

An exhibition of Army telephone instruments showed the evolution from the early sets to the latest efficient light-weight telephone set which is carried in a small webbing-pouch by the lineman.

### Equipment and Component Testing

S.R.D.E. has a very well-equipped laboratory for testing component parts and complete sets. Every imaginable climatic test can be applied—heavy and tropical rain, sand-storms, low temperatures and pressures, even tropical storage, which includes typical fungi and mould growths. The rigours which Army sets must withstand were also demonstrated by vibration, bumping and dropping tests. Microscopy and X-ray examinations are used to assist in locating faults.

The G.O.C. Southern Command provided a display of R.E.M.E. mobile workshops. These are lorry vehicles provided with work-benches, test equipment and repair facilities ingeniously arranged to make the most of the limited space. By means of these workshops, Army signals equipment is maintained and kept in good repair in the field. R.E.M.E. personnel were shown at work repairing radio and line sets.

<sup>1</sup> Bloch, F., *Phys. Rev.*, **70**, 460 (1946).

## OBITUARIES

### Prof. F. Weidenreich

THE distinguished anatomist Dr. Frank Weidenreich died after a short illness in New York on July 11, 1948, at the age of seventy-five. Although he was known to the present generation primarily for his work in the field of human palaeontology, he had in the early part of his career gained a considerable reputation as a histologist. After taking his doctorate of medicine in the University of Strassburg in 1899, he joined the staff of the department of anatomy and studied under Prof. Schwalbe, and in 1904 he was appointed professor of anatomy. His interests at that time were concentrated on the blood-forming tissues of the body and he contributed a series of papers on the histology of the spleen and the blood-lymph system. Some of these papers, it is interesting to note, are still quoted as standard references.

At the end of the First World War, Weidenreich was compelled to vacate his position at Strassburg, and in 1921 he was appointed to the chair of anatomy at the University of Heidelberg. From that date he seems to have transferred his attention to problems of physical anthropology, mainly, it would appear, as the result of studies which he made on the structure of bone in relation to function. In 1921, he published an extensive monograph on the comparative anatomy and evolution of the human foot, and in 1926 he entered the field of human palaeontology by a comprehensive study of the famous Ehringsdorf skull.

In 1928, Weidenreich was elected to the chair of anthropology at Frankfurt. This he held until 1935, when the difficulties of the political situation in Germany became too great. It was then that Weidenreich was invited to take the chair of anatomy at Peking Union Medical College, recently vacant by the death of Dr. Davidson Black. This appointment was combined with the directorship of the Cænozoic Research Laboratory of the Geological Survey of China. Dr. Weidenreich's energetic studies

of the skeletal remains of the early type of fossil man, *Sinanthropus*, excavated at Choukoutien, are too well known to need recapitulation here. He produced a series of magnificent monographs, richly and profusely illustrated, which proved of the greatest value to anthropologists everywhere. Their value has now been even more enhanced by the fact that almost all the original material on which these monographs were based—material of supreme importance to the student of human evolution—was lost during the Japanese invasion of China.

Dr. Weidenreich himself was forced to leave China in 1941 in order to escape the invasion. He made his way to the United States, and was there offered hospitality in the American Museum of Natural History. Here he continued his researches, and published a number of articles in which he strove to integrate the results of his earlier studies in a constructive account of what to him appeared to be the probable sequence of human evolution. Shortly before his last illness, Dr. Weidenreich was engaged on an intensive study of the Solo skulls discovered in Java a few years before the War, and brought to America after the cessation of hostilities by Dr. von Koenigswald. This study was still unfinished, but it was rapidly approaching completion—sufficiently so, it is to be hoped, to make possible its publication in some form.

Weidenreich's life was one of intense and continuous intellectual activity, the more remarkable since his work was so often interrupted by the disruptive effects of wars and political dislocations. But he had an indomitable spirit, and his long series of scientific publications bears witness to the energy with which he pursued his intellectual inquiries, regardless of obstacles which would certainly have frustrated a lesser man. W. E. LE GROS CLARK

### Dr. J. W. S. Macfie

By the death of Dr. J. W. S. Macfie at the age of sixty-nine, tropical medical research has lost a worker of outstanding ability and high character. He was educated at Oundle School and at the Universities of Cambridge and Edinburgh, taking the degrees of B.Sc. and M.B., Ch.B. (1906), and later the D.Sc. After residence at the Radcliffe Infirmary, Oxford, and work in physiology under Sir Charles Sherrington, he took the diploma of the Liverpool School of Tropical Medicine in 1910 and joined the West African Medical Staff. He investigated sleeping sickness in Nigeria and took charge of the Medical Research Institute there. In 1914 he became successively pathologist in charge and director of the medical laboratory at Accra, Gold Coast, and held this post until his retirement in 1923, with an interval from 1917 to 1919, when he worked in Liverpool with Prof. Warrington Yorke and others on malaria. Shortly before his retirement he designed the plan of the present Medical Research Institute at Accra. He afterwards studied in Liverpool and London, accompanied Dr. Melly with the British Red Cross to Abyssinia in 1935, and during the Second World War had war duties in London and went to Egypt, Palestine and Syria as malariologist in the R.A.M.C. He was awarded the Mary Kingsley Medal by the Liverpool School of Tropical Medicine.

Macfie was a keen investigator with original ideas and a critical mind; his laboratory technique was of a high standard, and his experiments seldom needed repeating. His researches in tropical medicine

included protozoology (trypanosomes, malaria parasites, amœbæ), helminthology (schistosomes, filariæ, hookworms, guineaworm), entomology (mosquitoes, Ceratopogonine midges and other arthropods), and fungi ('*Nocardia*' or *Discomyces*). His articles and annual reports were written in a clear and attractive style, at times with a whimsical touch, and illustrated with excellent photographs taken by himself; an examination of paper money in Accra, for example, was recorded under "Filthy Lucre". He was much in favour of closer association between research workers in the Colonies and those in Britain, and even thought that a tour of duty might well be shortened by a month to be spent in one of the home laboratories.

It was my privilege to work with Macfie and his friend and colleague, the late Dr. Alexander Ingram, at the Accra laboratory nearly thirty years ago, and I then formed a very high opinion of his personal qualities. He was devoted to research, while not neglecting routine, and his outlook was quite uncommercial and free from self-interest. Though rather shy and reserved, he would firmly resist any moves which he thought would impair the efficiency of his department. The Gold Coast Government once offered him £500 in recognition of his work; but he declined it, saying that the laboratory work was done by the whole staff, and suggested that the money be given to assist further research. His health was never good and he could not stand a long tour of residence; but every day was filled with work and he grudged the loss of time when, as sometimes happened, interruptions were too frequent. He entered little into the general social life at Accra, but liked to entertain a few friends; as he was an excellent host and good companion, such occasions were very enjoyable. He took a great interest in original work by junior men, and would write helpful and encouraging letters to those working alone in out-stations. He was kind and sympathetic to his servants and staff and was liked and respected by them as, indeed, he was by all who knew him. His "Ethiopian Diary" is characteristic of the man. J. F. CORSON

#### Mr. G. H. Gabb

GEORGE HUGH GABB, who loved to style himself the 'Father of the Scientific Antiquaries', died on August 11, aged eighty years. He was educated at Bishops Hatfield School and later studied chemistry at the Polytechnic. He was for some time analyst to Welford and Son, and in 1892, in conjunction with Dr. Faber, he invented and put on the market the first type of humanized milk. Later he set up as a consultant on his own account. He retained an interest in public health, and, during a part of the period when he was a councillor of St. Pancras, was chairman of the Public Health Committee.

In 1885, Gabb became interested in the history of science and began to acquire his remarkable collection of scientific antiquities. He was at once a fine craftsman and a connoisseur. He had great understanding and sympathy with the instrument-makers and studied their crafts, thus becoming a master-hand at the treatment and conservative restoration of masterpieces. His understanding of the quality of early work enabled him unhesitatingly to detect forgeries and 'reconstructions'. As one of the first of collectors at a period when there was little interest in old scientific instruments, he was able to make a collection which consisted of really first-class speci-

mens in perfect condition. Among his discoveries were the astrological astrolabe of Queen Elizabeth (c. 1570), the earliest dated English theodolite (1574) and the earliest known dated telescope (1646). His collection was acquired in 1937 by Sir James Caird, who presented it to the National Maritime Museum. Gabb was also an expert in the field of scientific iconography, and discovered many unknown or lost portraits of men of science, ranging from Galileo to Dalton. He was a severe critic in such matters and discredited many portraits accepted as genuine. His interests covered a wide field. He was an enthusiastic photographer, and the last survivor of a small group of X-ray workers who were experimenting in the years 1896-97; among his long succession of exhibits at the Royal Society's conversaciones was an X-ray photograph of his hand, made in February 1896.

Gabb was a remarkable character—a very typical collector, who would stick at nothing to acquire the instruments he coveted. He was by no means blind to his own qualities in this field, and his amusing conversation was not a little marred by its egocentric character. None the less, he was a mine of information and gave to his 'antiquarian sons' treasures of technique which could have been learnt nowhere else. To the Royal Society he left £1,000 to provide for a Leeuwenhoek Lecture on some subject in the field of microbiology; to the Science Museum a number of instruments of historical interest; to the University of Oxford, for the Museum of the History of Science, a collection of drug-jars and some sixty engravings and portraits; and to the Royal Institution a number of letters and relics of Michael Faraday.

We owe a great debt to George Hugh Gabb for his preservation for posterity of so many of the fast-disappearing relics of the great men of science on whose shoulders we stand. F. SHERWOOD TAYLOR

#### Dr. J. H. Shaxby

DR. J. H. SHAXBY, who died at Cardiff on September 29, was born at Ashford, in Kent, on May 23, 1879. After his schooldays at Canterbury, he studied at Aberystwyth and then at the Royal College of Science, London, where he became a demonstrator in physics and where he lost an eye in a laboratory accident. In 1904 he joined the staff of the Physics Department at Cardiff and eventually became director of the Viriamu Jones Physical Research Laboratory. In 1924 he relinquished that post when he was appointed lecturer in special sense physiology in the Physiology Department of the School of Medicine at Cardiff, a position which he held until he retired in 1946, but without severing his connexion with the Department. Among many other activities, he was a member of the Physiology of Hearing Committee of the Medical Research Council and was chairman of a committee of the Physical Society on Defective Colour Vision.

Shaxby's scientific interests covered a wide field. An early book of "Elementary Electrical Engineering" (1907) was followed by studies in Brownian movement. Then his service as an X-rays officer in the First World War led to papers on methods for localizing foreign bodies by X-rays. After the War he returned to more purely physical problems with work on vapour pressures and the isothermals of vapours, on the properties of powders, on the diffusion of suspended particles, and on the relation between