

reaction immediately thereafter was verified. But since it was impossible thus to ensure removal of the entire cord, instantly after decapitation Bach inserted into the canal an instrument with which the stump was destroyed. Since he was then entirely unable to perceive any pupillary reaction, Bach concluded that only by destruction of the extreme upper portion of the cord could he destroy the pupillary centre,—that, in other words, the pupillary centre was situated in the cervical cord. The centripetal fibres to this centre he considered to travel by the posterior longitudinal bundle; he did not state whether the motor fibres took their origin in the third nerve centre or only joined the other fibres from a more spinal point of origin. So far Ruge's results agreed entirely with Bach's, but he observed that in the series the pupil varied greatly in size, and further he had one or two "cases" in which he was able to demonstrate quite clearly a pupillary reaction after decapitation plus removal of the stump of cord with a sharp spoon. This fact is of high value, as pointing to Bernheimer's situation being more certainly the correct position than Bach's lower centre. Not only was Ruge thus able to show that the centre for the pupil reflex is above the cord, but by making sections at varying heights in the medulla he was enabled to obtain even more clear evidence of the facts. For in the case of one cat (mentioned as one example of several) he was able to demonstrate a definite pupillary reaction even so long as fifty seconds after division through the middle of the fourth ventricle. The Argyll Robertson pupil he explains by the suggestion of a lesion in the cord at the level of the communicating fibres to the sympathetic; the sympathetic root of the ciliary ganglion is thus affected, and the ciliary nerves fail to convey the stimulus to the oculo-motor centre. If such lesion were unilateral, it would be quite possible to have a unilateral immobile pupil.—*Arch. f. Ophth.*, Leipzig, Bd. lv. Heft 3.

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## OBITUARY.

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GEORGE WILLIAM BALFOUR, M.D. (St. And.), LL.D. (St. And. and Edin.), F.R.C.P. Ed., Physician-in-Ordinary for Scotland to His Majesty the King.

ANOTHER link with the past has been severed by the death of Dr. G. W. Balfour, which took place at his residence, Westfield, Colinton, on Sunday, August 9, 1903. During the last twelve months the state of his health had given his friends much anxiety, and it was obvious to all that his strength was steadily failing. Weakness and suffering were borne with characteristic fortitude, and the approaching end of a busy life was watched with unflinching cheerfulness. It came at last, somewhat suddenly, but quite peacefully, only a few days after he had completed his eightieth year.

George William Balfour was a son of the manse, and was born at Colinton, to which parish his father, the Rev. Lewis Balfour, had, not long before, been translated from Sorn in Ayrshire. But his connection

with the "Brahmin Caste," as Oliver Wendell Holmes terms it, was of longer duration; his family, during the century before his birth, had provided some illustrious ornaments to philosophy and science. Chief amongst these were two of his great-grandfathers—James Balfour of Pilrig, successively Professor of Moral Philosophy and of Public Law in Edinburgh; and Robert Whytt, Professor of the Theory and Practice of Physic in the same University. It is quite unnecessary to recall the fact that the world owes more to Robert Whytt than to any other, for the initial steps in the modern study of the nervous system.

Intending to settle in Australia, it seemed advisable for Dr. Balfour to become acquainted with veterinary medicine and surgery, and at the age of twenty he obtained the qualification of the Royal Veterinary College. Fortunately, he became interested in other branches of medical science, and was induced to complete his curriculum. Two years later he obtained the licence of the Royal College of Surgeons of Edinburgh, and in the same year, 1845, he took the degree of Doctor of Medicine at St. Andrews. He then became House Surgeon to the Royal Maternity Hospital, and immediately afterwards proceeded to Vienna to study under the men who were then throwing undying lustre upon that great school. On his return to this country, in 1846, he settled in Corstorphine, but a year later he moved to Cramond. Here he practised for ten years, and in 1857 renounced country practice in order to settle in Edinburgh. In 1861 he became a Fellow of the Royal College of Physicians of Edinburgh; in 1865 he began to lecture on the Practice of Physic; a year afterwards he was elected Physician to the Royal Public Dispensary, and also to the Royal Hospital for Sick Children; in the year following he was appointed Physician to the Royal Infirmary. On attaining this position, Dr. Balfour at once retired from his Lectureship on Medicine, in order to concentrate his energies upon clinical teaching. He was appointed in 1871 Examiner in Medicine for the University of St. Andrews; and in 1882, when his tenure of office as Physician came to an end, he was appointed Consulting Physician to the Royal Infirmary. In the same year, after having acted as Librarian and Member of Council for a good many years, he was elected President of the Royal College of Physicians of Edinburgh. On the death of Sir Thomas Grainger Stewart, Dr. Balfour was appointed Physician-in-Ordinary to Her Majesty Queen Victoria—an appointment which was continued on the accession of the present monarch. Amongst other honours which were conferred upon him were the honorary degrees both of Edinburgh and St. Andrews.

Dr. Balfour's services to medical science and practice were very great. During his early studies in Vienna, he gave promise of his future career by publishing an article of extreme value on the treatment of pneumonia, in which he showed how modern methods were superior to the antiquated system of routine bleeding, and ruthless derivation. This paper undoubtedly did more than any other single contribution to alter practice in acute diseases. But, in addition to this important piece of work, he also brought before the English medical public the new disease, phosphorous poisoning, seen amongst match-makers, and at the same time exposed, we may say exploded, many of the fallacies of Hahnemann's system. From this time onwards few years passed in which he did not

make valuable contributions to diagnosis and therapeutics. In two directions, above all others, he enriched medical science. In the domain of chest exploration, his teaching, based upon the views of his great master, Skoda, was of the greatest value in simplifying and systematising the methods in use. But much more important even than this service was the long series of papers and lectures upon diseases of the heart. As regards diagnosis, he shares with his contemporary, Sir William Gairdner, the honour of having done more than any one of our time for the recognition of cardiac disease. When we turn to the practical question of treatment, there can be no hesitation in affirming that in this field Dr. Balfour had no equal. This is universally recognised as regards aneurysm, but it is no less true in respect of heart disease proper. His contributions were not confined to periodical literature, for he wrote three important works: "An Introduction to the Study of Medicine," published in 1865; "Clinical Lectures on Diseases of the Heart and Aorta," in 1876; and "The Senile Heart," in 1894. It may be said that these three works resemble milestones in the author's life. They certainly show different phases of development, and the third is a medical classic. To the end he showed undiminished literary activity, for his last paper, "A Fit of the Gout," and his Morison Lectures, "The Borderland," both published, like so many of his contributions, in the pages of this Journal—of which he was formerly Editor—were, in style as well as substance, remarkable productions. Literary grace as well as virile power were to be seen in everything which he wrote. Such characteristics seem to be an appanage of his family. From his mother (Dr. Balfour's sister) Robert Louis Stevenson undoubtedly inherited his literary powers; and his cousin Harry—one of Dr. Balfour's sons—has shown, in his account of the siege of Ladysmith, how much may be expected of him.

As a clinical teacher Dr. Balfour was one of the most successful of our time. It would not have been an easy task for Telemachus to form a true estimate of Mentor, and in the same way it is not without difficulty that an attempt is made to assess the value of Dr. Balfour's teaching. Keen observation, correct induction, and ripe experience were shown by him in a higher degree than by any of his colleagues. It was undeniably sometimes rather difficult for him to get entirely into touch with the average junior student, but for the senior man, or the junior of real parts, there was no teacher equal to him. To the slacker his was a name of terror, but for the hard worker he had ever a meed of praise.

Of Dr. Balfour as a man it would not be easy to speak too highly. Perfect truthfulness, complete straightforwardness, and absolute fearlessness were his great personal characteristics. Hiding tender feeling behind a somewhat impassive exterior, he was by no means accessible to all, but when the real man was reached, he was found to be of sterling worth. It might not always be possible to agree with him, but no one could fail to respect and esteem him. To his friends he was in the highest degree charming, as well on account of his quaint humour as of his high culture. The world is much the poorer for his loss, and not only in his own school, but throughout the realm of medicine, the deepest regret is felt at his death.