

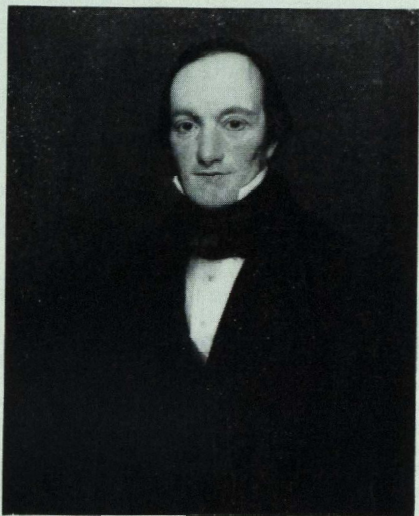
SIR RICHARD OWEN

by Professor A. J. E. Cave

THE decor of the Abernethian Room in College Hall has recently been enhanced by the installation of a portrait of Sir Richard Owen. The portrait, an original by Henry Pickersgill, R.A., depicting Owen in early life, has been presented to the Medical College by the Governors, the cost of its cleaning and re-framing having been generously defrayed by Rear-Admiral P. K. Kekewich, C.B., a Treasurer of the Medical College.

Though Owen's great reputation was made, not in clinical medicine, but in biological science, he nevertheless commands the filial devotion of all Bart's men since he was successively prospector to Abernethy, a student of the Hospital and later (1828-35) Lecturer in Comparative Anatomy therein. His fundamental achievement was his almost single-handed rescue of biological science in this country from the neglect, and even contempt, hitherto surrounding it, and his elevation of the subject in the national esteem to the dignity of a reputable scientific discipline. Owen's genius for morphological perception, his dynamic personality and his well-nigh incredible capacity for sustained labour, rendered him, throughout his scientific career, less an individual than a one-man institution, and certainly in later life he was, in popular estimation, the living embodiment of the man of science. He dominated contemporary British biology and his pioneer researches enhanced not only the development of that subject, but also Britain's scientific prestige abroad.

Born at Lancaster on 20th July, 1804, Owen attended Lancaster Grammar School. At sixteen he was apprenticed to a succession of surgeons, during which period his anatomical bent was early manifested. Before completing his apprenticeship, however, he matriculated at Edinburgh University and was fortunate to attend the extramural anatomical course given by Dr. John Barclay, who quickly recognised his pupil's exceptional qualities. A lasting personal bond was forged between the two and in 1825 Barclay sent the young Owen to London with an introduction to John Abernethy. Impressed alike by Barclay's commendation and by his visitor's personality, Abernethy immediately appointed Owen prospector for his surgical lectures. Thus Owen became a Bart's student, completing his medical studies



within the Hospital and obtaining his Membership (there being then no Fellowship) of the Royal College of Surgeons in 1826.

Owen's inclination was towards scientific enquiry, not clinical practice, but his problem upon qualification was to find any congenial field of employment. There was at that time no University of London or Natural History Museum, and the Zoological Society was but a newly instituted offshoot from the Linnean Society. Only the unique Hunterian Museum, in the custody of the Royal College of Surgeons in Lincoln's Inn Fields, could offer Owen an arena suited to his specialist talents: yet appointment to its staff seemed beyond attainment. Its Conservator was William Clift (last and most devoted of John Hunter's assistants), and his son, William Clift Junior, was Assistant Conservator with the right of succession.

Unsettled as to his future, Owen set up in practice close to the Museum (at 11, Cook's Court, Carey Street), gaining an increasing familiarity with the Museum's wealth of material and growing in friendship with the Clifts. Owen and Caroline Clift (the Conservator's daughter) fell in love and Owen was welcomed as a future son-in-law. Thus matters stood

when tragedy intervened. William Clift Junior sustained mortal injuries in a cab accident in Chancery Lane and died in St. Bartholomew's Hospital. The Assistant Conservatorship thus lay vacant and through Abernethy's discernment and influence Owen was appointed to the post (1827). Doubtless this same influence secured Owen's invitation (1828) by the Staff of St. Bartholomew's Hospital to the post of Lecturer in Comparative Anatomy, an appointment confirmed by the Hospital Governors in 1834 and relinquished in 1835 when he married and the duties of the Hunterian Professorship precluded continuance therein.

Successively Assistant Conservator (1827), Joint Conservator (1842) and Senior Conservator (1852), and as its first Hunterian Professor (1836-56), Owen served the Royal College of Surgeons for twenty-nine memorable years, at the end of which the College enjoyed high scientific repute, and Owen was, by acknowledgement, the foremost anatomist in Europe. His initial task was the formidable cataloguing of the immense series of Hunterian preparations, many of which, in consequence of Ferverard Home's destruction of the Hunterian manuscripts, required preliminary identification. Owen was therefore compelled to undertake a prodigious and intensive investigation into vertebrate and invertebrate morphology and to lay under tribute material from the Zoological Society and elsewhere. From this industry came an authoritative and ceaseless flow of memoirs, monographs and papers upon animal morphology which represented the greatest contribution to zoological knowledge to be made single-handed since Cuvier. This impressive output demonstrated Owen's grasp alike of structural detail and of biological principle. His early *Memoir on the Pearly Nautilus* (1832) caused his immediate acclaim as a master morphologist and his illustrated 5-volume *Catalogue of the Physiological Series* (1833-40) established new standards for such productions. His publications during this period represent a truly Hunterian investigation into the realm of animal morphology—detailed studies of an extraordinary variety of mammals, birds, reptiles, fossils, molluscs, brachiopods, crustaceans and entozoa far too numerous for citation here. Mention must be made, however, of such outstanding productions as his *Odontography* (1840-45), his *Lectures on the Comparative Anatomy and Physiology of Invertebrate Animals* (1843), his *Memoir on the Mylodon* (1842), his *History of British Fossil Mammals*

and *Birds* (1844-46), his monograph *On Parthenogenesis* (1849), his *Fossil Mammalia* (1844)—the report on material collected during the voyage of the "Beagle", and his classic *The Archetype and Homologies of the Vertebrate Skeleton* (1848).

During his College service Owen was elected (1834) to the Fellowship of the Royal Society and received from that body a Royal Medal (1846) and a Copley Medal (1851), while the Geological Society awarded him a Woolaston Medal. Cuvier's visit (1830) to the Hunterian Museum resulted in an invitation to Owen to visit Paris, where the next year he attended courses by Cuvier and Geoffroy St. Hilaire besides working in the laboratories of the Jardin des Plantes. From Prussia he received the Order "Pour le Mérite" (1851) and from France the Cross of the Legion of Honour (1855). Declining knighthood, he accepted (1842) from Peel a civil list pension of £200, which forty years later Gladstone augmented by £100. In 1852 Queen Victoria granted him Sheen Lodge in Richmond Park as his residence and therein he dwelt for the remainder of his long life.

Strained relations developed between the Conservator and his Board of Curators and in 1856 Owen resigned his Conservatorship to accept the newly created office of Superintendent of the Natural History Collections in the British Museum. The light administrative duties of this post afforded him time for the study of the unrivalled material in his charge and for the summarisation of the voluminous records accumulated during earlier years. This second period of Owen's scientific life (1856-1883) was dominated by concern for matters palaeontological. From his indefatigable pen came a series of classic monographs upon such topics as the extinct giant birds of New Zealand, upon recent and fossil marsupials and South American edentates, upon Purbeck mesozoic mammals, *Archaeopteryx*, the great auk, the dodo, and the cetaceans of the Suffolk Crag. Came also papers on anthropoid ape osteology and the monograph on *Chiromys*. These works, notable contributions to zoology, palaeontology and taxonomy, require no present enumeration for they are familiar to all workers in these fields. Many of them were lavishly illustrated by large-scale (sometimes life-size) lithographic plates, the publication of which taxed the resources of the scientific societies to which they were submitted.

During this period Owen published John Hunter's *Essays and Observations on Natural*

History (1861) based upon Clift's copies of Hunter's original notes and upon his own early labours at the College. This was his tribute to Hunter whom he had learned to understand and revere both from the direct testimony of his father-in-law and from his own intimate preoccupation with the Hunterian Museum.

In 1860-68 appeared his *Anatomy and Physiology of Vertebrates* (3 vols.), a work based almost wholly upon his personal researches and still an unrivalled compendium of comparative morphology.

During this same period Owen assisted David Livingstone in the composition of his *Missionary Travels* (1857), received the coveted Prix Cuvier from the French Academy (1857), presided at the Leeds Meeting (1858) of the British Association, was elected foreign associate of the Institute of France (1859), lectured to the Queen at Windsor (1864) and to the royal children at Buckingham Palace (1865), delivered the first Rede Lecture at Cambridge (*On the Classification and Geographical Distribution of the Mammalia*, 1859), and visited Egypt for the first time in the Prince of Wales's party under Sir Samuel Baker's guidance (1869). He received the Baly Medal of the Royal College of Physicians (1869), the honorary Gold Medal of the Royal College of Surgeons (1883), the Brazilian Order of the Rose (1867) and the Belgian Order of Leopold (1873), as well as honorary degrees from Oxford, Cambridge and Dublin. He declined the Presidency of the Geological Society, and in 1873, the year of his wife's death, was created C.B.

Owen also served the public interest in various ways, as a member of the Government commissions on the health of the metropolis (1847) and on the Smithfield and other meat markets (1849), as a member of the organising committee of the Great Exhibition of 1851 and as a juror for raw materials at the Paris Exhibition of 1855. He devised the models of extinct animals for the opening of the Crystal Palace in 1855 for which he wrote a handbook (*Geology and the Inhabitants of the Ancient World*).

It is not surprising that his circle of friends and acquaintances was both wide and distinguished and included Lord John Russell, Prince Charles Louis Bonaparte, Charles Dickens, Sir Edward Landseer, John Ruskin, Dean Buckland, George Eliot, Sir James Paget, Jenny Lind and Alfred Lord Tennyson. Nor is it surprising that his striking physical appearance and his immense public reputation rendered

him a favourite subject for contemporary caricature.

Owen had long foreseen the desirability of removing the national collections from their unsuitable Bloomsbury quarters to some new building more fittingly adapted to their proper conservation and development wherein, also, provision could be made for the display of large cetacean specimens, for a physical anthropology series and for the delivery of lectures. He adumbrated his scheme to the British Museum Trustees in 1859, and thereafter laboured to win public and Government support for his proposals. Gladstone's sympathetic interest secured the acquisition of the present South Kensington site (1863), though not until 1881 was the new Natural History Museum opened to the public and not until recent years have Owen's recommendations concerning the cetacea, physical anthropology and a lecture theatre been implemented. Most appropriately, a full length bronze statue of Owen (by Brock) graces the staircase of the Central Hall of this greatest of natural history museums.

In the polemics which followed Darwin's publication of the *Origin of Species* (1859) Owen played a part usually deemed ambiguous or worse, from which his memory has suffered to this day. Huxley's championship of the Darwinian hypothesis rendered acceptance of "natural selection" the touchstone of biological orthodoxy and to "natural selection" Owen refused to subscribe. He attacked the *Origin* anonymously in the *Edinburgh Review* (1860) and provided others with the ammunition of onslaught. An instinctive Thomist, he recognised a First Cause (*Causa causans*) in Nature, operating through secondary causes: his arch-opponent Huxley halted intellectual argument from contingency and remained agnostic. From such fundamentally opposed philosophies stemmed much misunderstanding and acrimonious controversy, in which motives were mixed on both sides. Doubtless Owen, a pillar of "Establishment", was antipathetic to the mere deism and latent atheism in much of the new evolutionary doctrine, but his methods of attack displeased some. Single-handed against Huxley and his disciples, he fared ill in contemporary argument. But Owen, despite allegations and innuendoes then and since, was not an anti-evolutionist. Before Darwin's *Origin* he had recognised species "as exemplifying the continuous operation of natural law, or secondary cause, and that not only success-

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Einar Ljunggren is internationally famous for his work on urogenital tuberculosis. On his initiative the Rävlanda sanatorium was established as a special hospital for urogenital tuberculosis in 1948, the first of its kind in Sweden.

Bengt Johansson, head of the plastic surgery department, has developed a well-known operative method for treatment of stricture of the urethra.

Ragnar Romanus has made many contributions to surgery, chiefly in the field of urology.

Lars-Erik Gelin, who introduced low viscosity Dextran, leads a research team working within a broad field of circulatory problems. Gelin is best known internationally for his work in rheology.

Erik Moberg is well known amongst orthopaedic surgeons for his outstanding work on surgery of the hand.

Cardiovascular research is carried out by Lars Werkö, specialising in medical problems, and Sven Roland Kjellberg, specialising in radiological problems.

Finally it is necessary to draw attention to the university bacteriological laboratory built adjacent to the Sahlgrenska Hospital. Orjan Ouchterlony is the head of this laboratory. Ouchterlony's diffusion-in-gel method for the study of serological processes is perhaps the most important contribution to medical research that has been made in Gothenburg during the last decade.

Sweden is a small country with a tradition of political neutrality. Therefore it is natural for it to be influenced by the differing cultures of the surrounding nations. West Sweden, and Gothenburg in particular, has a tradition of absorbing western influences, particularly those emanating from London, with which there are many contacts. Doctors in Gothenburg have thus always been stimulated by medical research and developments in London, and St. Bartholomew's Hospital is well known in this connection. There have been many Swedish doctors who have spent some time on studies in Britain, and, should there be interest in exchanges in the opposite direction, our British colleagues would always be welcome to the Sahlgrenska Hospital in Gothenburg.

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ively but progressively", and touching the biological questions of the day he "deemed an innate tendency to deviate from parental type . . . to be the most probable nature, or way of operation, of the secondary law, whereby species have been derived one from the other" (*Anat. Physiol. Verts.* 3, 807).

Nevertheless the opposition attacked him so successfully as to leave him somewhat isolated towards the end of his days. He certainly had his foibles; he was addicted to acrimonious controversy, was a powerful and determined opponent and, perhaps significantly, had founded no "school". His unfortunate slip anent the hippocampus was ridiculed unduly by Charles Kingsley in his *Water Babies*, his stimulating vertebral theory of the skull was assailed with savage emphasis, his archetype concept was vehemently scorned and his attempted classification of mammals by cerebral structure was vigorously demolished.

In 1883 Owen retired from the British

Museum. The next year he was created K.C.B. and his civil list pension was augmented. In 1888 the Linnean Society bestowed on him its first Gold Medal. At Sheen Lodge he continued to write and to indulge his love for Nature in all her aspects until, on the 18th of December, 1892, he died of sheer old age. At his own request he was buried in his wife's grave at Ham, near Richmond, where his red granite tombstone may still be seen.

The nineteenth century triumph of the Huxleyan school of thought has prevented the appearance of any dispassionate appraisal of Owen's place in British biological science—his defects are still recounted, his merits often ignored, and his substantial contributions to knowledge taken for granted. It is good that such appraisal is even now being undertaken at American hands. None of Owen's contemporary opponents can match his accomplishment of output in zoology and palæontology and no subsequent worker has rivalled his individual performance.