

OBITUARIES

General Georges Perrier

GENERAL GEORGES PERRIER, veteran of the International Union of Geodesy and Geophysics, died on February 16, at the age of seventy-four; and so ended a brilliant century of geodesy, for General Perrier had followed in the footsteps of an equally distinguished father. General François Perrier (1833-88) was a contemporary and friend of Colonel Alexander Ross Clarke. It was he who, with the Spanish General Ibanez, carried the meridional arc which starts in the Shetland Islands across the Mediterranean to end in the heart of Africa. It was he also who, in 1870, organised the Service Géographique de l'armée as we know it in the two World Wars, and who became the first director-general.

Georges Perrier was born in 1872. Twenty years later he did brilliantly at the École Polytechnique, and a wide choice of career was open to him. He preferred to follow his father's lead, joined the artillery, and in 1898 obtained his heart's desire and entered the Service Géographique. His earliest survey years were devoted to work in Africa; but in 1900, acting as organising French secretary, he arranged that meeting of the old Geodetic Association known as the Conférence de Paris. From that time onwards he was prominent in international geodetic co-operation. The next six years, 1900-6, were devoted to the revision of the famous arc of Peru. The later participation of the States of South America in the Union of Geodesy and Geophysics is largely due to the reputation and the friendships Perrier made in that continent. He then acted as commissioner on the boundary between the French and Spanish zones of Morocco, and afterwards (1913) on the much disputed northern and highland boundary of Albania.

If we, in England, already knew him well by name, it was in 1915 that we began to know him personally. At that time he was serving with a brigade of artillery in the Vosges, and our excellent system of sound-ranging owed much to the advice and demonstration he gave to a visiting British mission. In 1917 he commanded the 53rd Artillery Regiment. His brilliant war record is illustrated by seven mentions in dispatches, by Belgian, Czech and Italian decorations, and by the British D.S.O., in addition to the rank of commander in the Légion d'Honneur. Back in the Service Géographique, he had the disorganised geodetic surveys of France and her colonies to re-establish. Soon afterwards General Bourgeois, who had directed the Service Géographique during the War of 1914-18, and whose whole-hearted help had meant so much to Britain, retired; and here ill-luck met General Perrier for, by the accident of seniority, he was not to inherit the command of his father's creation. Instead, he returned to the artillery, to design and command its anti-aircraft branch. His military service ended in 1934 as divisional general and inspector general, becoming Grand Officer of the Légion d'Honneur.

Meanwhile, from 1919 onwards, and close in the councils of Schuster, Picard and Lallemand, he served as general secretary to the International Association of Geodesy. Perrier, one of those happy men whose work is their hobby, was tireless both in mind and body. Already in close touch with the geodesists of the world, he rapidly enrolled them in the new Association, and indeed, to the day of his death, it was through him, rather than direct to the Union,

that they made their approach. He soon made his Association the court of geodetic appeal for all adhering nations. He started the *Bulletin Géodésique*, and the many other professional papers we owe to the Association. In 1926 he became a member of the Academy of Sciences, Paris, in 1929 professor of the Ecole Polytechnique, and in 1935 member of the Bureau des Longitudes.

The loss of his two sons, in 1919 and 1939 respectively, was a grievous blow to him. Then came four years of war and enemy occupation. Nevertheless it is due to him that the Germans were able to get little of the knowledge, which they eagerly sought in his office, about the geodetic surveys of the occupied territories; and equally due to him that, during German occupation, money from Belgium, France and Holland found its way to sustain the offices of geodesy, seismology, vulcanology, and scientific hydrology.

From the initial meetings of the new Union at Brussels in 1919, to the meeting of the executive committee at Oxford in 1945, Perrier never missed a single gathering of the Union. His firm and steadfast character, his reliability, his singleness of mind and his unceasing energy will not be forgotten. When, at last, worn out by work and privation, he laid down his arms, his last words were of his work. In it he has left an enduring name.

H. S. L. W.

Academician Alexander Baikov

ACADEMICIAN ALEXANDER BAIKOV, the eminent Russian metallurgist, died during April. His many and fruitful activities were bound up with Russian metallurgy, chemistry and metallography.

Baikov was a pupil of the great Russian chemist Mendeleev and also of Le Chatelier, and introduced into metallurgy the methods of exact research and full experimentation. He had to a high degree the power of drawing practical conclusions from his observations.

Baikov's first scientific paper was on "An Investigation of Alloys of Copper and Antimony and Phenomena of Hardening to be Observed in Them". On becoming professor in the Polytechnic in Leningrad, he devoted himself to scientific work. At that period the developing industry of Russia was experiencing an acute shortage of qualified metallurgists, and Baikov did much to organise the training of suitable men; his school became known throughout Russia. In addition, he also worked in the laboratory of the Railway Institute, where he conducted research on rails and cements.

Baikov published an excellent textbook on "General Metallurgy" in which he dealt with the chief theories of the processes involved in smelting and the inter-action of metals and slag.

Baikov combined his scientific work with a great deal of public activity. In 1910, a metallurgical society was organised of which he became the leading spirit. He became its first secretary and he frequently wrote theoretical articles on metallurgical questions for its journal. His scientific and public activities increased after the October Revolution of 1917. From its earliest days he was invited to work on the Supreme Council of National Economy.

He participated in the preparation and work of the first Congress of Russian Metallurgists, which took place in Leningrad in 1924, at which he read two papers on "The Theory and Practice of Pyritic

Smelting" and "Polymorphism of Iron and the Structure of Steel in Connexion with Röntgenographical Research". The latter paper proved of high importance in the new field of physical metallography.

As the years went by, Baikov's activities became ever more many-sided. At the request of the Baku Soviet, he investigated the causes of destruction of the concrete water-mains of the Shollarsk water supply; for many years he acted as consultant to the State Institute of Factory Planning; he edited the journal *Metallurgy* and was chairman of the Rails Committee of the Ministry of Railways. In 1927 he became consultant of the Soviet Institute of Metals. In 1932 Baikov was elected a member of the Academy

of Sciences of the U.S.S.R.; in the same year he published his "Dialectics of Metallurgical Processes" in which he gave new interpretations of these intricate processes. In 1937 he was elected deputy for Leningrad to Supreme Soviet of the U.S.S.R. During the siege of Leningrad, despite many hardships, Baikov did not interrupt his work; he gave much of his strength in defence of the city. At the recent election Leningrad once more elected him a member of the Supreme Soviet; and as the oldest member he opened its first session. The Soviet Government expressed its high appreciation of Baikov's services by awarding him on three occasions the Order of Lenin and conferring on him the title of Hero of Socialist Labour.

V. GAVRILOV

NEWS and VIEWS

History of Science in the University of London: Prof. H. Dingle

PROF. H. DINGLE, who has been appointed to the University of London chair of the history and philosophy of science, amply possesses that first qualification required in a professor of the history and philosophy of science, namely, a real working knowledge of science. This he gained first at the Plymouth School of Science, Art and Technology and later at the Imperial College, South Kensington. There, after graduation, he was inducted into spectroscopic research by Prof. Alfred Fowler, whom he succeeded in the charge of the Sub-department of Astrophysics. He has produced an important treatise on the subject and has taken part in eclipse expeditions and in the international assemblies of astronomers. Perhaps it was the intense public interest in the astronomical confirmation of Einstein's general theory of relativity, after the War of 1914-18, that first awakened in Prof. Dingle the concern with the philosophy of science that has since grown ever stronger; his writings on relativity have continued from 1922 onwards. With the aid of a Rockefeller grant, he studied astrophysics and the philosophy of science in the United States, and returned there in 1936 to give the Lowell Lectures at Boston, Mass. His works in this field include "Science and Human Experiences", "Through Science to Philosophy", "Mechanical Physics", and many shorter contributions to collective works or philosophical journals. He has engaged in active controversies with Eddington and Milne on the adequacy of pure theory as a basis for science, and he is a well-known opponent of current views on the social relations and social planning of science. As a historian of science his work mainly lies in the future; besides his gifts of literary expression, he has wit, eloquence and power as a speaker.

Biochemistry at St. Thomas's Hospital Medical School: Prof. J. N. Davidson

IN recent years the recruitment of medically trained men as senior research workers in biochemistry has become somewhat infrequent, and it cannot be to the advantage of the general development of the subject that such a tendency should continue indefinitely. For this reason among others the recently announced appointment of Dr. J. N. David-

son to the chair of biochemistry at St. Thomas's Hospital Medical School is much to be welcomed. Dr. Davidson was trained first in chemistry and later in medicine, in both of which subjects he had a distinguished academic career at Edinburgh. He completed his scientific education by a year spent in the laboratory of Otto Warburg in Berlin. It was probably the latter experience which aroused Dr. Davidson's interest in enzymes and in cellular biochemistry; he has continued to work at both these subjects, and to the latter in particular he has made significant contributions. His histochemical investigations, carried out with Dr. C. Waymouth, of the role of nucleic acids in cell-growth and metabolism have added much to knowledge of this most fundamental branch of biochemistry. This work Dr. Davidson has done for the most part while holding lectureships in biochemistry, first at Dundee and later at Aberdeen; after a short interval at the National Institute for Medical Research, he now returns to a teaching post and to one which will give him a larger opportunity. From a man with his background and scientific achievement, we may confidently expect the development of a vigorous school of biochemical research.

Godman-Salvin Gold Medal of the British Ornithologists' Union: Award to Mr. P. R. Lowe, O.B.E.

THE British Ornithologists' Union has conferred the highest honour in its gift, the Godman-Salvin Gold Medal, to Mr. Percy R. Lowe for his researches in bird anatomy and his work for the preservation of birds. The Medal was instituted in 1919 as a memorial to two great ornithologists and original members of the Union, F. du Cane Godman and Osbert Salvin, to be awarded for outstanding work in ornithology by a member of the Union. Mr. Lowe's work on the anatomy of birds is generally admitted to be of the highest order, and though some may not have agreed with his conclusions, this has in no way diminished their regard for him as an outstanding anatomist. His studies in anatomy were commenced on his favourite group, the Charadriiformes, and he has contributed much towards the classification of these birds and their relation to each other as well as to other families and groups. His work on the ostriches and penguins was no less fruitful, and though his paper on the anatomy of the steamer duck evoked criticism from some American zoologists, this did not