

Finland. These papers are mainly descriptive and although containing a wealth of information are inevitably somewhat repetitive. One paper deals with the average composition of the crust in Finland and two others are explanatory notes to accompany a general geological map of that country. Outstanding in this collection is a paper on "Granites and Gneisses: their origin, relations and occurrences in the Precambrian complexes of Fennoscandia", written in 1907 and translated from the Finnish for this volume. If the other papers in this volume are classics then this is the classic classic. Here Sederholm first set out his ideas and provided virtually incontrovertible evidence that pre-existing rocks could be and were transformed into granites. Yet whilst presenting the transformationalist evidence so well, there is no doubt left in the reader's mind that Sederholm fully appreciated the existence and important part played by granite magmas.

This is not a textbook nor, in the strict sense, can it be termed a work of reference. Nevertheless, it fully warrants a place in a geological library for its historic importance and as a guide to the classic areas of Precambrian geology in south-west Finland.

I. G. GASS

GEOSCIENCE IN ICELAND

Iceland and Mid-Ocean Ridges

Edited by S. Björnsson. (Report of a Symposium held in Reykjavik, February 27 to March 8, 1967, under the sponsorship of the Geoscience Society of Iceland.) Pp. 209. (Reykjavik: Vísindafélag Íslendinga, 1967.) n.p.

ONE consequence of the recent great expansion of research in the ocean basins has been the importance assumed by mid-oceanic ridges as elements in the Earth's structure, an importance closely linked with the hypotheses of oceanic crustal spreading and continental drift. The most-studied parts of these ridges have been those to which man is at present denied direct access because of their burial beneath 1 km or more of water. It has only tardily come to be realized that land areas exist on mid-oceanic ridges where the rocks, and thermal or magnetic anomalies, can be walked over and probed with relative ease.

A start has been made to study one, probably the most accessible, of these land areas and in a symposium held by the newly-formed Geoscience Society, thirteen Icelandic geoscientists recently brought together their findings and discussed the structure of their country and the ridge of which it is a part. This publication is a report on this symposium; a progress report, so to speak, on research by Icelanders in Iceland.

As always with a symposium, much has already been published elsewhere, although in some instances the original publication was in Icelandic, and some of the articles are reviews. Of course to review the state of knowledge is an important function of a symposium, and it is probably this feature which will most appeal to readers outside Iceland.

The following topics are covered, the figures in brackets giving the approximate percentage of the whole: regional tectonic pattern and geological structure (40); volcanism, and the structure of marine volcanoes (13); chemistry and petrology (9); gravity (1); seismic crustal structure (11); earthquake distribution (4); the pattern of magnetic anomalies (12); and heat flow (10).

The report, which is a well-printed paperback, is illustrated with seventy-two text figures, including a locality map of Iceland.

I am glad to see that some hitherto unpublished material, and several new maps compiling data on structural elements (showing the location of the forty-two known active and extinct central volcanoes in Iceland, for example, and the distribution of folds and dykes), have been included. I am disappointed to see so little on the chemistry, especially as one account mentions thirty-four new analyses of basalts from the active zone but gives little intimation of what these analyses show; and the description of the volcano which contains Iceland's only calderas is represented by no more than a title and eight lines of abstract.

The fact that much work still remains to be done is not concealed, and a commendable feature of the book is the twelve-page statement and discussion of the research projects in the Iceland area which the participants of the symposium felt most need attention in the future. There is enough work here to keep all who are interested in Iceland fully occupied for decades to come.

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Biological Science

SEMINAL MOLECULES

Prostaglandins

Edited by Sune Bergström and Bengt Samuelsson. (Proceedings of the Second Nobel Symposium, Stockholm, June 1966.) Pp. 299. (New York and London: Interscience Publishers, a Division of John Wiley and Sons; Stockholm: Almqvist and Wiksell, 1967.) 175s.

THE physiological studies of Von Euler and Goldblatt in the 1930s on the remarkable smooth muscle contracting properties of human seminal fluid culminated in the isolation of a new group of naturally occurring pharmacologically active lipids, the prostaglandins. In recent years, largely from the work of Bergström, the complex chemistry of this group of substances has been clarified, and their study has gained considerable impetus. The prostaglandins are all variants on a basic twenty carbon unsaturated fatty acid structure, in which carbons 8-12 are members of a cyclopentane ring. At least thirteen different compounds of this type are found in human seminal fluid. The Nobel Symposium represents the first

comprehensive report on this rapidly developing area of biological research. The thirty-six papers in this volume describe organic chemical approaches to the synthesis and characterization of prostaglandins and related active molecules, the mechanisms involved in prostaglandin biosynthesis from essential fatty acids, and the many and varied biological activities of these compounds.

Human seminal fluid and sheep vesicular gland are the most abundant natural sources of prostaglandins, and much interest has centred, naturally, on the remarkable potency of prostaglandins in stimulating or inhibiting uterine smooth muscle. The obvious but still unproven suggestion is that the activity of the prostaglandins in seminal fluid may somehow facilitate the transfer of spermatozoa into the uterus. There is increasing evidence, however, for a much wider role of prostaglandins in biological systems. Far from being chemical curiosities related only to reproductive function, prostaglandins are now known to occur in small amounts in very many different tissues, including muscle, kidney, lung, glandular tissues and the central nervous system. Prostaglandins affect the motility of many types of smooth muscle. Their