

La Disputa Leibniz-Newton sull'Analisi

(Enciclopedia di Autori Classici, 2.) Pp. 239. (Torino: Editore Paolo Boringhieri, 1958.) 1,200 lire.

THIS valuable little book contains the principal documents in the Newton-Leibniz controversy over the invention of the infinitesimal calculus, translated into Italian and briefly annotated by Dr. G. Cantelli. Of these, the most important is the long review (generally held to be by Newton himself) from the *Philosophical Transactions* of 1715, which sums up carefully, but decisively, in the author's favour. To present-day readers, however, the most interesting things in it are the incidentals. Thus Newton claims that his method of fluxions is more rigorous than Leibniz's theory of differentials, since "we can form no idea of infinitely small quantities". Again, Newton admits that the majority of the results in the "Principia" were obtained by his new analysis and only afterwards clothed in geometrical form. Finally, he goes beyond the limits of the controversy to attack his rival's natural philosophy. Between Newton and Leibniz lies "an enormous difference": the first proceeds only so far as experimental evidence leads and then stops, while the second is a slave to hypotheses which he blindly believes as eternal truths.

On the other side of the dispute Leibniz, from modest beginnings and courteous exchanges, gradually raises the stakes as his honesty and good faith are increasingly questioned by Newton's friends. Expressions of admiration for Newton's genius give place to complaints and accusations; the claim to independent discovery becomes an assertion of priority. Then his supporter, John Bernoulli, plays his trump card: if Newton had in fact discovered the calculus earlier, why did he not use it in the "Principia", which offered so many opportunities for its application? Instead, there is not a trace of analysis in the whole work. . . .

What are the rights and wrongs of the quarrel? The editor confesses that he is at a loss to say. It would be safer to maintain, with Wallis, a neutral position and ascribe the invention of the calculus to neither party but to the pioneers, above all to Cavalieri and Newton's own teacher Barrow.

L. ROTH

Systematic and Experimental Studies on Protozoal Blood Parasites of Egyptian Birds

By Dr. A. H. Helmy Mohammed. Vol. 1: Pp. xi+166 (plates 1-6). Vol. 2: Pp. ii+167-298 (plates 7-13). (Cairo: Cairo University Press, 1958.) n.p.

THE book is the outcome of a survey, for protozoal parasites, of birds collected, near Cairo, over two complementary halves of two years, during which time some 885 birds were examined. It is, then, a report on the personal research of the author and serves, not as a general text-book but as a useful reference book for the limited few working in similar fields. Of necessity it varies in the accuracy of the incidence figures according to the methods of examination and to the numbers of a host species examined, and, in common with other works of this kind, does not claim to be complete.

The first section is devoted to speculations on the meaning of the figures for incidence listed early in the report; some are based on evidence too scanty to be of any practical importance; others, for example the use of evidence on distribution of the parasites to hint at the identities of their vectors, may be used

profitably by future workers. This is followed by three sections dealing in turn with the species of Piroplasms, *Plasmodium* and *Haemoproteus*, found in the survey, together with reviews of the systematic problems surrounding these parasites. Dr. Mohammed includes sufficient information to clarify the problems in hand without attempting general reviews. The last section is an account of the development of *Haemoproteus columbae* in the pigeon fly, *Pseudolynchia canariensis*, a confirmation and extension of the work of H. Adie in 1915.

ELIZABETH U. CANNING

A Guide to Field Biology

By John Sankey. Pp. xvi+166. (London and New York: Longmans, Green and Co., Ltd., 1958.) 12s. 6d. net.

IT is particularly appropriate that the author of this admirable little book should be a warden at one of the centres of the Field Studies Council, which has played a notable and pioneer part in encouraging field biology in secondary schools in Britain. As might be expected of one with ten years experience in this type of teaching, Mr. Sankey's account is lively and practical in outlook. Ecology is a subject which is not easy to teach or to write about. The simple and straightforward approach adopted in this book should go far towards dispelling any doubts, still often voiced in educational circles, that field-work is too complex to be undertaken profitably without elaborate apparatus and a disproportionate expenditure of time. Guidance is given on how to study particular kinds of plant and animal habitats and there are useful sections dealing with such aspects as the planning of projects, also methods of collecting and identification.

W. H. DOWDESWELL

Venture to the Arctic

Edited by R. A. Hamilton. (Pelican Book No. A432.) Pp. 283+32 plates. (Harmondsworth, Middx.: Penguin Books, Ltd., 1958.) 5s.

THIS book performs a new and very welcome function in the sphere of expedition literature. It tells, in terms of popular science, the story of the British North Greenland Expedition of 1952-54. The main narrative of any expedition, normally written by the leader, cannot find room for more than a few pages on this, and anyway, is almost always written before the results are known; and the results themselves are both too technical and scattered over a wide range of journals. This book is directed to the 'man in the street', who is entitled to hear about what he has helped to pay for. He will find it of fascinating interest, and his idea of what a modern scientific expedition accomplishes will probably be considerably extended. But although it is designed for the non-specialist, the contributors have rightly understood that popularization implies simplification of language rather than of ideas, so that the specialist will also gain from reading it. R. A. Hamilton, as chief scientist, fills in the background of planning and organization, and contributes his own meteorological results, besides editing the whole. F. R. Brooke describes the survey, C. B. Bull the seismic sounding and gravity work, J. P. Masterton and H. E. Lewis the medical and physiological aspects, H. Lister the glaciology, J. D. Peacock the geology and P. J. Wyllie the geomorphology. It is much to be hoped that other expeditions will follow this lead. They could have no better example before them.

T. E. ARMSTRONG