

theme is the inquiry how far the form and structure of living things can be interpreted in terms of the physical forces acting within the life-time of the individual organism. It appeared at a time when increasing attention was being paid to this 'causal morphology' as distinguished from the 'historical morphology' which was the almost exclusive study of the period that preceded it. Sir D'Arcy was much too wise and experienced a naturalist to imagine that such an interpretation would take us all the way, but some of his followers were less cautious. In his second, much enlarged, edition, published in 1942, he has to add a warning; in the end, he says, "the twofold problem of accumulated inheritance, and of perfect structural adaptation, confronts us once again and passes all our understanding".

A striking testimony to the influence of this book on a younger generation of biologists is given by the volume of "Essays on Growth and Form presented to D'Arcy Wentworth Thompson", edited by Prof. W. E. Le Gros Clark and Prof. P. B. Medawar, published by the Clarendon Press in 1945.

This is not the place, even if I had the knowledge necessary, to assess the value of Sir D'Arcy's studies on the natural history of the ancient world. His "Glossary of Greek Birds" appeared in 1895, and a second edition in 1942; his translation of Aristotle's "Historia Animalium" was published in 1910 and his "Glossary of Greek Fishes" in 1945; the repute of these and his numerous shorter papers on classical subjects may be gathered from the fact that he was president of the Classical Association in 1929 and of the Scottish Classical Association in 1935. The list of his honorary degrees, honorary memberships, lectureships, medals and so forth is far too lengthy to be given here, ranging, as it does, from Aberdeen to Johannesburg and from Boston to Delhi. He was elected to the Royal Society in 1916, was a vice-president during 1931-33, and awarded the Darwin Medal in 1946. He was president of the Royal Society of Edinburgh during 1934-39. He flew to India at the end of 1946 as one of the four delegates sent by the Royal Society to the meeting of the Indian Science Congress in Delhi; but the strain of the journey was too much for his years and he never completely recovered his health. He was knighted in 1937.

Sir D'Arcy was a man of very striking presence with a resonant and beautifully modulated voice which made his lectures and addresses a pleasure to listen to.

Lady Thompson and her three daughters are assured of the sympathy of his innumerable pupils and friends in all quarters of the globe.

W. T. CALMAN

SIR D'ARCY THOMPSON was not the only man of science in his generation who 'kept up his classics' and pursued them in connexion with his professional work. Other biologists were Sir Edward Poulton and Dr. F. A. Dixey. But Sir D'Arcy's studies were on an ampler scale. Both his "Glossary of Greek Birds", published forty years ago and recently in a well-groomed second edition, and his "Glossary of Greek Fishes", reviewed in these columns only a few months since, are the classical books of reference in their subject, and illustrate his wide range of literary scholarship as well as his tireless industry. They are supported by a rich flow of smaller articles and notes covering a wider field, and by invaluable services as a member of the staff of the revised "Liddell and

Scott". Two examples will illustrate his range and versatility. He was the first to make geometrical sense of Herodotus' description of the Great Pyramid, and to show how its form was related to the processes of its construction. And his knowledge was at his instant disposal. I referred to him some years ago, at the request of a distinguished surgeon, the Homeric description of the death-struggle of Nestor's chariot horse, struck through the forehead by an arrow. The reply came by return of post—"written in the laboratory": the arrow had grazed the cerebellum, and the convulsive movements of the limbs, causing the horse to roll over and over, were precisely what were to be expected. He had seen the same death-struggle in a rabbit, and dissected out the fatal pellet from an identical wound.

On the low shore of Lake Superior, the train nearly left behind three of the party, plucking wild raspberries. My snapshot bears the legend, "Berries and beavers".

JOHN L. MYRES

Prof. B. E. Livingston

WITH the passing of Burton Edward Livingston early this year, plant physiology in the United States has lost a distinguished figure. Himself an indefatigable investigator, he devoted much time and energy to the stimulation of scientific research and the promotion of co-operation and intercourse among his fellow men of science. From 1920 onwards he was a member of the executive of the American Association for the Advancement of Science, for fourteen years as secretary, and became its chairman in 1941. He served on the National Research Council. Among many other activities he took a prominent part in the foundation, in 1924, of the American Society of Plant Physiologists; he was elected one of its first vice-presidents and was the first to be elected life member under the Charles Reid Barnes Foundation. The esteem in which the Society held him as an investigator was very appropriately indicated when in 1946 it conferred on him the Stephen Hales Award, since his chosen field was the quantitative study of the water relations of plants, in which Stephen Hales was the pioneer.

Livingston's interest in this aspect of plant physiology was established at the very beginning of his career. Having graduated at Michigan in 1898, he went to Chicago as fellow and assistant in plant physiology. Five years later, at the age of twenty-eight, he published his book on "The Role of Diffusion and Osmotic Pressure in Plants". A visit in the summer of 1904 to the recently established Desert Laboratory of the Carnegie Institution at Tucson, Arizona, provided the material for his "Relation of Desert Plants to Soil Moisture and to Evaporation" (1906), in which the scheme of his later work was foreshadowed. A short period with the U.S. Bureau of Soils and three years at Tucson preceded his appointment in 1909 to the chair of plant physiology at the Johns Hopkins University, which he occupied until his retirement in 1940.

Livingston's contributions were marked by comprehensive grasp and clarity of analysis. He emphasized from the first the dynamic aspect of the relations between plants and their environment. His approach was primarily that of a physiological ecologist: the influence of Schimper is evident in his early work. He was impressed by the complexity of the environment and the interaction of factors in their influence upon the plant. He held the separate measurement of