14	...	...	9	1
Chondroma	1	·05	...	...	...	...	...	...	...	...	...	...	...
Osteoma	4	·31	...	2	...	...	...	...	1	...	1	2	...
Myxoma	2	·09	...	...	...	...	2	...	2	...	...	1	...
Glioma	...	·15	...	1	...	...	...	...	1	1	...	...	...

Diseases.	European Army of India.								Native Army of India.			Jail Population of India.	
	Men.				Women.		Children.						
	Admissions.	Constantly sick.	Deaths.	Invaliding.	Admissions.	Deaths.	Admissions.	Deaths.	Admissions.	Deaths.	Invaliding.	Admissions.	Deaths.
Myoma	...	...	...	...	...	...	...	...	...	...	...	1	...
Fibromyoma	...	...	...	...	1	...	...	...	...	...	...	...	...
Angioma	...	...	...	...	...	...	1	...	...	...	...	...	...
Papilloma	3	'61	...	...	...	...	...	...	1	...	...	...	...
Warts	242	16·33	...	...	...	...	...	...	10	...	...	8	...
Condyloma	...	...	...	...	...	...	...	...	...	...	...	10	...
Adenoma	4	·83	...	1	...	...	...	...	...	...	...	1	...
Malignant new growths, not defined	...	...	...	...	...	...	...	...	3	...	...	11	5
Sarcoma	6	1·17	4	1	...	...	...	...	...	...	...	4	2
Carcinoma	...	...	...	...	2	1	...	...	...	...	...	11	12
Glandular carcinoma	2	·08	2	...	...	...	...	...	...	...	...	...	...
Scirrhus	...	...	...	...	...	...	...	...	4	...	...	2	2
Epithelioma	...	...	...	...	1	...	...	...	2	...	1	3	...
Rodent cancer	...	...	...	...	...	...	...	...	1	...	...	1	...
Columnar carcinoma	2	·99	...	1	...	...	...	...	1	1	...	...	...
Rickets	...	...	...	...	...	...	6	2	...	...	...	...	...
Myxœdema	...	...	...	...	...	...	...	...	2	...	...	3	...
Anæmia	102	7·36	...	19	33	1	7	...	400	7	15	863	59
Idiopathic anæmia	...	...	...	...	...	...	...	...	...	...	...	5	...
Purpura	3	·09	...	...	...	...	...	...	...	...	...	...	...
Leucocythæmia	...	...	...	...	...	...	...	...	...	...	...	1	...
Hodgkin's disease	...	...	...	...	...	...	...	...	2	...	1	1	...
Hæmophilia	1	·01	1	...	...	...	...	...	...	...	...	...	...
Diabetes mellitus	15	3·51	1	6	...	...	...	...	12	1	4	17	2
,, insipidus	4	·38	...	1	...	...	...	...	4	...	...	8	...
Immaturity at birth	...	...	...	...	...	...	10	12	...	...	...	...	...
Congl. malformation, not defined	...	...	...	...	...	...	...	...	2	...	...	...	...
Hare-lip	...	...	...	...	...	...	...	...	...	...	...	5	...
Congl. malformation of tongue	...	...	...	...	...	...	2	1	...	...	...	...	...
Congenital phimosis	3	·29	...	...	...	...	4	...	1	...	...	...	
Malformation of testicle	1	·01	...	...	...	...	...	...	...	...	...	...	...
Testicle absent	1	·05	...	...	...	...	...	...	...	...	...	...	...
Supernumerary fingers and toes	...	...	...	...	...	...	...	...	...	...	1	...	...
Debility	1,571	98·44	...	182	797	1	263	10	1,687	7	429	1,649	152
Old age	...	...	...	...	...	...	...	...	2	...	12	125	22
Neuritis	2	·10	...	...	...	...	...	...	21	...	3	5	...
Multiple neuritis	7	1·66	...	3	...	...	...	...	17	1	1	...	...
Primary degeneration of nerves	...	...	...	...	...	...	...	...	1	...	...	...	...
Spinal meningitis	...	...	...	...	...	...	...	...	2	...	...	3	2
Leptomeningitis (spinal)	2	·52	1	1	...	...	...	...	...	...	...	...	...
Myelitis	2	·07	1	...	...	...	1	...	4	1	1	5	4
Anterior poliomyelitis	...	...	...	...	...	...	...	...	1	...	1	...	...
Hæmatomyelia	1	·13	1	...	...	...	...	...	...	...	...	...	...
Degeneration of the spinal cord	1	·27	...	1	...	...	...	...	...	...	...	...	...
Progressive muscular atrophy	1	·16	...	...	...	...	...	...	2	...	1	1	...
Primary lateral sclerosis	7	·64	...	2	...	...	...	...	2	...	...	5	1
Posterior sclerosis	3	·28	...	1	1	...	...	...	6	...	1	11	1
Postero-lateral sclerosis	1	·23	...	...	...	...	...	...	...	...	...	...	...
Disseminated sclerosis	1	...	...	...	...	...	...	...	...	...	...	1	...
Acute ascending paralysis	3	·40	1	...	...	...	...	...	2	2	...	...	...
Cerebral meningitis	5	·09	5	...	...	...	10	7	7	6	...	9	7
Pachymeningitis	4	1·05	...	1	...	...	1	1	1	...	...	...	...
Leptomeningitis	1	·01	1	...	...	...	...	...	...	...	...	...	...
Hæmorrhage into the membranes of the brain	1	·01	1	...	...	...	...	...	2	...	...	1	1
Encephalitis	1	·03	1	...	...	...	...	...	...	1	...	1	1
Abscess of the brain	...	...	...	...	...	...	...	...	1	1	...	2	2
Sclerosis of the ,,	...	...	...	...	...	...	...	...	2	...	1	...	...
Softening of the ,,	...	...	...	...	...	...	...	...	...	...	...	2	1
Sanguineous apoplexy	2	·02	2	...	...	...	...	...	5	5	...	10	9
Hyperæmia of the brain	...	...	...	...	...	...	...	...	2	1	...	6	5
Anæmia ,,	...	...	...	...	...	...	1	1	...	...	...	...	...
Internal hydrocephalus	...	...	...	...	...	...	4	2	...	...	...	...	...
Apoplexy	...	...	1	...	...	...	...	...	5	5	...	11	10
Paralysis	...	...	...	...	...	...	...	...	19	...	4	12	...
Paraplegia	4	·47	...	1	...	...	...	...	7	...	3	10	2
Hemiplegia	12	1·21	...	5	...	...	...	...	18	4	6	16	3
Monoplegia	...	...	...	...	...	...	...	...	1	...	...	...	...
Local paralysis	14	1·52	...	5	1	...	...	...	23	1	2	6	...
Incomplete paralysis	2	·14	...	1	...	...	...	...	12	...	3	...	...
Bedsore	1	·03	...	...	...	...	...	...	1	...	...	...	...
Tremor	4	·36	...	2	...	...	...	...	1	...	...	...	...
Paralysis agitans	...	...	...	...	...	...	...	...	1	...	1	2	...
Chorea	7	·58	1	1	...	...	1	...	6	...	3	5	...
Cramp	...	...	...	...	...	...	...	...	1	...	...	1	...
Wry-neck	...	...	...	...	...	...	...	...	1	...	...	1	...
,, spasmodic	4	·16	...	...	...	...	...	...	6	...	...	...	...
Facial spasm	...	...	...	...	...	...	...	...	...	...	...	5	...
Telegraphist's cramp	1	...	...	1	...	...	...	...	...	...	...	...	...
Infantile convulsions	...	...	...	...	...	...	28	24	...	...	...	...	...
Epilepsy	72	8·94	1	36	3	...	2	...	64	2	21	159	8
Laryngismus stridulus	...	...	...	...	...	...	2	...	...	...	...	...	...
Tetany	1	·02	...	...	...	...	...	...	1	...	...	...	...
Vertigo	18	1·09	...	2	1	...	...	...	8	...	2	20	...
Headache	8	·59	...	3	...	...	...	...	35	...	...	7	1
Megrim	3	·18	...	...	1	...	...	...	9	...	...	45	...
Hyperæsthesia	...	...	...	...	...	...	...	...	1	...	...	...	...
Anæsthesia	...	...	...	...	...	...	...	...	5	...	...	...	...
Neuralgia	223	10·26	...	5	21	...	1	...	340	...	12	177	...
Facial hemiatrophy	...	...	...	...	...	...	...	...	2	...	...	...	...
Hysteria	6	·79	...	2	9	...	1	...	1	...	...	2	...
Somnambulism	3	·18	...	1	...	...	...	...	...	...	...	...	...
Aphasia	...	...	...	...	...	...	...	...	...	...	...	1	...
Stammering	1	·02	...	...	...	...	...	...	...	...	...	...	...
Hiccough	...	...	...	...	...	...	...	...	4	...	...	5	...
Nervous weakness	3	·09	...	...	...	...	...	...	1	...	...	1	...
Idiocy	1	·32	...	1	...	...	...	...	...	...	...	4	...
Mania	16	2·86	...	12	...	...	...	...	16	...	5	78	3
,, puerperal	...	...	...	...	3	1	...	...	...	...	...	...	...
Melancholia	30	8·20	...	24	...	...	...	...	19	...	5	12	1
Dementia	22	7·19	1	14	1	...	...	...	14	...	4	7	...
Mental stupor	6	1·51	...	3	...	...	...	...	4	...	1	1	...
General paralysis of the insane	2	·42	...	...	...	...	...	...	...	...	...	...	...
Delusional insanity	3	·96	...	6	...	...	...	...	5	...	1	2	...

TABLE LIII—*continued.*

DETAIL of DISEASES.

Diseases.	European Army of India.								Native Army of India.			Jail Population of India.	
	Men.				Women.		Children.						
	Admissions.	Constantly sick.	Deaths.	Invaliding.	Admissions.	Deaths.	Admissions.	Deaths.	Admissions.	Deaths.	Invaliding.	Admissions.	Deaths.
Conjunctivitis	72	1·86	...	...	...	...	...	...	458	...	7	2,007	...
„ catarrhal	392	23·25	...	2	38	...	225	...	1,992	...	...	...	...
„ purulent	5	·98	...	1	...	...	6	...	11	...	1	...	...
„ granular	11	·53	...	...	...	...	10	...	42	...	1	45	...
Ecchymosis	...	...	...	...	...	...	...	...	2	...	...	3	...
Œdema of the conjunctiva	...	...	...	...	...	...	...	...	3	...	...	2	...
Chemosis	...	...	...	...	...	...	...	...	...	...	...	2	...
Keratitis	12	1·56	...	1	1	...	1	...	44	...	3	47	...
Ulcerative keratitis	41	3·16	...	...	2	...	4	...	190	...	5	253	...
Gangrene of the cornea	...	...	...	...	...	...	...	...	...	...	...	2	...
Opacity „	4	·43	...	2	...	...	...	...	20	...	7	12	...
Acquired deformities of the cornea	...	...	...	...	...	...	...	...	1	...	2	...	...
Scleritis	...	...	...	...	...	...	...	...	1	...	...	2	...
Staphyloma of the sclerotic	...	...	...	...	...	...	...	...	1	...	...	5	...
Iritis	40	2·76	...	2	6	...	1	...	62	...	1	35	...
Synechia	...	...	...	...	...	...	...	...	...	...	...	1	...
Atrophy and degeneration of choroid	...	...	...	...	...	...	...	...	1	...	...	...	...
Glaucoma	...	...	...	...	...	...	...	...	5	...	...	4	...
Hypopyon	...	...	...	...	...	...	...	...	...	...	...	1	...
Optic neuritis	2	·18	...	...	...	...	...	...	1	...	...	...	...
Congestion of optic disc	1	·05	...	...	...	...	...	...	1	...	...	...	...
Atrophy and degeneration of optic nerve	...	...	...	...	...	...	...	...	7	...	...	...	...
Retinitis	2	·39	...	3	...	...	...	...	8	...	...	...	...
Hæmorrhage from retina	3	·32	...	...	...	...	...	...	...	...	...	...	...
Degeneration and atrophy of retina	...	...	...	...	...	...	...	...	...	...	1	...	...
Detachment of retina	1	·13	...	...	...	...	...	...	...	...	...	...	...
Cataract	...	...	...	...	...	...	...	...	...	...	...	27	...
Lenticular cataract	3	·13	...	...	...	...	...	...	11	...	14	3	...
Aphakia	1	·03	...	...	...	...	...	...	...	...	...	...	...
Dislocation of lens	...	...	...	...	1	...	...	...	...	...	...	1	...
Panophthalmitis	...	...	...	...	...	...	...	...	...	...	...	3	...
Amblyopia and amaurosis	6	·25	...	...	...	...	...	...	13	...	6	...	...
Functional night-blindness	1	·09	...	...	...	...	...	...	29	...	8	2	...
Day-blindness	1	·02	...	...	...	...	...	...	...	...	...	...	...
Muscæ volitantes	1	·02	...	...	...	...	...	...	...	...	...	...	...
Sympathetic irritation	1	·06	...	1	...	...	...	...	...	...	...	...	...
Neuralgia of eyeball	...	...	...	...	...	...	...	...	1	...	...	...	...
Ametropia	...	...	...	...	...	...	...	...	3	...	2	...	...
Myopia	17	·82	...	4	...	...	...	...	1	...	6	...	...
Hypermetropia	6	·49	...	5	...	...	...	...	1	...	...	...	...
Astigmatism	1	·03	...	...	...	...	...	...	...	...	...	...	...
Anisometropia	...	...	...	...	...	...	...	...	1	...	1	...	...
Diplopia	...	...	...	...	...	...	...	...	1	...	...	...	...
Squint	2	·13	...	...	...	...	...	...	...	...	...	1	...
Inflammation of lacrymal gland	...	...	...	...	...	...	...	...	1	...	...	1	...
Stricture and obliteration of puncta and canaliculi	3	·16	...	...	...	...	...	...	1	...	...	1	...
Chronic dacryo-cystitis	1	·09	...	...	...	...	...	...	2	...	...	...	...
Abscess of lacrymal sac	4	·30	...	...	...	...	1	...	2	...	...	1	...
Fistula of „ „	2	·17	...	...	...	...	...	...	1	...	...	6	...
Obstruction of nasal duct	1	·16	...	...	...	...	...	...	...	...	...	...	...
Blepharitis marginalis	25	1·61	...	...	...	...	2	...	9	...	1	9	...
Madarosis	...	...	...	...	...	...	...	...	1	...	...	1	...
Stye	12	·22	...	...	...	...	...	...	82	...	...	27	...
Abscess of the eyelids	1	·02	...	...	...	...	...	...	2	...	...	...	...
Ecchymosis „	3	·05	...	...	...	...	...	...	1	...	...	...	...
Trichiasis	1	·03	...	...	...	...	...	...	...	...	...	2	...
Entropion	1	·01	...	...	...	...	...	...	1	...	1	9	...
Ectropion	...	...	...	...	...	...	...	...	1	...	...	1	...
Œdema of eyelids	...	...	...	...	...	...	...	...	2	...	...	1	...
Inflammation of the external ear	745	39·61	...	6	3	...	5	...	334	...	3	393	...
Abscess of „ „	13	·26	...	...	1	...	1	...	15	...	...	9	...
Accumulation in the external meatus of wax or epidermis	3	·05	...	...	...	...	...	...	3	...	...	...	...
Inflammation of the middle ear	52	4·15	...	6	...	...	2	...	41	...	...	36	1
„ „ „ suppurative	27	1·67	4	4	...	...	...	...	14	1	...	39	2
Ulceration of membrana tympani	2	·07	...	...	...	...	...	...	2	...	...	3	...
Perforation of „ „	110	7·52	...	41	...	...	...	...	10	...	1	1	...
Ankylosis of ossicles	1	·02	...	1	...	...	...	...	...	...	...	...	...
Obstruction of Eustachian tube	...	...	...	...	...	...	...	...	1	...	...	...	...
Necrosis of the internal ear	...	...	...	...	...	...	...	...	...	...	...	1	1
Deafness	28	2·82	...	14	...	...	...	...	23	...	16	11	...
Rhinitis	3	·23	...	...	...	...	...	...	5	...	...	9	...
Coryza	10	·36	...	...	...	...	...	...	5	...	...	18	...
Ozæna	4	·42	...	1	...	...	1	...	1	...	...	32	1
Abscess of the nose	1	·12	...	...	...	...	...	...	1	...	...	...	...
Inflammation of frame-work of nose	1	·02	...	...	...	...	...	...	...	...	...	...	...
Caries of bones of nose	1	·15	...	1	...	...	...	...	...	...	...	...	...
Diseases of septum	...	...	...	...	...	...	...	...	1	...	...	...	...
Epistaxis	12	·73	...	1	...	...	1	...	12	...	...	46	...
Inflammation of the accessory sinuses	...	...	...	...	...	...	...	...	1	...	...	...	...
Inflammation of naso-pharynx	...	...	...	...	...	...	...	...	2	...	...	...	...
Pericarditis	1	·07	...	1	...	...	...	...	7	2	...	11	9
Hydropericardiam	...	...	...	...	...	...	...	...	...	...	...	2	1
Pneumopericardium	...	...	...	...	...	...	...	...	...	...	...	2	...
Endocarditis	2	·24	1	...	...	...	1	1	...	...	...	3	3
Valvular disease of the heart	181	28·95	12	98	2	...	1	...	62	9	25	122	31
Fatty degeneration of the heart	3	·15	6	1	...	...	...	...	4	3	1	19	15
Atrophy	...	...	...	...	...	...	...	...	...	...	...	1	1
Hypertrophy	3	·06	...	1	...	...	...	...	5	...	...	...	1
Dilatation of the heart	3	·08	4	...	...	...	...	...	5	1	...	8	3
Excessive growth of fat	...	·01	1	...	...	...	...	...	...	...	...	...	...
Aneurysm (of the heart)	...	...	...	...	...	...	...	...	...	...	...	3	2
Rupture	...	...	...	...	...	...	...	...	...	...	...	...	1
Thrombus in the heart	1	·01	1	...	...	...	...	...	1	1	...	3	3
Embolus	...	...	...	...	...	...	...	...	—	1	...	...	1
Angina pectoris	2	·23	...	...	...	...	...	...	3	...	...	3	2
Syncope	2	·04	1	...	...	...	...	...	1	6	...	8	7
Disordered action of the heart	397	38·90	...	122	4	...	...	...	49	...	23	38	1
Endarteritis deformans	...	...	...	...	...	...	...	...	...	...	...	1	1
Degeneration of arteries	...	...	...	...	...	...	...	...	...	...	1	...	...

Diseases.	European Army of India.								Native Army of India.			Jail Population of India.	
	Men.				Women.		Children.						
	Admissions.	Constantly sick.	Deaths.	Invaliding.	Admissions.	Deaths.	Admissions.	Deaths.	Admissions.	Deaths.	Invaliding.	Admissions.	Deaths.
Aneurysm of arteries	6	·87	4	2	...	...	...	...	6	...	4	3	...
Cirsoid aneurysm	...	...	...	...	...	...	...	...	...	...	...	2	...
Traumatic aneurysm	2	·15	...	...	...	...	...	...	...	...	...	...	...
Rupture of artery	...	...	...	...	...	...	...	...	...	...	...	1	...
Thrombosis	1	·11	1	...	...	...	...	...	2	...	...	1	1
Embolism (285-2)	...	...	...	...	1	1	...	...	...	...	...	1	1
Raynaud's disease	...	...	...	...	...	...	...	...	1	...	...	...	...
Phlebitis	31	3·38	...	5	4	...	...	...	17	...	...	8	1
Obstruction of veins	...	...	...	...	...	...	...	...	...	...	...	1	...
Thrombosis ,, ,,	10	1·08	...	3	1	...	...	...	3	...	...	1	...
Phlegmasia dolens	4	·32	...	...	2	...	...	...	...	...	...	1	...
Varix	80	5·09	...	23	5	...	...	...	30	...	30	1	...
Varicose aneurysm	...	...	...	...	...	...	...	...	1	...	...	...	...
Croup	...	...	...	...	...	...	1	1	...	...	...	...	...
Hay-fever	...	...	...	...	...	...	1	...	1	...	...	...	...
Laryngitis	63	3·09	2	4	1	...	8	6	142	2	1	38	3
Œdema of glottis	...	...	...	...	...	...	...	...	1	...	...	...	...
Aphonia	1	·02	...	2	...	...	...	...	...	...	...	...	...
Tracheitis	...	...	...	...	...	...	...	...	2	...	...	...	...
Bronchitis	1,446	78·51	2	10	51	...	350	10	2,621	20	55	2,747	38
Dilatation of bronchi	...	...	...	...	...	...	...	...	1	...	...	...	...
Spasmodic asthma	21	2·23	...	5	2	...	1	...	204	2	25	975	12
Congestion of the lungs	...	...	...	...	...	...	...	...	7	1	...	13	3
Hæmoptysis	7	·59	...	...	...	...	...	...	10	2	1	28	2
Pulmonary apoplexy	...	...	...	...	...	...	...	...	1	...	...	1	1
Œdema	...	...	...	...	...	...	...	...	...	...	...	1	...
Pneumonia	190	13·50	38	1	4	1	16	3	1,970	445	6	1,714	439
Broncho-pneumonia	5	·46	...	...	1	...	10	2	20	...	1	42	...
Abscess of the lung	...	...	...	...	...	...	...	...	1	1	...	4	4
Gangrene ,,	2	·09	2	...	...	...	...	...	...	...	...	9	6
Cirrhosis ,,	2	·48	...	1	...	...	...	...	2	...	1	3	4
Phthisis	10	·89	...	8	1	...	...	...	28	2	7	39	9
Emphysema	...	...	...	...	...	...	...	...	5	...	5	5	1
Atelectasis	...	...	...	...	...	...	1	1	...	...	...	...	...
Pleurisy	90	7·44	1	7	3	...	...	...	265	9	...	230	20
Empyema	4	1·03	2	...	...	...	...	...	5	3	1	3	1
Hæmothorax	...	...	...	...	...	...	...	...	...	...	...	...	1
Adhesions, including thickening and calcification of pleura	1	·10	...	...	...	...	...	...	2	...	1	2	...
Inflammation of the lips	2	·03	...	...	...	...	...	...	1	...	...	1	...
Vesicular inflammation of the lips	...	...	...	...	...	...	...	...	4	...	...	...	...
Ulceration of the lips	2	·04	...	...	...	...	...	...	1	...	...	...	...
Fissure of ,,	...	...	...	...	...	...	...	...	1	...	...	...	...
Stomatitis	20	·58	...	...	...	...	7	...	37	...	...	159	...
Vesicular stomatitis	...	...	...	...	...	...	...	...	3	...	...	...	...
Ulceration of the mouth	4	·08	...	...	...	...	...	...	30	...	...	305	...
Gangrene ,,	1	·02	1	...	...	...	...	...	1	1	...	11	8
Disorders of dentition	...	...	...	...	...	...	141	11	3	...	...	2	...
,, ,, with convulsions	...	...	...	...	...	...	7	6	...	...	...	...	...
,, ,, with diarrhœa	...	...	...	...	...	...	13	3	...	...	...	...	...
Inflammation of the dental pulp	...	...	...	...	...	...	2	...	...	...	...	1	...
Caries of dentine and cementum	26	1·41	...	2	1	...	...	...	27	...	...	18	...
Necrosis of cementum	1	·02	...	1	...	...	...	...	...	...	...	1	...
Inflammation of the dental periosteum	110	2·55	...	...	4	...	5	...	13	...	...	1	...
Gum-boil	213	6·06	...	1	...	...	4	...	163	...	...	273	...
Inflammation of the periosteum, gums, and alveoli	7	·20	...	...	...	...	...	...	7	...	...	9	...
Suppuration of the periosteum, gums, and alveoli	...	...	...	...	...	...	...	...	1	...	...	2	...
Ulceration of the periosteum, gums, and alveoli	12	·61	...	...	...	...	...	...	9	...	...	58	...
Caries of alveoli	17	·54	...	2	...	...	1	...	2	...	...	8	...
Necrosis ,,	4	·14	...	...	...	...	...	...	4	...	...	3	...
Atrophy of gums	...	...	...	...	...	...	...	...	...	...	2	...	...
Hypertrophy of gums	...	...	...	...	...	...	...	...	...	...	...	1	...
Abnormal form of teeth	1	·06	...	...	...	...	...	...	...	...	...	...	...
Impaction of teeth	1	·03	...	...	...	...	...	...	...	...	...	...	...
Toothache	2	·08	...	...	...	...	...	...	2	...	...	4	...
Glossitis	3	·03	...	...	...	...	...	...	13	...	...	1	...
Ulceration of the tongue	3	·08	...	...	...	...	...	...	6	...	...	8	...
Sorethroat	1,334	43·42	...	1	20	...	43	...	196	...	...	140	...
Ulceration of the palate and fauces	32	1·19	...	...	...	...	...	...	8	...	...	46	...
Tonsillitis	64	2·02	...	...	...	...	9	...	56	...	...	87	...
Follicular tonsillitis	647	20·93	...	...	14	...	19	...	142	...	...	3	...
Quinsy	178	5·37	...	...	2	...	...	...	16	...	...	64	...
Hypertrophy of tonsils	7	·39	...	...	...	...	...	...	3	...	...	20	...
Elongated uvula	1	·05	...	...	...	...	...	...	3	...	...	3	...
Inflammation of the salivary glands	2	·12	...	...	...	...	...	...	10	...	...	12	...
Suppuration ,, ,,	3	·17	...	...	...	...	...	...	2	...	...	2	...
Salivary fistula	1	·18	...	...	...	...	...	...	...	...	...	...	...
Salivation	...	...	...	...	...	...	...	...	...	...	...	1	...
Inflammation of the pharynx and œsophagus	1	·02	...	...	1	...	...	...	29	...	...	18	...
Post-pharyngeal abscess	...	...	...	...	...	...	...	...	1	1	...	1	1
Ulceration of the pharynx	...	...	...	...	...	...	...	...	1	...	...	1	1
Stricture of the œsophagus	...	...	...	...	...	...	...	...	1	...	...	...	...
Dysphagia	...	...	...	...	...	...	...	...	1	...	...	...	...
Gastritis	57	2·36	3	1	14	...	8	...	50	1	1	82	2
Ulceration of the stomach	...	·02	...	1	...	...	...	...	3	1	...	7	2
Perforating ulcer of the stomach	3	·37	1	...	...	...	...	...	2	...	...	3	3
Gangrene of the stomach	...	...	...	...	...	...	...	...	1	1	...	...	...
Hæmatemesis	2	·10	...	...	2	1	...	...	7	2	...	13	1
Melæna	...	...	...	...	...	...	...	...	2	...	...	...	...
Dilatation of the stomach	2	·10	...	1	...	...	...	...	...	...	...	...	...
Indigestion	693	26·75	...	5	53	...	12	...	249	1	4	920	2
Pyrosis	3	·09	...	...	1	...	...	...	...	...	...	...	...
Vomiting	...	...	...	...	...	...	...	...	1	...	...	4	...
Gastralgia	1	·05	...	...	...	...	...	...	1	...	...	3	...
Heartburn	...	...	...	...	...	...	...	...	1	...	...	...	...
Loss of appetite	2	·021	...	...	1	...	1	...	...	...	...	5	...
Inflammation of the intestines	...	...	...	...	...	...	...	...	...	...	...	10	2
Enteritis	23	1·07	7	...	...	...	16	9	57	4	...	116	12
Typhlitis	51	4·56	1	7	...	...	...	...	35	1	...	11	2
Colitis	30	1·62	1	...	...	...	...	...	8	...	...	6	1

TABLE LIII—*continued.*

DETAIL of DISEASES.

Diseases.	European Army of India.								Native Army of India.			Jail Population of India.	
	Men.				Women.		Children.						
	Admissions.	Constantly sick.	Deaths.	Invaliding.	Admissions.	Deaths.	Admissions.	Deaths.	Admissions.	Deaths.	Invaliding.	Admissions.	Deaths.
Catarrhal inflammation of the intestines	117	4·80	...	...	6	...	25	2	45	3	2	412	2
Ulceration of the intestines	...	...	...	...	...	...	...	...	1	1	...	2	2
Perforating ulceration of the intestines	...	...	...	...	...	...	...	...	...	...	...	3	3
Hæmorrhage (including melæna) from the intestines	3	·08	...	...	...	...	...	...	1	...	...	5	...
Fæcal accumulation in the intestines	2	·16	...	...	...	...	...	...	10	...	...	3	1
Tympanites	...	...	...	...	...	...	...	...	3	...	...	...	...
Sprue	3	·10	...	...	...	...	...	...	1	...	...	1	1
Hernia	94	6·80	...	15	...	...	3	...	39	1	24	62	2
Intussusception	...	...	...	...	...	...	...	...	1	...	...	2	1
Volvulus	...	...	1	...	...	...	...	...	...	...	...	2	3
Internal strangulation	...	...	...	...	...	...	...	...	1	1	...	3	2
Dilatation of the intestine	...	...	...	...	...	...	...	...	...	...	...	2	...
Contraction of the intestine	...	...	...	...	...	...	...	...	...	...	...	1	1
Stricture „ „	...	...	...	...	...	...	...	...	2	1	...	...	...
Obstruction „ „	1	·01	1	...	...	...	...	...	6	2	...	10	7
Perforation „ „	1	·03	1	...	...	...	...	...	2	2	...	...	...
Intestinal dyspepsia	2	·00	...	...	...	...	...	...	...	...	...	...	...
Constipation	28	·56	...	...	11	...	7	...	61	...	...	118	...
Colic	325	8·31	...	...	22	...	6	...	257	1	...	609	2
Diarrhœa	1,681	59·08	2	11	49	...	259	51	1,095	18	6	5,749	164
Enteralgia	...	...	...	...	...	...	...	...	2	...	...	...	...
Proctitis	...	...	...	...	...	...	...	...	1	...	...	...	...
Periproctitis	7	·57	...	...	...	...	...	...	4	...	...	...	...
Abscess of the rectum and anus	5	·34	...	...	...	...	1	...	14	...	...	16	...
Ulceration „ „ „	3	·50	...	1	...	...	...	...	7	...	1	28	1
Fissure of the anus	10	1·01	...	1	1	...	...	...	22	...	...	7	...
Fistula in ano	35	3·01	...	2	...	...	...	...	54	...	5	48	...
Hæmorrhage from the rectum	...	...	...	...	...	...	...	...	1	...	...	...	...
Prolapse of the rectum and anus	2	·47	...	...	1	...	6	...	2	...	1	37	...
Piles	383	18·74	...	5	5	...	...	...	204	...	17	454	2
Hepatitis	437	34·25	4	33	8	1	1	...	84	10	1	51	2
Abscess of the liver	159	16·38	102	31	6	2	...	...	17	7	...	11	6
Cirrhosis „ „	24	2·14	2	7	...	...	...	...	5	2	1	43	23
Perihepatitis	5	·30	...	1	...	...	...	...	3	...	...	5	...
Congestion of the liver	792	47·95	1	22	29	...	3	...	93	2	1	45	2
Acute yellow atrophy of the liver	...	...	...	...	1	1	...	...	...	...	...	...	1
Fatty degeneration „	...	...	...	...	...	...	...	...	...	...	...	2	2
Lardaceous liver	...	...	...	...	...	...	...	...	...	...	...	1	1
Atrophy of the liver	...	...	...	...	...	...	...	...	...	...	...	2	...
Hypertrophy of the liver	4	·19	...	...	...	...	...	...	2	...	...	11	...
Jaundice	602	30·64	1	1	4	...	3	...	398	2	...	781	5
Cholecystitis	86	4·20	1	...	...	...	1	...	13	1	...	22	1
Gallstones	1	·18	...	...	7	...	...	...	3	...	...	2	1
Accumulation of bile	13	·56	...	...	...	...	...	...	...	...	...	...	...
Biliary colic	...	...	...	...	...	...	...	...	2	...	...	6	...
Inflammation of the pancreas	...	...	...	...	...	...	...	...	...	...	...	1	1
Abscess „ „	...	...	...	...	...	...	...	...	...	...	...	1	1
Peritonitis	14	1·14	7	...	3	2	2	1	12	7	...	20	14
„ puerperal	...	...	...	...	1	1	...	...	...	...	...	...	...
Ascites	3	·28	...	1	...	...	...	...	4	1	...	50	9
Splenitis	64	3·56	...	1	1	...	1	...	172	...	11	59	...
Abscess of the spleen	1	...	1	...	...	...	...	...	...	...	...	1	...
Congestion „	7	·40	...	...	...	...	...	...	10	...	...	1	...
Spontaneous rupture of spleen (congestion)	1	...	1	...	...	...	...	...	...	...	...	...	...
Hypertrophy of the spleen	2	·11	...	...	...	...	...	...	55	...	7	127	3
Inflammation of lymph-glands	1,613	192·17	...	8	...	...	12	...	307	...	...	211	...
Suppuration „ „	195	23·97	...	4	2	...	2	...	70	...	1	98	...
Hypertrophy „ „	2	·34	...	1	...	...	...	...	9	...	...	...	...
Inflammation of lymphatics	10	·56	...	...	...	...	...	...	13	...	...	11	...
Obstruction „ „	...	...	...	...	...	...	...	...	3	...	...	...	...
Dilatation „ „	...	...	...	...	...	...	...	...	...	...	...	1	...
Elephantiasis	...	...	...	...	...	...	...	...	...	...	...	20	...
Lymph-fistula	...	...	...	...	...	...	...	...	1	...	...	...	...
Inflammation of the thyroid body	1	·04	...	...	...	...	...	...	...	...	...	...	...
Hypertrophy „ „	...	...	...	...	1	...	...	...	...	...	...	...	...
Goitre	7	·48	...	...	1	...	...	...	41	...	1	2	...
Addison's disease	...	...	...	...	...	...	...	...	...	...	...	2	2
Acute nephritis	34	3·84	3	8	3	...	...	...	16	4	1	32	7
Bright's disease	2	·49	...	...	...	...	...	...	21	3	2	56	19
Chronic nephritis	24	2·30	5	10	2	...	...	...	6	...	1	48	6
Granular kidney	2	·40	...	3	...	...	...	...	2	1	...	10	12
Abscess of kidney	...	...	...	...	...	...	...	...	...	...	...	1	...
Disseminated suppurative nephritis	...	...	1	...	...	...	...	...	...	...	...	...	...
Perinephritic abscess	...	...	...	...	...	...	...	...	1	1	...	...	...
Pyelitis	7	·65	1	2	...	...	...	...	3	...	...	1	1
Calculus in kidney	...	·09	...	1	...	...	...	...	15	...	1	5	3
„ in pelvis of kidney	2	·19	...	...	...	...	...	...	2	...	...	...	...
„ in ureter	...	...	...	...	...	...	...	...	16	...	1	2	1
Nephralgia	...	...	...	...	...	...	...	...	5	...	...	4	...
Suppression of urine	...	...	...	...	...	...	...	...	1	...	...	2	...
Hæmaturia	6	·30	...	...	...	...	1	...	9	...	...	17	1
Hæmoglobinuria	...	·03	...	...	1	...	...	...	...	...	...	...	...
Chyluria	1	·30	...	...	...	...	...	...	1	...	...	...	...
Albuminuria	3	·49	...	2	...	...	...	...	1	...	...	11	...
Lithuria	1	·02	...	...	...	...	...	...	2	...	...	2	...
Inflammation of the bladder	27	1·89	...	...	3	...	...	...	9	...	1	22	1
Abscess „ „	...	...	...	...	...	...	...	...	...	...	...	1	1
Ileo-vesical fistula	...	...	...	...	...	...	...	...	1	...	...	...	...
Recto-vesical fistula	...	...	...	...	...	...	...	...	2	...	...	...	...
Calculus in the bladder	2	·14	...	...	1	...	...	...	9	1	1	9	1
Irritability of the bladder	2	·24	...	...	...	...	...	...	2	...	...	2	...
Retention of urine	1	·02	...	...	1	...	...	...	1	...	...	13	...
Incontinence of urine	21	1·74	...	2	...	...	1	...	1	...	...	4	...
Renal colic	...	...	...	...	...	...	...	...	...	...	...	1	...
Urethritis	2	·04	...	...	...	...	...	...	2	...	...	4	...
Gleet	1	·01	...	...	...	...	...	...	...	...	...	2	...
Abscess of the urethra	1	·08	...	...	...	...	...	...	...	...	...	...	...
Ulcer „	...	...	...	...	...	...	...	...	1	...	...	...	...
Hæmorrhage from the urethra	2	·02	...	...	...	...	...	...	...	...	...	...	...
Stricture of the „	...	...	...	...	...	...	...	...	9	...	1	45	...
„ „ organic	42	3·30	1	4	...	...	...	...	16	...	1	1	...
„ „ traumatic	1	·03	...	...	...	...	...	...	2	...	...	...	...
„ „ spasmodic	13	1·30	...	...	...	...	...	...	8	...	...	...	...

Diseases.	European Army of India.								Native Army of India.			Jail Population of India.	
	Men.				Women.		Children.						
	Admissions.	Constantly sick.	Deaths.	Invaliding.	Admissions.	Deaths.	Admissions.	Deaths.	Admissions.	Deaths.	Invaliding.	Admissions.	Deaths.
Urethral fistula	2	·09	...	...	...	...	...	...	2	...	...	5	...
Extravasation of urine	2	·66	1	...	...	...	...	...	3	1	...	3	2
Impacted calculus	...	...	...	...	...	...	...	...	3	...	...	...	...
Abscess of the prostate	...	...	...	...	...	...	...	...	...	...	...	1	1
Hypertrophy ,,	1	·01	...	...	...	...	...	...	...	...	...	...	...
Calculus in the ,,	2	·07	...	...	...	...	...	...	...	...	...	...	...
Posthitis	3	·08	...	...	...	...	...	...	...	...	...	...	...
Œdema of the prepuce	...	...	...	...	...	...	...	...	...	...	...	4	...
Phimosis	16	1·15	...	...	...	...	1	...	18	...	...	70	...
Paraphimosis	8	·26	...	...	...	...	...	...	16	...	...	6	...
Balanitis	138	4·62	...	...	...	...	...	...	9	...	...	10	...
Abscess of the penis	1	02	...	...	...	...	...	...	...	...	...	...	...
Ulcer ,,	102	6·92	...	...	...	...	...	...	111	...	...	22	...
Gangrene ,,	...	...	...	...	...	...	...	...	1	...	1	1	...
Œdema ,,	...	...	...	...	...	...	...	...	2	...	...	1	...
Soft chancre ,,	4,439	373·36	...	...	...	...	...	...	559	...	...	163	...
Inflammation of the scrotum	1	·03	...	...	...	...	...	...	...	...	...	...	...
Abscess ,, ,,	1	·18	...	...	...	...	...	...	2	...	...	11	1
Sloughing ,, ,,	...	...	...	...	...	...	...	...	...	...	...	2	1
Œdema ,, ,,	...	...	...	...	...	...	...	...	2	...	...	...	...
Pruritus	...	...	...	...	...	...	...	...	5	...	...	...	...
Inflammation of the spermatic cord	1	·02	...	...	...	...	...	...	4	...	...	...	...
Hydrocele ,, ,,	4	·20	...	...	...	...	...	...	2	...	1	5	...
Hæmatocele ,, ,,	...	...	...	...	...	...	...	...	...	...	...	6	...
Varicocele ,, ,,	34	1·71	...	1	...	...	...	...	4	...	...	1	...
Inflammation of the tunica vaginalis	1	·08	...	...	...	...	...	...	...	...	...	...	...
Hæmatocele ,, ,,	1	·10	...	...	...	...	...	...	1	...	1	...	...
Hydrocele ,, ,,	42	3·07	...	...	...	...	...	...	48	...	8	111	...
Inflammation of the testicle	...	...	...	...	...	...	...	...	...	...	...	96	...
Orchitis	452	27·94	...	3	...	...	...	...	275	...	9	74	...
Epididymitis	20	1·06	...	1	...	...	...	...	17	...	1	2	...
Abscess of the testicle	...	...	...	...	...	...	...	...	...	...	...	3	...
Protrusion of tubuli	...	·06	...	1	...	...	...	...	...	...	...	1	...
Spermatorrhœa	...	...	...	...	...	...	...	...	1	...	...	...	...
Inflammation of the ovary	...	...	...	...	10	...	...	...	...	...	...	2	...
Perimetritis (649 *a*)	...	...	...	...	4	1	...	...	...	...	...	1	...
Parametritis (649 *b*)	...	...	...	...	...	...	...	...	...	...	...	1	...
Metritis (651)	...	...	...	...	17	...	...	...	...	...	...	2	...
Ulcer of the uterus	...	...	...	...	3	...	...	...	...	...	...	...	...
Hæmorrhage from the uterus	...	...	...	...	1	...	...	...	...	...	...	1	...
Subinvolution of the ,,	...	...	...	...	2	...	...	...	...	...	...	...	...
Abrasion ,,	...	...	...	...	2	...	...	...	...	...	...	...	...
Anteversion ,,	...	...	...	...	1	...	...	...	...	...	...	...	...
Retroversion ,,	...	...	...	...	2	...	...	...	...	...	...	...	...
Retroflexion ,,	...	...	...	...	1	...	...	...	...	...	...	...	...
Prolapsus ,,	...	...	...	...	10	...	...	...	...	...	...	5	...
Stricture of the internal os	...	...	...	...	1	...	...	...	...	...	...	...	...
Inflammation of the vagina	...	...	...	...	4	...	2	...	...	...	...	...	...
Prolapse ,,	...	...	...	...	...	...	...	...	...	...	...	1	...
Urethro-vaginal fistula	...	...	...	...	...	...	...	...	...	...	...	1	...
Inflammation of the vulva	...	...	...	...	1	...	...	...	...	...	...	...	...
Abscess ,, ,,	...	...	...	...	3	...	...	...	...	...	...	...	...
Ulcer ,, ,,	...	...	...	...	...	...	1	...	...	...	...	...	...
Amenorrhœa	...	...	...	...	1	...	...	...	...	...	...	3	...
Dysmenorrhœa	...	...	...	...	14	...	...	...	...	...	...	3	...
Menorrhagia	...	...	...	...	24	...	...	...	...	...	...	9	...
Metrorrhagia	...	...	...	...	10	...	...	...	...	...	...	1	...
Leucorrhœa	...	...	...	...	6	...	...	...	...	...	...	10	...
Pruritus (691)	...	...	...	...	...	...	...	...	...	...	...	1	...
Cramps and spurious labour pains	...	...	...	...	22	...	...	...	...	...	...	...	...
Catarrh of cervix uteri	...	...	...	...	1	...	...	...	...	...	...	...	...
Hæmorrhage from the uterus (693)	...	...	...	...	7	...	...	...	...	...	...	...	...
Abortion	...	...	...	...	80	...	...	...	...	...	...	7	...
Carneous mole	...	...	...	...	1	...	...	...	...	...	...	...	...
Vesicular ,,	...	...	...	...	1	...	...	...	...	...	...	...	...
Atony of the uterus	...	...	...	...	...	...	...	...	...	...	...	1	...
Over-distension of the uterus	...	...	...	...	...	...	...	...	...	...	...	1	...
Mechanical obstacle to the expulsion of the fœtus (708)	...	...	...	...	1	...	...	...	...	...	...	2	...
Hæmorrhage, unavoidable, from placenta prævia	...	...	...	...	1	1	...	...	...	...	...	...	...
Rupture and laceration of the perineum	...	...	...	...	1	...	...	...	...	...	...	1	...
Still-birth	...	...	...	...	1	...	...	...	...	...	...	...	...
Asphyxia of infant	...	...	...	...	...	...	1	1	...	...	...	...	...
Post-partum hæmorrhage	...	...	...	...	...	...	...	...	...	...	...	2	...
Retention of placental fragment	...	...	...	...	...	...	...	...	...	...	...	2	...
Metritis (710)	...	...	...	...	1	...	...	...	...	...	...	1	...
Sloughing of the vagina	...	...	...	...	1	1	...	...	...	...	...	...	...
Inflammation of the nipple and areola	...	...	...	...	1	...	...	...	...	...	...	1	...
Chapped nipples	...	...	...	...	1	...	...	...	...	...	...	...	...
Abscess of the areola	...	...	...	...	1	...	...	...	...	...	...	...	...
Ulceration of the nipple	...	...	...	...	1	...	...	...	...	...	...	...	...
Mastitis	...	...	...	...	10	...	...	...	...	...	...	2	...
,, puerperal	...	...	...	...	1	...	...	...	...	...	...	...	...
Suppuration of mammary gland	...	...	...	...	3	...	...	...	...	...	...	4	...
,, ,, puerperal	...	...	...	...	6	...	...	...	...	...	...	1	...
Inflammation of the male breast	4	·31	...	...	...	...	...	...	2	...	...	1	...
Ostitis	9	·49	...	3	...	...	...	...	10	...	1	3	...
Periostitis	18	1·48	...	...	...	...	...	...	25	...	...	31	1
,, circumscribed	20	1·91	...	1	1	...	1	...	27	...	1	...	...
,, diffuse	21	1·62	...	2	...	...	1	...	1	...	...	...	...
Caries of bone	3	·50	...	1	...	...	1	...	5	...	...	20	1
Necrosis ,,	14	1·61	...	5	2	...	3	...	11	...	2	30	1
Mollities ossium	...	...	...	...	...	...	...	...	...	...	...	1	...
Hypertrophy of bone	1	·02	...	...	...	...	...	...	...	...	...	...	...
Synovitis	513	34·32	...	22	1	...	1	...	400	...	12	181	1
Suppuration of joints	1	·29	...	1	1	...	...	...	...	...	...	3	...
Ankylosis	6	·29	...	...	...	...	...	...	9	...	2	1	...
Dislocation of articular cartilage	11	·75	...	6	...	...	...	...	...	...	...	...	...
Loose body	2	·22	...	...	...	...	...	...	...	...	...	...	...
Relaxation of ligaments	2	·17	...	1	...	...	...	...	...	...	...	...	...
Dislocation of joint	...	...	...	...	...	...	...	...	...	...	...	1	...
Caries of spine	1	·29	...	...	...	...	...	...	2	...	1	...	...

TABLE LIII—*continued.*

DETAIL of DISEASES.

Diseases.	European Army of India.								Native Army of India.			Jail Population of India.	
	Men.				Women.		Children.						
	Admissions.	Constantly sick.	Deaths.	Invaliding.	Admissions.	Deaths.	Admissions.	Deaths.	Admissions.	Deaths.	Invaliding.	Admissions.	Deaths.
Psoas, lumbar, post-pharyngeal, abscess	3	·46	1	1	...	...	...	...	2	...	1	1	1
Angular curvature of spine	...	...	...	...	...	...	...	...	1	...	1	2	1
Lateral ,, ,,	3	·47	...	1	...	...	...	...	...	...	...	...	...
Anterior ,, ,,	1	·12	...	1	...	...	1	...	...	...	...	...	...
Ankylosis ,, ,,	...	...	...	...	...	...	...	...	2	...	...	...	...
Inflammation of muscles	2	·17	...	...	...	...	...	...	5	...	...	...	...
Suppuration ,, ,,	2	·16	1	...	...	...	...	...	1	...	...	4	
Fibrous degeneration of muscles	...	...	...	...	...	...	...	...	1	...	...	...	
Atrophy of muscles	1	·06	...	1	...	...	...	...	5	...	2	...	
Spontaneous rupture of muscles	...	·02	...	1	...	...	...	...	...	...	...	...	...
Idiopathic muscular atrophy	...	...	...	...	...	...	...	...	2	...	6	...	...
Myalgia	117	7·16	...	1	4	...	...	...	196	...	18	143	...
Inflammation of fasciæ	...	...	...	...	...	...	...	...	4	...	...	...	...
Contracture ,,	2	·03	...	...	...	...	...	...	...	...	...	...	...
Adhesion of tendons	1	·07	...	...	...	...	...	...	3	...	...	...	...
Contraction ,,	13	·92	...	4	...	...	...	...	4	...	3	1	...
Displacement of tendons	1	·06	...	...	...	...	...	...	...	...	...	...	...
Tenosynovitis	4	·19	...	...	...	...	...	...	5	...	...	13	...
Thecal abscess	1	·05	...	...	...	...	...	...	2	...	...	35	...
Ganglion	9	·31	...	...	...	...	...	...	9	...	...	1	...
Inflammation of bursæ	35	2·19	...	3	...	...	...	...	26	...	...	4	...
Abscess ,, ,,	1	·12	...	...	...	...	...	...	2	...	...	...	...
Bunion	4	·33	...	...	...	...	...	...	1	...	...	2	...
Bursal cyst	...	...	...	...	...	...	...	...	2	...	...	...	...
Bursal tumour	1	·04	...	...	...	...	...	...	1	...	...	...	6
Club-foot	2	·04	...	2	...	...	3	...	1	...	...	...	...
Flat-foot	15	1·85	...	11	...	...	...	...	2	...	1	...	...
Deformities of great toe	4	·22	...	...	...	...	...	...	...	...	...	...	...
Hammer toe	16	1·61	...	2	...	...	...	...	...	...	...	...	...
Inflammation of the connective tissue	517	20·64	...	1	3	...	2	...	379	2	...	349	2
Abscess ,, ,,	928	48·45	2	7	10	...	15	...	1,802	4	4	4,159	6
Gangrene ,, ,,	...	...	...	...	...	...	...	...	1	...	1	5	5
Hæmorrhage ,, ,,	...	...	...	...	...	...	...	...	1	1	...	...	...
Œdema ,, ,,	...	...	...	...	...	...	...	...	10	...	...	27	4
Elephantiasis	...	...	...	...	...	...	...	...	3	...	1	4	...
Emphysema	1	·01	...	...	...	...	...	...	...	...	...	...	...
Undue formation of fat	...	...	...	1	...	...	...	...	2	...	4	...	...
Erythema	17	·58	...	...	1	...	...	...	10	...	...	2	...
Roseola	2	·02	...	...	...	...	...	...	2	...	...	...	...
Pityriasis rosea	1	·03	...	...	...	...	...	...	...	...	...	1	...
Urticaria	46	1·09	...	...	1	...	6	...	92	...	...	96	...
Prickly heat	32	1·05	...	...	1	...	...	...	2	...	...	15	...
Eczema	414	21·37	...	2	3	...	32	...	492	...	3	363	...
Impetigo	18	1·08	...	...	2	...	20	...	39	...	...	49	...
Pityriasis rubra	1	·03	...	...	...	...	...	...	1	...	...	1	...
Prurigo	...	...	...	...	...	...	...	...	6	...	...	5	...
Lichen	5	·22	...	...	...	...	...	...	22	...	...	19	...
Psoriasis	28	1·93	...	1	1	...	...	...	24	...	...	30	...
Miliaria	1	·05	...	...	...	...	...	...	4	...	...	...	...
Herpes	41	1·29	...	...	...	...	...	...	107	...	...	71	...
Zona	19	·58	...	...	1	...	...	...	68	...	...	39	...
Pemphigus	57	2·06	...	...	...	...	10	...	10	1	...	8	...
Dermatitis herpetiformis	1	·01	...	...	...	...	...	...	1	...	...	1	...
Acne	6	·18	...	...	...	...	...	...	8	...	...	7	...
Gutta rosea	1	·09	...	...	...	...	...	...	...	...	...	1	...
Sycosis	16	·95	...	...	...	...	...	...	7	...	...	1	...
Ichthyosis	...	...	...	...	...	...	...	...	4	...	...	2	...
Sclerodermia	...	...	...	...	...	...	...	...	3	...	1	...	...
Leucodermia	1	·08	...	...	...	...	...	...	2	...	1	...	...
Chloasma	1	·02	...	...	...	...	...	...	...	...	...	...	...
Alopecia	2	·12	...	...	...	...	...	...	...	...	...	1	...
Area	1	·03	...	...	...	...	...	...	1	...	...	...	...
Chilblain	...	...	...	...	...	...	...	...	3	...	...	3	...
Ulcer	566	30·85	...	4	14	...	5	...	3,374	...	4	3,912	...
Cicatrices	2	·48	...	1	...	...	...	...	12	...	1	3	...
Boil	1,610	57·03	...	1	14	...	52	...	2,905	...	...	2,136	...
Carbuncle	14	·75	...	...	...	...	...	...	48	...	...	241	1
Gangrene	1	·03	...	...	...	...	...	...	...	...	...	7	1
Whitlow	337	12·50	...	...	2	...	...	...	474	...	1	520	...
Onychia	294	14·33	...	...	2	...	...	...	12	...	...	22	...
Tylosis	...	...	...	...	...	...	...	...	1	...	...	...	...
Corn	35	1·61	...	2	...	...	...	...	9	...	...	1	...
Cheloid	1	·26	...	1	...	...	...	...	1	...	...	...	...
Wen	26	1·39	...	...	...	...	...	...	9	...	...	8	...
Hyperidrosis	11	·29	...	...	...	...	...	...	...	...	...	...	...
Pruritus	...	...	...	...	...	...	...	...	1	...	...	...	...
Lupus	6	·56	...	...	...	...	1	...	4	...	...	3	1
Delhi boil	10	·58	...	...	...	...	...	...	16	...	...	...	...
Mycosis fungoides	...	...	...	...	...	...	...	...	1	...	...	...	...
Irritation caused by a plant	...	...	...	...	...	...	...	...	...	...	...	1	...
Accidental :—													
Heat-stroke	90	4·32	14	5	...	...	2	1	10	2	...	65	9
Sun-stroke	14	1·17	1	2	...	...	1	...	14	7	...	29	6
Heat-apoplexy	245	11·52	64	4	4	4	2	1	7	2	...	28	25
Effects of cold	...	...	...	...	...	...	...	...	...	...	...	3	...
Effects of chemical irritants and corrosives	1	·20	...	...	...	...	...	...	2	...	...	...	...
Lightning stroke	...	...	...	...	...	...	...	...	...	...	...	...	1
Multiple injury	4	·41	4	2	...	...	...	...	3	1	...	20	...
Suffocation from submersion	...	·02	14	...	...	...	...	...	...	5	...	1	3
,, ,, plugging of air-passages with foreign substances	...	...	...	...	...	...	...	...	...	1	...	...	...
,, ,, overlaying	...	...	...	...	...	...	...	1	...	3	...	...	...
,, ,, gaseous poison	...	...	...	...	...	...	...	...	...	1	...	...	...
Starvation	...	...	...	...	...	...	...	...	...	...	...	11	6
Shock	...	...	...	...	...	...	...	...	1	2	...	1	...
Burns and scalds (general and local)	51	1·83	...	...	6	...	11	...	294	...	...	289	
Frost-bite	...	...	...	...	...	...	...	...	4	...	...	...	...
Abrasions	638	19·96	...	...	1	...	2	...	1,621	...	...	39	...
Contusions	1,751	83·34	...	5	3	...	27	...	2,514	...	4	1,358	...
Wounds	1,894	76·83	3	7	4	...	23	...	2,689	2	12	3,042	1

Diseases.	European Army of India.								Native Army of India.			Jail Population of India.	
	Men.				Women.		Children.						
	Admissions.	Constantly sick.	Deaths.	Invaliding.	Admissions.	Deaths.	Admissions.	Deaths.	Admissions.	Deaths.	Invaliding.	Admissions.	Deaths.
Accidental—*contd.*													
Gunshot wounds	79	8·43	6	32	...	...	...	...	179	2	3	1	...
Strains and sprains	1,919	89·36	...	9	6	...	4	...	1,167	...	8	316	...
Dislocation of spine	1	·02	1	...	...	...	...	...	1	...	...	...	...
„ of other bones	74	5·06	...	3	...	...	2	...	61	...	6	42	...
Rupture of muscles, tendons, and ligaments	5	·36	...	1	...	...	...	...	2	...	...	1	...
Fracture of the vault of the skull	1	·46	...	...	...	...	...	...	2	1	...	...	...
„ of the base of the skull	7	·62	6	1	...	...	1	...	2	5	...	...	...
„ of the skull	1	...	...	...	...	...	...	...	...	...	...	...	...
„ of the spine	3	·57	...	2	...	...	...	...	3	1	...	1	1
„ of other bones	292	35·46	...	19	1	...	20	...	259	2	26	449	...
„ of the skull with dislocation of the neck	...	...	...	...	...	...	...	...	1	1	...	...	...
Foreign bodies in tissues and organs	5	·35	...	...	...	...	...	...	10	...	...	23	...
Effects of irritants and corrosives	2	·07	...	...	...	...	...	...	6	...	...	...	...
Compression of nerves	3	·15	...	...	...	...	...	...	2	...	...	...	...
Concussion of the brain	19	·69	...	...	...	...	...	...	28	4	3	1	...
Laceration of the brain	1	·13	...	...	...	...	...	...	1	1	...	...	...
Compression of the brain	1	·04	...	...	...	...	...	...	2	1	...	1	1
Chemical injury of the eye	...	...	...	...	...	...	...	...	3	...	...	...	...
Sub-conjunctival hæmorrhage	...	...	...	...	...	...	...	...	2	...	...	1	...
Contusion of the eyeball with rupture of the sclerotic	3	·32	...	1	...	...	...	...	...	...	...	...	...
Contusion of the eyeball with dislocation of the lens	...	...	...	...	...	...	...	...	1	...	...	...	...
Contusion of the eyeball with hæmorrhage into the eye	1	·04	...	...	...	...	...	...	...	...	...	...	...
Contusion of the eyeball with dislocation of the lens and hæmorrhage into the eyeball	...	...	...	1	...	...	...	...	...	...	...	...	...
Wound of the eyeball with injury to the lens	1	·20	...	1	...	...	...	...	...	...	...	...	...
Contusion of the eyeball with protrusion of iris	...	...	...	...	...	...	...	...	1	...	...	...	...
Rupture of the membrana tympani	3	·16	...	1	...	...	...	...	...	...	...	...	...
Fracture of the spine with dislocation	1	...	1	...	...	...	...	...	...	...	...	...	...
Simple fracture of spine with compression of the cord	2	·20	2	...	...	...	...	...	...	...	...	...	...
Concussion of the cord	...	...	...	...	...	...	...	...	1	...	...	1	...
Compression „ „	2	·21	...	...	...	...	...	...	...	...	...	...	...
Contusion of the abdomen with rupture of muscles	1	·12	...	...	...	...	...	...	...	...	...	...	...
Contusion of the abdomen with rupture of viscera	1	·06	1	...	...	...	...	...	...	...	...	...	...
Rupture of the stomach	...	...	1	...	...	...	...	...	...	...	...	...	...
„ of the liver	...	·02	1	...	...	...	...	...	...	...	...	...	...
„ of the spleen	2	...	2	...	...	...	...	...	...	1	...	...	2
„ of viscera	1	...	...	...	...	...	...	...	...	...	...	...	1
Foreign bodies in the alimentary canal	...	...	...	...	...	...	1	...	...	...	...	...	...
Rupture and laceration of the urethra	2	·10	...	...	...	...	...	...	1	...	...	...	...
Laceration of the urethra with extravasation of urine	1	·08	...	...	...	...	...	...	...	...	...	...	...
Separation of epiphyses	...	...	...	...	...	...	1	...	...	...	...	1	...
Internal derangement of joints	7	·27	...	...	...	...	...	...	...	...	...	...	...
Dislocation of the fibula and foot with fracture of fibula only	1	·28	...	1	...	...	...	...	...	...	...	...	...
Poison, not defined	...	...	...	...	...	...	...	...	...	...	...	3	...
„ arsenic	...	...	...	...	...	...	...	...	8	...	...	...	...
„ lead	1	·02	...	...	...	...	...	...	...	...	...	...	...
„ mercury	...	...	...	...	...	...	...	...	6	1	...	...	...
„ lime	...	...	...	...	...	...	...	...	...	...	...	1	...
„ oxalic acid	3	·05	...	...	...	...	...	...	...	...	...	...	...
„ alcohol	...	...	1	...	...	...	...	...	1	1	...	...	...
„ oil of bitter almonds	...	...	...	...	...	...	...	...	1	1	...	...	...
„ croton oil	...	...	...	...	...	...	...	...	1	...	...	...	...
„ Indian hemp	...	...	...	...	...	...	...	...	9	1	...	1	1
„ lathyrus	...	...	...	...	...	...	...	...	...	...	...	1	...
„ opium	...	...	...	...	...	...	1	1	1	1	...	13	...
„ mushroom	...	...	...	...	1	...	...	...	...	...	...	...	...
„ gulvil	...	...	...	...	...	...	...	...	1	1	...	...	...
„ thorn apple	...	...	...	...	...	...	...	...	4	...	...	1	...
„ decayed and poisonous food	...	...	...	...	...	...	...	...	1	...	...	...	...
„ ptomaine	3	·09	1	...	...	...	...	...	...	...	...	...	...
„ decayed salmon	1	·01	...	...	...	...	...	...	...	...	...	...	...
„ chloroform vapour	1	·01	1	...	...	...	...	...	...	...	...	...	...
Poisoned wound, not defined	6	·20	...	...	...	...	...	...	2	...	...	...	...
„ „ by venomous animal	1	·03	...	...	...	...	...	...	1	...	...	...	...
„ „ „ tiger	1	·01	1	...	...	...	...	...	...	...	...	...	...
„ „ „ dog	5	·06	...	2	...	...	...	...	2	...	...	1	...
„ „ „ monkey	1	·02	...	...	...	...	...	...	...	...	...	...	...
„ „ „ snake	1	·02	...	...	...	...	...	...	8	1	...	21	...
„ „ „ fish	...	...	...	...	...	...	...	...	...	...	...	1	...
„ „ „ scorpion	1	·01	...	...	...	...	...	...	6	...	...	...	...
„ „ „ centipede	...	...	...	...	...	...	...	...	2	...	...	42	...
„ „ „ stinging insect	5	·22	...	...	...	...	...	...	7	...	...	...	...
„ „ „ dead animal matter	...	...	...	...	...	...	...	...	...	...	...	3	...
„ „ „ septic matters	...	...	...	...	...	...	...	...	5	1	...	3	1
„ „ „ morbid secretions	1	·18	...	...	...	...	...	...	1	...	...	...	...
„ „ „ vegetable substances	...	...	...	...	...	...	...	...	7	...	...	...	...
Homicidal:—													
Drowning	...	...	...	...	...	...	...	...	...	1	...	...	...
Hanging	...	...	...	...	...	...	...	...	...	1	...	...	...
Wound	...	...	...	...	...	...	...	...	2	3	...	...	...
Gunshot wound	...	...	...	...	...	...	...	...	4	10	...	...	...
Fracture of the vault of the skull	1	·02	2	...	...	...	...	...	3	4	...	...	...
„ „ base	1	...	2	...	...	...	...	...	...	...	...	...	...
„ „ skull	...	...	...	...	...	...	...	...	...	...	...	2	2
Compression of the brain	...	...	1	...	...	...	...	...	...	...	...	...	...
Rupture of the spleen	...	...	...	...	...	...	...	...	...	...	...	1	1
Not defined	...	...	...	...	...	...	...	...	...	...	...	...	4

TABLE LIII—*continued.*

DETAIL of DISEASES.

Diseases.	European Army of India.								Native Army of India.			Jail Population of India.	
	Men.				Women.		Children.						
	Admissions.	Constantly sick.	Deaths.	Invaliding.	Admissions.	Deaths.	Admissions.	Deaths.	Admissions.	Deaths.	Invaliding.	Admissions.	Deaths
SUICIDAL :—													
Drowning	...	...	2	...	...	...	...	...	...	1	...	...	...
Hanging	1	...	3	...	...	...	...	...	...	2	...	2	14
Multiple injury	1	...	1	...	...	...	...	...	...	...	...	...	...
Penetrating wound	...	...	...	...	...	...	...	...	...	...	...	1	1
Cut-throat	3	·01	6	...	1	2	...	...	1	...	...	1	1
Gunshot	1	...	12	...	...	...	...	...	...	7	...	...	...
Mutilation of genitals	...	...	...	...	...	...	...	...	...	...	...	1	...
Poison, arsenic	...	...	...	...	...	...	...	...	...	...	...	1	1
,, iodine	1	...	1	...	...	...	...	...	...	...	...	...	...
Not defined	...	...	...	...	...	...	...	...	...	...	...	...	2
JUDICIAL :—													
Hanging	...	...	1	...	...	...	...	...	...	2	...	...	6
Punished	...	...	...	...	...	...	...	...	...	...	...	114	...
IN ACTION :—													
Wound	...	...	...	...	...	...	...	...	6	1	4	...	...
,, sword-cut	...	...	...	...	...	...	...	...	1	1	...	...	...
Gunshot wound	...	...	...	...	...	...	...	...	37	2	155	...	...
Killed	...	...	...	...	...	...	...	...	...	1	...	...	...
NOT DEFINED :—													
Drowning	...	...	...	...	...	...	...	...	...	...	...	4	...
Hanging	...	...	...	...	...	...	...	...	...	...	...	...	2
Wound	...	...	...	...	...	...	...	...	...	...	...	1	1
Cut-throat	...	...	...	...	...	...	...	...	...	...	...	17	...
Gunshot wound	...	...	...	...	...	...	...	...	...	...	...	1	1
Fracture of the vault of the skull	...	...	...	...	...	...	...	...	1	1	...	1	1
,, ,, base ,,	1	...	2	...	...	...	...	...	...	...	...	1	1
,, of the skull, not defined	...	...	1	...	...	...	...	...	...	...	...	...	1
,, of the spine	...	...	...	...	...	...	...	...	...	...	...	1	1
,, of other bones	...	...	...	...	...	...	...	...	...	...	...	4	4
Rupture of the spleen	...	...	...	...	...	...	...	...	...	...	...	1	1
Poison, arsenic	...	...	...	...	...	...	...	...	...	...	...	1	1
No appreciable disease	150	7·32	...	...	1	...	1	...	47	...	2	28	...
Not yet diagnosed	...	...	...	...	...	...	...	...	9	...	...	107	...
Cause unknown	...	...	...	...	...	...	...	...	1	7	...	...	1
Absent deaths	...	...	...	...	...	...	...	...	...	523	...	...	...
Details not available	...	148·25	...	...	...	...	...	...	...	...	...	...	...
GRAND TOTAL	93,103	5,934·90	1,272	2,580‡	2,410	50	3,392	230	99,681†	1,792	1,772	108,731	2,880

* Bengal Command . 873=43·52 per 1,000 of strength.
Punjab " . 738=40·13 " " " "
Madras " . 542=43·93 " " " "
Bombay " . 427=29·22 " " " "
India‡ . . . 2,580=39·45 " " " "

† The figures, having been derived from the annual returns, do not agree with those in Table XXIX.

‡ If troops on field service be included, the ratio will be 38·09.

Diseases.	TROOPS ON FIELD SERVICE.			
	European troops 2,345.		Native troops 4,537.	
	Admissions.	Deaths.	Admissions.	Deaths.
Small-pox	...	...	1	...
Chicken-pox	...	...	3	...
Measles	3	...	4	...
Influenza	1	...	7	...
Mumps	...	...	8	...
Simple continued fever	12	1	5	...
Enteric fever	123	35	1	2
Epidemic diarrhœa	...	...	1	...
Dysentery	73	2	354	5
Ague	455	1	866	3
Remittent fever	76	1	102	10
Erysipelas	5	...	2	...
Tetanus	...	...	...	1
Tubercle, not defined	1	...	...	...
Tubercle of the lungs	4	1	2	1
Primary syphilis	73	...	19	...
Secondary ,,	127	...	27	...
Gonorrhœa	77	...	25	...
Tænia solium	5	...	...	...
Guinea-worm	...	...	3	...
Scabies	5	...	13	...
Ringworm	1	...	1	...
Scurvy	...	...	60	...
Alcoholism	2	...	...	...
Rheumatic fever	8	...	2	...
Rheumatism	121	...	140	...
Non-malignant new growths, not defined	5	...	1	...
Lipoma	...	...	2	...
Warts	3	...	...	...
Anæmia	4	...	24	...
Diabetes mellitus	2	1	...	...
Debility	30	...	129	1
Progressive muscular atrophy	1	...	...	...
Cerebral meningitis	...	...	1	1
Paralysis	1	...	1	...
Paraplegia	...	...	2	...
Cramp	1	...	...	...
Epilepsy	3	...	3	...
Neuralgia	9	...	19	...
Mania	...	...	2	...
Dementia	2	...	...	...
Conjunctivitis	11	...	32	...
,, granular	1	...	...	...
Keratitis	1	...	2	...
Ulcerative keratitis	3	...	5	...
Iritis	3	...	5	...
Glaucoma	...	...	1	...
Amblyopia	...	...	1	...
Functional night blindness	...	...	2	...
Blepharitis	1	...	...	...
Stye	1	...	2	...

Diseases.	TROOPS ON FIELD SERVICE.			
	European troops.		Native troops.	
	Admissions.	Deaths.	Admissions.	Deaths.
Inflammation of the external meatus	10	...	8	...
Abscess of the ,, ,,	...	...	1	...
Inflammation of the middle ear	...	...	1	...
,, of the membrana tympani	...	...	1	...
Deafness	...	...	1	...
Rhinitis	...	...	1	...
Coryza	...	...	1	...
Endocarditis	...	...	1	1
Valvular disease of the heart	4	1	...	...
Syncope	...	...	...	1
Disordered action of the heart	5	...	2	...
Phlegmasia dolens	1	...	...	...
Varix	3	...	2	...
Laryngitis	4	...	20	1
Bronchitis	104	2	290	2
Spasmodic asthma	2	...	1	...
Congestion of the lungs	...	...	1	...
Hæmorrhage from the lungs	...	...	2	...
Pneumonia	26	3	92	30
Broncho-pneumonia	...	...	1	...
Pleurisy	3	...	11	1
Caries of dentine	...	...	1	...
Inflammation of the dental periosteum	1	...	...	...
Abscess of the ,, ,,	7	...	4	...
Inflammation of the gums	...	...	1	...
Abscess of the tongue	1	...	...	...
Sorethroat	45	...	6	...
Ulceration of the fauces	...	...	1	...
Follicular tonsillitis	42	...	12	...
Quinsy	1	...	2	...
Hypertrophy of the tonsils	1	...	...	...
Inflammation of the pharynx	...	...	2	...
Gastritis	...	...	1	...
Indigestion	11	...	8	...
Hernia	1	...	1	...
Volvulus	1	1	...	...
Obstruction of the intestines	...	...	1	...
Constipation	...	...	1	...
Colic	10	...	15	...
Diarrhœa	165	1	96	1
Fistula in ano	...	...	3	...
Piles	17	...	14	...
Hepatitis	9	...	1	1
Abscess of the liver	1	1	1	...
Congestion of the liver	14	...	31	...
Hypertrophy of the liver	...	...	5	...
Jaundice	100	...	183	...
Peritonitis	1	1	...	1
Splenitis	...	...	5	...
Hypertrophy of the spleen	...	...	9	...
Inflammation of lymph glands	22	...	10	...

TABLE LIII—*concluded.*

Diseases.	Troops on Field Service.			
	European troops.		Native troops.	
	Admissions.	Deaths.	Admissions.	Deaths.
Suppuration of lymph glands	1	...	3	...
Hypertrophy of ,, ,,	...	...	2	...
Goître	...	...	1	...
Acute nephritis	1	...	...	...
Bright's disease	1	...	2	...
Chronic nephritis	1	...	...	...
Inflammation of the bladder	...	...	2	1
Incontinence of urine	1	...	...	...
Renal colic	...	...	1	...
Stricture of the urethra	1	...	...	...
Calculus in the prostate	...	...	2	...
Œdema of the prepuce	...	...	1	...
Phimosis	...	...	1	...
Balanitis	1	...	...	...
Ulcer of the penis	2	...	9	...
Soft chancre	22	...	8	...
Hydrocele	2	...	1	...
Varicocele	2	...	...	...
Orchitis	15	...	9	...
Epididymitis	1	...	1	...
Periostitis	...	...	2	...
Necrosis of bone	...	...	2	...
Synovitis	21	...	15	...
Ankylosis	...	...	2	...
Psoas abscess	1	...	...	...
Myalgia	2	...	8	...
Inflammation of fasciæ	1	...	...	...
Contraction of tendons	1	...	...	...
Inflammation of bursæ	2	...	1	...
Inflammation of connective tissue	20	...	9	...
Abscess of ,, ,,	18	...	23	...
Urticaria	2	...	2	...
Eczema	2	...	10	...
Psoriasis	1	...	...	...
Herpes	2	...	4	...
Zona	3	...	1	...
Acne	1	...	...	...
Ulcer	13	...	62	...
Boil	13	...	36	...

Diseases.	Troops on Field Service.			
	European troops.		Native troops.	
	Admissions.	Deaths.	Admissions.	Deaths.
Carbuncle	1	...	...	...
Whitlow	2	...	7	...
Onychia	9	...	...	...
Corn	1	...	...	...
ACCIDENTAL :—				
Heat-apoplexy	...	...	...	1
Multiple injury	...	...	...	1
Suffocation from submersion	...	...	...	1
,, ,, compression of chest	...	1	...	...
Burns and scalds	2	...	11	...
Frost-bite	...	...	1	...
Abrasions	25	...	29	...
Contusions	28	...	88	...
Wounds	23	...	31	...
Gunshot wounds	43	8	21	...
Strains and sprains	52	...	37	...
Dislocations	...	...	1	...
Fractures	9	...	7	...
Fracture of the base of the skull	...	...	1	1
Concussion of the brain	...	...	1	...
Dynamite explosion	...	...	...	2
Poison, alcohol	...	1	...	...
,, Indian hemp	...	...	...	1
Poisoned wound, by dog	1	...	...	...
,, ,, by stinging insect	...	...	1	...
SUICIDAL :—				
Gunshot wound	...	...	...	2
IN ACTION :—				
Gunshot wound	...	...	13	4
Spear wound	...	...	...	1
Killed	...	24	...	45
NOT DEFINED :—				
Gunshot wound	...	...	...	1
No appreciable disease	1	...	...	...
Not yet diagnosed	19	...	...	...
GRAND TOTAL	2,236	86	3,200	126

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