

what is done for the greatest of educators, science, art, drama, exploration, discovery, invention. There is no copyright or Patent Act for the man of science.

All this springs from the curious and stupid attitude of the public to all forms of intellectual effort: politics, games, *panem et circenses*, and picture shows are the things which amuse the modern democracy. The endowment of research has often been talked of, but the Government of England has so far done very little.

CRAWFORD'S HISTORY OF THE I. M. S.

IN a previous issue we gave an account of the earlier chapters of this fascinating history.

The second volume begins with a chapter on Medical Administration and deals with that question from the first appointment of Thomas Anderson as Military Surgeon-General in Bengal in 1769, to the appointment of our present Director-General, Sir Pardey Lukis, K.C.S.I. The various changes in the Medical Boards, and the still more various changes in the title of the Heads of the Medical Departments, are given in detail for all three Presidencies.

The 24th chapter, on the Sea Services, is of much interest and many of our famous men served on board an "Indiaman," e.g., Neil Arnott, who died, after a distinguished career in Europe and Asia, in 1874; Jame Spence, who on his return home, became Surgeon-in-ordinary to the Queen in 1868, and Francis Buchanan-Hamilton, *clarum nomen* in Indian History, made four voyages as a surgeon in an Indiaman and many of us remember at least the name of William Charles Maclean, for 25 years Professor of Military Medicine at Fort Pitt, and at Netley. Joseph Hume, the radical politician and M. P., began as surgeon on an Indiaman and after 9 years' service in India retired with a fortune of £40,000 sterling. Alex. Grant, the friend and physician of Dalhousie, also served two years on the Indiaman *Thames*. Incidentally Lt.-Col. Crawford gives an interesting account of piracy in the Eastern seas in those early days.

The chapter on contracts and trade is most interesting and the big fortunes made by many medical officers in trade might awake feelings of envy in these days of high prices and hard times.

The chapter on the minor medical services opens up a portion of the history of the service little known. The St. Helena Medical Service, the West Coast Medical Service, the Princes of Wales' Island Service, the China Medical Service are all long gone and forgotten.

Chapter 27 deals with the origin and rise of the "Uncovenanted" and subordinate medical services down to the present day, and points out the number of men who rose to the commissioned ranks, including the centenarian John Bowron who died (aged 100) in March 1899; John Keess, who was Principal, Madras Medical College, in 1884, and the energetic Colonel P. Hehir.

The chapter on Surgeons as Political Officers is of special interest and contains the great Minute, dated 2nd January 1860, by Sir James Outram, with its fine eulogy of the work of medical officers, which should be read by all.

This chapter also contains the famous letter from General Sir Neville Chamberlain to Dr. Boyes Smith of Netley, in which he said that work done in dispensaries and on the frontier by regimental Medical officers "has been in political importance equivalent to the presence of some thousands of bayonets."

The next chapter deals with other extra professional work of the I. M. S. and gives details of the facts which the author has briefly recorded for us in the special number of this Gazette, June 1912, "*What the I. M. S. has done for India.*"

The chapter on War Services is naturally full of interest and many will read with interest that on Honours and Rewards. In 1850 medical officers became eligible for the Order of the Bath and in that year four I. M. S. officers received the C. B. Honorary appointments on the Queen's staff were granted in 1859, and our author gives accounts of the V. C.'s bestowed on the late Major H. F. Whitechurch, I.M.S., Colonel J. Crimmin, C.B., C.I.E., and the young Hospital Apprentice Arthur Fitzgibbon. The chapter on Courts-Martial is full of interest. The chapter on the "first half of the 19th century" traces the history of the service up to the time of the Mutiny, and a list of the 30 I. M. S. men made Fellows of the Royal College of Surgeons in 1844, on the establishment of that grade is given.

The chapter on the Mutiny is full of a melancholy interest, 28 men of the I. M. S.

(Bengal) were killed; 9 of them at Cawnpore, and account is given of the reported death of Dr. W. W. Ireland, who survived to die only a few months ago, and a very interesting list of no less than 44 Mutiny veterans who were still alive in May 1913 (three of which have since died.)

The next chapter, "The Crown succeeds the Company," contains Lord Dalhousie's great Minute on the service, dated 1st February, 1856, in which many changes and improvements, since carried out, are advocated by the great Pro-consul, and the important Warrant of 7th November 1864 is given in full. After the issue of this Warrant the I. M. S., which had been closed to competition for 4½ years, was reopened on 1st April 1865. At the examination held on that date Kenneth Macleod (still surviving) was first on the list, J. Cleghorn and Robt. Harvey whom many of us well remember and both of whom reached the highest appointment in the service, were in this batch of 1865. The last of the Company's officers to retire was W. R. Rice who many still remember as Surgeon-General; he died in 1903. The combined or general service came into being on 1st April 1896 (G. G. O. No. 260 of 6th March 1896), and the first officer to enter the combined service was A. A. F. Macardle, a brilliant biologist who too early died of cholera in Calcutta, on 11th October, 1902; since then the first man in the new service has been and is Major J. M. Woolley, M.B., (Cantab.), now Superintendent of the Central Jail at Dacca.

The changes and new Warrants of recent years have been many and all are detailed in Lieutenant-Colonel Crawford's chapters, down to the existing and latest Royal Warrant, dated India Office, June 1913.

Chapter 40 gives a description of life in the service at the present time and a very interesting note is given on the mortality and longevity of men in the service and an account of the two Hintons in the service, both of whom reached to over 100 years, one of whom, Surgn-Major H. B. Hinton, is still alive, who entered the service in 1839. Reference is also made to recent and existing distinguished medical officers and their work, e.g., Vandyke Carter, Edward Hare, Sir R. Ross, D. F. Keegan, P. J. Freyer and Sir Leonard Rogers.

The chapter on The Future will be read with extreme interest and the despatch of Lord Morley is given in full.

Chapter 42 is on Hospitals in India and is of extreme historical interest and the early hospitals in Bengal, Madras and Bombay are described. The next chapter deals with the kindred question of medical education in India, and another is on medical societies in India and on medical journalism, and here we may thank the author for his kindly remarks on the *Indian Medical Gazette* founded in 1866. The following is the list of editors since that date:—*

- D. B. Smith, 1866.
- J. A. P. Collis, 1867.
- C. R. Francis, 1868.
- J. T. Carter Ross, 1869-70
- N. C. Macnamara, 1871-73.
- Kenneth McLeod, 1871-1892.
- J. C. French, 1875-76.
- L. A. Waddell, 1884-85 and 1897-99.
- W. J. Simpson, 1889 and 1897.
- A. Crombie, 1892-93.
- D. M. Moir, 1897, (and 1903-4.)
- F. P. Maynard, 1898.
- C. H. Bedford, 1898.
- W. J. Buchanan, present editor, 1899 to date.
- D. McCay, 1909-10 (leave vacancy).

This fine history closes with an interesting chapter of miscellaneous addenda and a most complete bibliography and list of works consulted.

We have not referred to all the chapters, e.g., those on pay; furlough and leave, pensions, funds, all of which are full of matters of very great interest to every man in the service.

We have completed our review of the vast amount of interesting matter contained in these volumes. They extend from the first beginnings, through the 150 years of the active existence of the service as such, down to the troubled times of to-day.

It is a grand record and splendidly recorded. Not the least portion of the great work of the English Race in India has been the introduction of Western Medicine and Western Sanitation in that great country of the East.

To the historian of India the work is of permanent value; to the officers of the I. M. S. it

* In some cases as joint-editors, or temporary, during a leave vacancy.

must remain a "possession for ever," and the thanks of every man in the service, retired or on the active list, are due to Lieutenant-Colonel D. G. Crawford for having made a life-study of the history of a grand Medical Service and for having put on record the great work done by that service in and for India.

Current Topics.

STUDIES UPON LEPROSY.

PUBLIC Health Bulletin (No. 61) issued by the United States Public Health Service (Washington, Government Printing Office), contains six articles on leprosy of considerable interest.

Dr. G. W. McCoy, the Director of the Leprosy Investigation Station, has an interesting note on glandular tuberculosis among lepers at Molokai, but the glands in no way differed from ordinary tuberculosis glands observed among ordinary non-leper patients. The same writer and Dr. W. J. Goodhue, the Medical Superintendent of the Leper Settlement at Molokai, Hawaii, has collected all available data on the risk of infection incurred by healthy persons living at the Leper Settlement. The evidence concerns adults only and the duration of contact was for a few months to many years:—

For convenience of classification and to emphasize the nature of the association we have divided the contacts into two classes: First, the "*kokuas*" or clean persons who have lived with lepers, usually in conjugal relationship; second, other persons, including members of nursing and religious orders, all of whom lived in less close association with the inmates than did the *kokuas*.

The kokuas.—The word "*koku*" is a Hawaiian term for which there is no exact English equivalent. Perhaps the nearest translation would be *helper*, but it means rather more than this and is employed almost exclusively to designate a person who has voluntarily gone into isolation at the settlement for the purpose of affording aid and companionship to a leper, usually the husband or wife, sometimes another relative, rarely a friend. The *kokuas* are practically all Hawaiians or part Hawaiians.

The Territorial Board of Health is authorized by law to permit a clean adult to accompany a leper to the settlement when the circumstances appear to warrant it. Upon the death of the leper or for other reasons the *koku* may leave the settlement after a physical examination to determine freedom from leprosy. It frequently happens that the person remains and marries another leper.

Contacts other than kokuas—The members of this group are all Caucasians and include priests, Franciscan sisters, brothers of the Order of St. Francis, and others whose association with lepers is of a similar nature. They come into intimate contact with diseased persons in nursing them, in applying dressings to surgical cases, etc. They do not at present live in the same houses with the inmates of the settlement; indeed in most cases lepers are prohibited entering the houses of these clean persons.

SUMMARY.

Of 119 men, practically all Hawaiians or persons of mixed Hawaiian blood, living in the same house with lepers, 5 (4.20 per cent.) developed leprosy.

Of 106 women, practically all Hawaiians or persons of mixed Hawaiian blood living in the same house with lepers, 5 (4.71 per cent.) developed leprosy.

Of 12 women, all Caucasians, who lived in such contact with lepers as is necessary in administering to their bodily and spiritual needs, none developed the disease.

Of 23 men, all Caucasians, who lived in such contact with lepers as is necessary in administering to their bodily and spiritual needs, 3 (13 per cent.) developed the disease.

So far as we could ascertain, the shortest period in which the disease developed after the person entered the settlement was 3 years (2 cases) and the longest 17 years.

Mention should be made of the fact that in some of the earlier reports from the settlement we find it stated that a very large percentage of clean persons became lepers; thus in a report made in 1886 it is asserted that 17 of 178 *kokuas* became lepers in 1 year, and in another, made in 1888, that 23 of 66 *kokuas* examined had become lepers. Whatever may have been the facts in the early days of the settlement, it is certain that no such state of affairs exists at the present time. It is just possible that the improved general sanitary conditions under which the settlement has been operated in recent years may have lessened the risk of infection.

Dr. Moses T. Clegg shows that:—

"Eleven cases of leprosy, all free from obvious signs of syphilis but all giving the Wasserman reaction, were negative to Noguchi's luetin reaction."

Dr. H. T. Hollmann examines the question of the presence of acid-fast bacilli in the secretions and excretions of lepers and gives the following conclusions:—

Acid-fast bacilli, morphologically and tinctorially, like *B. lepræ*, were found in various secretions and excretions, as follows:

Nasal mucus in 89.65 per cent. of nodular cases; in 66.66 per cent. of mixed cases; in 45.45 per cent. of anæsthetic cases.

Saliva in 21.73 per cent. of nodular cases.

Sputum in 3.22 per cent. of nodular cases.

Urine in 7.14 per cent. of nodular cases.

Sweat in 14.28 per cent. of nodular cases.

Lachrymal secretion in 5.26 per cent. of nodular cases.

Acid-fast bacilli were not demonstrated in the feces of four lepers examined.

The Director Dr. McCoy examines the question of the fecundity of Hawaiian lepers. He points out that the birth-rate is usually assumed to be much lower than that of the healthy part of any population in the same country and Manson has stated that "lepers early become sterile." Dr. McCoy summarises his examination of the available figures as follows:—

(1) The birth-rate of the Molokai settlement is probably about two-thirds as high as that of the non-leprosy members of the same race outside, but the data for an entirely just comparison are lacking.

(2) The birth-rate among lepers appears to depend on the fertility of the male, which probably is materially reduced.

(3) The fertility of the female does not appear to be impaired.

COCAINISM IN THE UNITED STATES.

THE profession has long been aware that cocaine has long been prevalent, chiefly among