

DR WILLIAM SHARPEY. By Dr Allen Thomson.

DR WILLIAM SHARPEY was born at Arbroath in Forfarshire on the 1st of April 1802. His father was an Englishman, and belonged to Folkestone in Kent; but in the year 1794 he migrated to Arbroath, and married Mary Balfour, a native of that town. Mr Sharpey having died shortly before the birth of his son William, his widow was afterwards married to Dr William Arrott, a medical practitioner of Arbroath, in whose family the subject of this notice was brought up.

William Sharpey's education was carried on up to the age of fifteen at the public school of Arbroath. In November 1817 he entered the University of Edinburgh, as a student in the Faculty of Arts, attending the Greek and Natural Philosophy classes.

In 1818 he commenced his medical studies in the University and the Extra-academical School of Edinburgh; and in 1821, at the early age of nineteen, he obtained the diploma of the Edinburgh College of Surgeons. He then studied anatomy for some months at Brooke's School in London, and subsequently passed nearly a year in surgical and medical study at Paris. Returning to Edinburgh in the end of 1822, he graduated in medicine in August 1823, his printed inaugural dissertation bearing the title "De Ventriculi Carcinomate;" after which he again spent some time in Paris in attendance on the Hospitals and on classes at the Garden of Plants.

From 1824 to 1826 his plans appear to have remained undecided; but having finally resolved to devote himself to anatomical and physiological pursuits, for which he had long had a predilection, he was desirous to improve himself still more by foreign travel, and especially to make himself thoroughly acquainted with the system of instruction in the Universities of Italy and Germany. With this view he spent more than fifteen months in Switzerland, Italy, Austria, and Germany, often journeying on foot with knapsack on his back, and storing up in his wonderfully tenacious memory that fund of information, anecdote, and incident which surprised and delighted those who heard him in after life narrate his travels.

Reaching Berlin in the autumn of 1828, he gave his whole time during nine months to the careful dissection of the human body and the study of scientific anatomy, in which he had the inestimable

advantage of the friendship and assistance of the learned and genial Rudolphi.

On his return from the Continent in the autumn of 1829, Dr Sharpey established himself in Edinburgh, and was for a time engaged in anatomical researches. In 1830 he became a Fellow of the College of Surgeons there, upon which occasion he presented a probationary essay, "On the Pathology and Treatment of False Joints." In the summer of 1831 he again spent some time in Berlin for the purpose of collecting specimens to illustrate the course of lectures on anatomy, which it was his intention to deliver in the following winter. After embarking in this enterprise he continued to give systematic instructions as a teacher in the extra-academical School of Edinburgh, during five years, or from 1831 to 1836; and while his success as a lecturer was evinced by the large and progressive increase in the number of his pupils, his scientific reputation both at home and abroad had advanced in a still greater degree by the known care and accuracy of his observations, and the extent of his scientific knowledge.

In the summer of 1836 the Chair of Anatomy and Physiology in the then University of London having become vacant by the resignation of Dr Jones Quain, and the authorities and leading medical professors of the university being desirous to give greater prominence than previously to the teaching of Physiology and Physiological Anatomy, Dr Sharpey was, in the month of July, selected to fill the chair; it being determined that while he, as Professor of Anatomy and Physiology, should give full instructions in Physiology and in minute Anatomy and the structure of the Viscera, his colleague, Mr Richard Quain, should, as Professor of Anatomy, undertake the more purely descriptive and practical anatomical department. There was thus established in London for the first time the full and systematic teaching of Physiology, which had previously been only imperfectly treated as an appendage to the courses of Anatomy.

Dr Sharpey applied himself to the performance of his new duties with all the care and diligence which was to be expected from so conscientious a teacher, with a range of knowledge of his subject rarely equalled, and with powers of exact observation and critical judgment of the highest order; so that it was not to be wondered

at that, as he soon became more closely identified with all the interests of the institution to which he belonged, his influence increased in proportion, and he came to be regarded not merely as one of the best teachers of his department, but as one of the highest authorities in biological science.

Dr Sharpey continued to perform the duties of his chair during the long period of thirty-eight years, maintaining to the last the same scrupulous care in the preparation of his lectures and the performance of all his academic duties which had distinguished the earlier and more vigorous parts of his career. And all his pupils, many of whom occupy very high places in science and medicine, acknowledge with pleasure their debt of gratitude to their teacher, not alone for the exact and solid information which they derived from his instructions, but also for the scientific spirit and love of truth which he endeavoured to instil into their minds.

Dr Sharpey's wide range of information, together with his remarkably wise and fair judgment, were such as to inspire great reliance on his opinion, and naturally led to his being called upon to take an active part in the management of other scientific institutions of the metropolis.

In 1840, when the London University obtained its charter to grant degrees, he was appointed one of the examiners, and he retained that office during the unusually long period of twenty-three years. He was at a later period a member of the Senate of the University. During fifteen years he was a member of the General Medical Council of Education and Registration. He was a trustee of the Hunterian Museum of the Royal College of Surgeons, and a member of the Science Commission which met under the presidency of the Duke of Devonshire from 1870 to 1875. And it need scarcely be said that in the affairs of these several bodies, as in all others with which he was concerned, his extensive knowledge, clear sagacity, and sound judgment aided greatly the deliberations of those with whom he was associated, and contributed to the advance of science and the promotion of measures of public utility.

But the body with the management of which, next to University College, Dr Sharpey was most closely connected, was the Royal Society of London, which he joined as Fellow in 1839, and of

which he was one of the secretaries from 1853 to 1872. Those who were most fully acquainted with the affairs of the Society know best the anxious care and judicious labour which he bestowed upon its business, and readily distinguish the mark of his able assistance in the promotion of various measures having important relations to the interests of the Society and the advance of science which were the subjects of deliberation during his tenure of office.

Dr Sharpey became a Fellow of the Royal Society of Edinburgh in 1834. He was member of many other societies in this country and on the Continent; and he received the honorary degree of LL.D. from the University of Edinburgh in 1859.

Dr Sharpey was by no means a copious writer, nor could he be regarded as the author of many new discoveries, yet it is universally acknowledged that great value is to be attached to his original observations and the productions of his pen.

He never wrote out his lectures fully, but made use only of jottings on small slips of paper, and only two or three of his introductory lectures have been published in the medical journals.

During the time of his residence in Edinburgh, or from 1829 to 1836, he was actively engaged in original research; and among the earliest and in one sense the most important of his observations were those relating to Ciliary Motion, first described in his paper "On a Peculiar Motion excited in Fluids by the surfaces of Animals" (*Edin. Med. and Surg. Journ.*, 1830, vol. civ.), and which formed the basis of his very able and complete article "Cilia," which appeared in the *Cyclopædia of Anatomy and Physiology* in 1836. It is true that Dr Sharpey, as he afterwards found, had been anticipated in several of his observations, and further, that, from the want of sufficiently high magnifying powers in his microscope, he failed to detect the actual existence of cilia in the larvæ of Amphibia in which he had observed the motions,—a discovery which was made by Purkinje and Valentin in 1834,—but it cannot be doubted that, by the numerous original observations which Dr Sharpey described in his earlier paper, he was the first to point out distinctly the general prevalence of ciliary motion among animals, and the important relations of its phenomena to respiration and some other functions. The article "Cilia," as also that of "Echinodermata," which in 1837 he contributed to the same

Cyclopædia, both contained a large amount of original matter, and gained for Dr Sharpey a high reputation as a scientific observer and writer.

In 1833 Dr Sharpey gave in the "Edinburgh New Philosophical Journal" an account of Ehrenberg's Researches on Infusoria. In 1834 he took part in the proceedings of the British Association for the Advancement of Science which met at Edinburgh, and contributed a paper founded on his own observations on the peculiar distribution of the arterial vessels in the Porpoise.

He delivered the "Address in Physiology" at the Thirtieth Annual Meeting of the British Medical Association held in London in 1862; and in 1867, as president of the Biological section of the British Association at the Dundee meeting, he delivered an address in which, as in the one previously mentioned, he ably reviewed the progress of Physiology, more especially as regards the application of exact methods of research to the solution of physiological problems.

But Dr Sharpey was extremely fastidious as an author, and though his style was clear and his language eminently appropriate, yet he shrank from frequently appearing in print: and accordingly much of his original observation and thought on scientific subjects, though involving laborious research, was made known by him only through his lectures, or was published in a more or less fragmentary form in connection with such systematic works as Baly's translation of Müller's Physiology and the later editions of Quain's Anatomy. In the first of these works it is well known that the excellent translator, who was a distinguished pupil of Dr Sharpey's class, derived much assistance in his labours from his teacher, and several notable additions were made to the work by contributions from Dr Sharpey's pen. Among these one of the most important is that, in the modest form of a note, in which he gave an account of original observations made by himself on the structure of the uterine glands and membrana decidua.

In 1843-46 Dr Sharpey published as joint editor with Professor Richard Quain the fifth edition of Dr Jones Quain's Elements of Anatomy, which, from the amount of new matter introduced and changes made by the editors, assumed almost the character of a new work. In this edition the General Anatomy was entirely rewritten

by Dr Sharpey, and this part has ever since been looked upon as a standard work on the subject of which it treats, containing the record of a large number of original observations on the minute structure and growth of bone and on many other topics. The anatomy of the brain and heart, of the organs of respiration and voice, of digestion and reproduction, were also from his pen. With the three subsequent editions of this work Dr Sharpey remained connected as one of the editors till the time of his death.

Up to the age of sixty-nine or seventy years Dr Sharpey retained most of the vigour of his earlier life. But about the year 1871 some signs of advancing age showed themselves, and more especially the rapid increase of cataract, affecting both eyes, began to interfere with the easy and efficient performance of his official duties, and led to his retirement from the secretaryship of the Royal Society in 1872, and from his professorship in University College in 1874. His blindness was only partially remedied by the extraction of the cataractic lens of one eye in May 1873, and of the other in October 1876. About the same time Dr Sharpey became subject to attacks of bronchitis from any unusual exposure to cold. One of these had nearly proved fatal in the winter of 1878, and he at last succumbed to an attack of the same malady on the 11th of April of the present year (1880), ten days after he had completed his seventy-eighth year. He was buried in the Abbey Graveyard of Arbroath, his native town, on the 17th of April.

In 1869 the friends and former pupils of Dr Sharpey, being desirous of showing their regard for him and establishing a permanent memorial of his services to University College and to science, raised by subscription a sum of money for endowing a "Sharpey Memorial Scholarship" in connection with University College, and for presenting to the college his portrait in oil and a marble bust.

In 1872 Dr Sharpey made over his large and well-chosen biological library to University College, and at his death he bequeathed from the small property which he left a sum of £800 to increase the endowment of the Scholarship in Physiology.

Upon his retirement from his professorship in 1874, Mr Gladstone's government accorded Dr Sharpey an annual pension of £150 on account of his eminent services as a public teacher and man of science.

Looking back upon the career of our much esteemed fellow, we have first to remark the characteristic caution with which he abstained from entering upon any active or responsible sphere of exertion till he had attained his twenty-eighth year, and the care with which he prepared himself by long continued literary and scientific study in this and other countries for the duties of his after life.

In his work as a scientific investigator and systematic writer, there is everywhere apparent a scrupulous accuracy and full knowledge of his subject, a clearness of statement and appropriateness of language, a critical acumen and soundness of judgment which have given high and lasting value to his productions.

In the administration of the affairs of the various public bodies with which he was connected, Dr Sharpey's wide range of knowledge, his unbiassed judgment and strict impartiality, while they gave weight to his opinions and suggestions, contributed in a remarkable degree to the efficiency and usefulness of his services.

It was however especially as a teacher that the influence of Dr Sharpey's superior mental qualities was most conspicuous. Devoting himself with the utmost diligence and care to the perfecting of his public instructions, he was uniformly listened to with the closest attention, and regarded as the highest authority in his department; and the effect of his teaching was further enhanced by the feeling of friendly attachment, amounting almost to filial affection and reverence, which was inspired in the minds of his pupils by his uniform kindness, justice, and candour.

In private life, while Dr Sharpey was universally admired for the extent and accuracy of his acquirements and respected for the soundness of his judgment, he was not less esteemed and beloved for the gentleness of his disposition, the kindness of his heart, and the geniality of his nature. His powers of memory, naturally good, were carefully cultivated by the systematic turn of his mind, and strengthened by exercise. His friends remember with delight the readiness with which in the course of conversation he could call up a desiderated quotation, or supply a fact on some doubtful point in history, philosophy, or science, or tell humourously some anecdote which was equally apposite and amusing. He had not a single enemy, and he numbered among his friends all those who ever had the advantage of being in his society.