

Darwin's 'sand-walk' was to be opened up for building purposes. To save the adjacent fields from being built over, Mr. Buckston Browne stepped in and obtained the freehold of the property—13 acres in extent. It is this land which is to be the site of the Institute. It is possible that arrangements may be made whereby the new Institute and Down House may be linked so as to work together for the advancement of knowledge.

Mr. Buckston Browne has recalled the fact that John Hunter, the founder of the Museum of the Royal College of Surgeons, maintained a farm at Earl's Court for experimental purposes. He hopes that his Institute will be to modern surgeons what Earl's Court farm was to John Hunter.

Mr. George Buckston Browne, the donor, was born in Manchester in 1850, the only son of a well-known medical man—Dr. Henry Browne, physician to the Manchester Royal Infirmary and lecturer in medicine to the Manchester Medical School. Dr. Henry Browne represented the fourth generation of a medical dynasty where son had

succeeded father the founder of the family having been Dr. Theophilus Browne, of Derby, who was townsman and contemporary of Dr. Erasmus Darwin, grandfather of Charles Darwin. Mr. Buckston Browne continued the family tradition, representing the fifth medical generation. In 1866, at the age of sixteen, he matriculated as a student of the University of London, entered University College, was awarded medals in anatomy, chemistry, and midwifery, and gained the gold medal for practical chemistry and the Liston gold medal in surgery. He became a member of the Royal College of Surgeons in 1874, and gained in open competition the house-surgeoncy to his hospital (University College Hospital), where he served under Sir John Erichsen. He also taught anatomy under Prof. George Viner Ellis. No one ever trained himself more thoroughly for his profession. He is justly proud of the fact that the fortune which he now gives for the endowment of research in surgery has been gained in the zealous pursuit of his chosen profession.

Obituary.

SIR ANDREW BALFOUR, C.B., K.C.M.G.

THE death of Sir Andrew Balfour on Jan. 30 at the early age of fifty-seven years has deprived the world of one it can ill afford to lose. His remarkable knowledge of tropical medicine and hygiene, the result of years of practical experience in the field, research in the laboratory, and intensive study of the literature of the subject, had fitted him more than any other to be a leader and adviser in any movement concerned with the health of our great empire. Physically he was a powerfully built man of striking appearance, with open, clean-shaven face, searching blue eyes, and determined jaw; and these attributes, combined with a remarkable personality embodying unbounded energy, enthusiastic devotion to duty, absolute honesty of purpose, and an irresistible appeal, brought him not only to the high position he held in his profession, but also at the same time into the hearts of everyone who knew him. His solicitude for the welfare of all, both high and low, who worked with him, and the personal interest he took in the aspirations or difficulties, whether great or small, of anyone who came to consult him, endeared him to a host of friends and admirers. From his early days he threw himself with fiery zeal into all he undertook to do or say.

As first director of the Wellcome Tropical Research Laboratories in Khartoum and medical officer of health of that city, and later, sanitary adviser to the Sudan Government, Balfour placed the medical and health services of the Sudan on a sound scientific basis. Later, he established the Wellcome Bureau of Scientific Research in London, and commenced a graphic museum of tropical medicine which has developed into the Wellcome Museum of Medical Science. Finally, he directed the building and organisation of the London School of Hygiene and Tropical Medicine, a most difficult

task, which brought him to the end of his career. The Great War found him with the Medical Advisory Committee, before and after which he made various tours of inspection in tropical lands.

Outside the particular sphere of his life's work, Balfour was an omnivorous reader, but biography, travel, and adventure pleased him most. He was a life-member of the Stevenson Club in London and Edinburgh, and took an active part in its proceedings. What appears to be only a few months ago, he gave one of his characteristic lectures, which in his modesty he entitled a "Gossip about Robert Louis Stevenson". He even found time to write books himself—books of adventure in his early day, such as "Cashiered, and other War Stories", "By Stroke of Sword", "The Golden Kingdom", and later, books and articles on public health and preventive medicine. Some of his articles, such as those collected in book form as "War Against Tropical Disease", were of a semi-popular nature and appealed to a wide public.

Balfour was an inspiring lecturer. He never failed to hold an audience by the charm of his language, the graphic pictures he would draw of what he had seen in his travels abroad, his earnest condemnation of what was bad and praise of what was good, and the sudden outbursts of wit and humour. To prepare his lectures he took endless trouble, which was often not apparent to those who listened to the easy flow of speech, always tinged with an accent indicative of his Scottish descent, of which he was supremely proud. In conversation, with his remarkable knowledge of many subjects, he had no equal, and, when in the mood, would recount his experiences or tell stories in a manner to fascinate his listeners for hours.

No account of his life would be complete without a reference to his passion for Rugby football. A former Scottish international, he remained

throughout an enthusiastic supporter of the game which gave him his most inspiring relaxation. He championed the Scottish teams in all their contests, which he frequently attended, and at the time of his death was president of the Scottish Rugby Union. He loved to ride a horse, a form of exercise too seldom available: while shooting and fishing found their place in his general keenness for sport when opportunity occurred. His was a life crowded to the full. He did not know how to spare himself, though at times he felt the burdens which his devotion to tropical medicine and hygiene and his good nature prevented him from refusing. No wonder that a few days before his death he wrote to a friend: "My own life has been such a rush"

Andrew Balfour, or simply Andrew, as he was to many of his friends, was born in Edinburgh on Mar. 21, 1873. His father was a practitioner who brought up his family strictly according to the old Scottish tradition, and sowed the seeds of character which remained ever rooted in his son. That such upbringing was not unnecessary to curb the spirit of adventure in the young is well illustrated by the behaviour at family prayers, where one or other, during the father's pleadings, would, at the risk of severest chastisement, make a silent circuit of the room from chair to chair. From George Watson's College, Andrew passed to the University of Edinburgh, where he graduated M.B., C.M., in 1894. For a short time he joined his father in medical practice, but, as he said himself, this was not his "line of country". Accordingly he went to Cambridge in the following year with the intention of devoting himself to public health. He took his D.P.H. in 1897, and in 1898 his M.D. with a gold medal at Edinburgh with a thesis on the pollution of water by toxic dye-stuffs. Finally, in 1900 he obtained the B.Sc. in public health. During the South African War, 1900-1901, he served as civil surgeon, gaining the medal with three clasps. A severe attack of typhoid fever brought him back to England more firmly convinced than ever that public health was to be his life's work.

The establishment by Mr. Henry S. Wellcome in 1902 of the Tropical Research Laboratories at Khartoum and Balfour's appointment as director gave him his first great opportunity. Not content with developing the laboratories, which would have been sufficient for a less energetic man, he undertook also the work of medical officer of health, and in a few years converted Khartoum, a former death-trap, into a healthy city. At the same time, from his laboratories at the Gordon College, he showed not only those around him but also the whole of Africa, and, indeed, the whole world, through his well-known reports, what organised research could do to improve the health of the tropics. His sanitary rounds were made on horseback in the early morning, while the rest of the day was spent at research in the laboratories, and this routine continued in spite of the terrible heat and periodic sand storms which smothered all in dust. As a correspondent, closely associated with him in his Sudan days, wrote: "All this he

accomplished in virtue of his combative, virile, truth-loving, honest personality". Occasional trips up the Nile and its tributaries gave him opportunities for observation on the diseases of the native tribes and their domestic animals. This convinced him of the utility of a floating laboratory which could take the facilities of modern research into the heart of the country, and again through the munificence of Mr. Wellcome such a laboratory came into being. It was ever Balfour's hope that similar floating laboratories would be established on other great tropical rivers of the world. On one occasion his research laboratories were almost completely destroyed by fire, during which he displayed the greatest daring in saving his records from the flames.

In research, Balfour devoted himself chiefly to the blood and its parasites, describing a number of new forms. The greater part of his time during several years was spent in investigating spirochætosis of fowls, and he became a convinced adherent to the view that spirochætes have a granular stage in their life-history. He spent many hours studying these organisms by dark field illumination, and actually saw, or thought he saw granules thrown off "like drops of water from a dog's tail". One of his best papers was on fallacies and puzzles in blood examination.

In 1913, leaving behind many who had learned to respect and love him, Balfour came to London to establish the Wellcome Bureau of Scientific Research. Here he exhibited the same qualities which brought him fame in the Sudan. The laboratories soon became recognised as one of the centres of medical research in London and—with Balfour, with his world-wide reputation, as their head—as a bureau of information where all and sundry were sure of a welcome and of obtaining the latest views and facts regarding diseases and health problems in the tropics. In the year of the foundation of the Bureau he extended his experience by a tour of the northern States of South America and the West Indies.

The outbreak of the Great War made him restless to be doing something for his country, and to prepare himself for any emergency he entered into training with the Old Boys' Corps. In 1915 he was in France, and later in the same year, with the rank of Lieutenant-Colonel, a member of the Medical Advisory Committee in the Near East. In 1916, as president, he went with the Committee to India and Mesopotamia. During a few months' leave in England in 1917, which might well have been spent in rest, having realised from personal experience the want of a concise account of tropical diseases for medical officers, he undertook the task of writing for the War Office a small book entitled "Memoranda on Medical Diseases in Tropical and Sub-Tropical War Areas". He was able to see the book through a second and third edition, and its success is proved by the recent appearance of the fifth edition. The value of this book to medical officers in the War, most of them untrained in tropical medicine, cannot be over-estimated.

In 1917 Balfour was appointed adviser to the

Inspecting Surgeon-General, East Africa. In 1918 he arrived in Egypt to undertake the presidency of a Public Health Commission to reorganise the public health service of that country. Later in the same year, at General Allenby's request, he visited Palestine to report on the anti-malaria measures adopted there.

In 1919 Balfour was again established at the Wellcome Bureau of Scientific Research, picking up the threads of work which had been interrupted by his war service. Though settled in London from 1919, he was not at rest for long, for in 1921, at the request of the Colonial Office, he visited Mauritius and in 1923 Bermuda to advise on the health conditions in those islands. On his return he took up the directorship of the London School of Hygiene and Tropical Medicine, and threw himself with his accustomed energy into every detail of construction and organisation of this great enterprise. For seven years, broken only by short visits to the Sudan, Warsaw, and the United States and all too short holidays, he laboured unceasingly to make his School justify by its teaching and research the generosity of the Rockefeller Foundation, which had made its building possible.

Balfour was a member of numerous committees, and from 1925 until 1927 was president of the Royal Society of Tropical Medicine and Hygiene, delivering as his presidential address an inspiring lecture on "Some British and American Pioneers of Tropical Medicine and Hygiene", which well illustrated the amount of research involved in the preparation of one of his discourses. Writing of this lecture, a reviewer remarked that "this does something more than impart instruction. It admonishes us of one of the serious deficiencies of the ordinary medical curriculum; namely, neglect of the History of Medicine. Without a good knowledge of this history of hard work and self-sacrifice under difficulties, how shall the old spirit remain alive and the ancient traditions of our

profession be handed on unbroken?" It would seem that Andrew Balfour himself had imbibed much of the spirit of these old warriors and had carried on successfully the ancient traditions.

In the midst of his great activities, Balfour was in constant demand as a lecturer and writer, and he rarely refused a request. His knowledge of his own subject was profound, the result of a system of annotating current literature which he commenced in his Sudan days and continued to the end, though frequently this involved working far into the night. Exhausted and overworked, a nervous breakdown brought his labours to a close in 1929. Though he fought his indisposition with indomitable courage, the enforced inactivity became, as he said himself, a vicious circle which prevented his recovery.

Balfour received the C.M.G. in 1912, the C.B. in 1918, and, in recognition of the great work he had done for our overseas possessions, the K.C.M.G. in 1930. The University of Edinburgh conferred on him the honorary degrees of D.Sc. and LL.D., the latter of which was also given him by the Johns Hopkins and Rochester Universities of the United States of America. He was a fellow of the Royal College of Physicians of London and Edinburgh. He married in 1902, and leaves a widow and two sons, the elder of whom is completing his medical studies. C. M. W.

WE regret to announce the following deaths:

Prof. J. S. Dunkerly, Beyer professor of zoology in the University of Manchester, known specially for his researches on the Protozoa, on Feb. 11, aged forty-nine years.

The Hon. Sir Charles Parsons, O.M., K.C.B., F.R.S., whose name is associated particularly with the development of the steam turbine, on Feb. 12, aged seventy-seven years.

Mr. W. G. Robson, lecturer in natural philosophy in the University of St. Andrews, on Feb. 16.

News and Views.

THE British Industries Fair, 1931, was opened on Feb. 16, the London Section at Olympia and at the White City, the Birmingham Section at Castle Bromwich. This year, for the first time, the catalogues of the two sections are in the same form, each having a classified index in nine languages—English, French, Spanish, Portuguese, Italian, German, Dutch, Swedish, and Danish. This feature is an innovation in the Birmingham volume. Advance overseas editions of the catalogues were issued on New Year's Day, and were despatched to 10,000 business men and potential buyers in Europe, Africa, parts of Asia, North America, and the east coast of South America, in time for the copies to be received before the recipients departed for the Fair. The buyer from abroad can thus look first at the classified index in his own language, from which he can obtain a list of firms exhibiting the particular goods in which he is interested. If he desires further information about particular firms, the alphabetical list of exhibitors gives him a description of everything

shown by them. The Fair continues to show remarkable growth. This year both the London and Birmingham Sections have more exhibitors and cover a greater area than in 1930. Moreover, the total area of the Fair is still further increased by the holding of the cotton textile section at the White City, London, for which a separate catalogue is issued. The London catalogue, it may be noted, contains descriptions of the exhibits of about 1200 manufacturers, and the Birmingham entries bring the total of exhibitors to more than 2000.

SINCE it is a British Industries Fair, only British manufacturing firms are permitted to exhibit, and no exhibitor may exhibit articles other than those of his own manufacture. The Fair, it may be remembered, is organised by the Department of Overseas Trade and has been held annually since 1915 with the object of attracting important oversea buyers and bringing them into touch with the British producer. The Birmingham section was established in 1920 as the