

of instruction and these started in September. About the same time it was decided that Dental Officers of the R.N. and R.N.V.R., who, especially in war-time, play an important part in all medical defence organizations, should attend these short courses. And finally, it was decided that Wardmaster Officers should also attend.

There is a permanent staff of lecturers at the Royal Naval Medical School and, in addition, lectures are frequently given on special subjects by outside lecturers.

The staff at R.N.M.S. keep themselves up to date in their subjects by frequent visits to other teaching and research centres and by attendance at international conferences.

Historical Accounts

HISTORY OF THE ROYAL ARMY MEDICAL COLLEGE¹

THE formation of an army medical school was the result of a recommendation made by a Royal Commission, which was appointed in May 1857, for the purpose of inquiring into the "regulations affecting the sanitary condition of the army, the organization of military hospitals, and the treatment of the sick and wounded." This Commission was presided over by the Right Honourable Sidney Herbert, afterwards Lord Herbert of Lea, who was, in fact, the founder of the school, and in whose memory a prize was instituted to reward the best work done in the school during each session. The report of the Commission was presented to Parliament early in 1858.

As far back as 1798, Mr. John Bell, the eminent Edinburgh surgeon, who had been employed at Great Yarmouth to treat the sick and wounded after the naval battle of Camperdown, proposed the establishment of a "great school of military surgery." Later, in 1805, the famous army surgeon, Dr. Robert Jackson, in his work on the medical department of armies, advised the organization of an "army medical practical school," and laid down in detail the subjects which he considered ought to be taught in it. In 1806 a Chair of Military Surgery was founded in Edinburgh, and filled by Dr. Thomson, who wrote a book on the hospitals in Belgium after the Battle of Waterloo. He was succeeded in 1882 by Sir George Ballingal, the author of the well-known "Outlines of Military Surgery."

In 1846, Mr. Tuffnell, a retired army surgeon, began to lecture on military surgery in Dublin, and collected a museum of appliances for the transport and treatment of the wounded, which was transferred to Netley in 1863. Both the Edinburgh and Dublin Chairs of Military Surgery were endowed by the State. It had also been the custom to attach officers selected for the medical

¹This history has been published in The Calendar of the Royal Army Medical College 1950-51 and is reproduced by permission of the Commandant.

service of the army to the General Hospital at Fort Pitt, Chatham, for the purpose of clinical and general training in their future duties.

Meanwhile the medical officers of the army had been taking steps to provide means for improving their knowledge of the special requirements of military service. In 1810, on the initiative of Dr. (later Sir James) McGrigor, the Director-General, a collection of morbid specimens was commenced at Hilsa. In 1816 the collection was removed to York Hospital, Chelsea, where many additions were made to it. Later, the specimens were removed to the General Hospital at Fort Pitt, Chatham, where at the expense of the army medical officers the collection grew rapidly and a museum was established. In 1824 a fasciculus was printed, and in 1833 a "Catalogue of Preparations, etc., in Morbid, Natural and Comparative Anatomy contained in the Museum of the Army Medical Department, Fort Pitt, Chatham," was published, filling 267 octavo pages. The museum then contained 14,189 specimens, including a large collection of natural history exhibits, and also 334 works of art. In 1829 the natural history collection was separated from the anatomical specimens. In 1845 the pathological specimens alone amounted to 3,083, and in 1850 to 5,888.

Further, a library was instituted by officers of the department, which was annexed to the museum in 1882. To this library liberal donations of books were made by the medical officers, Sir James McGrigor presenting on one occasion 1,500 volumes. In 1852 a catalogue was published showing in its pages nearly 10,000 volumes.

By these efforts of the army medical officers, Fort Pitt became a valuable educational centre and well suited for the role it was to play later on. The aspirations of the Medical Service of that day are expressed in the following quotation from the preface (p. vi) of the above catalogue: "It is fondly hoped that the time may come when the Medical Department of the Army shall have an establishment of their own in the Metropolis, which will not only contain the Museums of Anatomy, of Natural History, and their Library, but afford means for officers from all parts of the world again meeting . . . and associating with others who have more recently entered the Service and thus afford the opportunity . . . to exchange opinions on professional questions.

Although the library and the museum were not originated by the State, the fact that the two professorial chairs had been endowed indicates that the need for special instruction in military surgery was recognized by the authorities; but the military medical problem as propounded by various distinguished Army medical officers, including Brocklesby, Donald Monro, J. Bell and R. Jackson, had not then been grasped. No time, however, was lost in following up the recommendations of the Royal Commission. Another Commission, presided over by Mr. Sidney Herbert, was appointed to organize the school. The subjects and the course of instruction were defined, and professors appointed and all necessary arrangements made.

Miss Florence Nightingale had clearly recognized that failures of medical arrangements in war were due to want of executive power in the Medical Depart-

ment, and it was largely due to her influence that the School owed its inception and the Medical Service its autonomy.

On March 31, 1860, the Secretary of State for War placed the School under the government of a Senate which was charged with the supervision of the technical training of candidates for medical commissions. The Senate was at first composed of:

- The Director-General of the Army Medical Department.
- The Principal Medical Officer, Chatham.
- The Professor of Military Surgery.
- The Professor of Hygiene, and
- The Professor of Pathology.

Later, when it was decided that candidates for commissions in the Indian Medical Service should join the School, the President of the Medical Board, India Office, became a member of the Senate.

The School was established at Fort Pitt, Chatham, where, as has been observed, special educational facilities existed. The Army Medical Officers' Library and the Museums had already been established there, and it was also the custom to use the General Hospital at Fort Pitt for the reception of soldiers invalided as the result of tropical disease. The hospital therefore contained ample material for instruction in tropical medicine.

The first competitive examination for entry into the Army Medical Department was held in August 1860, and the successful candidates, together with the candidates for the Indian Army, were sent to the new School, which was opened on October 2 of that year by the Right Honourable Sidney Herbert, Secretary of State for War, the opening address being given by Deputy Inspector-General T. Longmore, who had been appointed Professor of Military Surgery.

The other chairs had been filled by the appointment of:

- Assistant Surgeon (retired) E. A. Parkes, as Professor of Hygiene, and
- William Aitken, M.D., as Professor of Pathology.

The Chairs of Military Surgery at Edinburgh and Dublin were then abolished.

In addition to his other duties the Professor of Surgery gave instruction in medical organization; it thus became officially recognized that medical officers must be specially trained if efficient administration is to be maintained.

On March 15, 1861, Deputy Inspector-General W. C. Maclean, of the Indian Medical Service, was appointed Professor of Military Medicine, thus completing the number of Professorships. He also became a member of the Senate.

Five sessions of the Army Medical School were held at Fort Pitt.

In 1862 it was decided that the invaliding depot should be removed to the Royal Victoria Hospital, Netley, which had just been completed. In order to keep in touch with the material required for the teaching of medicine and surgery, the Army Medical School was also transferred to Netley. The professors protested against the transfer as they thought it was undesirable to locate

the School so far from London, the centre of medical education. That the protest was justified is shown by the removal of the School to London on the completion of the 84th Session.

The Royal Victoria Hospital had not been designed as a medical school, and it was necessary to convert some of the hospital accommodation into lecture rooms, laboratories, museums, etc.

Each course of instruction, both at Fort Pitt and at Netley, lasted five months, and concluded with an examination in the subjects taught there, viz. Hygiene, Pathology, Military Medicine and Surgery. Candidates who qualified in these subjects were gazetted as medical officers.

In October 1871, the candidates for the Medical Service of the Royal Navy were sent to Netley to go through the same course as the other probationers, and an additional professor was appointed to teach the specialities of naval hygiene. The Director-General of the Medical Department of the Royal Navy then became a member of the Senate. Naval candidates ceased to attend in 1881.

The Sixth Session of the Army Medical School was opened at Netley on April 15, 1863, and its curriculum was continued there until the removal of the School to London.

In 1902, as a result of the recommendations of a Special Committee, which sat in London in 1901, under the Rt. Hon. St. J. Brodrick (Lord Midleton), then the Secretary of State for War, the Army Medical School was removed to London, in order to keep in touch with the medical institutions of the Metropolis. Steps were taken to provide a building suitable for the purpose; and pending its construction, the courses of instruction for the Royal Army Medical Corps were carried out in laboratories leased from the Conjoint Board of the Royal Colleges of Physicians and Surgeons of London. These courses commenced in August 1902, the School at Netley having been closed at the end of the previous June on the termination of the summer session. During this period the officers resided in the Hotel Belgravia from September 1, 1902, to May 30, 1903, and in the St. Ermin's Hotel from May 31, 1903, to May 14, 1907.

In the early courses in London only hygiene, pathology and military medical administration were taught. The year following, military surgery, including skiagraphy, was added, and in August 1905 military medicine resumed its position in the curriculum.

At the close of the course in London the probationers for the Indian Medical Service proceeded to Netley for two months' instruction in military medicine and surgery. This practice was discontinued on May 31, 1905, when the School at Netley was finally closed.

In 1905, the Queen Alexandra Military Hospital at Millbank was used for clinical instruction, the building having been formally opened by His Majesty King Edward VII on May 18 of that year.

In 1903, in accordance with the scheme of reorganization, a post-graduate

course for captains to qualify for promotion to major was instituted. This course, as originated, occupied six months, was held twice annually.

In 1909 the course was expanded to nine months, and so enabled the captains to obtain a more detailed instruction than was possible in the shorter period originally assigned.

On completion of the new building for the Royal Army Medical College, the courses of instruction commenced therein on May 15, 1907.

On the removal of the school to London, and the formation of the Royal Army Medical College, a Commandant and Director of Studies was appointed. The Senate was abolished and a College Council, consisting of the Commandant and the Professors, instituted.

Colonel H. E. R. James, *C.B.*, was the first Commandant, and held office until February 3, 1908.

On the outbreak of the Great War (1914-18) the bi-annual Senior and Junior Courses for Regular Officers ceased, and in October 1914, Major-General Sir David Bruce, *K.C.B.*, *F.R.S.*, took over as Commandant from Colonel B. M. Skinner, *C.B.*, *M.V.O.*, and remained in the appointment throughout the war.

College activities soon centred principally upon the production of vaccines and the more immediate problems of research as affecting the Armies in the Field. The Vaccine Department during the five years of war issued over 34,000,000 c.c., of which more than 24,000,000 c.c. were for typhoid and paratyphoid.

Within a few days of the first German poison gas attack laboratories at the College were equipped and a small anti-gas Committee established under the direction of Major W. H. H. Horrocks (later Sir William Horrocks) to control both the design and commercial production of respirators and other defensive equipment. The Committee provided useful information both with regard to pathological lesions caused experimentally by chlorine, and also with regard to the poisonous action of many other gases and chemical compounds that might conceivably be used by the Germans. The constant aim was to forestall any possible new developments of German offensive measures by increasing the efficiency of the respirator, the evolution of which was gradual and continued throughout the war, modification succeeding modification as improvement in the general structure developed.

Experiments were early made at the College in the lethal and repellent action of various preparations against insects, principally lice, and as a result of many such experiments a paste made with crude naphthalene was devised which proved to be an exceedingly efficient and effective insecticide and was eventually issued to the Armies in the Field.

Work on the prevention of food deficiency diseases, particularly beri-beri, was carried out in the Hygiene Department and as a result of a conference with manufacturers and many tests made in the College, a solidified preparation of "Marmite" was produced and issued to the troops.

In other spheres of its activity—and there were many—the College was

greatly assisted by sister institutions in London and elsewhere in aid of the common cause.

The termination of the first World War saw the gradual return to the College of its more normal activities and the reintroduction of the courses for Senior and Junior Regular Officers which were to continue without interruption until the outbreak of World War II.

A significant incident of College history took place on the night January 6-7, 1928, when an exceptionally high tide, coupled with a strong south-westerly gale and unusually heavy flood water, caused some thirty feet of the embankment wall at Millbank to give way with consequent complete flooding of the basements of the College and the loss of much valuable equipment, laboratory animals and museum pieces.

On the outbreak of World War II the Commandant, Major-General W. Brooke Purdon, *D.S.O., O.B.E., M.C., K.H.S.*, remained at the College until June 1940, when he left for France to join the B.E.F., being relieved by Major-General F. S. Irvine, *C.M.G., D.S.O.*, who continued as Commandant throughout the war.

In 1939, as in 1914, Senior and Junior courses for Regular Officers were discontinued, but throughout the war short courses in Tropical Medicine and Hygiene of from eight to ten days' duration were held; up to the end of 1945 some 3,000 officers had attended these.

The Vaccine Department with all its equipment and animals moved to Tidworth in the early days of September 1939.

Some structural damage to the Hygiene Department, Pathology Museum and the Library was caused by an enemy H.E. bomb in September 1940, which necessitated the transfer of the Hygiene Department to Mytchett towards the end of that year—it returned to the College in March 1943.

The activities of the Hygiene Department throughout the war years included, *inter alia*, the investigation and clarification of Mobile Laundry effluents, the composition of a general purpose soap, the design and perfection of the "Millbank" filter bag, the metabolic aspects of the man pack ration and the physiological factors concerned in the design of field clothing and equipment. In addition courses for the training of Specialist Hygiene Officers were instituted in 1940 and continued throughout the war.

Under the ægis of the Medical Research Council (Malaria Committee) a most important piece of chemotherapeutic research on the suppressive action of Mepacrine and its possible toxic effects was carried out at the College from 1943 to 1945 by a special team working in conjunction with the Director of Biological Research at the War Office.

Following the cessation of hostilities in 1945, it was not found possible to resume Senior Officers' Courses until February 1946.

As the experience gained in various theatres of war had so strongly emphasized the importance of personnel selection, raising and maintenance of morale and prevention of psychiatric breakdown, a course of lectures and practical demonstrations in psychiatry was added to the curriculum. The

period of study for individual officers proceeding to Specialist Status (e.g. F.R.C.S., M.R.C.P., D.P.H.) was increased to a maximum of twelve months.

Since 1948 all Lieutenants, R.A.M.C., on first appointment have undergone a course of instruction at the College as part of their initial training, and also newly commissioned Q.A.R.A.N.C. Nursing Officers receive similar initial instruction.

During 1950 the College, in addition to its teaching role, is continuing research work in problems of Army Health, Pathology, Bacteriology, Tropical Medicine and Psychology, while routine pathological and biochemical investigations are also carried out.

Liaison is being maintained with other Departments of the Army, with the Royal Navy, the Royal Air Force and Civil Medical Colleges, Hospitals and learned Societies. For the latter, laboratory and other demonstrations are provided at the College.

COLLEGE PRIZES

THE following prizes are open to students attending the Senior Officers' Course:

THE LEISHMAN PRIZE.—First in Order of Merit. Silver Medal, and name engraved on the Oak Panel in the College Lecture Theatre.

FIRST MONTEFIORE.—Highest in Military Surgery and Radiology. Bronze Medal and cheque approximately £20.

SECOND MONTEFIORE.—Second highest in Military Surgery and Radiology. Cheque approximately £10.

PARKES.—Highest in Army Health. Bronze Medal and cheque approximately £10.

KATHERINE WEBB.—Highest in Medicine, Tropical Medicine and Entomology. Bronze Medal and cheque approximately £12.

Review

SMALLPOX AND VACCINATION. MY CONFESSION OF FAITH. By C. Killick Millard, M.D., D.Sc. With Some Anti-vaccination Comments by Joseph P. Swan. Reprinted from the "Vaccination Inquirer" National Anti-vaccination League, 25 Denison House, 296 Vauxhall Bridge Road, London, S.W.1. Price 6d.

Dr. C. Killick Millard for many years M.O.H. of Leicester has been a frequent contributor to Medical Journals on the problem of the prevention of smallpox. He has now published his "Confession of Faith" (written expressly for non-believers in Vaccination in the hope that it might help to