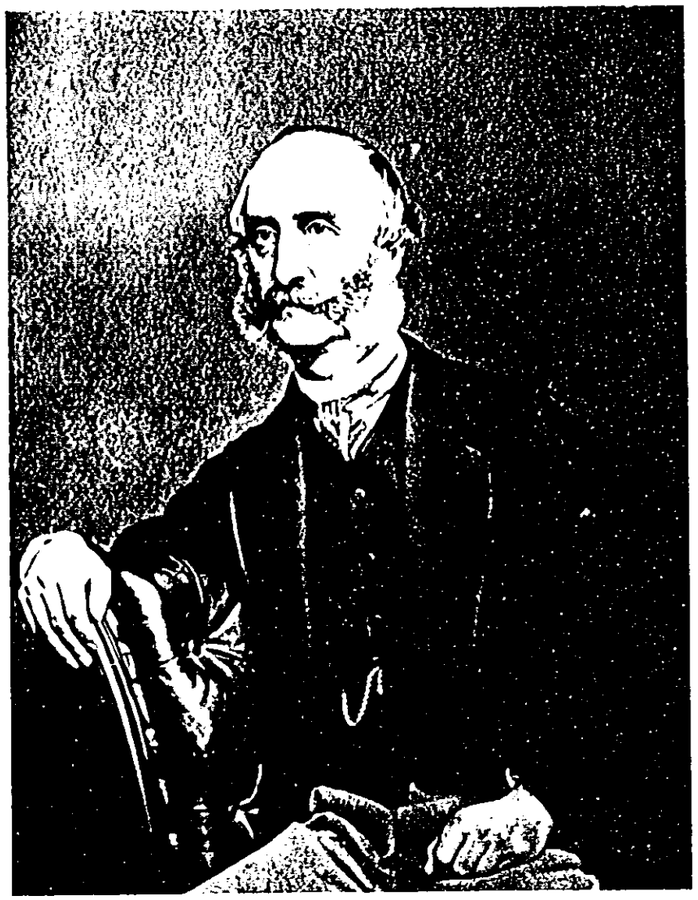
EDMUND ALEXANDER PARKES, M.D., F.R.S.

1819-1876

THROUGHOUT Europe Edmund Parkes is acknowledged as the founder of modern military hygiene, and our Army Medical School was indeed fortunate in having the services of such a man at its command on its formation. For, in addition to the scientific and practical value of his work, he was a great teacher and by the power of his personality exercised a far-reaching influence on the band of followers trained under him at a time when the general teaching of hygiene was in its infancy. He was a man universally beloved for the innate goodness of his character, his selflessness, and his single-hearted devotion to the public service.

Born at Bloxham in Oxfordshire, on the 29th of March 1819, Edmund Alexander was the son of William Parkes of Warwick, and was related on his mother's side to Josiah Wedgwood, her father, Thomas Byerley, being a nephew and partner of the famous potter. His mother was a woman of some ability and the author of several books of a useful nature, one of which, entitled *Domestic Duties*, passed through several editions. He was, like other famous men before him, notably Charles Lamb and Coleridge, a Bluecoat Boy. On leaving Christ's Hospital, he entered the Medical Faculty at University College,



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London, and in the laboratory of his uncle, Dr Anthony Todd Thomson, acquired a zeal for research and considerable manual dexterity. At a very early age he was able to take his uncle's place in his absence in lecturing on materia medica and medical jurisprudence. In his first year, he was exhibitioner medallist in anatomy, physiology, chemistry and materia medica, and in 1841, when he took his degree of M.B., was medallist in physiology and comparative anatomy and took honours in medicine. Sir William Jenner, who attended the same classes with him at University College, describes him in his student days as distinguished by brightness and cheerfulness, amiability and unselfish willingness to help others at any cost of trouble to himself. He possessed an extraordinary power of acquiring information, and studied every subject in the medical course with equal application, sparing no effort till he was completely master of all the facts. This characteristic remained with him all his life; whatever work he had in hand he gave to it his whole mind, studying it from every aspect. And the result was very evident in the wide range of the knowledge he brought to bear on all the work which came his way in the course of his brilliant career, and never more so than in his first two publications, the outcome of his work in India. For, in 1842, he joined the Army and went as assistant surgeon with the 84th (York and Lancaster) Regiment to Madras, and later to Moulmien in Burmah. The studies that he made there of dysentery and cholera, of which he witnessed two violent epidemics, involved the collection of the most careful clinical records and *post-mortem* details; and this he carried out in the midst of the hot

weather, in addition to the unremitting attention he gave to the sick during the progress of acute epidemics. The papers were not published until after his return to England in 1845, but the fund of information that went to their making was accumulated in India. The subject of the first, *Remarks on the Dysentry and Hepatitis of India*, he chose as the subject of his thesis when he took his M.D. of the University of London in 1846; and the second, *Researches into the Pathology and Treatment of the Asiatic and Algide Cholera*, was published in the following year. Of these two papers, Sir William Jenner said: "These works prove, more than all the many honours he obtained at his College and University, the amount of work he must have performed as a student—the real knowledge he possessed, knowledge only to be acquired by hard, continuous and unremitting work, and the varied character of that knowledge, chemical, microscopical, anatomical and clinical. These works, had they been written by one who had filled the post of physician to an hospital for years, would be held to give evidence of high merit in their author; but when it is remembered that they are the productions of a man who had only then closed, and at an early age, his college days, their merit must excite our surprise. . . . Apart from the evidence they afford of Parkes's energy, power of work, and the wide extent of his knowledge, they prove that he possessed even then originality of mind, and rare powers of accurate observation. . . . These two works are among the most remarkable in medical literature."

On his return from India, Parkes resigned from the Army, and settled in practice in London, first

in Upper Seymour Street, and afterwards in Harley Street. He married in 1850, Miss Mary J. Chattock of Solihull, near Birmingham, but had no children. His wife was delicate and his own health far from robust, and for this reason he did not stay long enough in London to acquire a large practice, which his acute powers of diagnosis, and the whole-hearted confidence of his colleagues would certainly have brought him in time. But two serious illnesses, pneumonia and phlebitis, combined with his wife's desire for a country life, led him eventually to consider leaving the town. In the meantime he was appointed in 1849 Professor of Clinical Medicine at University College and Physician to University College Hospital, posts which he held till 1859. At this time he contributed largely to the medical press. Two papers on cholera were published after the cholera epidemic of 1848-49 in London, and in the same year "Diseases of the Heart" appeared in the *Medical Times*, a journal in which many of his articles on a variety of subjects were published. In it are to be found his clinical lectures, delivered at University College Hospital from 1850 to 1857, which form valuable records of his clinical work. He was an interesting lecturer, possessing lucid powers of exposition and devoting to the subjects of his lectures the same painstaking attention in preparation which had characterised all his work as a student. The power he exerted over his class in inciting them to a high conception of their duties as students of a learned profession, on the right exercise of which so much depended, was very remarkable. He was, as a colleague said of him, "such an ardent, honest, and indefatigable searcher after scientific truth himself, and

for truth's sake and the general good only, that his example as much as his teaching served to excite a kindred love of the same pursuit in others."

In 1851 he edited a new edition of Thomson's *Diseases of the Skin*, and during the time he held the Chair of Clinical Medicine at University College, amassed the large collection of material which went to form his book on *The Composition of Urine in Health and Disease and under the Action of Remedies*, a work which contained a most careful detailed account of all that was then known on the subject, and became, when it was published in 1860, the standard work of the day. From 1852 to 1855 he edited the *British and Foreign Medico-Chirurgical Review* most ably, and in 1855 delivered the Gulstonian Lectures on Pyrexia at the Royal College of Physicians, publishing them in the *Medical Times*.

When public indignation at the deplorable disasters suffered by the troops in the Crimea was at its height in 1855 owing to the complete breakdown of the organisation for providing for the wounded and the sick, the Government were obliged to take emergency measures, and it was decided to erect a temporary hospital to relieve the pressure on the hospitals at Scutari. Mr Sydney Herbert, Secretary of State for War, selected Parkes, on account of his experience of epidemics in India, to choose the site, superintend the arrangements for building and take charge of the hospital at Renkioi on the Asiatic bank of the Dardanelles where Brunel, the engineeer, soon erected thirty wooden huts, containing two wards each, with accommodation for 1500 beds. The story of Parkes's successful administration of the hospital in the most difficult and distressing circumstances is told in the

report he published at the end of the war. From the time it was opened in October 1855, until the Allied Armies left the Crimea in July 1856, there were 1331 cases admitted, and they were for the most part cases of dysentery, spotted typhus, enteric and relapsing fevers, which decimated the armies in the days when the means of the transmission of infection was still unknown. In his report Parkes speaks highly of the discipline observed in the hospital under the most trying circumstances, and of the devoted service of the nursing staff.

As a consequence of the disasters brought about by the lack of organisation for the sick in the war, a Royal Commission was appointed to report on the sanitary condition of the Army, and following its recommendations, the first Army Medical School was founded at Fort Pitt, near Chatham. In the negotiations which preceded its formation, Mr Sydney Herbert constantly sought Parkes's advice as to the constitution of the new school and, when it was formed in 1860, offered him the most important position in it, that of Professor of Military Hygiene. Parkes, who was anxious to leave London, and enthusiastically interested in the dawning science of hygiene, readily accepted the Chair and resigned from University College. The new post was an onerous one, for the science with which it was concerned had first to be organised, and in a great measure created. Much had been done by former workers in hygiene, but the knowledge acquired had never been brought together and made available for practical use. There was no man better fitted to fill this important post than the man upon whom the choice of the Secretary for War had fallen. The articles he had published in

the *British and Foreign Medico-Chirurgical Review* showed how completely he had mastered the subject of hygiene from every point of view, missing nothing that had been written about it either at home or abroad. His great ability as a teacher, too, singled him out as the ideal head of a new school. In writing of this aspect of his work, a colleague, Sir Thomas Longmore, said: "The influence Dr Parkes exerted on those who had the advantage of his tuition before entering the military services of the country, and thence indirectly on the public services themselves, was beneficial to an amount which can hardly be over-estimated."

In creating the system of instruction at the Army Medical School, Parkes founded the modern science of military hygiene. His "Annual Reviews of the Progress of Hygiene," published in the *Army Medical Department Blue-Book* up till the year of his death, constitute a most valuable record of all the activities of the new science both at home and on the Continent, and are remarkable, as Sir William Aitken has said, for the variety, clearness and soundness of the information conveyed. They contributed largely to that necessary prelude of any measures of sanitary reform, the education of the public in matters of hygiene.

In 1863 the Army Medical School was transferred to the Royal Victoria Hospital at Netley, and in 1864 Parkes published his *Manual of Practical Hygiene*, a famous work which became the model for future writers on this subject. To the compiling of this book there went an enormous amount of labour and energy, and many laboratory experiments carried out over long periods, Parkes himself testing the truth of every statement the book contains. In nine years

it had reached its fourth edition and was enlarged to include civil as well as military hygiene. It was translated into many European languages and by 1891, after Parkes's death, it reached an eighth edition. In his laboratory at Netley, in addition to the ordinary practical work of his class, he conducted a series of experiments on various subjects calculated to advance the science of hygiene, and more especially in its application to the life of the soldier. Many experiments on the various values of diet were carried out, and in three papers published in the *Proceedings of the Royal Society* between 1867 and 1871, he described the "Effects of Diet and Exercise on the Elimination of Nitrogen." He contended that the elimination of urea is not dependent on the amount of muscular exercise performed, but on the consumption of nitrogenous food consumed. His experiments on the effects of alcohol, a subject which had interested him ever since he was in India with the 84th Regiment, in whose ranks there were 400 total abstainers, were published in three papers in 1870, 1872, and 1873, entitled "Experiments on the Effects of Alcohol on the Human Body," and "Experiments on the Action of Red Bordeaux Wine on the Human Body," and the "Influence of Brandy on the Body Temperature, Pulse, and Respiration of Healthy Men." He also published a paper on a "Comparative Inquiry into the Effects of Coffee, Extract of Meat, and Alcohol on Men Marching," and a report on the value of the spirit ration for troops on evidence collected during the Ashanti Campaign. The substitution of the valise equipment for the cumbrous pack with which the soldier was burdened was largely due to Parkes's initiative as a member of General Eyre's Pack Committee.

Parkes was a man without worldly ambition, and he refused to accept from the Crown any recognition of his great services to the nation. The reward he coveted most was the advancement of truth in medical science. He was elected a Fellow of the Royal Society in 1861, and was a member of its Council. He served on the Senate of the University of London, and in 1863 was appointed Crown Member of the General Medical Council, a position which gave him the opportunity of bringing his great influence and wide experience to bear on the improvement of medical education. His criticism that the General Medical Council had been in existence for ten years before it had even considered the state of medical education in the United Kingdom had the effect of drawing much-needed publicity to this matter. In a series of papers published in the *Lancet* of 1868, entitled "A Scheme of Medical Tuition," he called attention to the insufficiency of medical examinations, shown by the ignorance of many students, passed by the Licensing Bodies, who had come before the Army Examining Board. He laid stress on the value of the practical study of chemistry and physiology in the laboratory, and on the teaching of methods of physical examination before clinical work was undertaken, and many other reforms which have since been adopted. His criticisms led to the appointment by the General Medical Council of a Committee on Medical Education. His views were, however, like those of many other reformers, in advance of his time and opposed to tradition; but some of the recommendations of the Committee were adopted by the Licensing Boards, such as the institution of class examinations in medical schools, the regulation that

every student should serve as a clerk or a dresser, and that students should be examined clinically. Parkes was in favour of the admission of women to the medical profession.

In 1871, at a time when the sanitary inquiries instituted by Chadwick in the first half of the century were becoming more and more frequent owing to the overcrowding and insanitary conditions created by the steady influx of workers from the country to the towns, Parkes was appointed to make a report on the sanitary state of Liverpool with Dr Burdon Sanderson of University College. Typhus was then ravaging the country, and Liverpool constituted one of the best breeding grounds for its spread, for the disease increased in direct proportion to the overcrowding of the locality.

In 1873 Parkes lost his wife after a severe illness, and this blow, combined with the strain of his increasing activities, told severely upon his health, which failed in the winter of 1875. After a long illness, proving to be of a tubercular nature, he died on the 15th of March 1876 in his fifty-seventh year, at his home, Sydney Cottage, Bittern, near Southampton, and was buried by the side of his wife at Solihull, Birmingham.

At the time of his death he was engaged in writing the Harveian Oration which he had been invited to deliver to the Royal College of Physicians, an honour he greatly appreciated. His unfinished address was read to the Fellows by his friend, Sir William Jenner, in July 1876. His early death occasioned universal grief among his colleagues and fellow-workers. Apart from his intellectual worth and his untiring labours in the cause of science, the greatness of his moral

character was appreciated far and wide. "The excellence of his life was so evident," said Sir William Jenner, "his work . . . performed so unostentatiously and manifestly from such high motives, . . . that few of his fellow-students could escape being better men from associating with him." The well-being of the Army Medical School which he had founded was his last thought, for on his death-bed he expressed to Sir William Jenner his earnest wish that he would exert his influence to stay the hands of those who, through ignorance of the value of the School, might possibly wish to curtail its usefulness, or even to destroy it. Impressing upon him the worth of all his colleagues and the value of the work they were doing, he said: "A body of men so able and so well fitted for their duties, if once dispersed, could never again be collected."

But not only in his own land was there grief at his passing. Baron Mundy, Professor of Military Hygiene in the University of Vienna, gave expression to the widespread regret in Europe at the news of his death when he said: "All the Armies of the Continent should at parade lower their standards craped, if only for a moment, because the founder and best teacher of military hygiene of our day, the friend and benefactor of every soldier, Edmund Parkes, is no more."

REFERENCES—"Work and Character of the late E. A. Parkes, M.D., F.R.S." by Sir Wm. Jenner, Bt., K.C.B., F.R.S., *Brit. Med. Journ.*, 8th July 1876, p. 33. *The Lancet*, 25th March 1876, p. 480. *In Memoriam*, an Address by Sir William Aitken, Glasgow, 1876.