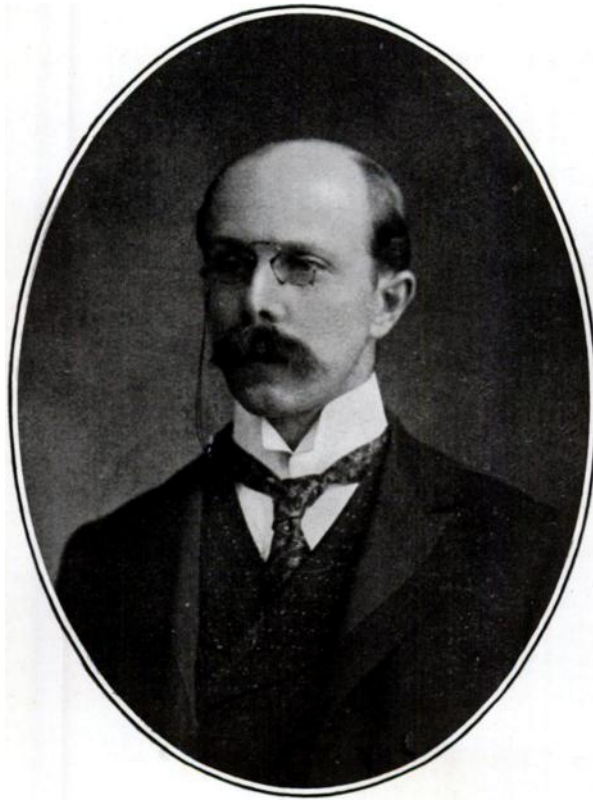


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WILLIAM FORD ROBERTSON, M.D., C.M. EDIN.
Born July 28, 1867. Died July 17, 1923.

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WILLIAM FORD ROBERTSON, M.D.,

Pathologist to the Scottish Asylums.

By the untimely death of Dr. William Ford Robertson, cut off by fell illness in his 56th year, in the midst of his all-absorbing and invaluable researches and his illuminating and highly important discoveries, Scotland has lost one of her most gifted and devoted scientists in the field of pathology and medicine, and the world has been deprived of a rare worker, one who throughout his life was predominantly imbued and impelled, both by an altruistic desire to do something to alleviate the pain and suffering of disease, and by the true spirit of research—the pursuit of truth for its own sake.

William Ford Robertson was born on the 28th of July, 1867, at the farm of Nottylees on the south bank of the Tweed, at the eastern confines of the parish of Sprouston in the county of Roxburgh. Nottylees is just within the Scottish side of the Border, and close to the Northumbrian village of Carham on the Tweed, where the latter has already begun to form the boundary between the two countries. His father, Alexander Robertson, of Nottylees, was a descendant of the Robertsons of Struan, and, in addition to the pursuit of farming, he, like his own father (the Rev. James Robertson, of Wooler) and other members of the family, had distinct literary gifts. His mother, Annie Calder, of Yetholm Mains, came of a well-known Border family. They had three sons and two daughters, and William Ford was the youngest of the boys. He was named after his maternal uncle, the late William Ford, of Fenton Barns, and formerly of Hardengreen, well known in his day as one of the leading exponents of agriculture in Scotland. The happy days of childhood were spent amid the romantic beauties and historical associations of Tweedside from Kelso to Norham, and of the neighbouring Cheviot country from Yetholm

to Wooler. The scenes and memories of those days created a lasting impression and lifelong attachment, eventuating in the purchase, nearly 20 years ago, of a pleasant little retreat among the hills near Wooler, where he and his wife and children were wont to spend their holidays together. In 1870, when he was barely three years old, his father died, aged forty-seven, and during his school and college days he lived chiefly with his uncle at Hardengreen and Fenton Barns. At the age of nine he had the misfortune to lose an eye as the result of the explosion of the percussion cap of a boy's pistol, but, owing to the perfect artificial substitute, there were but few of Ford Robertson's friends and contemporaries in later life who realised that he was dependent on the sight of only one eye for the performance of the immense amount of specialised work which he accomplished with the microscope and pen. After a preparatory course at the late Mrs. Baikie's well-known seminary at Eskbank Academy, he received his main school education at George Watson's College, Edinburgh. The time had now arrived for decision as to a career. His uncle at Fenton Barns would have been well pleased had he chosen farming, and with a view to this Ford Robertson had two years' business training in a lawyer's office, where he became expert at shorthand—an acquisition which proved of lifelong service. However, he strongly felt the call to medicine, and so it was decided finally. After a distinguished curriculum at Edinburgh University he graduated in medicine in 1891, and thereafter he held the appointments of House-Physician at the Edinburgh Royal Infirmary, under the late Prof. (then Dr.) Wyllie, and at the Royal Hospital for Sick Children, Edinburgh, under Dr. T. M. Burn-Murdoch; and then he had some experience in general practice. Like many young medical graduates at this stage of their careers, he was now face to face with the vital question—"Is it to be general practice, or a specialty?" and in Ford Robertson's case the solution of this problem was beset with peculiar difficulties. During the active terms of the later years of his undergraduate course, and in spite of the pressure of routine class work and professional examinations, unlike the great majority of students, he voluntarily undertook to do extra work in the Pathological Department of the Edinburgh Royal Infirmary, which was at that time under the charge of Dr. William Russell, now Emeritus Professor of Clinical Medicine. Here he displayed his innate powers of enthusiasm, originality and manipulative dexterity, and the results of his work, chiefly on certain improvements in histological methods and technique, were deemed worthy of publication in the *Journal of Anatomy and Physiology*, the leading journal of its kind at that date. This was quite an exceptional performance and distinction for an undergraduate, and a clear sign of Ford Robertson's natural inclina-

tion and aptitude for medical research work with the microscope. The prospects of such a career of medical research as a specialty and end in itself, and not merely as a stepping-stone to some senior hospital or university appointment, are none too bright even in these days, although they have improved, and are improving. Thirty years ago the prospects were distinctly nebulous. Ford Robertson, who by this time had become engaged to be married, was only too well aware of this, but he took his courage in his hands, and in deciding to devote his life to research he was nobly supported by his future wife and helpmeet, who advised him to choose the work that lay nearest to his heart.

One of the most promising fields for medical research thirty years ago was, and still is, the pathology of mental diseases, and the late Sir Thomas (then Dr.) Clouston was fortunate in securing the services of Ford Robertson in 1893 as Pathologist to the Royal Edinburgh Asylum, in succession to the late Dr. James Middlemass, who had been appointed one of its Assistant Physicians. In 1894 Ford Robertson, at first—for a year—in collaboration with Middlemass, commenced a series of papers planned to overtake systematically the pathology of the nervous system in relation to mental diseases. The joint papers, on the morbid changes met with among the insane in the scalp, skull, membranes, and weight, etc., of the brain, as well as those by Ford Robertson himself on the changes in the vessels of the brain, first appeared serially in the *Edinburgh Medical Journal* from 1894 to 1896. He continued to carry out the original scheme single-handed by a series of brilliant researches on the changes in the neuroglia, nerve-cells and nerve-fibres of the brain, the results of which were published later in various medical and scientific journals. Ford Robertson's splendid work had now attracted much attention both at home and abroad, especially in psychiatric circles, and those who realised its value felt that it would be a lasting gain to progress in the study and treatment of the insane if the services of such a gifted and enthusiastic researcher could be permanently retained by means of a sufficiently attractive appointment in the specialty. In this way arose the "Scottish Asylums' Pathological Scheme," with its Conjoint Laboratory and Pathologist, for the promotion of study and research in the pathology of insanity, and by the unanimous consent of its supporters Dr. Ford Robertson was appointed the first Pathologist under the scheme in 1897. The scheme owed its initiation to the foresight of the late Sir Thomas Clouston, its development to the co-operation of the majority of the other medical superintendents of the Scottish Asylums, and its final establishment to the backing and financial support of the contributing Asylums' Boards, supplemented in later years by occasional grants from the Carnegie

Trust, or from the Treasury or Medical Research Council through the General Board of Control for Scotland.

Ford Robertson's record as Pathologist to the Scottish Asylums from 1897 till his death was one of incessant and exacting work, and a continuous succession of fresh and original researches with their harvest of most suggestive and hopeful discoveries. The routine work of the Conjoint Laboratory comprised, in addition to the prosecution of original researches by the Pathologist, the giving of courses of instruction on special pathological methods to the medical staffs of the contributing asylums; visits to the various asylum laboratories to advise on questions of equipment, methods, etc.; the preparation of standard sets of microscopical specimens showing the tissue changes in insanity; the provision of a reference and circulating library of neurological and psychiatric literature; the collection from the asylums of special material required for any particular investigation undertaken by any member of the medical staffs; and the furnishing of reports, with microscopical specimens, on material of special interest sent for examination from the contributing asylums, etc. Ford Robertson devoted himself to these multifarious duties most conscientiously throughout the years, and from the first he threw himself whole-heartedly into the chief purpose of the scheme—the prosecution of original research. Firstly, he completed the enterprise on which he had started in 1894, and, as this occupied seven years, he had to re-write the earlier chapters in order to bring them up-to-date. His *Pathology of Mental Diseases* was published in 1900. It represented the last word on the naked-eye and microscopical appearances of the brain and nervous system in insanity, and it covered the ground so thoroughly that it still remains the standard work of reference on the subject. It incorporated the results not only of his own patient and independent laboratory investigations and beautiful technique, but also of his wide reading of the vast literature on the subject in English, French, Italian and German, any contribution of importance in these languages up to 1900 receiving due and appropriate notice, after careful abstraction (in shorthand) and digestion.

During the closing years of the nineteenth century, the marked developments of bacteriology, chemistry and physics profoundly influenced clinical medicine and pathology and spread to psychiatry. In 1899 Ford Robertson emphasised the importance of equipping the laboratory for bacteriological and chemical as well as histological researches, and he made a strong appeal for increased financial support to the scheme, for the purpose of providing an expert chemist, who should co-operate with him as histologist and bacteriologist. Unfortunately the funds available would not permit of the appoint-

ment of a bio-chemist, but facilities were provided for bacteriological work, and Ford Robertson thereupon embarked on the long series of his well-known researches on the relation of the bacterial and other infections of the body to the insanities as well as to other diseases. These fascinating investigations mainly claimed his attention during the last twenty-four years of his busy life. During the earlier portion of this period they were concentrated on the pathogenesis of general paralysis, and the results up to 1906 were embodied in the Morison Lectures, which he had the honour of delivering in that year. Since the subsequent discovery of the spirochæte of syphilis in the central nervous system in cases of general paresis and tabes, the diphtheroid infections of the genito-urinary, respiratory and alimentary tracts which Ford Robertson and his co-workers found to be present in these diseases, and to which they were inclined to attach a causal significance, are probably to be regarded as playing only a secondary rôle, although an important one as regards the final deterioration of the victim's health. From 1912 onwards Ford Robertson concentrated his bacteriological investigations on dementia præcox and the acute insanities, and for purposes of control he included within the scope of his researches many other diseases of the nervous system and body generally. In 1921 he published his remarkable book on *Therapeutic Immunization in Asylum and General Practice*, in which are embodied the practical applications of his highly original and most suggestive work in bacteriology and vaccine therapy. His researches indicate that the more fully the pathogenesis of insanity, as of other bodily diseases, is investigated, the more extensive becomes the group in which infection is seen to be an essential factor, and that by the method of focal reaction can be demonstrated the pathogenic importance of many of the organisms inhabiting the body, among which he drew special attention to anaërobic forms which had hitherto been much neglected. By means of specific immunisation with autogenous vaccines, derived from the individual patient in each case, and rendered more potent by sensitisation with anti-sera obtained from immunised sheep, and by means of his gravimetric method of preparing the vaccines, for the purpose of securing more accurate dosage, he demonstrated that many of these pathogenic infections in the insanities and other diseases could be effectually controlled and eliminated. Many of these infections, aerobic and anaërobic, are neurotoxic, and in neurotic individuals they attack the vulnerable higher brain-cells which fix the toxins, and give rise to various forms of insanity; and in the course of time, according to Ford Robertson's later work, they paralyse the nervous mechanism of the intestine, producing a condition of intestinal stasis with resultant secondary putrefactive auto-intoxication, under

the stress of which the brain-cells finally break down, this being the course of events when dementia or permanent mental enfeeblement supervenes.

Ford Robertson held a high opinion of Italian research work in insanity, and in 1904 he visited various neurological and psychiatric laboratories in Italy. In 1908 he and Dr. T. C. Mackenzie published their translation of Tanzi's standard *Text-book of Mental Diseases*, and at the time of his death he was planning the translation of the last edition.

In addition to his neuro-pathological researches, Ford Robertson made important contributions on the ætiology of cancer. When examining, by his platinum method, various tumours sent to the laboratory, he observed in one, a carcinoma, bodies apparently parasitic in nature, which were not detectable in malignant tumours by ordinary staining methods, and which were revealed still more clearly by his ammonio-silver process. He compared his observations with those of Dr. Henry Wade, who was also working at the subject of malignant tumours in the Laboratory of the Royal College of Surgeons of Edinburgh. In 1905 they published a joint paper, showing that a protozoan parasite, resembling the *Plasmodiophora brassica*, which is known to be the cause of tumours in certain plants, was present in carcinomata, and could be cultured from them. Ford Robertson published further papers on this subject in 1907 and 1908, and shortly before his lamented death he had arranged for a demonstration of his last findings on the parasitic origin of cancer—which fate ordained should be given by his medical son and namesake—at the recent Annual Meeting of the British Medical Association in Portsmouth.

Ford Robertson was a man of indefatigable industry, great originality, wide vision, boundless enthusiasm, courage and optimism. He attracted to his laboratory many workers—from Scotland, England, the Continent, the Colonies, and America. He was always careful, in his numerous scientific publications, to give the credit of any special contributions to those to whom it was due, including his loyal and attached laboratory assistants. Behind all this, and to those who knew him best, he was always a humble seeker after truth, and a humanitarian in the finest sense of the word, constantly motivated by the keen desire to allay human suffering, and, like the Great Master, always regarding his work in this life as a sacred trust. In appearance he was a man of medium height and build, alert carriage, active gait, and studious and kindly expression. Although he was a keen Rugby footballer in his school and college days, and played a fearless game at full back, in his later years his all-absorbing work permitted him only occasional spells for lawn tennis and golf and his

favourite rambles with Nature. In his hours of recreation he wrote (for private circulation), in 1919, *The Scarlet Knight: a Romance of Flodden*, in beautiful blank verse; and in 1920, *Faces in the Fire: a Fantasy*; and in 1923, to be published shortly, *Walks from Wooler*. In all his work he was devotedly supported by his wife, whom he married in 1897. She was Miss Marion Marsh Elam, daughter of Major Marsh, of Preston, and niece and adopted daughter of Charles Wentworth Elam, of Liverpool. Of their three sons, William is shortly going up for his final examination in Medicine at Edinburgh University, Alec has passed his B.Sc. in Mechanical Engineering, and Francis his B.Sc. in Forestry. To them and to their mother is respectfully offered the deep sympathy of the profession and the public, who can ill afford to lose such an exemplar as was William Ford Robertson. He became seriously ill last New Year at his home in Edinburgh, and underwent an immediate and severe operation. Spring had arrived ere he was able to go for a change to Glanton House, near Wooler, but in spite of medical skill and loving care and a noble fight, full of courage and hope to the end, he steadily lost strength, and passed away on the 17th of July, 1923. He was laid to rest beside his father in Carham Churchyard, which lies on the sunny bank beside the soothing murmur of the Tweed, and looks westwards up the lovely valley to the towering triple crest of the Eildon Hills—surely no more fitting resting-place for the mortal remains, after such a life's journey as his!

C. C. EASTERBROOK.

Part I.—Original Articles.

Considerations, Bacteriological, Toxicological and Hæmatological, and others thereto akin, bearing upon the Psychoses.⁽¹⁾

The Presidential Address at the Annual Meeting of the Medico-Psychological Association of Great Britain and Ireland, held in London, July 9–13, 1923. By EDWIN GOODALL, C.B.E., M.D., F.R.C.P.Lond., Medical Superintendent, Cardiff Mental Hospital. Lecturer on Mental Diseases, Welsh National School of Medicine, Cardiff.

In the course of toxic and febrile processes, such as occur in association with typhoid, erysipelas, malaria, pneumonia, influenza, psychoses may arise. Amongst the infection-psychoses may be counted also the insanity of the puerperium. In association with

⁽¹⁾ Delivered in the Barnes Hall at the House of the Royal Society of Medicine, London, July 10, 1923.