HEBRIDEAN LAMENT FOR A CHANGING WORLD

Afoot in the Hebrides

By Seton Gordon. Pp. 322 (65 plates). (London: Country Life, Ltd., 1950.) 30s. net.

SETON GORDON is by far the best known of writers on natural history, landscape and folklore of the Scottish Highlands and Islands, and his fund of knowledge of this paradoxical corner of the earth seems inexhaustible. Here is a well-illustrated book devoted to the Hebrides and dealing particularly with legend, archaeology, verifiable history and local anecdote, written in the author's unhurried style without plan or system. There is a great deal of valuable record in this book, though any one fact would take a lot of finding, despite the index. One does not grumble at this in a writer who has always gone his own way, and by whom we would always prefer to be entertained rather than be instructed.

Because he is unique, we can bear that Seton Gordon should wear the rose-coloured spectacles, though he has had his imitators, who happily do not last. It is amazing that he can wander still enchanted through this haunting and haunted land which is one of the most devastated areas of Europe. One can read here incidentally of the burning of the forest on Raasay in the course of a Viking raid, but not of the immense ecological impact of forest destruction in the Highlands and Islands through a thousand years. The Vikings began it, political feuds and iron-smelting continued it, the eighteenth century accelerated it, and the two World Wars of our own time finished it. The "coming of the sheep" in the eighteenth century prevented the regeneration of forest, and the widening cattle/sheep ratio set in train a deterioration of the habitat which is to-day the root cause of the Highland problem and the basis of some of Seton Gordon's beautiful laments. Let us enjoy this book unreservedly, putting it by the bedside and remembering the beauty of Nature and of human nature which the Hebrides reveal; but when we rise in the cold light of the morning we should not forget the terrible scourge of sheep and rabbit, and the loss of cover and absorbent mould which could deal with a hundred inches of rainfall. A moor of *Scirpus* sedge in the dusk of an October day is indeed lovely: it is then the deer's hair grass, an auburn pelage; but the ecologist who has delved deep enough sees it as a degraded biotic climax brought about by continuing misuse.

The book is full of information of one sort and another of the ways in which a people meet the challenge of a difficult environment; for example, a Soay man going home lights a fire across the sound at Elgol in Skye—in the words of the country, "puts up a smoke"—so that a boat shall put across for him. But this is not all; he makes the fire on the knoll traditionally used by his family, and the right boat puts out. The telephone could do little better and the smoke is cheaper. At the other extreme, nobody could be more air-minded than the Hebridean, and the air ambulance is the accepted means of evacuating the desperately ill.

There is also described that important social habit and conservation measure of going to the shieling. It persists in Barvas, Lewis. The younger folk go to the moors in May or June with the livestock, and the older people remain at the crofts to tend the crops until harvest. Thus the herbage around the

townships gets some respite, and the higher grazings are used. The young population at the shielings enjoyed a freedom impossible in the presence of the old, for nowhere is the commandment to honour father and mother more scrupulously kept. The demands of education cut across the desirable continuance of the shieling life, just as other exigencies of modern life render uneconomic those forms of cultivation in this countryside which helped in its conservation. F. FRASER DARLING

MICROSCOPY

Die Grundlagen der Theorie des Mikroskops

Von Dr. Kurt Michel. (Physik und Technik, Band 1.) Pp. xi+314. (Stuttgart: Wissenschaftliche Verlagsgesellschaft m.b.H., 1950.) 27 D. marks.

Le contraste de phase en optique et en microscopie

Par Maurice Françon. Pp. 109+6 plates. (Paris: Éditions de la Revue d'optique théorique et instrumentale, 1950.) 480 francs.

Das Polarisationsmikroskop

Eine Einführung in die mikroskopische Untersuchungsmethodik durchsichtiger kristalliner Stoffe für Mineralogen, Petrographen, Chemiker und Naturwissenschaftler im Allgemeinen. Von Prof. Conrad Burri. (Lehrbücher und Monographien aus dem Gebiete der exakten Wissenschaften, 25: Chemische Reihe, Band 5.) Pp. 308. (Basel: Verlag Birkhäuser, 1950.) 32.80 Swiss francs.

IN spite of all that has been written about the microscope, the increasing use of the instrument in numberless fields of inquiry has maintained a lively interest in its theory. The development of dark-field illumination, followed by the introduction of phase-contrast methods and the still more recent electron microscopy, have created a new demand for exposition. While the work of Helmholtz, Abbe, Rayleigh and others had laid the foundation on which a satisfactory theory could be constructed, it was only too clear that much remained to be done, and various writers such as A. E. Conrady and M. Berek have striven to lay down principles for the guidance of practical workers. It is probable that perhaps the majority of users of the instrument still have not sufficient acquaintance with the theory to attain either the best performance in operation or the best possible interpretation of the results. Therefore, any modern book purporting to deal with the theory of the microscope will be greeted with considerable interest.

Dr. Kurt Michel, who collected the material for his "Die Grundlagen der Theorie des Mikroskops" during a ten-year period with the firm of Carl Zeiss (Jena), has had excellent opportunities of contact with such masters as A. Köhler and others; and he approaches the topic mainly from the point of view of the physicist. Two-thirds of the book is taken up with a very comprehensive review of basic physical and geometrical optics, vision (including colour vision), photography and the like. The mathematics is limited to elementary algebra and trigonometry except for one or two simple integrals. Good descriptions of the construction of various types of objectives, etc., are accompanied by aberration curves and much other information rarely found in books on the microscope. The whole is illustrated by numerous very clear diagrams, some in colour.