

into the dry valleys and lake basins of the Kalahari and the climate of the interior of South Africa materially improved. The scheme has been set aside as too costly; but Schwarz was probably correct in his views that the Kalahari has suffered by the capture by the Zambezi of some of its rivers and that some of the water could be restored to the ancient channels. He, however, probably exaggerated the effects that would follow from this expensive undertaking.

Prof. Schwarz's book on the Kalahari and its natives, published in 1928, recorded his observations during a canoe voyage across that country when wet seasons had refilled its lakes and rivers and thereby thrown doubt on his theory of the progressive desiccation of South Africa. He also described the natives of the Kalahari, and advanced views which, as usual, were of daring unconventionality. His interest in irrigation projects led to his study of the river system of Africa as a whole, and it was probably in connexion with its problems that he was visiting St. Louis in Senegal, where he died on Dec. 19.

Schwarz's conclusions were often highly speculative, and his great scheme for the irrigation of the Kalahari has been rejected as impracticable; but he has left many contributions of permanent value to the geology of Cape Colony, and his death will be widely regretted owing to his gifts of friendship and the stimulating originality of his views.

J. W. G.

#### DR. W. G. SMITH.

SCIENCE has lost a distinguished agricultural botanist in the death of Dr. W. G. Smith, who died in Edinburgh on Dec. 8, 1928. Dr. Smith was born in Dundee on Mar. 20, 1866. He graduated in pure science in the University of St. Andrews, and after a short period of teaching in the Morgan Academy, Dundee, became a lecturer in agriculture under the Forfarshire County Council. Later he acted as a demonstrator in botany in the University of Edinburgh under the late Sir Isaac Bayley Balfour. Proceeding to Munich, he took a two years' course of study, gaining there in 1894 his doctorate of philosophy for a thesis entitled "Untersuchung der Morphologie und Anatomie der durch Exoasceen verursachten Spross- und Blatt-Deformationen." This thesis was afterwards translated into Italian. Another result of his sojourn in Munich was his translation of von Tubeuf's standard work on the "Diseases of Plants by Cryptogamic Parasites," which appeared in 1897. On his return from Germany, Dr. Smith became lecturer in botany in the University of Leeds, where he remained for eleven years. In 1908 he was appointed chief of the biology department of the Edinburgh and East of Scotland College of Agriculture. For the last twenty years the College was his headquarters. Recently, under the scheme for the development of research work in agricultural problems, Dr. Smith was appointed advisory officer in agricultural botany to the Board of Agriculture for Scotland.

Three fields in botany attracted Dr. Smith's particular interest, and in each of these he was acknowledged an expert. His earlier training under von Tubeuf gave him a keen interest in researches on the diseases of plants, especially those of concern to agriculture and horticulture. Along with his brother, Robert Smith, who died young, he instituted the first detailed botanical surveys in Britain. Numerous papers dealing with ecological botany appeared from his pen. Amongst these were botanical surveys of Forfar and Fife and of various areas in Yorkshire and Teesdale. He was always in close touch with Warming and other distinguished Continental ecologists. The third field in which Dr. Smith distinguished himself was the study of grassland, especially of hill pastures, including the utilisation of heathland and the eradication of bracken.

These three phases of his work were combined into one harmonious whole, and no one was better fitted from his experience and patient research to act as advisory officer on matters concerning agricultural botany. Throughout most of his career he was engaged in the instruction of students, by whom he was held in the highest regard. Teaching duties, onerous as they were, did not hinder him from pursuing a continuous series of investigations, and the record of his published papers extends from 1894 until 1928.

In 1903, Dr. Smith received the award of the Back Grant by the Royal Geographical Society for research in the geographical distribution of vegetation in England. It is of interest to record that of his four children, two pairs of twins (boy and girl), three have had distinguished university careers, each taking first-class honours, while one is still an undergraduate. The elder son is professor of botany in Grahamstown University, South Africa.

#### WE regret to announce the following deaths:

Mr. R. H. Cabbage, C.B.E., president of the Australian Association for the Advancement of Science and of the Australian National Research Council, and a past president of the Royal Society of New South Wales, on Nov. 28, aged sixty-nine years.

Prof. H. B. Fine, professor of mathematics and dean of the departments of science at Princeton University, distinguished for his work in pure mathematics, on Dec. 21, aged seventy years.

Mr. W. T. Gauss, a grandson of the illustrious German mathematician, Carl Friedrich Gauss, and through his mother a nephew of the noted German astronomer, Friedrich Wilhelm Bessel, on Nov. 14, aged seventy-seven years.

Major-General Sir Gerard Heath, a former chairman of the Building Research Board of the Department of Scientific and Industrial Research, on Jan. 9, aged sixty-five years.

Prof. M. J. M. Hill, F.R.S., emeritus professor of mathematics in the University of London and president of the Mathematical Association, on Jan. 11, aged seventy-two years.

Dr. Alexander A. Maximow, professor of anatomy in the University of Chicago and formerly professor of histology and embryology in the Russian Imperial Military Academy of Medicine, on Dec. 3, aged fifty-four years.