W. H. M. M. M. M. M.

Sir William Broadbent, Bart.,

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Commander of the Legion of Honour

Sir William Broadbent was a Yorkshire man. He began his studies at Manchester School of Medicine, where he took a scholarship for General Proficiency as well as many medals. He qualified at the College of Physicians in 1857, then went to Paris for six months to work under Trousseau. There he acquired a thorough knowledge of French, which helped him in his later friendships with Pasteur and Charcot.

In 1858 in the examination for the London M.B. he took first class honours in medicine, the gold medal in obstetric medicine and a scholarship in comparative anatomy and physiology. In 1860 he took the London M.D. and the M.R.C.P.; in the following year he became Assistant Physician to the London Fever Hospital, and in January, 1865, Assistant Physician to St. Mary's Hospital.

His first interest was in neurology. In 1866 he published a paper on the 'Bilateral Association of Nerve Nuclei,' later known as Broadbent's Hypothesis. Before that time there had been no explanation of why in a hemiplegia some muscles were not paralysed, such as those of the eye. He states, 'The parts paralysed are such as have the power of acting independently of the corresponding part of the opposite side, such as the arm and the leg. The muscles which escape are those which act only bilaterally or in concert with the corresponding muscles of the opposite side, namely those of the face, trunk and abdomen. The hypothesis suggested is that where the muscles of the corresponding parts on opposite sides of the body constantly act in concert, and act independently either not at all or with difficulty, the nerve-nuclei of these muscles are so connected by commissural fibres as to be *pro tanto* a single nucleus. The existence of this transverse commissural communication between corresponding

nuclei is not hypothetical; the fibres have been observed and described.' He also wrote several papers on aphasia, and in 1869 he read to The Royal Society an important contribution on 'The Structure of the Cerebral Hemispheres.' Forty years later Hughlings Jackson paid tribute to the importance of Broadbent's hypothesis saying that its principle had brought method into the analysis of the complex symptomatologies of widely different diseases of the nervous system. In 1874 he gave the Lettsomian lecture on 'Syphilitic Diseases of the Nervous System.' His interest later turned to diseases of the heart. In 1880 he gave the annual oration to the Medical Society of London on 'The Pulse,' and in 1881 was elected President of the Society. In other years he was President of the Clinical, Neurological and Harveian Societies. In 1887 he delivered the Croonian lectures on 'The Pulse,' and in 1890 published his book on the same subject. In this he made much use of Marey's sphygmograph, but stressed the fact that careful feeling of the pulse gave nearly as much information. A large part of the book is a study of high blood pressure and its symptoms and effects. He mentions heredity, renal disease and gout amongst the causes, and headache, cerebral haemorrhage and sometimes melancholia as results. He writes, 'It may be taken that high tension exists whenever the artery is full between the beats, so that it can be rolled under the fingers like a tendon in the wrist. To appreciate this condition three fingers should be placed on the vessel when it will be found to stand out, not only during the wave of the pulse, but in the intervals. The tension will be approximately estimated by the pressure of the fingers required to flatten the artery and arrest the wave—one, two and all three fingers being employed, and

the pressure being varied several times.' There was at that time no mechanical way of estimating blood pressure. Riva Rocci did not invent the sphygmomanometer until 1896. As treatment 'the great remedy for mischief of any kind impending as a result of high blood pressure is a mercurial purge, calomel or blue pill, with rhubarb or colocynth.'

Of low blood pressure he wrote, 'People with low arterial tension seem to wear out less quickly and to furnish most of the examples of longevity, but they appear to have less power of resistance to acute disease.' After chapters on the pulse in valvular disease, aneurysm and kidney disease, he discusses intermittent albuminuria, advising young men subject to it, who have to go up for a medical examination, to take an aperient beforehand as a purge generally prevents its appearance for 24 hours. In 1884 he delivered the Harveian lecture on 'Prognosis in Heart Disease,' and in 1891 the Lumleian lectures on 'Structural Disease of the Heart.'

In 1894 in the Cavendish lecture on typhoid fever he recommended:—tepid or cold sponging throughout, together with mercury (liquor hydrarg. perchlor. and later calomel) and quinine; for excessive diarrhoea, a starch and opium enema after each action; for suddenly appearing tympanites, half a drachm of laudanum by the mouth; for hyperpyrexia, ice bags to the abdomen and head and cold sponging; for haemorrhage, a full dose of laudanum, an ice bag to the right iliac fossa and a subcutaneous injection of argotin. He strongly recommended the continuous bath treatment employed by Dr., afterwards Sir James, Barr of Liverpool.

In 1891 he attended the Duke of York (afterwards King George V) through his attack of typhoid fever, and in 1892 the Duke of Clarence in his fatal attack of pneumonia. In that year he was appointed Physician in Ordinary to the Prince of Wales, and in 1893, on the occasion of the marriage of the Duke of York, a baronetcy was conferred on him.

In 1897 he published his book *Heart Disease*, which is in most medical libraries. His next in-

terest was tuberculosis, and in 1898 he invited the Prince of Wales to inaugurate the National Association for the Prevention of Consumption. The Prince of Wales accepted the office of President of the Association, and Sir William was the first Chairman of the Council. A British Congress of Tuberculosis was arranged in 1901, Sir William being elected Chairman of the Organizing Committee. At this Professor Koch, Lord Lister, Professor Nocard and Professor Bang, among others, spoke.

In 1901 he became Physician in Ordinary to H.M. the King and H.R.H. the Prince of Wales, and was made a K.C.V.O. In 1904 the visit of a party of French doctors to London was proposed and Sir William became Chairman of the Organizing Committee. The doctors visited all the London hospitals and were entertained at a reception at the College of Surgeons. At the final dinner, presided over by Sir William, Professor Huchard suggested the name 'Entente Cordiale Medicale.' In the following year the visit was returned when the Pasteur Institute and the hospitals of Paris proved most hospitable and entertainment was lavish. At the final banquet a telegram arrived announcing that the President of the Republic was conferring on Sir William Broadbent the Cross and Insignia of Commander of the Legion of Honour.

In October, 1906, he had a severe attack of pneumonia followed by empyema. After partial recovery malignant endocarditis supervened, from which he died in 1907.

In an address to the students of St. Mary's Hospital, Sir William Osler said, 'Sir William Broadbent's career illustrates all that is best in a successful physician. For years he lived the self-denying life of the true student, and perhaps the most encouraging among the lessons of his example is the circumstance that such distinguished success was won by a man who came to London without funds and with all his capital in Minerva's Tower. A special feature of all his work was thoroughness.'

WALTER BROADBENT, M.A., M.D., F.R.C.P.