CHAPTER VI.

PUBLIC HEALTH.

CLIMATE.

HOOGHLY district has no great reputation for healthiness, though it is not so insalubrious as it was 30 or 40 years ago. The climate is hot, moist and relaxing. The surface is but little above sea-level, and many of the rivers have silted up to such an extent that, after the rains, they are represented by a series of stagnant pools or have only an attenuated sluggish stream. During the monsoon, from July to September, vegetation is rank, and the water becomes thick and muddy. The result of such unfavourable conditions is that in September fever, with bowel-complaints, breaks out in an epidemic form, and continues to be more or less virulent till the middle of January. The general health then improves till March. During the hot weather the sources of water-supply are apt to dry up, producing epidemics of cholera and dysentery. Towards the end of May and the beginning of June the weather again becomes oppressive, hot and sultry, heralding the approach of the monsoon. May to July are, on the whole, the healthiest months, and then the period from the middle of January to the middle of March. November and December are the two worst months, *i.e.*, the mortality is heaviest. The least unhealthy area is the Ārāmbāgh subdivision, especially the flood-swept tract east of the Dwārakeswar and west of the Dāmodar; but Ārāmbāgh town has now a bad reputation, so much so that officers are said to dread being posted there. The most unhealthy part of the district is the Hooghly subdivision, especially Balāgarh thāna and the inland thānas of Dhaniakhāli, Polbā and Hooghly (rural).

VITAL STATISTICS.

Prior to 1892 there were so many changes in the system of registering vital statistics, that it is unsafe to draw any inferences from the figures compiled before that year. The returns now prepared are also, it is true, not so reliable as could be desired,

but they are sufficiently accurate for calculating the comparative growth of the population and for gauging the relative healthiness and unhealthiness of different years.

Excluding the returns for 1892, when registration was admittedly incomplete, the statistics for the 15 years 1893-1907 show an average birth-rate of 30·24 per 1,000, the lowest ratio recorded in the whole Province. The yearly birth-rate has varied from 34·94 per mille in 1904 to 26·87 in 1896 per 1,000, the very low birth-rate in the latter year being probably an after-effect of the extreme unhealthiness of the preceding year. The deaths during the same period (1893-1907) averaged 35·20 per mille, thus exceeding considerably the annual recorded birth-rate; the yearly death-rate varied from 40·73 in 1907 to 21·94 in 1906. The poor vitality indicated by this high death-rate and low birth-rate furnishes another proof of the unhealthiness of the district. Indeed, were it not for an influx of immigrants to the Serámpore subdivision, the census of 1901 would have shown a decrease in the population: even in spite of immigration, the Sadar subdivision showed in 1901 a decrease of 0·3 per cent. The unhealthiness of the latter subdivision is exemplified in its two municipalities of Hooghly-Chinsura and Bánsberiá; for in the ten years 1893-1902 Hooghly town had an average death-rate of 50·43 per mille against a birth-rate of 28·42, while Bánsberiá had an annual death-rate of 50·02 against a birth-rate of 26·89 per mille. It is no matter for wonder, therefore, that the population in the former town decreased from 33,060 in 1891 to 29,383 in 1901, and in the latter from 6,783 to 6,478. The town of Arámbágh appears to have suffered almost as much as these two municipalities, its average death and birth-rate for these ten years being 38·37 and 27·29 per mille, respectively.

Infantile mortality.

Infantile mortality is high, and it is estimated that more than a third of the children die within five years of birth. The percentage of deaths is highest under the age of one, and the incidence of mortality is greatest in the winter months.

Principal diseases, Fever.

The registration of deaths caused by fever is notoriously inaccurate, as a considerable number of deaths due to other diseases, such as pneumonia, pleurisy, etc., are ascribed to fever; but for comparative purposes the figures may be accepted. They show a high mortality, the annual death-rate during the 15 years 1893-1907 averaging 25 per mille, or about 70 per cent. of the total number of deaths.

The following account of the types of fever and their causation is extracted from a note kindly communicated by Lieutenant-Colonel D. G. Crawford, Civil Surgeon of Hooghly:—

"Malarial fever is still the prevailing disease of the Hooghly district, though fortunately it is no longer the scourge that it was 50 to 30 years ago. Something has been done since that time to alleviate its ravages, particularly the flushing of some of the 'dead' rivers of the district, since the construction of the Dánkuni drainage channel in 1873 and the opening of the Eden Canal in 1881. Still, however, the physical conditions of the district remain much as they were half a century ago; and thus they must always remain, for no human agency can alter them. The district is little above sea-level, it has a heavy rainfall, it is traversed by numerous 'dead' or silting-up rivers, and it is chiefly devoted to the growth of rice, a crop which requires the ground to be a swamp during several months of the year for its cultivation. These conditions necessarily lead to its being waterlogged in the rains. Practically, every house built in the district necessitates the excavation of a small tank or pit (*dobá*) to get the earth, which forms a plinth, to raise the house above flood-level. Efficient drainage is an impossibility, as there is not sufficient fall. The tanks which abound in the towns—in the Hooghly-Chinsura municipality alone there are 700—the drains, with their inefficient fall, forming chains of stagnant pools instead of running streams, and the vast expanses of rice cultivation, all supply ample breeding grounds for the mosquito by which malarial fever is spread. After allowing for errors in registration, the fact remains that the mortality from fever, including its most common and fatal sequela, viz., enlargement of the spleen, is very high. Of the other diseases which also bear the name of fever, enteric or typhoid fever certainly occurs. I have seen cases in both adults and children. I have never seen cases of typhus or of relapsing fever. Cerebro-spinal fever has been seen, but is rare."

Burdwán fever.

During the third quarter of the 19th century the district was devastated by a peculiar type of malignant malarial fever. It was commonly known as "Burdwán fever," though Hooghly suffered as much as Burdwán. It was endemic and became epidemic generally. In its worst phases the fever assumed a tendency to congestion of some vital organ, most commonly the brain or lungs; and among the commonest sequelæ were enlargement of the liver and spleen. Its chief peculiarity was the tendency to a relapse or a succession of relapses; and, in some cases, sudden and great depression of vital energy followed.

"This fever," writes Colonel Crawford, "appears to have first attracted notice in the Jessore district about 1825; it began to affect the Nadia district about 1833; and it came across the

Bhāgirathī or Hooghly river into the Hooghly district in 1857-59. In these years Bandel, Bānsberiā and Tribeni suffered greatly from the epidemic fever. It reached Pāndua in 1862, Dwārbāsini in 1863; spread along the banks of the Kānā Nadi and Saraswati rivers in 1864; reached the Kāna Dāmodar in 1866, and the east bank of the Dāmodar in 1867. Jahānābād (now Arāmbāgh) was attacked in 1868 and Goghāt thāna in 1869-71. The Serampore subdivision suffered severely in 1871-73. The total duration of this epidemic of fever in the Hooghly district may be said to have been 20 years, viz., from 1857 to 1877, though its ravages did not last for so long in any one place, the usual duration of the fever in each of the villages attacked being from three to seven years. The mortality was enormous, being estimated by various observers at from one-third of the whole population up to nine-tenths in certain very severely affected places. Rich and poor, old and young, all classes seem to have suffered alike.

"Many officers were, from time to time during the prevalence of the epidemic, deputed to make special enquiries into the origin, cause, and type of the fever, and the condition of the affected tracts. The general consensus of opinion was that the disease was a malarial fever of an intensely aggravated type, attended by an unprecedented mortality. The causes most generally assigned were over-population and obstruction of drainage, caused by the silting-up of rivers. But it cannot be said that any completely satisfactory reason has been put forward, which accounts for the outbreak of the fever, its gradual spread from east to west, and its disappearance. The fever was called by the natives *jwar bikār* (literally, fever without sense), *i.e.*, fever with delirium, a term which in recent years has also been applied to cases of plague. During the 12 years 1863-74 no less than 51 temporary epidemic dispensaries were from time to time opened and closed in this district alone."

Cholera.

Cholera has long been endemic in the district, but so far as can be ascertained, there have not been such widespread epidemics as in other districts, like Puri and Purnea. The rural tracts do not suffer so much as the towns on the Hooghly; in fact, one or other of these seven municipalities usually heads the list as regards the mortality reported under this head from the different registering areas. The deaths are fewest in the rains (June to October), and are usually most numerous in November-December or March to May, the incidence being greatest in April. During the last 30 years, the highest mortality from cholera was recorded in 1896, viz., 4,376 deaths, and the next highest (4,141) in 1907. In

the former year Kotrang stood first with the very heavy death-rate of 16·65 per mille, followed by Uttarpārā (14·02) and Serampore (13·02). In the latter year all the riparian towns were more or less affected, Serampore suffering most severely from a virulent outbreak early in August—an uncommon time for cholera to be epidemic in Bengal.

Bowel complaints.

Next to cholera, the largest number of deaths are ascribed to diarrhœa and dysentery, these diseases being grouped together under one head. They prevail throughout the year, the incidence of deaths being greatest from October to February, especially from December to February, and lowest in the hot weather. The yearly variations are small, the death-rate not rising above 2·65 (in 1896) or falling below 1 per mille. As in the case of cholera, the towns, especially Serampore and Uttarpārā, suffer more from these diseases than the rural tracts. Hooghly being one of the few districts in Bengal in which a high mortality from bowel complaints is usually reported, Captain W. C. Ross, I.M.S., Deputy Sanitary Commissioner, made a special enquiry into the causes of their prevalence in January 1906, the area selected for investigation being the three thānas, Singur, Krishtanagar and Arāmbāgh. His conclusions are summarized as follows:—

Dysentery is prevalent, especially in Arāmbāgh thāna, but is not generally of a severe type, and does not constitute an important cause of death, except in Arāmbāgh thāna. (2) Diarrhœa is the heading under which most of the diarrhœa and dysentery deaths are returned, except in Arāmbāgh thāna where the numbers are nearly equal. (3) Again, except in Arāmbāgh thāna (though there are some even there), a larger number of the deaths from diarrhœa are due to terminal diarrhœa in cases of fever (*trypanosomiasis ?*). This error in the returns greatly magnifies the dysentery and diarrhœa death rate. (4) A small number of the deaths returned under dysentery and diarrhœa may be due to cholera (atypical and lingering cases). (5) Infantile diarrhœa is remarkable for its rarity, but simple diarrhœa, especially amongst old and debilitated people, is more frequent as a cause of death.

It would seem that the incidence of dysentery is directly associated with the quality of the water-supply. In all these thānas the water-supply is bad in most places. The river water (above the tidal areas) is apparently pretty good, but in the non-riparian areas tanks and *dobās* serve all purposes. The reservation of one tank (if there is one) in each village, or the construction of wells for use for drinking and cooking purposes only, seems to be the only hope of diminishing the mortality from dysentery and preventing epidemic outbursts of cholera. "From

the experience obtained at Arāmbāgh, there is no difficulty in getting people to use well water when it is made available: they are only too glad to get the chance, and come long distances to get good water for drinking."

As regards the clinical history of the disease, it generally affects old people over 50 years of age. "Persistent fever, generally of a quotidian type, comes on and continues for several months; the spleen is invariably enlarged, and later the liver generally becomes enlarged also. Emaciation and anæmia are always present and progressive: there is often œdema of the feet, ankles, etc.; jaundice frequently supervenes; and the case ends in a terminal dirrhœa of two or three weeks' duration. The clinical picture here represented almost compels one to believe that the disease is Trypanosomiasis."

Small-pox.

Small-pox generally breaks out towards the end of the cold weather and lasts for two or three months, *i.e.*, up to the first half of May. The number of deaths is, however, small, the ratio not rising above ·40 per mille except in 1906 and 1907, when it was ·62 and ·88, respectively. The disease, as a rule, causes more deaths in the towns than in the rural tracts, Serampore, Bhadreswar and Hooghly showing the highest proportionate mortality; the high death-rate in the towns is partly due to imported cases, chiefly from Calcutta. On the other hand, the small-pox death-rate in 1907 was 4·96 per mille in Polbā thāna, a typical rural area, whereas it was 1·19 per mille in Hooghly-Chinsura town.

Plague.

Plague was first noticed in the district in 1899, but the total mortality due to it has hitherto been below one hundred each year, except in 1903 and 1905 when it rose to 154 and 292, respectively, while in 1906 and 1907 the deaths fell to 7 and 12, respectively. Deaths occur chiefly from February to May. Chandernagore and Hooghly-Chinsura town are the only places in Bengal proper, outside Calcutta, where plague has been epidemic. From January to May 1905 there were 254 cases with 204 deaths in the latter town. Figures for Chandernagore are not available, but the number is believed to have been proportionately higher.

Other diseases.

Among other diseases, syphilis and gonorrhœa are common. Elephantiasis is met with, though not so often as in some other districts like Purī. Abscesses are very common, and so are ulcers of all kinds, the damp climate not being favourable to the quick healing of skin lesions.

Infirmities.

Blindness is less common than in any other district of West Bengal (except Howrah), only 93 males and 78 females per 100,000 being returned as blind in 1901. Operations for cataract, the chief cause of blindness among the aged, are comparatively few. Only 2,041 cases of eye-disease were treated throughout the district in 1900, the largest number treated in any dispensary being 346 at the Imāmbārā Hospital. Probably, most of those who have cataract, and are willing to be operated upon, go to Calcutta for the operation; from at least half of the district it is easier to get to Calcutta than to Chinsura. The deaf-mutes enumerated in 1901 represented 66 males and 46 females per 100,000, the lowest ratio in West Bengal except Midnapore; while the insane were returned at 43 males and 21 females per 100,000. Considering the poor vitality of the people, the comparatively greater strain of town life, and the fact that the proportion of residents in urban areas is greater than in any other Bengal district, the latter percentage is noticeably small.

Leprosy.

Leprosy is rare, the number of lepers reported in 1901 being only 362, representing 55 males and 14 females per 100,000. In view of the fact that Hooghly adjoins Burdwān and Bānkurā, two of the worst leper areas in India, this percentage is also surprisingly small. The census statistics are confirmed by the experience of the Civil Surgeon, Lieutenant-Colonel D. G. Crawford, I.M.S., who states that during seven years in the district he saw few cases of leprosy. Popularly the disease is believed to be due to some heinous sin in a previous life.

Vaccination.

The Metropolitan Circle of Vaccination, including Hooghly district, was created in 1869, and Act IV of 1865 prohibiting inoculation was extended to it in 1871. Act V of 1880, by which vaccination is compulsory in municipal areas, was extended to the municipality of Hooghly-Chinsura in 1881 and to the other municipalities of the district in subsequent years. In 1892 the control of the Vaccination Department in rural areas was transferred from the Deputy Sanitary Commissioner to the Civil Surgeons.

The general attitude of the people towards vaccination in this district is one of passive acquiescence, combined with a strong objection to payment of the fees prescribed for vaccination by licensed vaccinators. The lower classes still prefer to seek protection against small-pox epidemics by offering *pūjā* to the goddess Sitalā. In 1907-08 the number of persons successfully vaccinated was 28,342, representing 32 per mille of the population, protection being afforded to 42·41 per cent. of infants under one year of age. In the preceding five years the annual number successfully vaccinated averaged 28·37 per 1,000 of the population.

Inoculation.

Before the introduction of vaccination, inoculation was in common use as a protection against small-pox. It was performed

by a class known as *Acharjyas* or priests of the goddess Sitalā Devi. They inserted in the skin of the forearm a minute portion of the virus found in the vesicles of a small-pox patient, and after sprinkling the part with Ganges water, tied a strip of cloth round it. Small-pox pustules appeared, and after considerable inflammation and sometimes prostration, the fever abated, usually on the 16th or 17th day. Inoculation is now no longer practised.

MEDICAL INSTITUTIONS.

There are 16 public dispensaries and hospitals in the district, besides four private charitable dispensaries not under Government supervision, as shown in the marginal statement, which gives the places at which they are situated and the dates of their establishment. The hospital at Serampore, which was established through the exertions of Dr. Marshman, was transferred in 1870 to the control of the municipality, and is now called the Walsh Hospital after a former Commissioner of Burdwān. It is maintained partly from the municipal fund, partly from subscriptions, and partly from miscellaneous receipts, including securities to the amount of Rs. 4,000. An out-patient block was erected in 1906 at a cost of Rs. 11,000, through the liberality of the late Bābu Nandalāl Gosāin and his brothers; and the hospital, which has since been rebuilt from subscriptions supplemented by a Government grant, now contains 34 beds for males and 8 beds for females. The number of out-door patients is the largest in the district, averaging 47·64 daily in 1907, while the daily average of indoor patients was 21·69. The Imāmbārā Hospital is maintained almost wholly from the Mohsin Fund with the help of private subscriptions from mills on the other side of the river. This hospital was established through the exertions of the then Civil Surgeon, Dr. T. Wise. It was first located in a hired house in Chauk Bazar and then in a house in Mogaltuli Lane, formerly occupied by the Madrasa, and was under the charge of the Civil Surgeon. In 1839 Dr. Wise was succeeded by Dr. Esdaile, an enthusiast for medical mesmerism, through whose exertions some professional mesmerisers were added to the staff. It had also a Musalmān department for *Yunāni* medicine and a *dāi* class from 1872 to 1878; this class was started again in 1902. In 1894, the

Public.		
Serampore	...	1836
Imāmbārā Hospital	...	1836
Uttarpārā	...	1851
Dwārbāsini	.	1859
Baidyabāti	...	1857
Arāmbāgh	...	1871
Rishrā	...	1873
Bainchi	...	1879
Bhadreswar	...	1885
Khānākul	...	1893
Mandalai	...	1893
Hooghly Female	...	1894
Balāgarh	...	1894
Itachona	...	1901
Bhandarhāti	...	1905
Haripāl	...	1908
Private.		
Imāmbārā (private)		
Raghunāthpur	.	1859
Tārakeswar		
Tolāphātak (Chinsura)		1905

hospital was removed to its present site in one of the smaller buildings of the old barracks. An operation room was added in 1898, and an out-patient block in May 1906 at a cost of Rs. 11,000, of which Rs. 5,000 was contributed by Rai Bahādur Baroda Prasanna Sen and the Rs. 6,000 by the Mohsin Fund; in 1908 a new and up-to-date operation room was built at a cost of Rs. 4,250 raised by public subscriptions. The building contains two surgical wards with 16 beds, a medical ward with 8 beds, a dysentery ward with 8 beds, a cholera ward with 2 beds, and a pauper ward with 8 beds, and also 40 beds [illegible]. Besides the Serampore hospital, the municipality maintains dispensaries at Rishrā, Baidyabāti, Bhadreswar and Arāmbāgh, while the District Board maintains dispensaries at Balāgarh, Khānākul, Bhandarhāti and Haripāl. In addition to these is the Arāmbāgh dispensary; the other aided dispensary is at Uttarpārā and contains 16 beds for males and 8 beds for females and is maintained by an endowment given by the Mukherji family of Uttarpārā and by Government contributions. That at Dwārbāsini is maintained chiefly by Rājā Piāri Mohan Mukherji, the Government and District Board also making small grants. The Bihāri Lāl dispensary at Bainchi, which has 4 beds for males and 2 beds for females, is wholly aided. Those at Mandalai and Itachona are mainly kept up from private endowments. The Bainchi dispensary owes its existence to an endowment of a lakh and a half of rupees left by Bābu Bihāri Lāl Mukherji, zamindār of Bainchi, for a school and a dispensary. The Mandalai charitable dispensary was established in 1893 by Dr. Bholānāth Bose, who left his property for charitable purposes. The Itachona dispensary owes its origin to the liberality of a zamindār named Srināryan Kundu, and the Bhandarhāti dispensary to that of Bābu Girish Chandra Chatterji, a plunder-zamindār of Howrah, who gave a building and the sum of Rs. 5,000: the District Board, however, maintains the dispensary. The most recent dispensary is that at Haripāl, which was opened in 1908, Srimati Sushila Devi giving a house and Rs. 25,000 to the District Board which maintains it.

There is one female hospital located in a building adjoining the Imāmbārā Hospital, which was opened in July 1894. Both in-patients and out-patients are treated here, the daily average in 1907 being 15 and 42, respectively. There is also a *Yunāni* dispensary in the Imāmbārā under the charge of a *hakim* or native doctor. A small private dispensary is kept up at Tārakeswar by the Mahant, and at Raghunāthpur by Piāri Mohan Rai, a grandson of Rājā Rām Mohan Rai. There was formerly a

dispensary maintained by the local zamindar at Sikandrapur, but it was closed in 1905. Another maintained by the Free Kirk Mission at Tribeni was closed in 1902, but the Bainchi estate is now building an out-patient dispensary there and will, it is reported, wholly maintain it.

There is accommodation for in-door patients at Hooghly, Serampore, Arambagh and Bainchi, and in the Hooghly Female Hospital. In the other dispensaries out-door patients only are treated. The location of the various dispensaries, public and private, shows that the towns along the river are fairly well provided with medical aid, but that the great block between the East Indian Railway line and the Damodar, which suffers from malarial fever, gets little qualified medical help. Arambagh and Khanakul thanas, between the Damodar and Dwarakeswar, get even less, and Goghat thana west of the Dwarakeswar none at all.

MEDICAL PRACTITIONERS.

At the census of 1901, 343 persons were returned as certificated practitioners, 1,431 as practitioners without diplomas, 312 as midwives, and 92 as compounders, etc. This gives a total of 2,18 for the whole district, excluding the small number of those in Government service who are confined to the towns; and it is a fair inference that the staff of medical men is inadequate, especially in the rural areas. The bulk of the Hindus and Muhammadans have not yet lost faith in the old *systems* of medicine, *Kaviraji* or *Yunani*. But *hakims* are no longer available, and *kavirajes* resident in the district are few and far between. Those who are better off often consult the native physicians of Calcutta, while patent medicines command a growing sale. A few homœopathic and allopathic doctors practise in the mofussil; but their number is very limited, and their experience is chiefly confined to the common cases of malarial fever, cholera or bowel-complaints. Quacks are fairly common, and barbers still perform simple surgical operations. Occasionally also up-country men, especially Punjabis, operate for cataract. Midwives belong to the lowest castes, such as Hari, Muchi, Kaora and Dom, with a sprinkling of Bagdis. They are ignorant and illiterate, but from constant practice have a large experience of ordinary deliveries. The profession is generally hereditary, passing from mother to daughter.