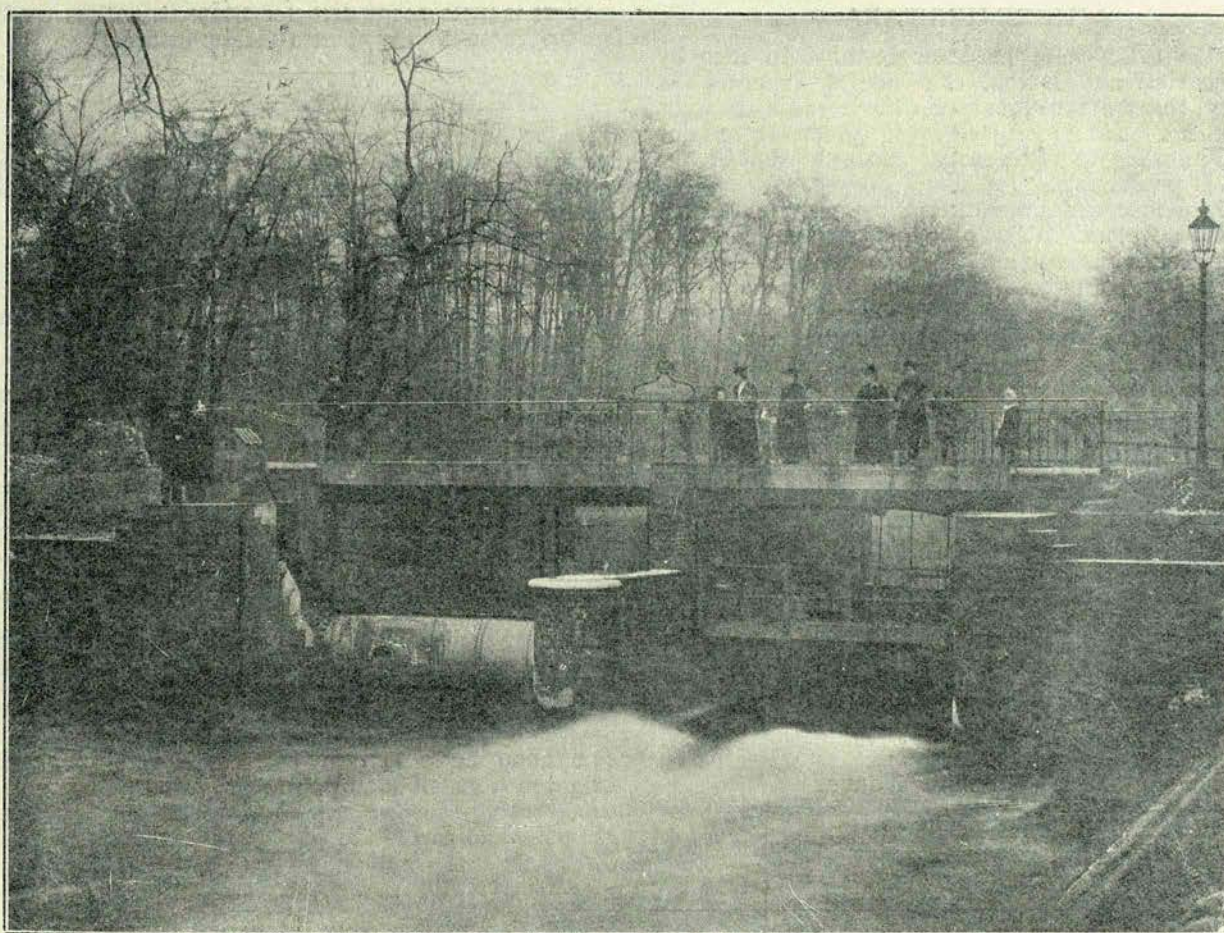


150,000 to 650,000 acres, according to the season. No complete failure of rain had been known till 1896 and the pressure of population had been light; in fact, if anything, there had been too much rain. Since 1896 there have been such severe famines that protective works have become necessary, but are not likely to pay. In Berar, for instance, only wells were used; the later rains failed in 1896, and there was a severe famine in 1899; still the necessity for irrigation is not often felt. The northern hilly tracts would lend themselves to storage works, but in the south, in Malghat and Balaghat, especially in the latter, tanks might fail during severe droughts. In Coorg it is only in a narrow strip along the eastern boundary that the failure of the rains occurs sometimes; a few petty works have been constructed here.

NORTH-WEST FRONTIER PROVINCE.

| Major Protective Work.    |     |     | Minor Capital Work.                             |
|---------------------------|-----|-----|-------------------------------------------------|
| Name of Work.             |     |     |                                                 |
|                           |     |     | Lower Swat River Canal.      Kabul River Canal. |
| Acres Irrigated           | ... | ..  | 1,59,412      27,843                            |
| Miles in Operation        | ... | ... | 208      65                                     |
| Capital Cost Rs.          | ... | ... | 41,70,702      6,31,070                         |
| Percentage of Net Revenue | ... | ... | 9'70      14'40                                 |
| Total Net Profit Rs.      | ... | ... | 12,11,693      7,24,880                         |



A ROLLING DAM ON A BERLIN CANAL.

| Name of Tank.                                       | Khair-<br>banda. | Khapri<br>Arando. | Marowda. | Khola. | Kusrangi. | Khaira<br>Datan. | Kuker-<br>dehi. | Binakheri | Harg-<br>ahan. | Pindraon. | Asola-<br>menda. | Total.    |
|-----------------------------------------------------|------------------|-------------------|----------|--------|-----------|------------------|-----------------|-----------|----------------|-----------|------------------|-----------|
| Capital Cost Rs. ... ..                             | 1,86,397         | 1,21,040          | 1,60,136 | 87,642 | 1,08,858  | 70,131           | 76,877          | 74,473    | 59,914         | 1,26,251  | 1,17,934         | 11,89,353 |
| Percentage of Net Revenue and<br>Deficit Rs. ... .. | 5,130            | 3,078             | 4,251    | 2,485  | 3,250     | 0'01             | 1,726           | 1,631     | 1,452          | 2,685     | 2,826            | 30,799    |
| Total Net Deficit Rs. ... ..                        | 7,900            | 3,814             | 5,535    | 3,201  | 4,199     | 2,928            | 1,980           | 1,904     | 1,807          | 2,939     | 3,492            | 39,699    |



The Lower Swat River Canal, although sanctioned as a protective work, has proved a highly remunerative one. The canal, although a perennial one, has no weir at its head works. This work was first considered by Sir Henry Lawrence before the annexation. Sir Henry Durand revived the scheme in December 1870, and the canal was opened in February 1888.

The syphons on this work are formed of steel pipes 3½ feet in diameter, laid in a timber trench filled with concrete. The maintenance cost of the works per acre irrigated was the lowest in India, viz., Rs. 0.12. As has been truly said, this one work has probably done more in ten years to still the turbulence of a quarrelsome frontier tribe than all the police of the province could have done in half a century.

#### AJMERE-MERWARA.

All the tanks were made or restored in 1850 by Colonels Hall and Dixon. The useful rivers do not run dry, but the tanks maintain the levels in the wells near them. These irrigate from 44,000 to 108,000 acres according to the season. No extension of the works is practicable.

Private works are numerous and use perennial storm and flood waters. *Kharag* or underground channels are peculiar to the district. They tap the subsoil water of high grounds and bring it through the hills to the lower grounds. They are all constructed by private individuals and show great skill in their execution. The Zhera Karez is 5,000 feet long, 36 inches high and 20 inches broad with a gradient of 1 in 33; it discharges 9 c. feet per second.

On the *Minor Revenue Works* the Net Revenue Receipts were Rs. 18,69,893; the charges being 56.45 per cent. of the Gross Revenue.

The works irrigated 187,255 acres with a mileage in operation of 273; at a capital cost of Rs. 48,01,772; the total Net Revenue being Rs. 84,36,573.

The Minor Capital Works irrigated 20,890 acres at a cost of Rs. 31,69,936, the percentage of Net Revenue being 3.35 and the total Revenue account Rs. 15,87,557.

#### RAJPUTANA.

##### MINOR CAPITAL WORKS.

| Name of Tanks.                 | Ajmere Sub-Collectorate. | Beawar Sub-Collectorate. | Todgarh Sub-Collectorate. |
|--------------------------------|--------------------------|--------------------------|---------------------------|
| Acres Irrigated ...            | 11,220                   | 6,700                    | 2,070                     |
| Capital Cost Rs. ...           | 17,64,826                | 9,45,543                 | 4,59,567                  |
| Percentage of Net Receipts ... | 2.54                     | 4.01                     | 5.15                      |
| Total Net Profit Rs. ...       | 8,45,240                 | 4,41,626                 | 2,99,691                  |

These were nearly all treated as "Imperial."

There are many old tanks in this province, most of which are now abandoned: the Udaipur Lake, said to be the largest in India, is not now used for irrigation.

#### BALUCHISTAN.

##### MINOR CAPITAL WORKS.

These were nearly all treated as "Imperial."

| Name of Work.                  | Khudhil Khan Reservoir. | Shebo Canal. | Anamber Channel. |
|--------------------------------|-------------------------|--------------|------------------|
| Acres Irrigated ...            | 6,449                   | 2,329        | .....            |
| Miles in Operation ...         | 22                      | 25           | .....            |
| Capital Cost Rs. ...           | 10,21,117               | 6,77,231     | 40,775           |
| Percentage of Net Receipts ... | 4.04                    | 0.8          | .....            |
| Total Net Profit Rs. ...       | 1,33,078                | 94,910       | .....            |

The Minor Capital works irrigated 8,778 acres, with 47 miles in operation. The Capital Outlay has been Rs. 17,52,123; the Net Revenue, 2.67 per cent., and the total Net Revenue, Rs. 2,27,988.

There is little scope left for State irrigation works besides those in the Quetta-Pishin district.

#### IRRIGATION COMMISSION, 1901-03.

Under the Presidency of Sir Colin Scott Moncrieff, a Commission went into the whole question of Irrigation in India most thoroughly, and in the report the manner of assessment is stated in full detail.

The following figures are abstracted from the very valuable report. In this table now given, the figures are exclusive of large areas flooded by river, or saturated by rain-water impounded in natural depressions and in shallow tanks.

In all India (exclusive of the Native States), the population in 1901 was 218,963,000; the average area under cultivation was 226,064,000 acres, of which

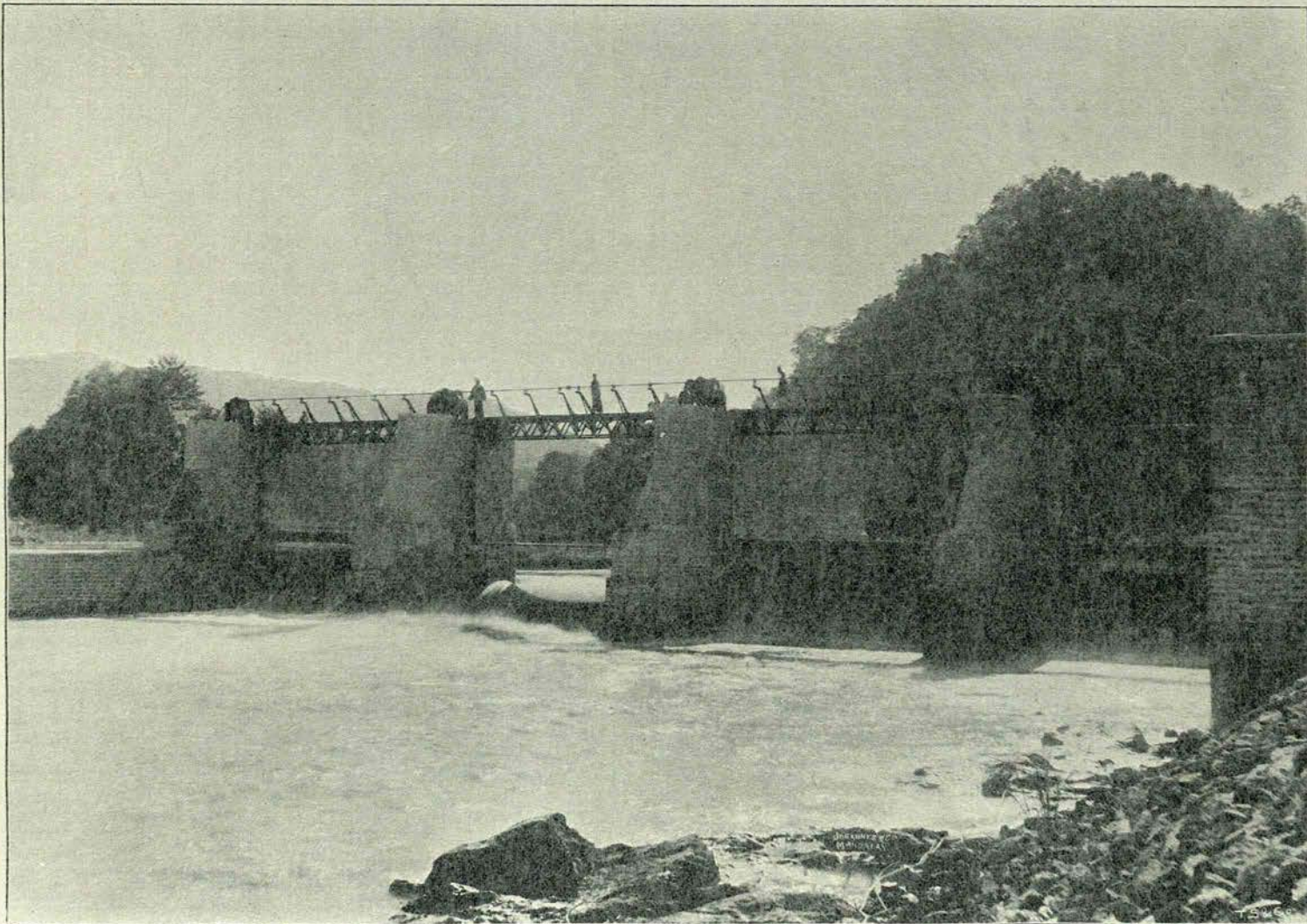
| Sources of Irrigation. | State Works, Acres. | Private Works, Acres. | Total acres. |
|------------------------|---------------------|-----------------------|--------------|
| Wells ...              | .....               | 12,895,000            | 12,895,000   |
| Canals ...             | 15,644,000          | 1,235,000             | 16,879,000   |
| Tanks ...              | 2,914,000           | 5,194,000             | 8,138,000    |
| Other Sources ...      | .....               | 6,186,000             | 6,186,000    |
| Totals ...             | 18,588,000          | 25,510,000            | 44,098,000   |

44,098,000 acres or 19½ per cent. were ordinarily irrigated from all sources, but this latter figure varies considerably—in very dry seasons, the tanks fail and the perennial canals are worked to their maximum.

#### NATIVE STATES.

The Commission then procured figures from all the important Native States (except Burma and Baluchistan) which are summarised below. The population was 51,326,000; the total area of the States being 438,000 square miles, of which the average cultivated area was estimated at 71,076,000 acres, of which 7,763,000 or 10.64 per cent. were ordinarily irrigated. The Commission estimated the total area annually irrigated in Burma and Baluchistan at 53 million acres, of which 19 are from canals, 16 from wells, 10 from tanks and 8 from other sources.





HEAD REGULATOR, MANDALAY CANAL, BURMA.



### MYSORE.

In this State there are 39,000 tanks, or four to every three square miles, constructed in chains on the slopes, and overflowing into each other down to the terminal one. If a breach occurs in the top one, it generally causes all the others to be breached also. The largest tank holds 3,118 million cubic feet; 10 hold 270; not more than 2,300 irrigated 80 acres or more. The total irrigated area is 540,000 acres; 1,000 miles of canals or river channels serve 100,000 acres, and wells about 70,000 acres. Two large tanks were under construction: the Bora Kanave to hold 2,354 million c. feet and the Mari Kanave to hold 30,000 million. This latter is on the Vedavati or Hagari River (which is a tributary of the Tungabhadra) in the Chitaldroog district. The catchment area is 2,075 square miles; with an average rainfall of 23½ inches; the dam is 1,185 feet long and is 142 feet high, giving a water spread of 40 square miles which is equal to the Assuan Reservoir; but the lake will probably fill only once in 30 years—the average capacity is 10,000 million cubic feet. The sluices for drawing water off will be fitted with Stoney's roller gates to carry 1,047 c. feet of water with a 10 feet head; the maximum head being 80 feet. It is hoped it will irrigate 45,000 acres and the estimate is about 40 lakhs. During the famine in 1876-77 one-third of the population died—in one part of this tract.

### HYDERABAD.

The area irrigated is generally, 773,000 acres, but in a dry year like 1899-1900 it drops to half this amount. There are said to be 18,000 tanks, the largest of which holds 300 millions cubic feet; some of these are very old and most of them were useless until recently. Since 1893 some 7,000 have been restored and projects for others are prepared. Some small canals take off from the left bank of the Tungabhadra, irrigating nearly 4,000 acres. The Manjera Canal Project, now called the Myboob, is completed and will irrigate 10,000 acres.

### BOMBAY, INCLUDING BARODA.

The area irrigated in ordinary years amounts to 1,147,000 acres or less than 5 per cent. of the area cultivated.

### RAJPUTANA.

The rainfall is uncertain and storage sites are difficult to find, also territorial difficulties are so great that all other sources of the water-supply have to be utilized, so irrigation, which is very precarious, is most important. In great rains, 1,170,000 acres are irrigated, being 18 per cent. of the cultivated area, from wells and tanks. Jaipur, Bharatpur, Shahpura and Kishangarh are best protected. Jaipur, in the last 30 years and under the advice of Colonel Sir Swinton Jacob, has constructed many irrigation tanks, and made liberal advances for wells. The Ramgarh Dam is a bold but successful work. It is constructed of drift sand, covered with 18 inches of broken stone; it is 1,080 feet long, 90 feet high and from 30 feet to 570 feet wide. It has a core wall of sand and clay, 20 feet thick at bottom; with a 1 in 12 batter, and carried 10 feet into the bed of the river.

It is expected that water will percolate along the bed of the dam—this is termed "seepage," and it will be allowed to run out through broken stone at the foot of the outer slope. Bharatpur spent 10 lakhs in four years, mostly on impounding reservoirs and in distributing the spill waters of the Banganga and other rivers, thereby increasing the irrigated area by 50,000 acres.

### CENTRAL INDIA.

The area irrigated from all sources is less than 6 per cent. of the average area cultivated; many tracts are liable to severe droughts.

### BHAWALPUR.

The inundation canals irrigate two million acres and take off from the left bank of the Sutlej.

The Commission reported in April in 1903, that the field for Productive works was restricted, but that it should be covered as soon as possible, viz., in the Punjab, Sind and part of Madras, so as to increase the food supply from parts not liable to famine: that Protective Works where most required, viz., in the Bombay and Madras Deccan, in the Central Provinces and Bundelkhund, could not do more than pay their working expenses, but that this would reduce the cost and mitigate the intensity of famines. They recommended that storage works, like Lakes Fife and Whiting, should be constructed in the Bombay Deccan where rainfall had never failed; that Protective Works in the rice-growing districts of the Central Provinces, the Ken Canal Project in Bundelkhund, and storage works on its rivers should be started. Also that investigations should be made into the conditions in the Rajputana and Kathiawar States and in the Central Provinces.

The Commissioners prepared a rough programme of new Major Works costing 44 crores to irrigate 6½ million acres. This would impose a yearly burden of nearly 74 lakhs on the State, but would save 31 lakhs in famine work, so that the net charge would be 43 lakhs—this would represent the price of protection from famine and of other indirect advantages. The area protected by private irrigation works being actually greater than that by State works, the former should be encouraged by a more liberal and elastic system of Government loans, by grants-in-aid in famine tracts and by other means. India cannot be entirely protected from famines by irrigation alone, and all the works proposed would not intercept more than 2½ per cent. of the water flowing to waste in the sea.

These recommendations are all under consideration and the annual revenue allotment which was one crore from 1900 to 1904 was raised to 1¼ crore in 1904-05. At this rate it will take a considerable time to carry out the Commission's programme.

It has truly been said that "the smallness in the difference of prices in all parts of the country during the famines that have occurred since 1896 is the best justification of the policy of Railway extension (*pari passu* with the extension of irrigation) as an alleviation of famine."



was constructed by Sir Arthur Cotton in 1844-50, and is one of the two most remunerative works in the Presidency.

The *Kistna Canal* was planned by Sir Arthur Cotton, who also at the invitation of the Provincial Government as mentioned above, proposed irrigating large portions of the Bellari, Kurnool, Cuddapah and Nellore districts. The Madras Irrigation Company was formed to carry out the whole scheme under a Government guarantee, only a portion of which, however, was ever completed, and the Government took over the works in 1882. The complete Tungabhadra project for utilising the river of that name (a tributary of the Kistna) as well as storage work on the Kistna itself are being considered and, should it be found possible to carry them out at a reasonable cost, they may yet be constructed.

There is no doubt that more storage works are required as the existing ones are insufficient for present needs. Whereas if they were adequate, second crops might be sown and the famine districts be completely protected. But both the country and the soil are unfavourable to canals, and the works would be very costly. The question is therefore whether indirect profits from absence of famine would not justify the outlay.

committing themselves to any big schemes; and, although the result of working by Government agency had proved very encouraging they considered private agency more advantageous; this however, for various reasons, did not prove to be the case. However, the percentage of working expenses to gross revenue was the lowest in India, *viz.*, 10.59. The grand anicut on this system was constructed 1,600 years ago. The Cauvery system is the other work alluded to above as being most remunerative.

The tendency of main streams to go back to old channels has already been mentioned; this has had to be checked in this instance by an anicut across the Cauvery and Coleroon Rivers in order to preserve the present arrangement. The marginal embankments have had to be raised higher and higher and are cut from time to time to provide discharges on to the low lands in moderate amounts; this being the course taken generally by Nature when she is undisturbed by artificial restraints. The Upper Coleroon anicut is now being remodelled.

The *Srivaikuntham Anicut* is on the Tambraparni River, in Tinneveli, south of Tuticorin.

*Kurnool Canal.*—The Kurnool-Cuddapah Canal is the only part of Sir Arthur Cotton's big project that has so far been constructed. The Madras Irrigation

| Name of Work.                 | Godaveri Delta Seystn. | Kistna.     | Penner River Canals. | Cauvery Delta System. | Srivali Kuntham anicut System. | Kurnool Canal. | Barur Tank. | Periyar Project. |
|-------------------------------|------------------------|-------------|----------------------|-----------------------|--------------------------------|----------------|-------------|------------------|
| Acres Irrigated ...           | 8,78,999               | 6,48,247    | 1,29,007             | 9,89,226              | 44,074                         | 88,919         | 5,493       | 1,56,634         |
| Capital Cost Rs. ...          | 1,36,93,341            | 1,53,22,551 | 64,38,713            | 32,73,568             | 15,97,016                      | 2,17,71,294    | 4,34,841    | 93,34,814        |
| Percentage of Net Revenue ... | 19.34                  | 14.49       | 0.13                 | 25.90                 | 6.34                           | 0.48           | 1.07        | 4.08             |
| Miles in operation ...        | 2,466                  | 2,371       | 473                  | 2,094                 | 90                             | 505            | 29          | 276              |
| Total Net Revenue Rs.         | 4,87,837.09            | 2,96,69,631 | 9,01,860             | 2,79,87,628           | 3,00,928                       | 1,96,03,808    | 2,42,183    | 22,61,602        |

The present weirs on the Tungabhadra were constructed by Krishna Raya at the beginning of the 16th century. The old dams, called *corumbos*, were composed of earth and brushwood and were renewed every year. The Bezwada anicut was built in 1852-55; it is 3,714 feet long and 20 feet above the deep bed of the river. It is founded on pure sand and is situated in a deep gorge, where floods rise 40 feet at times giving a depth of 19 feet over the crest, with a discharge of 770,000 c. feet per second. On this canal a "syphon" crossing got choked by detritus and was carried away.

*The Penner River Canals.*—The net revenue from these canals which averaged 4.46 between 1896 and 1904 fell to 0.13, as noted above, owing to the grant of large remissions and to the diminution in the area of second crop cultivation in 1904-05, on account of the unfavourable character of the season.

*The Cauvery and Coleroon Delta System.*—These works in Tanjore were started under native rule and were improved by Sir Arthur Cotton in 1835-36. As the funds for these and the similar works on the Godaveri and Jumna, already mentioned, were provided out of revenue only, the East India Company shrank from

Company came to grief over the work, and it has never been successful—even now it only just pays its way, and is never likely to become really "Productive." The capital cost was greatly in excess of the estimate, and the works were taken over by the Government in 1882. On this canal there is a bank 50 feet high on side long ground; it is 35 feet high for miles. The average cost per acre irrigated has been Rs. 24-6.

*The Barur Tank* is one of the most unremunerative works in the province and it is not expected that it will ever yield any profit, so as to justify its inclusion among "Productive" works.

*The Periyar Project.*—The works which were opened in 1896 have so far cost about Rs. 1,300 per million c. feet of water stored. They consist of a large storage reservoir in Travancore on the western side of the Ghauts, with a concrete dam across a narrow gorge in the Periyar River, which discharges on the Malabar Coast. The impounded water is diverted by a tunnel through the hills into the Vaigai River on the eastern side of the Ghauts; this river discharges into the Palks Straits in Madura and there are many old irrigation works upon it, but the supply therefrom is very uncertain. The scheme was designed and carried



out by Colonel J. Pennycuik, R.E. The reservoir holds 13,000 million c. feet, of which 6,815 million c. feet are available for supplementing the Vaigai flow. The dam is of concrete 1,241 feet long and 155 feet high to its crest with a 3 feet parapet. The tunnel is 5,704 feet long and is 90 square feet in area, with a gradient through it of 1 in. 75. Stoney's Gates are fixed at the head of the tunnel and the water flows for 86 miles down the Vaigai River to a weir with the ordinary distribution canals, serving 200,000 acres which were previously subject to severe droughts. A steady improvement is noticeable in the case of this project and it is anticipated that its return will still further improve when the distributing works are completed. The head works at Peranai have been remodelled.

The incidence of Irrigation Revenue per acre served is the highest in India, viz., Rs. 10.65; the cost of Revenue management per acre irrigated is also the highest, viz., Re. 1.11; as is likewise the maintenance of works per acre, viz., Rs. 2.19; and the total working expenses, viz., Rs. 3.42

#### MINOR CAPITAL WORKS.

The acres irrigated were 521,786, with 2,548 miles in operation, at a capital outlay of Rs. 1,15,18,282. The percentage of net Revenue being 4.41 and the total net Revenue Rs. 2,15,75,126. These works were all treated as "Provincial."

#### BOMBAY-SIND.

Many tracts in this province have become deserts through being covered with drift sand, or through the destruction of trees by human agency. Tank irrigation is unknown, but the rainfall is so slight and so uncertain that this is not surprising, so that irrigation canals have always been in use, and have been improved and greatly added to by the British Government, as cultivators depend entirely on them to produce the rice and wheat they grow. The so-called "wet" and "dry" rates have been consolidated on revision of the settlement, and they now represent the revenue assessed on land entitled to irrigation. The rates vary, however, with the method of irrigation (whether flow or lift), with the area cultivated, and, to some extent, with the crop sown; the quantity of water used, when it is used, the quality of the soil, the intensity and constancy of the demand, and the increased value of the output are also taken into consideration. Nine-tenths of the revenue assessed are credited to the canals and the rates average Re. 1-9 per acre the working expenses to 8a. (the lowest in India).

The rise and fall of the Indus at Sukkur is 15 feet, at Kotri 230 miles lower down it is slightly less. At the former place the maximum discharge is 800,000

| Name of Work.                      | Chenabank Tank. | Madras Water-supply and Irrigation Extension Project. | Palar Anicut System. | Lower Coleroon Anicut System. | Pelandurai Anicut System. | Satiatope Anicut System. | Tiruk Koyilur System. | Cheyeru Anicut System. | Poincy Anicut System. | Sagiteru Project. | Munyern Project. | Chopad Project. | Seventeen other Works under one lakh. |
|------------------------------------|-----------------|-------------------------------------------------------|----------------------|-------------------------------|---------------------------|--------------------------|-----------------------|------------------------|-----------------------|-------------------|------------------|-----------------|---------------------------------------|
| Acres Irrigated ..                 | 11,866          | 7,946                                                 | 79,511               | 111,453                       | 11,277                    | 33,279                   | 26,332                | 29,032                 | 17,168                | 3,693             | 2,221            | ..              | 1,88,688                              |
| Miles in operation ..              | 27              | 10                                                    | 296                  | 896                           | 63                        | 190                      | 163                   | 181                    | 182                   | 14                | 57               | ..              | 469                                   |
| Capital Cost Rs. ..                | 747,107         | 17,72,920                                             | 23,61,837            | 14,05,490                     | 5,94,844                  | 3,93,832                 | 3,10,068              | 4,12,179               | 2,36,290              | 4,57,723          | 5,92,916         | 5,39,853        | 16,87,794                             |
| Percentage of Net Revenue ..       | 0.21            | 0.81                                                  | Deficit Rs. 13,264   | 15.58                         | 3.50                      | 20.23                    | 4.18                  | 3.33                   | 6.79                  | Deficit Rs. 6,782 | 0.57             | Deficit Rs. 238 | 8.72                                  |
| Total Net Profit or Deficit Rs. .. | 1,8,27,011      | +1,33,777                                             | +19,24,140           | +1,07,60,552                  | -42,066                   | +26,32,427               | +4,84,496             | +4,97,876              | +8,71,536             | -12,933           | +9,635           | -713            | +34,90,388                            |

#### MAJOR PROTECTIVE WORKS.

| Name of Project.              | Rushikulya. | Mopad.         | Total.    |
|-------------------------------|-------------|----------------|-----------|
| Acres irrigated ...           | ...         | 96,274         | 96,274    |
| Miles in operation ..         | ...         | 216            | 216       |
| Capital Cost Rs. ...          | 50,01,088   | 1,748          | 50,05,836 |
| Percentage of Net Revenue ... | 0.74        | Deficit Rs. 33 | 0.74      |
| Total Net Deficit             | 20,91,764   | 33             | 20,93,797 |

Taking these two classes of work together, the percentage of working expenses on gross revenue was 22, being the lowest in all India.

The Rushikulya Canal is not likely to prove remunerative

c. feet per second. The silt at the head of these canals is some times so great that a new head has to be cut.

#### MAJOR PRODUCTIVE WORKS.

In the province of Sind there are eight Productive works irrigating 1,201,889 acres; the total length of the canals being 2,122 miles. The capital cost of which has been Rs. 2,51,82,393, yielding a net revenue of 5.17 per cent. The total net profit has been Rs. 66,15,516. The total area irrigated exceeded the average of the last nine years. The average value of the crops per acre was Rs. 19.1 and the average rate of revenue assessed per acre was Rs. 2.1, thus being the lowest figures in India.

The Desert Canal is the only one showing a maximum net revenue since 1896. It is also notable as having the highest percentage of working expenses to net revenue (excluding two exceptional cases), while



# HIS EXCELLENCY SIR GEORGE SYDENHAM CLARKE, G.C.M.G.,

G.C.I.E., F.R.S.,

Governor of Bombay.

**S**IR GEORGE SYDENHAM CLARKE, G.C.M.G., G.C.I.E., F.R.S., who succeeded Lord Lamington in 1907 in the Governorship of the Bombay Presidency, is the son of the Rev. W. J. Clarke, of Knoyle House, Folkestone. He was born on the 4th July, 1848, at Swinderby, Lincolnshire, of which parish his father was at that time the Vicar. He began his education at the old school at Repton, continuing at Rossall, whence he went on to Haileybury. Later on he underwent a special course of Mathematics at Wimbledon School, passing first in the open competition for Woolwich in 1866. In June, 1868, he passed first out of the Academy, gaining the much-coveted Pollock medal—the greatest distinction for all studies—in addition to seven other prizes. In the following month he received a commission in the Royal Engineers, and, at the age of twenty, began a life of scientific soldiering with two years' work at Chatham and a year's service at Aldershot. Here it was that an accidental meeting with the late Sir George Chesney, who was then organising the staff of the new Royal Engineering College at Cooper's Hill, led to his appointment as Instructor in engineering drawing at that institution, a post which he held from 1871 to 1880. During this period he found time for extended study and research, and he wrote several scientific works, which are now used as text-books. Of the books which he published during his connection with Cooper's Hill, the best known is "Plevna: a study of the Russo-Turkish War," the others being more technical. He also became an Examiner to the Science and Art Department at South Kensington, a post which he held for some years.

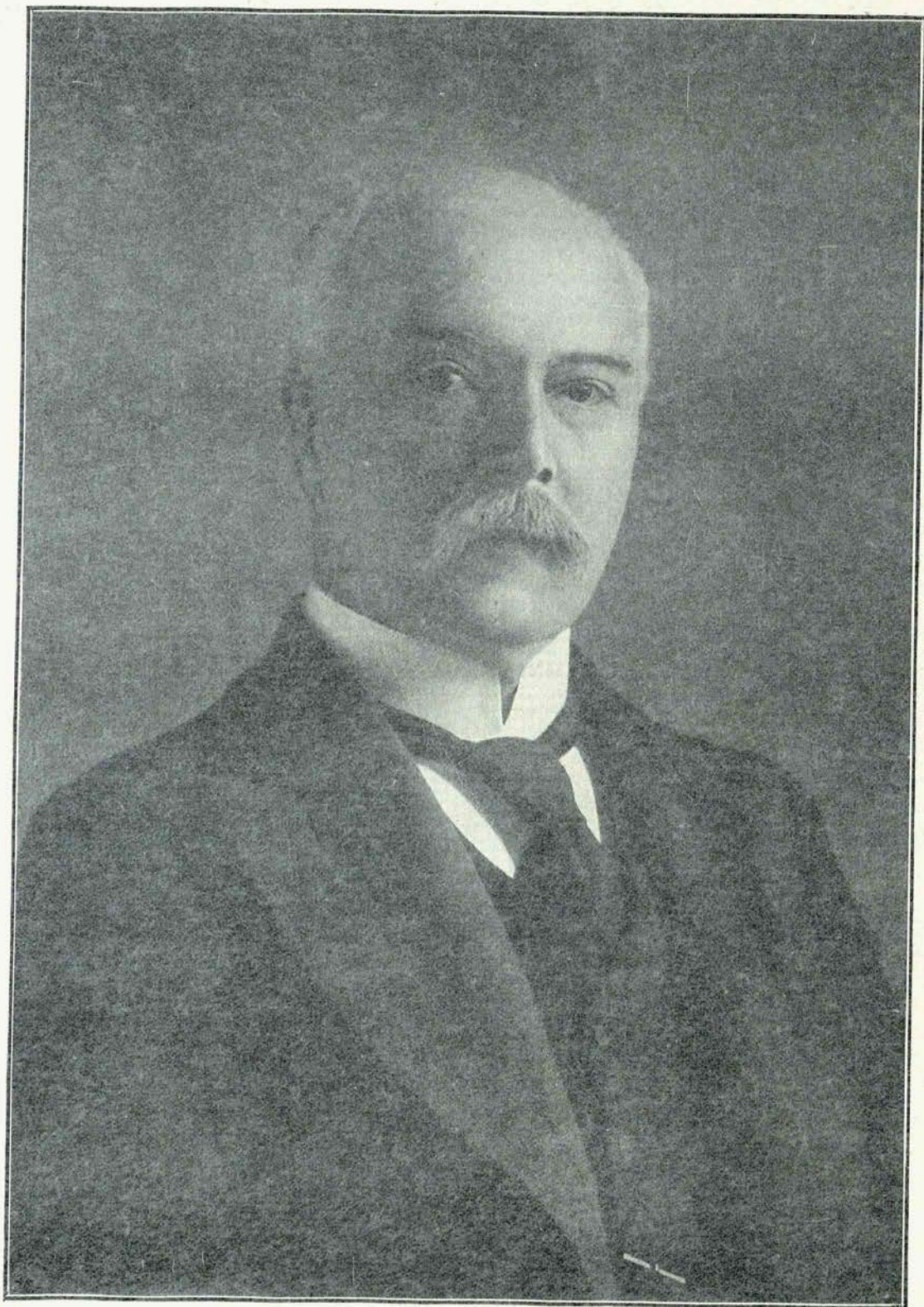
On promotion to the rank of Captain in 1880, he resigned his appointment at Cooper's Hill, receiving the thanks of the India Office. He was then sent to Bermuda, and later to Gibraltar, where he was employed on fortifications. In 1882, he volunteered for service in Egypt, and was despatched at short notice to report on the results of the bombardment of Alexandria. He took part in several reconnaissances, and reached Tel-el-Kebir one day after the battle. At the end of 1882 he returned to England, and early in the following year he joined the staff of the Inspector-General of Fortifications, and took an active part, under Sir Andrew Clarke, in designing the new defences of the Empire which arose out of the report of Lord Carnarvon's Commission. His activity was not confined to his own branch of the services, for the experience which he had gained at Alexandria not only led him to take strong views on the altered conditions of fortifications, but caused him to study the whole question of Imperial defence, more especially in relation to the Navy. In 1885 he took part in the Soudan Expedition as Deputy

Assistant Adjutant and Quarter-Master-General, and was mentioned in despatches. On his return to England, after the Soudan Campaign, Captain Clarke became Secretary to the Colonial Defence Committee, which sat from 1885 to 1892, and marked the first important step towards national recognition of the great responsibilities arising out of expansion of the Empire, and of the great resources available for discharging them. During this period he was employed on a number of missions of a special nature, having connection with gunnery and engineering works, and in the course of his duties he visited Sweden, Lintz, Berlin, Paris, Magdeburg, the United States, Canada, Malta, Gibraltar, Bukarest, and many other places. In 1887 he was made a C. M. G., and in the following year was appointed Secretary of the Royal Commission on the Administration of the Admiralty and War Office, presided over by Lord Hartington, a Commission which did much to promote closer and more cordial co-operation between the two services. Meanwhile, his literary activity continued unabated, and he wrote several valuable papers on naval and military subjects. In 1890 he published "Fortification: Past, Present and Future," a book that has exercised a marked influence upon the science of fortifications at home and abroad, and which was adopted as a text-book in Japan.

After serving at Malta as Second-in-Command of the Engineers, and becoming a Lieutenant-Colonel in 1894, he was appointed Superintendent of the Royal Gun Carriage Factory at Woolwich, and here he proposed and carried out great changes in the mounting of guns for coast defence, took out several important patents, which have been assigned to the Secretary of State for War, and devised and perfected an automatic sight which was adopted into the service and had an important effect in increasing the power of coast artillery. The best known of his inventions are, the spade-attachment for checking the recoil of the old field-guns, a device which enabled a high rate of fire to be maintained in the South African War; and a new arrangement for the storage of power developed by the recoil of heavy guns, which has proved very successful.

Sir G. S. Clarke—he had been knighted in 1893—remained as Superintendent of the Royal Gun Carriage Factory until 1901, when he accepted the Governorship of Victoria. Before he accepted that post, he had been engaged on a Committee, appointed by Mr. Broderick in 1900, to enquire into War Office organisation. Mr. Clinton Dawkins was the Chairman, and the Committee was a strong one, and issued a report of a very drastic character. Sir G. S. Clarke was recalled from Australia by Mr. Balfour in 1904, and was





His Excellency Sir GEORGE SYDENHAM CLARKE, G.C.M.G., G.C.I.E., F.R.S.,  
Governor of Bombay.



one of the Committee of three—the other members being Lord Esher and Sir John Fisher—appointed by Mr. Arnold Forster to enquire into the administration of the War Office. One of the many important suggestions of these Commissioners was that a body should be provided “capable of obtaining and collating, for the use of the Cabinet, all the information and expert advice required for shaping the national policy in war, and determining the necessary preparations in peace.” In 1905 the Committee of Imperial Defence was formed, and the admission to it of a Colonial element, anticipated in the previous autumn by the invitation to its deliberations of the Canadian War Minister, was specially commended. Sir George S. Clarke was appointed Secretary of the Committee, a post which he continued to hold up to the date of his present appointment. He received a G.C.M.G. in 1905, and in 1906 he became a member of the Committee on National Insurance of Shipping during war.

In July, 1907, Sir George Sydenham Clarke was appointed to the Governorship of Bombay, an appointment that was received with general approval. He arrived in Bombay and assumed the Governorship on the 18th October the same year, and on the day of his arrival he was made a G.C.I.E. Coming to India with a ripe experience in political matters and an already well-established reputation as a statesman of no ordinary merit, he received a warm welcome from those over whom he had come to rule, and in his reply to the address of the Bombay Chamber of Commerce, presented on his arrival, he displayed a sympathetic attitude towards the commercial problems of the City and the Presidency that was grateful to those chiefly concerned. He has since identified himself with the many projects afoot for the relief of the immediate needs of the city. The greatest of these is, perhaps, the congestion caused by overcrowding, and the necessity that exists for the provision of accommodation for the poorer classes of Bombay, upon whom the existing high rents are a growing burden. This problem was the first to receive the attention of the new

Governor, and he has set himself to solve the difficulty with characteristic energy. While recognising the good work already carried out by the Corporation and the Improvement Trust, Sir George Clarke looks upon it as an indication of the greater work still to be accomplished, and with this end in view, he proposes to lay down a programme, extending over some years, and to deal with the problems with which the city is confronted, in the order of their urgency and importance. Of his administration it is too early as yet to say more than that he has made a good beginning, and that he has early recognised the fact that the old order is changing, and that a combination of causes is producing certain inevitable effects. It augurs well for the people under his rule that Sir George has also recognised that it is incumbent upon those placed in positions of power to so direct these new forces that they will find their outlet in channels which will carry prosperity and progress to the people.

Already, too, the Governor has had some measure of success in his efforts to bridge over the gulf that exists between Europeans and Indians in the Bombay Presidency, as elsewhere. While impressing upon the malcontents that seditious movements will be dealt with in a severe manner, he has held out the olive branch by an invitation to the native papers to aid in the difficult work of administration, and to endeavour to help the Government in its task, instead of obstructing it. One direct result of this appeal has been that, for the first time in history, a large number of editors of native papers have been brought together under one roof with the object of having the plague operations explained to them; and have gone away convinced as to the efficacy of the methods pursued, although up to that time they had been bitterly opposed to inoculation. This is a notable change of front, that may have far-reaching results.

Sir George Clarke was married, in 1871, to Caroline Emily, daughter of General Peregrine H. Fellowes, and has one daughter. His recreations are music and painting, and he is an accomplished violincellist.







LORD LAMINGTON, G.C.M.G., G.C.I.E., F.R.G.S.,  
Ex-Governor of Bombay



# CHARLES WALLACE ALEXANDER NAPIER COCHRANE-BAILLIE,

LORD LAMINGTON, G.C.M.G., G.C.I.E., F.R.G.S.,

Ex-Governor of Bombay.

**C**HARLES WALLACE ALEXANDER NAPIER COCHRANE-BAILLIE, LORD LAMINGTON, who resigned the Governorship of Bombay in July, 1907, comes of an energetic race, and was welcomed on his arrival in India as the illustrious scion of an illustrious family. Whilst the grandson of the Admiral of the Fleet, Sir John Cochrane, would be heartily welcomed by a maritime people, the son of Cochrane-Baillie recalls pleasant memories in the minds of politicians and of men of letters of the Disraeli age of politics. When Disraeli first formed his "Young England" party, Cochrane-Baillie was one of his most active supporters—and after over 40 years of stress and strain in the House of Commons, Cochrane-Baillie, under the title of Lord Lamington, entered that haven of political repose—the House of Lords.

In the year 1860 whilst his illustrious father occupied the seat for Honiton in the House of Commons, Charles Wallace Cochrane-Baillie was born; he was educated at Eton and Christ Church, Oxford, the joint nurseries of so many of our political leaders. He was in the fourth class of the modern history school in 1880, and graduated B.A. in 1881. Lord Salisbury was never the man to forget the claims of an old colleague, and thus we find that Lord Lamington made his *début* in public life in 1885 as an assistant private secretary to Lord Salisbury. In 1886 he entered the House of Commons as the representative of North St. Pancras, a position which he held until his accession to the House of Lords upon the death of his father in 1890. In 1895 he was appointed Governor of Queensland.

The physical difficulties of Queensland presented as great a problem to the new Governor as did its political conditions. A great drought had for seven years devastated the country to such an extent that in some parts of the great west there were to be found children who had never seen a drop of rain. To personally understand the character of this disaster, and to seek, if possible, for some means of physical alleviation, Lord Lamington set out, as no other Governor had previously done, to traverse Queensland from end to end. In a country containing an area of 680,000 square miles, for the greater part parched by a prolonged drought, and but sparsely populated, this was a task involving considerable personal discomfort, if not actual physical privation. By this means Lord Lamington collected and left to his successor a knowledge of the needs of the country, of its physical

resources, and of the necessities of its people, which must bear substantial fruit in years to come.

In 1903, Lord Lamington assumed charge of the Governorship of Bombay, and the high qualities of statesmanship he had already displayed in Australia found an even more extended scope in his new appointment. Among the more prominent measures that will be identified with his administration are: the restoration of the financial independence of the Presidency through the revision of the Provincial Contract; the new arrangement for financing the cost of famine relief, and the revival of irrigation projects. The Provincial Settlement, which gave a position of greater independence than heretofore to the Bombay Government, was a step in the policy of decentralization now about to be carried into effect, and consists of an estimate of standard expenditure based roughly on the estimated expenditure of the year of settlement. With regard to the Land Revenue policy of the Government, it was Lord Lamington's endeavour throughout his administration to follow a consistently liberal and elastic policy as regards both the assessment and the collection of land revenue. Great progress was made in education, owing to the liberal grants made by Government for the advancement of higher education. Personally, however, Lord Lamington was of opinion that the cost of higher education should be met by fees from the students. But apart altogether from what he accomplished in administrative measures, Lord Lamington's popularity rested on the fact that he always showed himself a sympathetic Governor. He devoted much of his time to the problem of the housing of the poorer classes and to questions relating to the sanitation of the city, the condition of the Bombay slums, and to the miserable surroundings among which tens of thousands were forced to live and work. In this good work he found a sympathetic helper in Lady Lamington, who was no less thorough than her husband. And when the serious turn taken by an illness from which her Ladyship had been suffering for some months, rendered it impossible for Lord Lamington to remain longer at his post, the news of his resignation called forth expressions of regret from all sides, not only on account of the resignation itself, but also on account of the immediate cause which rendered such a step necessary. The retiring Governor left Bombay on the 27th July 1907.

Lord Lamington was married in 1895 to the Hon. Mary Haughton Hozier, youngest daughter of the first Baron Newlands, by whom he has one son and one daughter.





The Hon. Sir JOHN PRESCOTT HEWETT, K.C.S.I., C.S.I.,  
Lieutenant-Governor of the U. P. of Agra and Oudh





## THE HON. SIR JOHN PRESCOTT HEWETT, K.C.S.I., C.S.I.,

Lieutenant-Governor of the United Provinces of Agra and Oudh.

**S**IR JOHN PRESCOTT HEWETT, K.C.S.I., C.S.I., eldest son of the Rev. John Hewett, was born at Barham in Kent, England, on the 25th August 1854, and was educated at Winchester and at Balliol College, Oxford. Entering the Indian Civil Service, he came to this country in 1877, and in 1906 his appointment to the Lieutenant-Governorship of the United Provinces received the approval of His Majesty the King-Emperor. At the time of his appointment to this office, the Hon. Mr. Hewett was a Member of the Governor-General's Council, in charge of the Department of Commerce and Industry, and a sketch of his Indian career up to this point was published in Vol. I of the *Cyclopedia of India*. The new Department of Commerce and Industry came into being at the beginning of 1905, and Mr. Hewett, who had been for some months previously acting as a temporary Member of the Council, was in December 1904 appointed an Ordinary Member to the Council in charge of the new Department. The constitution of the new Portfolio involved a great change in the work of the Supreme Council, for it meant not merely the addition of a sixth Member to that Council, but also a redistribution of the duties of the other Members. The chief advantage derived from the establishment of the new Department, which was entirely due to the initiative of Lord Curzon, was the substitution of a practical commercial bureau for the somewhat unpractical and extremely official agencies that had previously dealt with commerce and trade. It also served to some extent to bridge the gulf that lay between private enterprise and bureaucratic indifference.

On the 1st January, 1907, the Hon. Mr. Hewett, as Lieutenant-Governor designate of the United Provinces, was made a Knight Commander of the Star of India, and he shortly afterwards took up the duties of his new office. In the first year of his administration he was confronted with the necessity for providing on a large scale against famine conditions in the provinces under his rule. In the course of 1907, the number of those in receipt of famine relief rose from less than 1,000 to nearly 300,000; and in March 1908, there were upwards of a million persons employed on relief works, and nearly 400,000 in receipt

of gratuitous relief. The injury sustained by the crops up to the beginning of 1908 was greater than that incurred in the big famine of 1896-1897. Whereas the normal outturn of food-crops should have been about five millions of tons, the estimated outturn at the beginning of 1908 for the year 1907-1908 was between one and a half and two millions only. A Relief Fund was inaugurated by Sir John Hewett in January 1908, the objects of which were to supplement Government relief by providing blankets, clothes and other comforts; to provide for the orphans, to afford relief to respectable persons by money allowances to poor widows and others to prevent starvation, to establish cheap grain shops, and to prevent the cultivator, the weaver, and the artisan from being submerged by their losses in famine time. The Lieutenant-Governor's sympathetic attitude, it is well to note, met with prompt and hearty support, and has been the means of alleviating much distress.

Other important features that have marked Sir John Hewett's rule up to the present have been the interest he has displayed in educational work generally, and his insistence on the necessity for the education of skilled labour for all Indian industries. He holds that there is a close connection between education and the progress of industries and trade, and that the backwardness of India in these latter is largely due to a non-recognition of this fact. He is taking practical steps to secure for the United Provinces a scheme of general education, which shall be so arranged that, without any break of continuity, it shall lead up to technical instruction. As regards Higher Education, he looks upon the extension of the Hostel system as a hopeful sign that Indian parents are realising its value as a factor in the formation of character, while with regard to Secondary Education, he is resolved that it shall be strengthened, so as to improve the quality of the students who aspire to the University curriculum. These are among the educational reforms which he purposes to carry out.

Sir John Hewett was married in 1879 to Ethel Charlotte, the second daughter of Henry Binny Webster, B.C.S. He is keen on cricket and is a first-rate shot.







The Hon. Sir LOUIS WILLIAM DANE, K.C.I.E., C.S.I.,  
Lieutenant-Governor of the Punjab.



## THE HON. SIR LOUIS WILLIAM DANE, K.C.I.E., C.S.I., Lieutenant-Governor of the Punjab.

THE HONOURABLE SIR LOUIS WILLIAM DANE, K.C.I.E., was born in 1856, and is a son of the late Richard Martin Dane, M.D., C.B., Inspector-General of Hospitals. He was educated at Kingstown School, Ireland, and entered the Indian Civil Service in 1876, when he was posted to the Punjab. In this Province the whole of his service, up to 1900, was put in. From 1879 to 1882 he was Private Secretary to the Lieutenant-Governor, and after serving in various capacities, he was selected in 1887 to revise the Land Revenue Settlement of the District of Gurdaspur. On this work he was engaged for five years, and in 1892 he was sent to Peshawar, to revise the Land Revenue Settlement of that district, which occupied another four years. From 1896 to 1900 he was Chief Secretary to the Punjab Government. In 1900 he returned to Ireland, where he served as Resident Magistrate at Tralee, County Kerry, but was recalled to India in the following year as Resident in Kashmir. In 1902 he was appointed Secretary to the Government of India in the Foreign Department, and in this capacity he rendered distinguished service. The Foreign Office has to deal with many diverse affairs pertaining to the independent States bordering on India, the Native States within India, and several large Provinces under the direct administration of the Governor-General in Council, including the new North-West Frontier Province. The formation of this Province, whereby the frontier districts were severed from the Punjab, and placed under a separate administration under the immediate control of the Supreme Government, had only just been completed when Mr. Dane assumed charge of the Foreign Office, and for a considerable period the new arrangements worked so well that the tribes over the border gave little anxiety to the Foreign Office authorities. Afghanistan, however, was, as usual, well to the fore in Lord Curzon's time, and in his opinion it was necessary that a Mission should be despatched to Kabul in 1904, not for the purpose of making new arrangements with the Amir, but with a view of consolidating existing treaties. The conduct of this Mission was entrusted to Mr. Dane, and on the 21st March 1905, he, on behalf of the Indian Government, concluded a treaty with the Amir Habibullah Khan, by which the Amir undertook to be guided in his relations with Foreign Powers by the advice of the British Government, and, in return, the integrity of his dominions was guaranteed. A number of sensational reports were set in circulation regarding the objects of this Mission, but the startling proposals with which the Mission was credited found no place in the programme with which Mr. Dane was entrusted, and his duty was, mainly, to talk over Anglo-Afghan relations with the Amir, and to ascertain his views with regard to the fulfilment of the obligations contained in the agreement with his father, the late Amir. The Amir was quite willing to renew the old arrange-

ments, and was pleased to find that the British Government were equally ready. The arrangements entered upon by Mr. Dane, on behalf of his Government, formed a good and entirely satisfactory basis for subsequent relations, and no new policy on the part of the British Government was involved. For his services with the Mission, Mr. Dane, on his return to India, was made a Knight Commander of the Indian Empire.

The history of our troubles with the Tibetans covers a period of nearly one hundred years, but matters were brought to a head in 1903, when, in view of the intractable attitude of the Tibetans, the advance to Lhasa was decided upon. As the Mission was a political one, with a strong military element for the purpose of enforcing the arguments if more peaceful measures failed, the arrangements of the principal details fell upon the Foreign Department, and from January 1903, when Lord Curzon made his strongly worded and final representations to the Secretary of State for India on the serious questions arising out of recent incidents in connexion with Tibet, up to the date of the despatch of the Mission to Kabul, Mr. Dane, as head of the Foreign Department, was mainly occupied with matters relating to the political side of the Mission to Tibet, and with the details of the Convention which was subsequently signed, in the presence of the Chinese Amban, on the 7th September, 1904. The final stage, however, was not reached until the end of January 1908, when Tsarong Shape, the Tibetan Envoy, paid in to the Foreign Office at Calcutta, the third and final instalment of the Tibetan indemnity for the campaign; upon which orders were issued by the Government of India to proceed with the evacuation of the Chumbi Valley which we had been occupying since the outbreak of hostilities, as security.

In January 1908, Sir Louis Dane was appointed Lieutenant Governor of the Punjab, in succession to the late Sir Denzil Ibbetson. Urgent affairs, chiefly in connexion with frontier troubles, prevented him from at once taking up the new appointment; and it is now well known that the despatch of the punitive expedition against the Zakka Khels was only decided upon when the more peaceful efforts of the Political Department had failed. This, together with the Tibetan settlement and the Investiture held at Government House, kept Sir Louis Dane in Calcutta until March. The Investiture of the Orders of the Star of India and of the Indian Empire, held by Lord Minto on the 28th January 1908, was the largest that had been witnessed for many years, and Sir Louis Dane, as Secretary to the Orders, was largely responsible for the arrangements. Early in March he took short leave to England before taking up the Lieutenant-Governorship of the Punjab.

Sir Louis Dane was married in 1882 to Edith, third daughter of the late Lieutenant-General Sir F. B. Norman, K.C.B., by whom he has two sons and three daughters. He is keen on golf, and is fond of shooting.





Honourable Lieut.-Col. Sir HAROLD ARTHUR DEANE, K.C.S.I.,  
Agent to the Governor-General, and Chief Commissioner, North-West Frontier Province.





## HONOURABLE LIEUT.-COL. SIR HAROLD ARTHUR DEANE, K.C.S.I.,

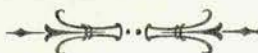
Agent to the Governor-General, and Chief Commissioner, North-West Frontier Province.

**S**IR HAROLD ARTHUR DEANE is the son of the Rev. Henry Deane, late Rector of Hintlesham, Suffolk, and was born in 1854. He was educated at first privately, and later at the Ipswich Grammar School. In 1874 he entered the Army, and was attached to the 54th Foot until, three years later, he joined the Indian Staff Corps. In the Afghan War, 1879-80, he served with the 1st Punjab Cavalry, and was present at the action at Ahmed Khel on the 19th April, 1880, for which he was mentioned in despatches and received the medal and clasp. At the close of the war he was posted to the Andaman and Nicobars as District Superintendent of Police, and here he remained until 1885, when he entered the Punjab Commission, serving first as Assistant Commissioner and subsequently as Deputy Commissioner until 1895, when he was appointed Chief Political Officer with the Chitral Relief Force. Following two successful actions, the relief of the Chitral garrison was accomplished by the force under Colonel Kelly, which entered the Chitral Fort without opposition on the 20th April, 1895. For his services with the Relief Force, Major Deane was decorated, and when, in October, 1895, the force was withdrawn, he remained at the Malakand as Political Agent for Dir, Swat and Chitral. He served throughout the Indian Frontier disturbances in 1897, for which he received the medal and two clasps, and in 1900 he was appointed Political Resident in Cashmere.

On the formation of the North-West Frontier Province in 1901, Colonel Deane, as he had by then become, was selected for the post of Agent to the Governor-General, and Chief Commissioner. The Administration of the new Province was inaugurated at Peshawar on the 9th November, 1901, and the Proclamation was read in open Durbar by Colonel Deane, the first Chief Commissioner. The new Province was created out of the four trans-Indus districts of the Punjab, including the districts of Peshawar, Kohat, Bannu, and Dera Ismail Khan, with the tribal country beyond them, and the Political Agencies of Dir, Swat, the Khyber, the Kurram, Tochi, and Wana. There was thus included in the new Province not only the frontier districts, but a very considerable section of settled territory between the Indus and the hills, and the whole was brought under a strong personal non-bureaucratic rule. The principles of the new policy, which Colonel Deane

was instructed to carry out, were, the withdrawal of British troops from advanced positions and the employment of tribal forces in the defence of tribal country; and the concentration of British forces in British territory behind them, as a safeguard and support. The establishment of the Frontier Province and the system of Native levies has relieved the Army of much troublesome work, and has conducted to frontier tranquillity at every point. Under the new arrangements frontier affairs are conducted with infinitely greater despatch, and, so far, with better results. The wheels of the Administration have worked smoothly under the control of Sir Harold Deane, who was made a K.C.S.I. in 1907 for his services. Up to the end of 1907, there were no tribal complications calling for the despatch of a punitive force since the new policy was initiated by Lord Curzon, and the wiser methods adopted in dealing with the wild and warlike tribes on the frontier, which had been such constant causes of anxiety in the past, were attended with the best results. Early in 1908, however, in consequence of repeated raids over the border into British territory, it became necessary to despatch a punitive expedition against the most unruly and daring of the Afridi tribes, the Zakka Khels. Warnings had had no effect, and even the usual expedient of stopping their substantial subsidy left them defiant; they cared nothing for threats and were simply spoiling for a fight. In February a force under Sir James Willecocks advanced into the Bazar Valley to punish the Zakka Khels, and the subsequent campaign, which lasted just sixteen days, enjoys the distinction of being the shortest campaign on which Great Britain has ever embarked. The Force, which was limited to two Brigades, with one in reserve, marched out of Peshawar for Ali Musjid, on its way to the Zakka Khel country, on the 13th February, and by the end of the month the troops were all back again. The Zakka Khels were severely handled, and satisfactory terms of surrender were arranged on the 28th February, by virtue of which the Afridis jointly held themselves responsible for the future good behaviour of the Zakka Khel tribes, and undertook to punish the leaders of the recent raids.

Sir Harold Deane was married, in 1880, to Mary Gertrude, daughter of Major-General John Roberts, of the Indian Staff Corps.





## THE LATE SIR DENZIL CHARLES JELF IBBETSON, K.C.S.I., I.C.S., Late Lieutenant-Governor of the Punjab.

**S**IR DENZIL CHARLES JELF IBBETSON, K.C.S.I., was born at Gainsborough in 1847, and was the eldest son of the late Rev. Denzil John Holt Ibbetson. He was educated at St. Peter's College, Adelaide, South Australia, and St. John's College, Cambridge, where he took his B.A. degree and secured honours in Mathematics. He entered the Indian Civil Service in 1870, and on arrival in India was posted to the Punjab, where the early years of his service were spent. In the many important posts he was called upon to fill, he acquired a knowledge of the Province over which he was subsequently to rule, that was probably unique. After a short service in the general line, he was given charge of the Karnal Settlement, at first under the control of a senior officer, but afterwards independently. He took up his settlement work with enthusiasm, and devoted himself with the painstaking thoroughness characteristic of the man to a study of the people under his charge, and to a mastery of the work in all its details, and he gained, in the course of his task, that intimate knowledge of the Punjab peasantry which, later on, stood him in such good stead. Before the settlement had been fairly completed, he was called away to act as Census Commissioner for the Punjab. As he possessed a special fondness for sociology, folk-lore, and statistics, the census work gave unlimited scope for the indulgence of his tastes in these directions, and he produced what was generally acknowledged to be a model Census Report. It was probably the literary ability displayed in this Report that led to his selection as Editor of the Punjab Gazetteer. His work on the Gazetteer finished, he acted for a time as Director of Public Instruction, and then, returning to the regular line, he became in turn Deputy Commissioner of Gujranwala and Lahore, and afterwards officiated as Commissioner of the Jullundur Division, which was a course of employment that did not allow him to lose touch with the practical work of the administration. As a district

officer he set a high standard of duty before his subordinates, and insisted that they should work up to it. From the officiating Commissionership he was transferred to the Government of India, as Secretary in the Revenue and Agricultural Department. He was next Chief Commissioner of the Central Provinces, and thence returned to Simla as a Member of the Viceregal Council. He also held important appointments on a number of official bodies. He was a member of the Deccan Agriculturists Relief Commission, a member of the Irrigation Commission, and President of the Contagious Diseases Commission. The Knight Commandership of

the Star of India was conferred on him in 1903, and in March 1907 he was appointed Lieutenant-Governor of the Punjab, in succession to Sir Charles Montgomery Rivaz, K.C.S.I. In this appointment he proved himself a strong, able, and masterful official. The year during the greater part of which he held the reins of office was an eventful one in the Punjab, which, in common with other parts of the country, was affected by the prevailing unrest, and the machinations of the extremists. After the stormy period following on the Canal Colony Act and the deportation of Lajpat Rai and Ajit Singh, Sir Denzil had an attack of illness which necessitated short leave to England, where an operation was performed. On his return to India he once more took up the reins of office, but the strain proved too great for an already undermined constitution,



THE LATE SIR DENZIL CHARLES JELF IBBETSON, K.C.S.I.,  
I.C.S., Late Lieutenant-Governor of the Punjab.

and in the early part of January 1908, after holding the Lieutenant-Governorship for less than a year, he was forced to resign his appointment. His resignation was accepted by the Government of India, with effect from the 22nd January 1908. He left Bombay for England on the 24th January, and died on the 22nd of the following month, shortly after reaching London. The immediate cause of his death was cancer in the mouth.

Sir Denzil Ibbetson was married in 1870 to Louisa Clarissa, daughter of the late Samuel Coulden, by whom he had two daughters.



HON. SIR LAWRENCE HUGH JENKINS, KT., K.C.I.E.,  
Bar.-at-Law, B.A. (Oxon.),  
Ex-Chief Justice of Bombay.

HON'BLE SIR LAWRENCE HUGH JENKINS, KT., K.C.I.E., Bar.-at-Law, B.A. (Oxon.), late Chief Justice of the High Court of Judicature, Bombay, was born in 1858, the son of Mr. Richard D. Jenkins, Justice of the Peace, of Cilbronau, Cardigan. He was called to

the Bar in Lincoln's Inn, in 1883. After practising as a barrister, he accepted the appointment of Judge of the High Court, Calcutta. Three years later, in 1899, he was appointed Chief Justice of Bombay and received the honour of Knighthood. In 1903, he was created a Knight Commander of the Indian Empire. He was Colonel Commanding the Calcutta Volunteer Rifles for about three years.

In both the Capitals of Eastern and Western India Sir Lawrence Jenkins earned the confidence of all classes of the community, as a sound lawyer. As a public speaker, he is fully endowed with the Welshman's characteristic power of oratory. In the responsible and onerous post of Colonel Commandant, first of the old Presidency Rifle Battalion (Calcutta), and later of the amalgamated corps of Calcutta Volunteer Rifles, Sir Lawrence showed his versatility by proving himself a ready master of drill, while his warm qualities of heart as a leader ensured a period of successful effort in the Regiment which is still well remembered. Sir Lawrence's sympathy with the

Volunteer Force in India was continued in the Western Presidency, where, although by virtue of the high office of Chief Justice he has not been able to be actively associated with the force, he was for several years Honorary Colonel of the Bombay Volunteer Artillery, which well-

known and fine corps of Auxiliaries is actively commanded by one of his legal brethren on the High Court Bench—the Hon. Mr. Justice Russel. In February, 1908, Sir Lawrence Jenkins resigned his office of Chief Justice of Bombay, on his appointment to the Council of the Secretary of State for India; and the Hon. Mr. Justice Russel was gazetted as Acting Chief Justice, pending further orders, from the date on which the resignation took effect. A meeting of prominent and influential citizens was held on the 5th March for the purpose of giving expression to the deep sentiments of esteem, confidence, regard and affection in which the retiring Chief Justice was held by all communities of Bombay. He left Bombay for England by the mail of the 14th March to take up his new appointment.



HON. SIR LAWRENCE HUGH JENKINS, KT., K.C.I.E.,  
Bar.-at-Law, B.A. (Oxon.), Ex-Chief Justice of Bombay.

Sir Lawrence Jenkins was married in 1892 to Catherine Minna, second daughter of the late Andrew B. Kennedy. He is much interested in Freemasonry, and in 1904 was installed District Grand Master of the Grand Lodge of Bombay of English Freemasons.



## THE HONOURABLE SIR JOHN STANLEY, KT., K.C., BAR.-AT-LAW, Chief Justice of the High Court of the North-Western Provinces.

**S**IR JOHN STANLEY, who was appointed in 1901 Chief Justice of the High Court of the North-Western Provinces, which now form part of the United Provinces, is the eldest surviving son of the late John Stanley, of Armagh. He was born in November, 1846, and was educated at the Royal School of Armagh. In 1865 he matriculated at Trinity College, Dublin, and obtained a Royal Scholarship. Later on he gained various honours in Classics, and in 1868 became a Foundation Scholar of the University. At his degree examination, he secured a senior moderatorship in Classics, and a gold medal. Called to the Irish Bar in 1872, he joined the North-East Circuit, and after some years of uphill work, secured a considerable general practice, principally on the Chancery Side of the Court. In Dublin itself he had the reputation of being in the front rank of Chancery lawyers, and for some years he was Standing Counsel for the Belfast and Northern Counties Railway, and for the Belfast Banking Co. For six years he acted as Revising Barrister of the voters' list for the South Division of the County of Londonderry. In 1892 he took "silk," and in 1896 was elected a Bencher of the King's Inns. On his appointment to the Judicial Bench in India in 1898, the Benchers of the King's Inns paid him the high compliment of electing him an Honorary Member of their body.

On his arrival in India in November 1898, Mr. Justice Stanley first took his seat on the

Appellate Side of the High Court, Calcutta, with a senior Judge. In 1899 he first took his seat on the Original Side of the High Court. It has seldom fallen to the lot of an Indian Judge, within so short a time as that in which Mr. Justice Stanley presided in the Original Court, to

decide so many important cases in the different branches of the law under the jurisdiction of that Court, *i.e.*, Original Civil (including Commercial cases), Matrimonial, Testamentary, Intestate, and Vice-Admiralty. In public affairs he, while in Calcutta, took a prominent part. He devoted much attention to the affairs of the District Charitable Society, as well as to those of the Society for the Prevention of Cruelty to Animals, and he was President of the last-named Society up to the time of his departure for Allahabad. On the 5th July 1901, he received his appointment as Chief Justice of the High Court at Allahabad, an appointment that was made on the special recommendation of His Excellency the Viceroy. He was knighted the same year.

Sir John Stanley takes a keen interest in the Volunteer movement and is Honorary Colonel

of the Allahabad Volunteer Rifles. He is Dean of the Faculty of Law in the Allahabad University. Sir John was married in 1879 to the eldest daughter of the late Mr. James Norris, of Castle Hill, Blechingley, Surrey.



SIR JOHN STANLEY, KT., K.C., BAR.-AT-LAW.

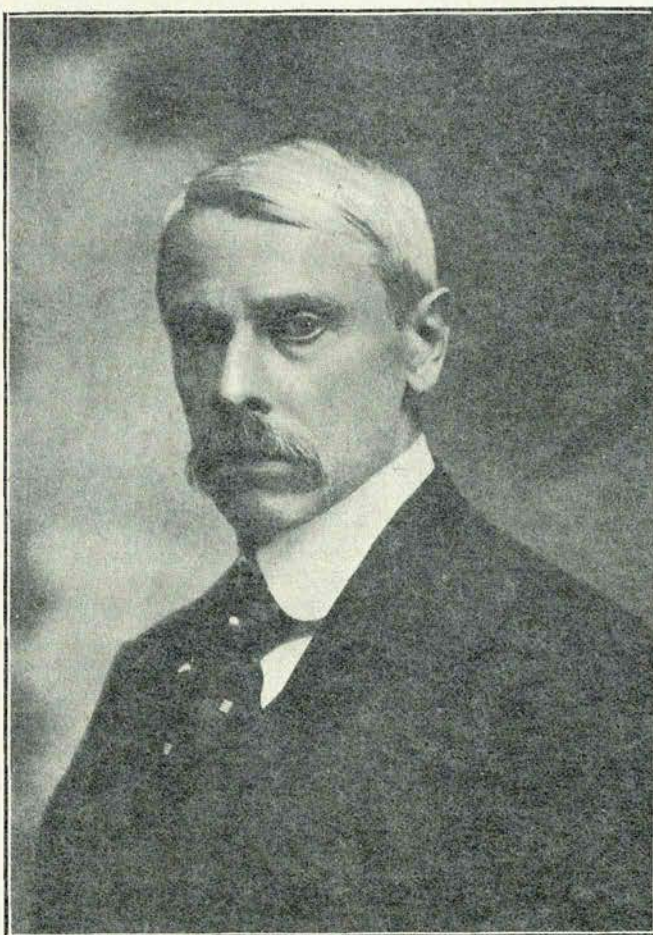


## SIR WILLIAM OVENS CLARK, I.C.S., KT.,

Chief Judge of the Chief Court of the Punjab.

**S**IR WILLIAM OVENS CLARK, I.C.S., KT., Chief Judge of the Chief Court of the Punjab, Lahore, was born in 1849, and is the son of the late James Jackson Clark, D.L., of Lurgan, Londonderry. He was educated at Portora School, Enniskillen, and at Trinity College, Dublin, where he took his degrees of B.A. and LL.B. He was ap-

pointed Deputy Commissioner of Lahore. In 1891 he was appointed Sessions Judge at Peshawar, where he remained until 1895. In the following year he officiated as a Judge of the Chief Court of the Punjab, Lahore, and was made permanent in the post in 1898. Later on, in the same year, he was appointed Chief Judge of the Chief Court, Punjab, which position he has held



SIR WILLIAM OVENS CLARK, I.C.S., KT.,  
Chief Judge of the Chief Court of the Punjab.

pointed to the Indian Civil Service in 1869, and arrived in India in 1871, when he was posted to Jullundur as Assistant Commissioner. In 1874 he was employed on Famine Relief operations at Gya and Champaran, and afterwards served as Assistant Commissioner in several districts of the Punjab. From 1883 to 1889 he

ever since. Sir W. O. Clark is a Barrister-at-Law of the Inner Temple, having been called to the Bar in 1881. In 1885 he married Florence Emily, daughter of Robert Lawrie, by whom he has two sons and one daughter. He was knighted at the Delhi Durbar in 1903; and is a member of the East India United Service Club.



## THE LATE RIGHT REV. WALTER RUTHVEN PYM, D.D., Late Bishop of Bombay.

THE RIGHT REV. BISHOP PYM was the third son of Mr. Alexander Pym, J.P., and was born in 1856 at Great Chesterford in Essex. The father of Bishop Pym was a son of Mr. and Lady Jane Pym of the Hassels (Bedfordshire), and his mother was a daughter of Sir Albert and the Hon. Lady Pell. His Lordship received his early education at Bedford Grammar School, and then became a member of Magdalen College (Cambridge), from which he graduated B.A. in 1879, and took his M.A. in 1883. His Lordship's first appointment was at Lytham, where he made the acquaintance of Miss Lucy Ann Threlfall to whom he was married on the 8th of August 1883 and who died in 1904. He was next in charge at Miles Platting during the troublous time when the Rev. S. F. Greene was released from the Lancaster Gaol. This was followed by his appointment successively as Vicar of Wentworth, as Domestic Chaplain to Earl Fitzwilliam, as the Vicar of Sharrow and Vicar of Rotherham from 1893 to 1898. On the 29th of September 1898, Dr. Pym was consecrated Bishop of Mauritius, in Westminster Abbey. On taking charge of the Mauritius Diocese, Dr. Pym immediately started consolidating all ecclesiastical operations in his new sphere. In his capacity as the Bishop of the Island His Lordship energetically organized new work in the Diocese and sent a clergyman to the Island of Rodrigues, about 400 miles from the mainland, and also raised funds for a lady doctor to work among the Indian women in Mauritius. Before His Lordship came to India he had thrice visited Ceylon. Towards the end of 1903, he was appointed Bishop of Bombay and landed in the chief city of his Diocese on February 5th, 1904. Immediately after his appointment to Bombay, Bishop Pym was offered the Mastership of Magdalen College, his old college, but he declined this somewhat tempting offer, feeling himself pledged to the Diocese of Bombay, which he intended to make his sphere of work. With a view to bring the various and isolated sections of the Bombay Diocese into active and harmonious co-operation, Dr. Pym inaugurated what is known as the "Bombay Diocesan Church Society." The membership of this organization numbers in itself many very influential persons both from the clergy and the laity, and the Associa-

tion has been doing excellent work along the lines it has marked out for itself. With a view to strengthen the Indian Christian Church by furnishing it with efficient ministers. His Lordship established in Poona, under his own roof, a small "Training College for Indian Clergy," and the Bishop and several of the local clergy voluntarily gave their services as instructors, the Principal being the Rev. Mr. L. M. Haslope. The labours of the Right Rev. Dr. Pym were not confined to the strictly defined sphere of his own church. His sympathies were extended to Christians of all denominations, as was evidenced by his taking an active part in the meetings of the Missionary Conferences held in Bombay and

Poona. As a preacher and a gifted speaker, the Bishop was well known for his eloquence. Being a man of profound convictions, he always delivered himself with clearness and to the point. He was also noted for his fearlessness in giving expression to his convictions, and in exposing what he considered to be wrong and erroneous, but with consideration for those whose views differed from his own. Bishop Pym was an educationist of some experience, having been a member of both the Rotherham and Sheffield School Boards. He had an unflinching faith in the elevating and uplifting influences of a true and genuine education. Although he was known to be a vigorous Evangelical, few were prepared for the strong attitude he was to take up against some extreme practices prevalent in the Bombay Diocese, where much of the most vigorous educational and missionary work is carried on by the Society of St. John the Evangelist and the Wantage Sisterhood. In the end he formally inhibited two



The Late Right Rev. WALTER RUTHVEN PYM, D.D.,  
Late Bishop of Bombay

High Churchmen, of whom one was the respected head of the Cowley Fathers' Mission in the diocese. The two clergy appealed to the Court of the Metropolitan, who first withdrew the inhibitions *ad interim*, and afterwards settled the matter by a compromise, which reversed the action of the Bishop as far as "children's Eucharists" were concerned. The late Bishop had been suffering from diabetes for some time past, and there is little doubt that the anxiety caused by this dispute hastened his end. He died at his residence near Poona on the 2nd March 1908.



| Name of Work.                       | Khari cut.        | Jamdar Canals.    | Parsul Tank. | Pravara River Works Ojhar Canal. | Bhatodi Tank.   | Matobhat Tank. | Shiranphal Tank. | Bhadavadi Tank. | Ashti Tank.     | Upper Main River Works. | Yerla River Irrigation Works. | Maimi Tank. | Madag Tank. | Muchkundi Tank. | Gokak Canal 1st Section and Storage Works. | Sixteen other Works less than 1 lakh. |
|-------------------------------------|-------------------|-------------------|--------------|----------------------------------|-----------------|----------------|------------------|-----------------|-----------------|-------------------------|-------------------------------|-------------|-------------|-----------------|--------------------------------------------|---------------------------------------|
| Acres Irrigated                     | 47                | 4,242             | 628          | 7,187                            | 849             | 2,111          | 1,371            | 1,531           | 2,768           | 870                     | 3,948                         | 1,611       | 761         | 4               | 9,571                                      | 3,200                                 |
| Miles in Operation                  | 36                | 114               | 5            | 40                               | 10              | 17             | 12               | 10              | 30              | 24                      | 37                            | 17          | 9           | 7               | 49                                         | 65                                    |
| Capital Cost Rs.                    | 6,17,151          | 10,41,089         | 2,14,905     | 3,38,530                         | 3,79,707        | 2,01,422       | 2,24,568         | 2,27,422        | 8,36,091        | 4,39,286                | 7,62,623                      | 4,44,477    | 1,67,598    | 1,58,707        | 9,42,309                                   | 16,40,322                             |
| Percentage of Net Revenue           | Deficit Rs. 7,278 | Deficit Rs. 3,388 | 0.80         | 0.57                             | Deficit Rs. 209 | 3.06           | Deficit Rs. 995  | 0.41            | Deficit Rs. 187 | 0.17                    | 0.95                          | 0.97        | 0.20        | Deficit Rs. 3   | 2.49                                       | 0.29                                  |
| Total Net Profit or Deficit Rs. . . | +16,658           | -2,36,113         | +8,741       | -1,10,820                        | -32,707         | +1,36,383      | -9,791           | +5,444          | -82,295         | -39,694                 | -50,026                       | +13,271     | -2,218      | -3,838          | +3,30,375                                  | +99,005                               |

of the waste weir. The clear length of the sluices is 1,030 feet and the discharge over the waste weir amounts to 74,877 cubic feet per second. The cost works out at Rs. 48.5 per acre irrigated, the highest in India. The cost of the distributaries was also the highest, viz., Rs. 12,170, and the cost per acre irrigated, Rs. 108.

The *Mhasvad Tank* has a capacity of 3,072.1 million cubic feet and of 3,262.7 million cubic feet above sluice level. The catchment area is 480 square miles, on which the average rainfall is 22.8 inches.

The fall of the river is 12 feet per mile. The length of the dam, which is of earth, is 9,080 feet, and its maximum height 79.8 feet, the height above the crest of the weir is 13 feet; the length of the waste weir, 3,000 feet, and its discharging capacity 235,545 c. feet per second.

*Nira Canal.*—This work, though not directly remunerative, proved most valuable in the famines of 1896-97 and 1900-01. The river is fed from the same source as the Mutha. The works consist of three parts, viz., 1st, the Bhatgarh Reservoir, commonly called "Lake Whiting" which is on the Yelwandi River; 2nd, the Vir basin formed by a weir at Vir on the Wira River; 3rd, the main canal taking off from the left bank of the same. The reservoir contains 5,313 million c. feet, of which 3,953 million c. feet are available for irrigation. The waste weir has 103 openings of 10 feet, of which 88 have automatic gates, the others being worked by hand gates and stop planks. The canal will serve 275,000 acres; the catchment area is 128 square miles in extent, on

which there is a rainfall varying from 40 inches to 250 inches. The dam is 3,020 feet long, 127 feet high from the foundations, and has a roadway on top carried by arches over the two waste weirs. These are 810 feet long, and will carry off a maximum flood of 51,600 c. feet. per second, with a 10-foot head. There are 15 under-sluices 8 feet by 4 feet through the dam to clear the silt away, and they are 12 feet above the bed of the river which falls 5 feet per mile. The main weir at the head work is 2,273 feet long and 42 feet above bed of river.

The *Pravara River Works* in Ahmednagar district will store 8,670 million gallons at a cost of Rs. 350 per million gallons. The dam is designed to be 1,425 feet long and 250 feet high. The watershed is 47 square miles in area on which the rainfall varies from 150" to 450". The waste weir is 850 feet long and is fitted with automatic gates 10 feet by 8 feet.

## BENGAL.

### MAJOR PRODUCTIVE WORKS.

There are three of these irrigating 800,227 acres, the total lengths of the canals being 3,447 miles. The Capital cost of these has been Rs. 6,17,98,560, yielding a net revenue of 1.59 per cent., the total net deficit having been Rs. 6,56,72,463. These works though classed as "Productive" are not likely to come under the description of those likely to "cover all charges for interest within a reasonable time." The Revenue rate is only 7 per cent. on the value of the crops and

| Name of Canal.                | Sone Project. | Midnapore Canal. | Orissa Project. | Dhaka Canal.       | Tribeni Canal.     | Saran Project.    | Totals.     |
|-------------------------------|---------------|------------------|-----------------|--------------------|--------------------|-------------------|-------------|
| Acres Irrigated ...           | 4,92,265      | 85,892           | 2,22,070        | .....              | .....              | .....             | 8,00,227    |
| Miles in operation ...        | 1,585         | 369              | 1,493           | .....              | .....              | 24                | 3,471       |
| Capital Cost Rs. ...          | 2,67,25,176   | 84,82,468        | 2,65,90,916     | 3,54,698           | 12,52,565          | 7,14,170          | 6,41,19,993 |
| Percentage of Net Revenue ... | 3.25          | 0.82             | 0.18            | Deficit Rs. 11,595 | Deficit Rs. 39,126 | Deficit Rs. 1,249 | .....       |
| Total Net Deficit Rs.         | 2,21,14,599   | 1,00,79,526      | 3,34,78,338     | 29,811             | 97,525             | 1,53,490          | 6,59,53,289 |



this might well be enhanced. In the famine year 1896 the value of the crops matured by the same canal was 10 per cent. of its capital cost up to that time; for this the cultivators paid only 7 per cent. of the increment the canal gave them. Outside the irrigated lands the crops failed entirely.

The rainfall in Lower Bengal and Assam averages 70 in. per annum. In the permanently settled district, especially in Behar, small canals, called *pains* intersect the country and take water direct to the rice fields, or to small ranks called *ahars* formed by field embankments; nearly five million acres are irrigated in this manner.

Irrigation water is seldom required and the uncertainty of the demand is the cause of the unproductiveness of the works unless higher rates can be obtained. They are, however, indispensable as protective works in the densely populated parts.

Five or seven years' water leases are granted for blocks of land with many holdings; each occupier is charged according to the size of his holding, whether he takes water or not. This is subject to revision, and to remission for failure of crops, even when not due to faults in the supply. This occupiers' rate does not prevent rise in rents due to water advantages. The rate on rice is from Rs. 1-8 to Rs. 2-8; the average rate all round being Rs. 1-9; the charge for irrigation comes to about 6 per cent. of the crop value.

*The Sone Project* is in Southern Behar. The Dehri weir was constructed in 1869-74 and is 2½ miles long. The main canals take off from each bank of the river; the discharge varies from 350,000 to 803,000 c. feet per second. The canal crosses the Kao Nullah by means of syphons which have to be cleared of detritus occasionally.

*Midnapore Canal* mostly serves rice crops.

*The Orissa Project.*—The East Indian Irrigation and Canal Company was formed to carry out Sir Arthur Cotton's project; but the Company were unable to complete the works, and the Government purchased them in 1869. One remarkable work on the Orissa Coast Canal is the crossing of the Rutmoo Torrent by an inlet on one bank and escapes on the other.

The cost of Drainage and Protective work, owing to an extensive system of embankments, were the highest in India, viz., Rs. 7-9 per acre irrigable.

Taking these two classes together, the percentage of working expenses on gross revenue was 50·8, being the highest in all India. On the *Minor Revenue Works* the charges were Rs. 1,39,748 and the Revenue Receipts Rs. 95,112, showing a deficit of Rs. 44,636. These works were all treated as "Provincial."

*Dhaka Canal.*—The estimated cost per cubic foot and full discharge is the lowest in India, viz., Rs. 357.

*The Tribeni Canal*, although a perennial one, has not required a weir at its head works; it is situated in the northern part of the Champaran district and is not yet completed. It crosses the drainage of a large area in

the Champaran district and has six "syphon" crossings; one under the Burra Bubsah carries nearly 3,000 c. feet per second.

## BURMA.

### MAJOR PRODUCTIVE WORKS.

The Irrigation works have reclaimed 489,579 acres at a capital cost of Rs. 12,776,156, on which the total net revenue to 31st March 1905 was Rs. 1,38,40,756. As irrigation develops, the working expenses per acre are gradually decreasing. The rainfall in Lower Burma averages 70 inches per annum of rainfall.

There are many very old tanks in Upper Burma, the most important of which is the one in Meiktila.

*The Mandalay Canal* was opened in 1902-03 and irrigated 7,000 acres in that year. The average cost per

| Name of Works.               | MAJOR PRODUCTIVE WORKS. |                      |                   | MINOR CAPITAL WORKS.  |                           |
|------------------------------|-------------------------|----------------------|-------------------|-----------------------|---------------------------|
|                              | Mandalay Canal.         | Shwebo Canal.        | Mon Canals.       | Irrawaddy Embankment. | Tongwa Island Embankment. |
|                              |                         | Under Construction.  |                   |                       |                           |
| Acres of re-claimed land ... | 43,729                  | .....                | .....             | 4,14,914              | 30,946                    |
| Capital Cost Rs. ...         | 52,00,412               | 38,85,446            | 2,60,399          | 32,01,990             | 2,27,909                  |
| Percentage of Net Revenue    | 0·23                    | Deficit Rs. 1,27,357 | Deficit Rs. 6,203 | 29·64                 | 19·13                     |
| Total net Deficit Rs. ...    | 9,64,029                | 296,180              | 8,392             | 1,48,63,615           | 43,05,805                 |

mile was Rs. 71,012, the highest in India. This canal is carried across the Thapangaing River by an aqueduct with 12 barrel arches 22 feet by 12½ feet, 300 feet long, with a width of 46 feet; the parapets are formed of shutters 7 feet high and 5 feet wide, which are lowered in extraordinary floods. The total width of flooring is about 200 feet; the discharge is 60,000 c. feet, partly over, partly under; it was constructed in 1899-1901 and cost Rs. 384,371.

### MINOR CAPITAL WORKS.

Fifty lakhs have been spent in restorations and repairs. There are numerous private irrigation works, especially in the Magwe district and along the tributaries of the Irrawaddy. The water-rate has been consolidated in the settled districts as previously explained in the case of Madras and Bombay.

### MINOR REVENUE WORKS.

Which served 472,804 acres, the net revenue Receipts were Rs. 2,62,708, the charges being 80% of the gross revenue.

## CENTRAL PROVINCES.

There are no State Irrigation works. Besides the tanks mentioned below, there are 50,000 small private tanks in rice-growing districts, which protect from





Lieutenant-Colonel JOHN ANDERSON, M.B. (Edin.), I.M.S., Civil Surgeon, Lucknow, was born in the year 1855, in Ireland. He was educated at the Edinburgh University and took his degree of M.B. in the year 1878. He entered the Indian Medical Service the same year and came out to India in 1879. He first served in the second half of the Afghan Campaign. He was then transferred to the North-West Provinces (now the United Provinces). He served as Civil Surgeon at Bijnore, Moradabad, Allahabad, Bareilly, and Mussoorie, and was Civil Surgeon of Simla for a period of three years. He was Principal

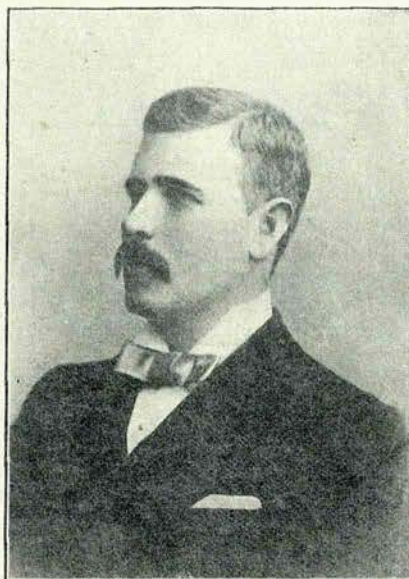


Lieut.-Col. JOHN ANDERSON.

of the Medical School at Agra for three years, and for the past six years has held the position of Civil Surgeon at Lucknow. He holds a

medal for meritorious service in the Afghan Campaign; is a Fellow of the Allahabad University, and a Member of the British Medical Association.

Mr. ARTHUR HENRY ASHTON, Executive Engineer,



Mr. A. H. ASHTON.

Public Works Department, United Provinces, was born in 1862 at Rangiora, Christchurch, New Zealand, and was educated at Christchurch. He entered the Indian Public Works Department in 1883, his first service being in Kumaon, and he was subsequently appointed to various districts in the North-West Provinces. His services in connection with the famines of 1896-97 and 1899-1900 obtained for his work the special mention of Government. From 1896 till 1903 he

held the post of Divisional Engineer at Jhansi, Allahabad, Fyzabad and Lucknow Divisions respectively. He was appointed on special duty to Naini Tal in 1906.

Mr. HEWLEY MORTIMER BAINES, Under-Secretary, Buildings and Roads Branch, Public Works Department, Punjab, Lahore, was born in New Zealand in 1865. He was educated at Repton School and Cooper's Hill Engineering College, where he passed out successfully in 1888, coming out to India in 1889 as Assistant Engineer. He served in the Tochi Valley in 1897, and was awarded the India Medal with Punjab Frontier, 1897-98, clasp. He was



Mr. H. M. BAINES.

promoted to Executive Engineer, 1st Grade, in 1905, and appointed Under-Secretary in 1906.



Lieutenant-Colonel CHARLES JAMES BAMBER, D.P.H. (Cantab.), M.R.C.S. (England), L.R.C.P. (London), Sanitary Commissioner and Professor of Hygiene,



Lieut.-Col. C. J. BAMBER.

Medical College, Lahore, was born in 1855, and educated at the Bedford Grammar School, and St. Bartholomew's Hospital, London. He took the M.R.C.S. and L.R.C.P. in 1878 and the D.P.H. in 1892. He joined the Indian Medical Service in 1878 and came out to India in the following year.

For the first nine years of his service he was in military employ. In 1881 he served in the Mahsud Waziri Expedition, being in medical charge of the Cavalry Brigade. He again saw active service in Burma in 1886-87, receiving the medal and clasp.

In 1888, he was posted to the Punjab as Civil Surgeon, and worked in that capacity in several districts. For five years he was Civil Surgeon of Rawalpindi.

In 1897, he was afforded another opportunity of seeing active service by joining the Malakand Field Force. On this expedition he carried with him an X-ray apparatus. For his services he was awarded the medal and clasp.

He was eventually appointed, in 1900, Sanitary Commissioner with the Punjab Government, and Professor of Hygiene, Medical College, Lahore.

At the Delhi Durbar in 1902, he was appointed a member of the Central Committee, and placed in administrative charge of the medical and sanitary arrangements of the Civil camps. These onerous duties he carried out successfully, and when the Durbar broke up he received the thanks of the Government of India.

He is a Fellow of the Royal Statistical Society of England.

The Hon'ble Mr. Justice PRAMADA CHARAN BANERJI, B.A., B.L., J.P., Puisne Judge of the High Court, Allahabad, is a native of Uttarpara in Bengal, and was born on the 10th of April 1848. After receiving his education at the Presidency College, Calcutta, he

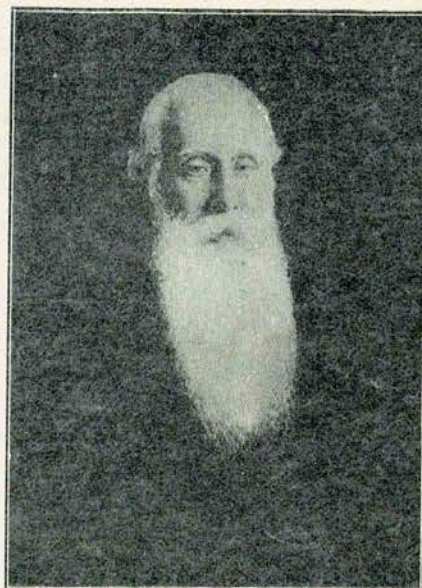


Hon. Mr. Justice P. C. BANERJI.

graduated in the Calcutta University in 1867, taking a high place in the first class. After obtaining the degree of Bachelor of Laws of that University he practised for a short time in the Allahabad High Court as a pleader, and then entered the Judicial Service of the North-West Provinces. He had a distinguished career in that service and rose to the top in the short period of eleven years. In 1886, he was appointed Judge of the Small Cause Court at Allahabad, an appointment till then reserved for members of the Covenanted Civil Service only. In 1893, he was appointed Additional

Judge of Lucknow, and in December of that year was elevated to a seat in the High Court of the North-West Provinces, an office which he still holds. He is a Fellow of the University of Allahabad and was thrice elected President of the Faculty of Law. He is a member of the Syndicate and of several sub-committees of the University. He is President of the Committee of the High Court Legal Practitioners' Examination and also of the Council of Law Reporting of the Allahabad High Court.

Mr. ROBERT BELCHAMBERS, Registrar of the High Court at Calcutta (retired), was born in the North-West Provinces of India, on the 7th December, 1830. His father was in the service of the Hon. East India Company, and came to this country in 1817. This gentleman had the misfortune to lose his sight, and the circumstance so told on the fortunes of the family that Mr. Robert Belchambers was indebted to the kindness of two of the early Baptist missionaries for his education. He relieved his parents of his maintenance at the age of fifteen, and came to Calcutta to seek em-



Mr. R. BELCHAMBERS.

ployment when he was eighteen years of age. He had the good fortune to obtain an introduction from Major Macpherson in Political employ, in whose service he had



been, to his brother Mr. William Macpherson, M.A., Bar.-at-Law, who at that time held the offices of Master in Equity, Registrar and Accountant-General of the Supreme Court. Through this introduction he obtained an appointment as subordinate clerk in the Master's office, and was afterwards promoted to Chief Clerk in the Registrar's office, and subsequently to Deputy Registrar of the Court. His abilities and industry attracted Mr. Macpherson's attention, and laid the foundation of a life-long friendship with his patron. Mr. Macpherson's friendship took a practical shape. Under his guidance, Mr. Belchambers pursued his legal studies and prepared himself for the law examination, which led to his admission as an attorney. To the advice and assistance of his master, Mr. Belchambers attributes the success which has attended him through life. Mr. Belchambers' services have been many and remarkable. His long service in the High Court extended from 1848 to 1899. He performed simultaneously the duties of Registrar, Accountant-General, Taxing Officer, Chief Clerk of the Insolvent Court, etc. His services include the furnishing of many important Notes, among which was a Note "On the Bill to Consolidate the Law relating to the Sheriff, and to the execution of Decrees of the High Court." This Note was submitted to Government by the Judges. Another Note by his hand, on the Civil Procedure Code, was specially acknowledged in the report of the Select Committee of the Governor-General's Council. He also prepared a set of Rules of Procedure, which were adopted by the Court, and some of which were embodied in the Civil Procedure Code. He also published a book of Rules and Orders of the High Court, with notes and an index, which was added to the list of subjects of examination, both for vakils and attorneys, and a book of practice of the Civil Courts. In addition to his multifarious duties, he revised the Rules relating to the admission of attorneys, so as to entitle attorneys of the High Court to the benefit of the Colonial Attorneys' Relief Act, and prepared Rules under the Transfer of Property Act. He also prepared other Rules, which were

published separately. These convey but a slight indication of the great labours which Mr. Belchambers performed during his half century of service. His personality gained him the respect and friendship of all with whom he came in contact. On his retirement he received from Sir Francis Maclean, Chief Justice, a friendly and eulogistic letter, in which his career was alluded to in most flattering terms. Among other things, Sir Francis wrote "Your most valuable career has elicited from all quarters nothing but praise, and it has obtained for you extension of service unparalleled in the career of any Indian official." In the year 1900, twelve months after his retirement, the Attorneys of the High Court did Mr. Belchambers honour by installing his portrait in the Attorneys' Library at the High Court. Sir Francis Maclean, C.J., presided at the unveiling ceremony, and among the large gathering present were included all the Judges not absent from Calcutta and the most distinguished members of the Bar and other branches of the legal profession. On this occasion a presentation was made to Mr. Belchambers of a handsome silver tea service. Mr. Belchambers' service dated from almost pre-historic times; the legal world he entered as a youth was very different from the existing one. He was the last Registrar of the old Supreme Court and the first Registrar of its successor, the present High Court. He remembers the time when there were no Judges of Indian descent, no Indian Barristers or Attorneys. His reminiscences include the Indian Mutiny of 1857, the assumption of the title of Empress of India by Queen Victoria, the visit of the Prince of Wales, now King-Emperor, and all the curious, epoch-making happenings of the Indian Empire during the sixty years since his arrival as a boy in Calcutta.

Chev. G. BETTONI, Vice-Consul for Italy (Officiating Consul during the absence of Dr. Gorio), was born at Brescia, near Milan, Italy, in the year 1875. He was educated at Milan and holds a high degree in Classics. After finishing his education he travelled abroad

to obtain a knowledge of different languages. He came to India in the year 1900, to take charge of the management of the "Società Filatura Cascami Seta" of Milan in Bombay, the largest firm in the world in silk waste yarn manufacture, and is still looking after the firm's business. He was appointed Vice-Consul for Italy in the year 1904.

Lieutenant-Colonel GEORGE FREDERICK WILLIAM BRAIDE, M.B., B.Chir. Victoria University (Manchester), M.R.C.S., Eng., I.M.S., Inspector-General of Prisons, was born at Kasauli, India, in the year 1862, and educated at the Owen College, Manchester.



Lieut.-Col. G. F. W. BRAIDE.

He obtained his M.B. and B.Chir. degrees in 1886, and joined the Indian Medical Service on the 31st March 1887, arriving in India in November of the same year. For about three and a half years he was in military employ, but joined the Civil Medical Service, Punjab, in 1890, and was appointed Superintendent of Jails in Mooltan, Chinawan and Lahore, respectively. He was in charge of the Lahore Central Jail for thirteen years, and was at length permanently appointed Inspector-General of Prisons, Punjab, in 1906, which position he still holds.



Mr. FRANCIS EDWARD BULL, Executive Engineer, Irrigation Department, P. W. D., Bareilly, was born in England in the year 1866 and was educated at Marlborough. After passing through the Cooper's Hill College, he worked for one year on the Manchester Ship Canal, to gain a thorough and practical experience of his profession. He came to India in the year 1890, and the same year he joined the service at Rurki as an Assistant Engineer. One year later he went to Aligarh, and after serving there for two years he was transferred to Meerut where he remained for three years. In the year 1897 he went to Cawnpore as an Executive Engineer, and after serving there for five years he was transferred to Bareilly in the year 1901, where he continues as an Executive Engineer in the Irrigation Department.

Lieut.-Col. ROBERT NEIL CAMPBELL, M.B., C.M., I.M.S., Civil Surgeon, Dacca, was born on the 24th September 1854 and educated at Edinburgh. He joined the Indian Medical Service on 1st October 1877,



Lieut.-Col. ROBERT NEIL CAMPBELL.

and until the year 1883 was in military employ. In that year he was appointed Civil Surgeon of Tezpur, Assam. In this capacity he subsequently served at Shillong and Gauhati till 1896, when he was appointed to officiate as Senior Medical Officer and ex-officio Assistant Superintendent at Port Blair

in the Andaman Islands. In 1896, he returned to Gauhati as Civil Surgeon and was subsequently transferred to Shillong. In 1900, he was appointed Superintendent of the Purnea Jail, and in the same year made Civil Surgeon of the 1st Class, and in 1901 appointed to Dacca. He was appointed Lieutenant-Colonel and specially selected for increased pay on 1st April 1904.

*War Services.*—N. E. Frontier of India, Naga Hills, 1879-80. Despatches G. G. O. 123 of 1880, Medal with clasp. Kaiser-i-Hind Medal 1st Class, 1900.

The Hon'ble Mr. Justice PROTUL CHANDER CHATTERJI, C.I.E., Permanent Judge, Chief Court, Punjab, Lahore, was born in



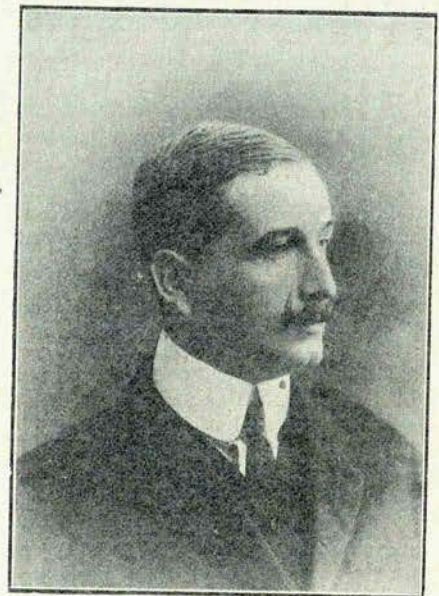
Hon. Mr. Justice P. C. CHATTERJI.

Calcutta in the year 1848, of an ancient and distinguished but decayed Kulin Brahmin family. He received his early training in the School of the General Assembly, Scotland, in Calcutta, and took his degree of M.A. in 1869. He became Bachelor of Laws in 1870, and after being enrolled as a vakil of the Calcutta High Court, removed to Lahore to practise at the Bar of the Chief Court, Punjab, where he quickly established a large practice. In 1886 he was appointed a Municipal Commissioner of Lahore by the Government. He remained on the Board till 1895, when he re-

signed on being nominated Judge of the Chief Court, in which post he first officiated in 1889, and was permanently appointed in 1894. He became a Fellow of the Punjab University, by election, and was appointed Secretary to the Law Faculty, and elected Dean of the Faculty in 1898. On the reconstitution of the Punjab University in 1905, he was re-appointed a Fellow and still holds the office. He has been Examiner in Law and other subjects to the University on several occasions, and materially helped Sir William Rattigan, the Vice-Chancellor, in framing the rules and regulations of the old University, for which service he was awarded the title of Rai Bahadur. He is President of the Punjab Public Library and of the Victoria Diamond Jubilee Hindu Technical Institute, founded in 1897. He was made a C.I.E. at the Delhi Coronation Durbar.

Mr. Chatterji was also appointed Vice-Chancellor of the Punjab University in 1904. He takes a keen interest in Freemasonry, has passed through all the degrees, and holds the rank of Past Deputy District Grand Master.

Mr. GEORGE SUMMERLY CARMICHAEL COLE, Superin-



Mr. G. S. C. COLE.

tendent of Police, Lucknow, was born in the year 1872 in London,



and is the son of Col. H. H. Cole, R.E. He was educated at Wellington College, and came out to India in 1890 when he joined the service of Government, in the Police. His first appointment was as Assistant District Superintendent of Police at Bareilly. His promotion has been extremely rapid as he was appointed to the substantive grade of District Superintendent in 1892; a record as being the youngest District Superintendent in the service. He was in charge of the Lucknow District from 1894, but has recently been transferred to Muttra.

The Hon. Mr. R. H. CRADDOCK, C.S.I., Chief Commissioner of the Central Provinces, was born in 1864, and is the son of the late Surgeon-Major William Craddock, of the 1st Goorkhas. He was educated at Wellington College, and at Keble College, Oxford, and entered the Indian Civil Service in 1884. In December of that year he was posted to the Central Provinces, where the whole of his service has been spent. After the usual period of service as Assistant Commissioner, he was engaged for five years on Settlement work, and for a further period of five years in Secretariat work, being appointed Chief Secretary to the Chief Commissioner of the Central Provinces in 1900. Two years later he was appointed Commissioner of Nagpur, and in the following year he was made a Companion of the Order of the Star of India.

The chief literary work on which he was engaged during this period included the Settlement Report of the Nagpur District, and the two Reports on the Famines of 1896-97 and 1899-1900. He attended the Conference in 1893 in connexion with the Cadastral surveys of Behar, at the invitation of Sir Anthony MacDonnell. He was also deputed to represent the Central Provinces in 1894 at a Conference regarding Land Records, convened by Sir Charles Elliott in Calcutta.

In March, 1907, Mr. Craddock was appointed Chief Commissioner of the Central Provinces and Berar, which latter area was amalgamated with the Central Provinces in 1902. Since he assumed charge of the Administration the principal mat-

ters that have occupied his attention have been the famine, so far as it affects the Central Provinces, various experiments in connexion with the crops, and sanitary improvements in the city of Nagpur. With regard to the famine, the distress arising from the failure of the Monsoon, although it was serious, was at no time so great as in the neighbouring provinces, and the position was rendered less critical by the advent of timely rain. But at the beginning of 1908 the Government was forced to review its financial position in order to decide what allotments should be made for famine relief, and what services could be reduced for that purpose. At the beginning of the year, 70,000 people were in receipt of relief, but the ordinary relief works were sufficient in most districts to provide for the requirements of the labouring classes. Village works were opened in two districts, and special relief was given to weavers, gratuitous relief being afforded to other classes. With regard to crop experiments, a fair measure of success attended the various experiments carried out by the Government to discover suitable additions to the commercial crops of the Chattisgarh Division. The most interesting were those connected with jute, the cultivation of which, under the supervision of an expert from Dacca, is being attended with encouraging results. In mining concessions there has been something of a boom, and the Government has been flooded with applications for prospecting and mining concessions, many of the applicants being Indians, and Indian capital being largely utilized. Manganese, coal, iron, and other minerals have been discovered in various places, and hopes are entertained that there is a great future before the Central Provinces in the development of its mineral resources. In municipal matters, the Hon. Mr. Craddock has shown great interest, and his previous service as Commissioner of Nagpur has enabled him to fully appreciate the needs of the chief city. To relieve the congestion in crowded localities, the Government has acquired and handed over to the Municipality extensive plots of land in the outskirts of the city;

new roads are being made, the new water-works scheme, which will relieve the uncertainty of the present supply, will soon be an accomplished fact, and another large scheme, that of the drainage, is nearing completion.

The Hon. Mr. Craddock was married, in 1888, to Frances Henrietta, youngest daughter of General H. R. Browne. He is a member of the East India United Service Club.

Mr. HENRY DUFFIELD CRAIK, B.A., I.C.S., Registrar, Chief Court, Punjab, Lahore, was born in January, 1876, in England, and educated at Eton, and at Oxford University where he took the B.A. degree in 1898. Passing into the Indian Civil Service, he was posted to the Punjab, where he served as Assistant Commissioner in several districts, on plague and general duty. He officiated as Registrar, Chief Court, Punjab, from April to October 1903, and was appointed substantive Registrar in March 1905.

Major RICHMOND TREVOR CRICHTON, Indian Army, Superintendent, Bengal Service, Survey of India, was born in 1864 at Calcutta, and educated at Edinburgh, Scotland. He joined Sandhurst College in 1883, and thence entered the Army, being attached to the 2nd Battalion, Highland Light Infantry, in 1884. The same year he arrived in India. He served with H. L. I. for about five years, until, in October 1889, he was admitted to the Bengal Staff Corps, and the same year appointed to the Survey of India as Assistant Superintendent. Till 1891 he served with this Department in the North-West Provinces, and in November of that year was transferred to Bengal, where he was in charge of the Cadastral Survey in Orissa. In 1893 he was appointed to the charge of the Behar Survey, and in 1895 was gazetted Superintendent of Provincial Surveys, Bengal, which appointment he now holds.

The Hon'ble Mr. Justice DINSHA DHANJIBHAI DAVAR, the first Parsee Judge on the Bench of the Bombay High Court, was born on the 6th of November in the year 1856. He commenced his education in the Proprietary High



School, Bombay, from where he passed the University Entrance Examination. He then joined the Elphinstone College during the time of Sir Phillip Wodehouse and Mr. Oxenham. In College life he was not only bright and foremost in his studies, but was also prominent in football, cricket, and amateur theatricals. His contemporaries in College were Sir Jamsetjee Jijibhoy, the late Dastur Peroze Jamasp, and Mr. Jehangir Dossabhoy Framjee. In 1877 he went to England and joined the Middle Temple, and was called at the Trinity Term of 1880. He was admitted an Advocate of the Bombay High Court in August of the same year. At that time



The Hon. Mr. Justice D. D. DAVAR.

there was a glut of Barristers at the High Court, but he sought other fields, and soon distinguished himself at the Small Cause Court for his astuteness and grasp of commercial questions, and in the Police Courts by his conduct of criminal cases. In the Durant Blackmailing Case and the Tilak Case he fought with great ability, and distinguished himself in cross-examination. In the latter case he was associated with the late Mr. Pugh of Calcutta. He was also Junior Counsel to Sir Griffiths Evans when he fought out the great Partition case, known as the Moolji Jetha Case. After 1896, he gave his undivided attention to the High

Court, and from 1898 his career has been one of uninterrupted success. He has been entrusted with a very large number of briefs, entailing long and arduous hours of labour. His practice was a very lucrative one, especially in commercial cases, on which he brought a wonderful knowledge of native book-keeping to bear. He was also recognised as one of the cleverest cross-examiners in criminal cases. The Junior Native Bar owe him a debt of gratitude for the manner in which he fought for the equality of rights of Native and European Barristers practising in the Bombay High Court. He broke down all the distinctions that had hitherto existed, by his individuality and the able and hearty manner in which he co-operated in cases with Messrs. Macpherson, Lang, and other leading lights of the local bar. In accepting the post of Judge in the Bombay High Court, Mr. Davar gave up a large practice, but the appointment could not but be gratifying, as it was not of his own seeking. His nomination as a Judge was gazetted in London on the 19th of October, 1906. Mr. Davar's various attainments, and his great experience of the different Courts of Law in Bombay, specially qualify him for the post he has attained.

Mr. JAMES GOULDING DAVIS, Superintending Engineer, Irrigation Branch of the Public Works Department, Punjab, India, was born at Rurki, 12th February 1858, and educated at Bishop Cotton School, Simla. He graduated as an Assistant Engineer from the College of Civil Engineering at Rurki and was appointed to the General Branch of the P. W. D. on 6th October 1879. He was employed for 15 years in the districts bordering the N.-W. Frontier, principally on the construction and maintenance of frontier roads and posts. The most important of the frontier roads on the construction of which he was employed, are the main road extending from Khushalgarh on the Indus through Kohat and Bannu to Dera Ismail Khan; that from Kohat up the Miranzai Valley to the Upper Kurram Valley; and the military road from Oghi to Darband along

the Black Mountain frontier of the Hazara District. He was several times selected for employment beyond the frontiers of the Derajat, Kohat and Hazara Districts, and his services were lent to the Political Department in connection with the opening up of the Gumal Pass in 1890-91, by the construction of the first road with military posts from Murtaza to Khajuri Kach, and the bridging of the Gumal River. For his work in the Gumal Pass he received the thanks of Government. He was, soon after his return to the P. W. D., again transferred to the Political Department and sent up to the Kurram Valley (1893-94), where he built the station of Parachenar



Mr. J. G. DAVIS.

with its fort and militia lines, directly under the southern face of the Sufed Koh Mountains, and guarding the Piewar Kotal Pass into the Hariob Valley on the west, and the Argam Pass into Ningrihar on the north, and dominating the Afghan Province of Khost on the south.

In 1895 his services were transferred to the Irrigation Branch of the Punjab, and he served at first on the Bari Doab and Western Jumna Canals. From 1900 onward he has been chiefly connected with surveys on and between the Sutlej and Ravi Rivers for irrigation schemes, and in the preparation of projects under two Chief Engineers



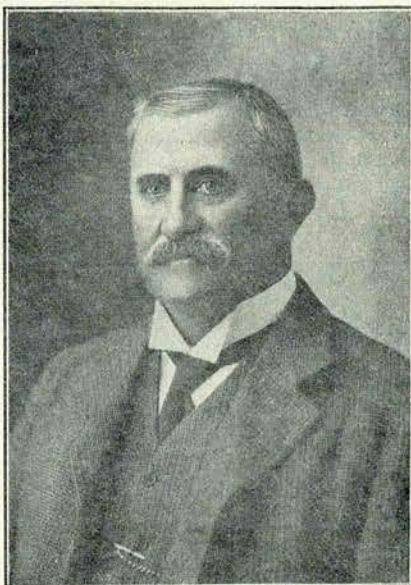
of the Punjab Irrigation Department, Messrs. Preston and Benton, to whom he acted as personal assistant. Two schemes were drawn up for the Lower Bari Doab Canal, and one for the Upper Chenab Canal, and on the plans thus formulated, large canals are now under construction. By the Irrigation Branch his services have twice been lent to the Government of the North-West Frontier Province, to advise on irrigation matters in the Bannu and Gumal Valleys.

Mr. Davis is now in charge of the Lower Bari Doab Canal Construction Circle, and has in addition several other surveys and projects in hand, the principal of which are connected with the control of the Kurram and Gumal rivers for irrigation in the Bannu and Dera Ismail Khan Districts on the frontier, and for the construction of weirs and canals for irrigating the Sutlej Valley and the desert uplands of Bikanir and Bahawalpur.

Mr. E. HALDEMAN DENNISON, Consul for the United States of America, Bombay, was born in Columbus, Ohio, U. S. A., in the year 1872, and was educated at Yale College and St. Paul's School, Concord, New Hampshire. In the year 1892 he went to the West, and was appointed Agent of Navajo Indians in 1894. He was afterwards transferred to Washington Indian Office in 1898. In the year 1903 he entered the Consular Service and was sent to Canada, and in 1906 he was transferred to Bombay as Consul for U. S. A. He is the grandson of the late Mr. William Dennison, who was Governor of Ohio, U. S. A., and afterwards Postmaster-General in the Cabinet of President Lincoln.

The Hon'ble Mr. STEPHEN FINNEY, C.I.E., Manager, North-Western Railway of India, and Member of the Punjab Legislative Council, was born in England in 1852 and educated at Clifton College. He entered the Indian Engineering College, Cooper's Hill, whence he passed into the Indian Public Works service in 1874. His first appointment was as Assistant Engineer, Eastern Bengal State Railway, in charge of Rungpur Sub-Division. In 1877 he was

placed in charge of the Jalpaiguri District as District Engineer, and in the following year appointed Assistant Manager, Northern Bengal Railway, at that time not yet amalgamated with the Eastern Bengal State Railway. This post he held till the year 1882, when he was transferred to the Southern Mahratta



HON. MR. S. FINNEY.

Railway as Assistant Chief Engineer. In 1884 he went on furlough and on his return was appointed again to the Eastern Bengal State Railway as Assistant Manager. The Eastern Bengal and Northern Bengal Railways were amalgamated in the year 1887, and Mr. Finney received the appointment of Deputy Manager of the combined systems. In 1891 he was promoted to the post of Manager of the combined systems, and this appointment he held till 1899, during which period he did excellent service in bringing the system under his charge to a high degree of efficiency. In the latter year he was transferred as Manager to the important North-Western Railway. This system is second only to the East Indian Railway in point of commercial importance, taking second place, so far as gross earnings are concerned, and being in this respect far in advance of any other Indian railway, with the above exception. From a stra-

tegic point of view the North-Western Railway is the most important in India, as here the lines of railway which protect the N.-W. Frontier, converge. The selection of Mr. Finney for the onerous post of Manager of this great system is a sufficient testimonial to the esteem in which his services are held by the Government of India. In 1905 Mr. Finney was appointed a Member of the Punjab Legislative Council, and he has received the Companionship of the most Eminent Order of the Indian Empire.

Mr. JOSEPH EDWARD GABBETT, Consulting Engineer for Railways, Lucknow Circle, was born in Ireland in the year 1855. He received his primary education at Cheltenham College, and afterwards joined the Royal Indian Engineering College at Cooper's Hill, from whence he passed out in the year 1877 and was posted to the Burma Railways as an Assistant Engineer. He was transferred to India and joined the Rajputana Railway in May 1878. In 1885 his services were lent to the



MR. J. E. GABBETT.

Bombay, Baroda and Central India Railway. In 1888 he officiated for nine months as Manager of the Jodhpore Railway. From 1889 to 1893 he was engaged in the construction of the railway from Jodhpore to Bikanir, and from the year 1893 he was



appointed as State Engineer to the Bikanir State, and also officiated as Manager of the Jodhpore-Bikanir Railway from March to December 1894 and June to October 1895. He was Deputy Consulting Engineer for Railways at Calcutta from 1900 to 1903. In the year 1905 he was promoted to Superintending Engineer, and in December of the same year he was appointed Consulting Engineer for Railways, Lucknow Circle, in which capacity he is still serving.

The Hon'ble SIR CHANDRA MADHUB GHOSE, Senior Puisne Judge of the High Court of Judicature at Fort William in Bengal, was born at Bierampur in the District of Dacca, in the year 1839, of a Kayastha family, his father being Rai Durga Prosad Ghose, Bahadur, Deputy Collector. In those days, Eastern Bengal, in which Bierampur is situated, was not so advanced as it has since become, and there were small chances of obtaining the necessary education to fit the young Chandra Madhub for the battle of life in those parts. The Kayasthas, however, wherever found, are an energetic class, of great intelligence, claiming descent from Chitrugupta of primeval age, and belonging to the class of Kshettriyas, who in ancient Hindu times were the warrior caste and ranked next to the Brahmans. Rai Durga Prosad enacted the part of a wise parent and placed his son in the centre of learning in the Province, Calcutta, where he attended the Hindu and the Presidency Colleges, at that time the leading scholastic institutions for Hindu lads. These were days before the introduction of the new University system in Calcutta, but in the very first year the University was established, the young student passed creditably the Entrance Examination. Owing to ill-health, Chandra Madhub was not able, or permitted, to pursue his studies to obtain a Degree in the University, but was compelled to rest awhile in order to recuperate. Later, when restored to health, he rejoined the Presidency College, and subsequently joined the Law Class of that College with a view to qualify for a

forensic career. Here he had the advantage of studying law under a lawyer of commanding attainments in the person of Mr. William Austin Montriou, then Professor of Law at the Presidency College, and also Advocate of the old Supreme Court. Mr. Ghose did well under the able tuition of the eminent Professor. He was an earnest student, with great natural abilities, which fitted him for the profession, and he won the regard of Professor Montriou in whose estimation he stood high, a good omen for the ultimate success of the present learned Judge. In the twenty-second year of his life, 1860, Mr. Ghose passed with credit the



Hon. Sir CHANDRA MADHUB GHOSE.

Law Examination which authorized him to practise as a pleader. His first venue was Burdwan where he met with success as a pleader. Within six months he was appointed Government Pleader by the Government, at the instance of Mr. Beaufort, then Superintendent and Remembrancer of Legal Affairs. His old friend, Mr. Montriou, stood sponsor to him on this occasion. Having been asked by Mr. Beaufort to recommend someone for the post, he mentioned Mr. Ghose, whose knowledge of that gentleman's attainments enabled him to do without suspicion of favour. Mr. Ghose

did not retain the post long, throwing it up on finding that he could not work in harmony with the local Collector. He accepted a position under Government as Deputy Collector. He held this position for a very short period only. In this manner he was headed off by fate from travelling by avenues which would have led him away from the true goal which he has since attained, and the honours awaiting him. A provincial pleadership under Government or the position of an Uncovenanted Civil Servant, however distinguished, would but ill have compensated him for his present elevated position. Mr. Ghose, after these tentative efforts, entered the line of his true vocation, and joined the old Sadar Court at Calcutta. Before long, the Sadar and Supreme Courts, which had been separate institutions from the beginning of British rule in Bengal, were fused into one, thus giving rise to the institution known as the High Court of Judicature at Fort William in Bengal. Mr. Ghose came to the Calcutta Bar with considerable experience gained in his Mofussil career, and though at that time there were Hindu advocates of brilliant abilities senior to him in the profession, he acquired a fair practice from the beginning. His old preceptor, Mr. Montriou, had never lost sight of him, and at this time we find Mr. Ghose acting for that gentleman as Professor of Mofussil Law in the Presidency College during six months in the year. In the great Rent case which was argued before a full bench of fifteen Judges, when Dwarka Nath Mitter (subsequently raised to the Bench) was opposed to Mr. Doyne, a leading advocate of the day, Mr. Ghose acted as Junior to Mr. Mitter, and was considered to have rendered very efficient service to his chief. Among his compeers, Dwarka Nath and Romesh Chandra Mitter (afterwards knighted and appointed a member of the Supreme Council) were raised to the Bench, where Mr. Ghose has since followed them. This left a clearer field for the rapidly rising advocate, and he soon attained leading rank and a very wide practice. For some years, Mr. Ghose held a position among Calcutta advocates second to none,



his reputation standing very high as an able, fearless and conscientious lawyer. In 1884, he was appointed a member of the Bengal Legislative Council. A vacancy on the Bench occurring in the year 1885, Sir Richard Garth, then Chief Justice, and the other Judges of the Court nominated Mr. Ghose for the post, and the appointment was duly confirmed by Her Majesty's Government. In the same year, he was appointed a Fellow of the Calcutta University, and was President of the Faculty of Law for three years. He has held the



Chev. Dr. G. GORIO.

highest distinction which the law has to bestow for over twenty years, and during that time has earned a great reputation for his grasp of facts, for the soundness of his law, the wisdom of his decisions, and for his independence. He has thoroughly justified, during the whole of his long service, the promotion which raised him to be a member of the Bench. He is now the Senior Puisne Judge of the High Court, and was recently appointed to act for the Chief Justice in the absence of the latter, as his great countryman, Romesh Chandra Mitter, acted for the Chief Justice of his day. In recognition of his services, His Majesty the King conferred on him the dignity of Knighthood in July 1906. There is no higher distinction pos-

sible under the British Government than to be, or to act for, the Chief Justice of Bengal. It should be added that Sir Chandra Madhub Ghose has for some years been known as an earnest social reformer, and is the practical leader of the Bengal Kyasht Shobha. He acted as President of the Indian Social Conference in December 1906.

Chev. Dr. G. GORIO, Consul for Italy, Bombay, was born at Brescia, near Milan, Italy, in the year 1872. He was educated in Venice and took the degree of D.C.L. in the University of Munich. After acting at the Italian Consulate at Berlin, he came to India in 1903 as Consul for Italy in Bombay.

Mr. WILLIAM BORMAN GRAY, Chief Examiner of Accounts, North-Western Railway, Lahore, was born in 1854 at Cawnpore. He was sent to England for his education, which he received at Wellington College. In 1875 he returned to India, and joined the Public Works Department

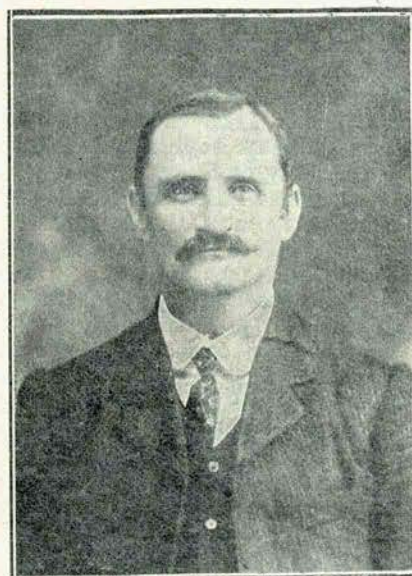


Mr. W. B. GRAY.

in the following year, when he was posted to the Government of India Accounts Department; and, in the course of his service, he served in nearly all the Railway Offices connected with the Government Audit. In 1897 he was specially appointed to the Auditorship of the Assam-Bengal

Railway, and continued in that post till 1900. In 1901 he acted in the appointment of Deputy Accountant-General for inspection duty. He has held charge of the three principal State Railways, viz., the Oudh and Rohilkhand Railway, Eastern Bengal State Railway, and the North-Western Railway. His service of 31 years has been entirely in the Railway Branch.

Mr. HENRY HENNIS GREEN, (R. I. E. College), Superintending Engineer, Darjeeling, was born in Ireland on 21st July, 1862, and



Mr. H. H. GREEN.

joined the service in 1883 as Assistant Engineer. For the next two years, his services were utilized on the Indian State Railways. In 1886 he was transferred to Baluchistan temporarily, but in 1888 returned to the service of the Bengal Government. He has risen through the various grades, during services which extend to most districts of Bengal, to his present position of Superintending Engineer. Mr. Green was in the Sikkim Expedition of 1888-89 and received the decoration. He also served with the Thibet Mission of 1903-4. He was appointed to his present post in March 1903.

Surgeon-General JOHN PHILIP GREANY, M.D., M.CH., L.M., I.M.S., was born in July 1851 and educated at Queen's College, Cork, and



Rotunda Hospital, Dublin, graduating from the Queen's University (now the Royal Irish University) in 1874. He came to India in November 1875, was posted on general duty and attached to the Goculdas Tejpal Hospital, Bombay. Among the many civil and military appointments which have been held by him, those deserving of notice are, his connection with the 10th, 18th, and 24th Bombay Native Infantry Regiments, the Civil Surgeoncies of Kaladgi, Kaira, Satara, Belgaum, Dharwar and Poona; at the last-named place he was also Superintendent of the Byramji Jeejeebhoy Medical School. He was Deputy Sanitary Commissioner, Southern Division, from 1878-79 and the following year acted as Superintendent of the Yerrowda Central Jail, Poona. Before acting as Secretary to the Surgeon-General with the Government of Bombay in 1883-84 he held the post of the Superintendent of the Colaba Lunatic Asylum, 1882-83. In 1902 he was re-transferred to the Military Department and deputed to Aden, and in the year following to Karachi, in both of which districts he was the P.M.O.



Surgn.-Genl. JOHN PHILIP GREANY.

He assumed charge of the office of Surgeon-General with the Government of Bombay in May 1905. Surgeon-General Greany was thanked by the Government and received six months' pensionable

service as a reward for work done in connection with the famine of 1877. He is a member of the British Medical Association; the Irish Medical Graduates Association; the Association of Military Surgeons of the United States of America, and the Bombay Medical and Physical Association.

The Hon'ble Mr. RICHARD GREEVEN, Legal Remembrancer to the Government of the United Provinces, at present officiating as 2nd Additional Judicial Commissioner for Oudh, was born on the 4th September 1866, in London, of German parents. He was a Scholar and Exhibitioner of Dulwich College and junior student of Christ Church, Oxford. He joined the Indian Civil Service on the 10th September 1887, and, having taken his degree of Bachelor of Arts in the Law Finals and having been called to the Bar from the Inner Temple, he arrived in India at the close of 1888, being posted as Assistant Magistrate and Collector to Benares. He held various executive and judicial appointments until appointed an Under-Secretary to Government, subsequently acting as Judicial Secretary and as Legal Remembrancer. After leaving the Secretariat in 1897 he was employed, principally as District and Sessions Judge, in various districts, until, in 1900, he was appointed to officiate, and was subsequently confirmed, as Deputy Secretary to the Government of India in the Legislative Department. During this period he took a leading part in the preparation of the Bill for the Revision of the Code of Civil Procedure, and was deputed to report on the laws and regulations of the Penal Settlement at Port Blair. He left the Government of India in 1904 for his present appointment, and has since then been a Member and Secretary of the United Provinces Legislative Council. Mr. Greeven interested himself actively in the Volunteer movement as a Captain of the Simla Volunteer Rifles. He is a Past Master of Lodge "Philanthropy with Independence" E.C., and holds the position of D. G. J. D. in the Provincial Grand Lodge of Bengal. He has attained the 18th Degree and is a District Grand Sword Bearer in the Order of

Knights Templar. Mr. Greeven has made a special study of Continental Freemasonry in the 18th century, and has written essays



Hon. Mr. R. GREEVEN.

and pamphlets on some of the more obscure forms of popular religion in Northern India.

Mr. HENRY DALY GRIFFIN, District and Sessions Judge, Lucknow, was born in Mayo, Ireland, in the year 1864, and was educated at Black Rock College, near Dublin. He obtained a classical scholarship from the Royal University of Ireland and took his degree of Bachelor of Arts in the year 1885, from the same University. He passed the open competition for the Indian Civil Service in 1883 and joined the service in India in 1885. He was appointed Judge of the Farrukhabad District, United Provinces, in 1893. Since then he has served as Judge in several districts, and in 1904 was posted to Lucknow. In the year 1906 he officiated as Second Additional Judicial Commissioner of Oudh. He has recently been appointed to officiate as a Puisne Judge of the High Court, Allahabad.

Mr. ABUL HASSAN, Third Judge, Small Cause Court, Calcutta, son of Moulvie Mohamed Bukhsh, a leading pleader of the Patna Bar, was educated at Patna College and subsequently at the Presi-



dency College. In 1877 he went to England to complete his studies, and in 1880 he was called to the Bar. In the same year he joined the Calcutta High Court. He practised till 1887, when he was appointed Registrar of the Presidency Court of Small Causes. In 1907 he officiated for six months as the Chief Judge of that Court. Mr. Abul Hassan has always taken a keen and lively interest in the advancement—social and moral—of his community. Mainly to his efforts is due the foundation of the well-known Calcutta Mahomedan Orphanage, which was founded in the year 1895, and for which there was a pressing need. It is now in a flourishing condition and it is to be hoped that the public purse will readily unloosen itself to support so philanthropic an institution. Mr. Hassan belongs to a well-known literary family of Behar. His father was the author of the 'Lives of the Persian Poets' and his brother, Khan Bahadur Khuda Buksh Khan, C.I.E., the well-known Bibliophile, besides possessing a fine collection of Oriental MSS. is the author of "Mahboob-ul-Lobab," a work on the lines of the "Kitab-ul-Fehrist" of Ibu Nadiem.

Mr. WILLIAM FREDERICK HESKETH, Calcutta, was born in 1840, and at 14 years of age entered an Engineer's shop in the East End of London and there worked at the profession for seven years. In the year 1861 he joined the Great Northern Railway where he remained until 1865 when he proceeded to join the Mauritius Railway under covenant, staying with the island line until the close of the year 1872. In the beginning of 1873 his services were entertained by the Cape Government Railways for the special purpose of bringing out various locomotives from Messrs. Manning and Wardels of Leeds, to Port Elizabeth, South Africa, and there to erect them. After performing this duty, he remained in charge of the Workshops at North End, Port Elizabeth. He was subsequently employed to travel round the coast to repair Cape Recife and Bird Island Lights. He was further employed as General Foreman of Works on Sunday River

Bridge, afterwards blown up by the Boers during the war. In 1879 Mr. Hesketh, having left South Africa, proceeded to join the South Indian Railway under covenant as Shop and Loco. Foreman, and was placed in charge of the Madura Workshops.



Mr. W. F. HESKETH.

Subsequently he was transferred to Cuddalore to erect large new workshops for the Railway, which, when finished, Mr. Hesketh was given charge of. He remained in charge at Cuddalore till he left the South Indian Railway in the year 1885. Mr. Hesketh then joined the Burma Railways as Head Fitter at the Insein Works. In 1887 he was promoted to Construction Foreman on the line from Toungoo to Mandalay, where Mr. J. W. Buyers carried out the celebrated record of two miles a day construction. He was afterwards Foreman of Yamethin station from 1888 to 1893, when at the request of Mr. Buyers his services were transferred to the Assam-Bengal Railway, on which line he served till the year 1901, when he had to leave the district owing to breakdown of his health. He then again joined the Burma Railways but had to resign in 1903 owing to ill-health. Mr. Hesketh then joined the Murshidabad-Krishnagar construction to erect and superintend the working of a large land steam dredger, and is still on the same work at Kanchrapara.

Captain FREDERICK CHRISTIAN HIRST, Indian Army, Officiating Deputy Superintendent, Survey of India, and Superintendent of Bengal Surveys, was born in England in 1874 and educated at Bath College, and later at Sandhurst. He joined the Army on February 20th, 1895, being posted to the 96th Manchester Regiment. He arrived in India on the 2nd April 1895, and served with the above regiment until appointed Wing Officer in the 22nd Bombay Infantry. In 1899 he was appointed a Deputy Assistant Commissary-General, and in the following year joined the Survey of India on probation, as an Assistant Superintendent. The rest of his service has been in this department, during which time he has been stationed at Dehra Dun, and in Behar, Bengal, Eastern Bengal and Chota Nagpore, until he was promoted to the position he now holds.

Mr. EDWARD RALEIGH JARDINE, Presidency Post Master, Bombay, was born in the year 1858 in the Bombay Presidency,



Mr. E. R. JARDINE.

and educated at Southsea. After completing his education, Mr. Jardine was appointed to the Marine Postal Service in 1876. He was Assistant Mail Officer in 1876 and became Mail Officer in 1877. He



was Superintending Examiner, Persian Gulf Division, from 1886 to 1888. Officiated as Deputy Post Master, Bombay, in 1889. Aden was his next sphere of activity where he was Post Master in 1890. Mr. Jardine was on special duty in the Director-General's Office in 1893 and was made Deputy Post Master, Bombay, in the same year. Two years later Mr. Jardine was acting Presidency Post Master, Bombay. In 1899 Mr. Jardine was Post Master of Rangoon. From July 1902 to March 1903, he acted as Deputy Post Master-General, Burma. Mr. Jardine became Presidency Post Master, Bombay, in April 1903. Special mention was made of Mr. Jardine to the Government of India in the Director-General's Annual Report of 1898-9, for introducing the new and useful system of continuous delivery in Bombay. Again in the report of 1900-01 Mr. Jardine is mentioned for stopping opium smuggling through the Post Offices, Burma, and for organizing Postal arrangements in Rangoon. Once again, in the 1903-04 Report, Mr. Jardine's name figures for reorganising postal arrangements in Bombay, and for introducing a system of accurate postal maps of deliveries in the Presidency Towns.

The Hon'ble Mr. Justice DONALD CAMPBELL JOHNSTONE, I.C.S., Judge, Chief Court, Punjab, Lahore, was born in 1857, in India, and received his education at the Edinburgh Academy. Passing into the Indian Civil Service, he came out to India in 1879, and was appointed Assistant Commissioner, Lahore. His services were placed at the disposal of the Bombay Government in 1882, when he was appointed Assistant Collector and Magistrate. His services were next requisitioned by the Punjab Government in 1884, and he held appointments, first as Junior Secretary and later on as Senior Secretary to the Financial Commissioner, from 1887 to 1891, in which period he compiled an Excise Manual for the Punjab and wrote pamphlets on certain Punjab industries. He was promoted to District Judge in 1891, which post he filled for two years. He officiated as Divisional Judge in 1894, and was made permanent therein in 1895. He was

placed on special duty as Additional Sessions Judge at Karnal in 1897, and again in the following year he was placed on special duty to en-



Hon. Mr. Justice D. C. JOHNSTONE.

quire into the charges against Sardar Gurdial Man Singh. In 1902 he officiated as Judge, Chief Court. He took up the officiating appointment of Temporary Additional Judge, Chief Court, Punjab, Lahore, in 1905, and was appointed First Temporary Additional Judge the same year, and Officiating Judge, Chief Court, Punjab, Lahore, in 1906.

Mr. GEORGE ALFRED KEATINGE, Secretary and Superintendent, Municipal Board, Mussoorie, was born at Jullundur, in the Punjab, in the year 1856. He was educated at Hollyville Park College, Dublin. He took his degree at Trinity College, Dublin, in 1872, and three years later came out to India in the service of the Railways, holding the post of Chief Inspector for many years. After leaving railway employment, Mr. Keatinge worked as a Contractor for Railways in the Public Works and Canal Departments, and in 1897 he was appointed Secretary and Superintendent of the Municipal Board, Mussoorie. Under his supervision the financial position of the Mussoorie Municipality has notably improved, the collections from taxes have been much

increased and expenditure in all departments greatly reduced. Since his appointment the very important sewerage scheme, which provided a shoot to carry all the Mussoorie sewage to Bhalru, has been carried out. At Bhalru it is turned on to the farm where fodder is grown for the conservancy cart-bullocks. During recent years the new hydro-electric scheme was introduced, and the burden of the correspondence fell on Mr. Keatinge, and all the work in connection with it had to pass through his hands.

Mr. EDWARD AUSTIN KENDALL, I.C.S., Additional Sessions Judge, Meerut, United Provinces, was born in 1871 in London and educated at Bedford Grammar School. He was a classical exhibitor of John's College, Cambridge. He joined the I.C.S. on 5th September 1892, and came to India in October the same year, and was first posted to Moradabad as Assistant Magistrate and Collector. He served in the same capacity, and as Joint Magistrate, in different districts till 1899, from which year he officiated

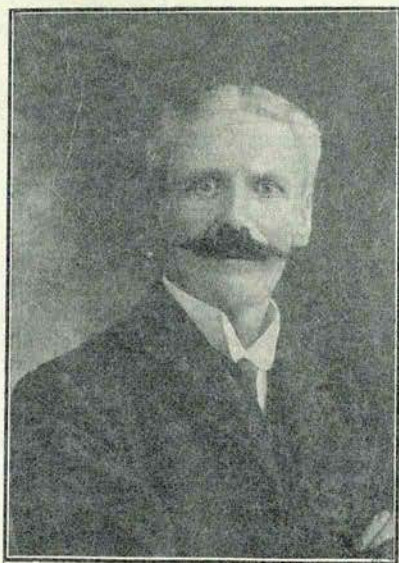


Mr. E. A. KENDALL.

as District and Sessions Judge. On return from furlough in 1904 he was appointed to Meerut as Additional Judge there. In 1891 he was engaged on Special Plague duty at Hurdwar.



The Hon'ble Mr. Justice ALFRED KENSINGTON, B.A., I.C.S., Judge, Chief Court, Punjab, Lahore, was born in the year 1855, in Jersey,



Hon'ble Mr. Justice KENSINGTON.

and educated at Marlborough and University College, Oxford. He came to India in 1877 as a member of the I.C.S., and was appointed Assistant Commissioner, Lahore, early in 1878. After serving in several districts, he joined the Settlement Department in 1880 as Assistant Settlement Officer, Hoshiarpur. In 1883, after a short period as Under-Secretary to Government, he was appointed Settlement Officer of Amballa, continuing in the district as Deputy Commissioner on completion of the Settlement. From 1890 to 1892 he served under the Government of India as Under-Secretary and Deputy Secretary in the Finance Department, reverting to the Punjab, on return from furlough in 1895, as Deputy Commissioner of Amritsar. In 1896 and 1897 he held the appointment of Accountant-General at Allahabad, till he joined the Judicial Department of the Punjab as Divisional Judge in November 1897. He has since remained in that department, serving in the Jullundur, Delhi and Lahore Divisions, and after acting as a Judge of the Chief Court during 1902, he was permanently appointed in that post in December 1904.

Dr. JOHN WALTER LEATHER, Ph.D., F.I.C., &c., Imperial Agricultural Chemist, and at present officiating Director of the Agricultural Research Institute, Pusa, was born at Rainhill in Lancashire on December 26th, 1860. He received the principal part of his education as a chemist at the hands of August Kekule at Bonn, Germany, between the years 1883 and 1886. Thereafter, for six years, he was senior assistant to Dr. J. A. Voelcker at the Royal Agricultural Society of England. He joined the Indian Agricultural Department in November 1892 as Agricultural Chemist, which appointment he has held continuously. The records of his work on Agricultural Chemistry for India have been



Dr. J. WALTER LEATHER.

published chiefly in the Agricultural Ledger and the Bulletins of the Provincial Departments; others are found in the Transactions of the Chemical Society, the Society of Chemical Industry and the Society of Public Analysts. Dr. Leather is a keen volunteer and has served through all ranks, from trooper to Captain, in the Dehra Dun Mounted Rifles, in which Corps he still holds his Captain's commission.

Mr. WILLIAM HERBERT LOVEGROVE, Deputy Conservator of Forests, Naini Tal Forest Division, United Provinces, was born in England in 1868 and

educated in that country. He passed out of Cooper's Hill in 1889 and coming out to India, joined the Forest Department in Bengal as Assistant Conservator. For the next seven years he served as Assistant and Officiating Deputy Conservator in various parts of Bengal, including Darjeeling, Chittagong, Chaibassa and Dumka. He was transferred to the United Provinces in 1896, and in the following year obtained his substantive grade as Deputy Conservator. In 1900 he went on long leave, and returning was, in 1903, deputed on special duty to report upon the forests of the Bhabar and Tarai Estates in the Naini Tal Districts. In 1904 he was appointed to his present post, whence, in 1896, he was sent to Bengal to officiate as Conservator for three months.

The Hon'ble Mr. JOHN WILLIAM PITT MUIR-MACKENZIE, M.R.A.C., M.R.A.S., C.S.I., Member of Council of the Governor of Bombay (Revenue and Finance), was born in the year 1854 in France, and was educated at Eton College. He passed the Civil Service examination in 1874, and arrived



Hon'ble Mr. MUIR-MACKENZIE.

in India on the 28th November 1876, and was posted to Satara. He became Assistant Collector and Magistrate in February 1877, and in 1878 was appointed Assistant Poli-



tical Agent in charge, Jath State. In 1883 he was deputed to the Royal Agricultural College at Cirencester and after passing through the course obtained the Diploma, and the Diploma of the Royal Agricultural Society of England. In November 1887 he was appointed 2nd Assistant Collector and Magistrate at Ahmednagar, and in the same year officiated as Director of Land Records and Agriculture at Poona. In 1889 he was appointed Under-Secretary to the Government of India, in the Revenue and Agricultural Department, and up to the year 1892 he four times officiated as Secretary to the Government. In the year 1893 he went on special duty to Réunion and Mauritius in connection with Indian Cooly Immigration, and subsequently reverted to the Bombay establishment. On return from leave in 1895 he became Survey Commissioner and Director of Land Records and Agriculture, which position, with short interruptions, he held until 1898, when he became Secretary to Government in the Revenue and Finance Department. In August 1899 he was made additional Member of Council of the Governor of Bombay for making Laws and Regulations. He became Chief Secretary to Government in August 1900 and went on deputation as a Temporary Member. He officiated with the Irrigation Commission in 1901-2. In 1903 he officiated as Member of Council, and in 1904 went to Karachi when he became Commissioner in Sind. On the 6th of August, 1905, he was appointed Member of Council of the Governor of Bombay, and on the resignation by Lord Lamington, of the Governorship of the Presidency in July, 1907, Mr. Muir-Mackenzie assumed the office of Acting Governor of Bombay, which post he held pending the arrival of Sir G. S. Clarke, the newly appointed Governor, in October, 1907.

Col. RODERICK MACRAE, M.B., I.M.S., Inspector-General of Civil Hospitals, Bengal, is the second son of the late John Macrae, of the Macraes of Glenshield, and was born at Lochalsh, Rosshire, Scotland.

He was educated at the Royal Academy, Inverness, and the University of Edinburgh, where he graduated with distinction in 1873.

He entered the Indian Medical Service in 1875, and after passing through Netley arrived in India in November of the same year.

He was first posted to the Presidency General Hospital, Calcutta, where he did duty for six months, and in May 1876 was appointed to the medical charge of the 32nd Pioneers at Umballa. In November 1876 he was ordered to Meerut to take charge of the 5th Bengal Light Infantry, with which regiment he marched from Meerut to Bhagalpur. He remained at the latter station until the outbreak of the Afghan War in 1878, when he was posted to the Field Force in the Kurram Valley. He was



Col. R. MACRAE.

present during the operations in the Kurram Valley until April 1879, when he was appointed to the charge of the 2nd P. W. O. Godikhas then in the Jellalabad Valley, where they continued to serve for some months. He returned with the regiment on the conclusion of the first phase of the Afghan War and was with them during the "death march" through the Khyber Pass, when some hundreds of deaths occurred from cholera. He again accompanied the Regiment to Cabul after the "Cavagnari Massacre" and was present at the affair in the Gugdulluck Pass, and accompanied Sir Charles Gough's column to the relief of

Sherpur in December 1879. While the force remained at Cabul he was present at various operations in the Kohistan, Logar, and Maidan Valleys. In 1880 he joined the 28th Punjab Native Infantry at Cabul. On the withdrawal from Cabul, he was among the officers present in the "historical tent" outside Sherpur, in which the throne of Cabul was made over to the late Abdur Rahman.

On return to India, he was thanked for "excellent services in the field," and was offered the Garrison Surgeoncy of Chunar. He took over charge at Chunar early in 1881, and took "private affairs leave" in India from 10th July to 31st December 1881. Early in 1882 he elected for civil employ, and on the 27th April of that year was appointed Resident Surgeon at the Medical College, Calcutta. In December he was appointed Civil Surgeon of Jalpaiguri, and during 1883 and 1884, was successively Civil Surgeon of Jalpaiguri, Rajshahi, Shahabad, and Alipore, in the 24-Parganas. On 23rd November 1884, he went on furlough for two years. On return from furlough in November 1886, he acted as Civil Surgeon of Saran and Nadiya for short periods and became Civil Surgeon of Shahabad in April 1887, where he remained until February 1891, when he went to Champaran, from which district he again went on furlough for one year and eight months in April 1892. On return from furlough in December 1893, he first acted as Health Officer, Calcutta, then became Civil Surgeon of Gaya on 30th January 1894. During a cholera epidemic in the Gaya Jail, Colonel Macrae gave Mr. Haffkine his first opportunity of testing in a scientific manner his system of preventive inoculation for cholera. It was during the same epidemic that he proved for the first time the agency of flies in the diffusion of the disease, which had only previously been suspected. In May 1896, he went on six months' leave on urgent private affairs, and returned to India as Civil Surgeon and Superintendent of the Medical School, Dacca, in November 1896. He remained there till June 1901 when he again went on furlough and returned to India in Novem-