Scientific research in Antarctica
A Discussion held on 19 and 20 May 1976
Organized by Sir Vivian Fuchs, F.R.S. and R. M. Laws

The Antarctic region south of latitude 60° S forms roughly one fifteenth of the Earth’s surface. The environments of the atmosphere, the land and the ocean are special to the area, and provide exceptional, and often extreme, conditions for studies in the life, Earth and atmospheric sciences. Since the International Geophysical Year, 1957-58, a concerted and continuous international scientific attack has been made on this least known region of the world. During the last 20 years the studies of twelve countries have become increasingly sophisticated, and it is now evident that the region has much to contribute to many disciplines.

In 1976 the Royal Society arranged a two-day Discussion Meeting, which it was hoped would bring to the notice of scientists and universities the present state of Antarctic research, and the opportunities for new work in the various sciences. The papers presented at that meeting, now published in this book, contain much to interest the biologist, glaciologist, geologist or geophysicist, for the coverage is very wide.

Most of the papers are original and, together with one or two review papers, they provide an up-to-date view of what is now being achieved. Although the majority are concerned with British work, the whole may be regarded as representative of what is being done by many nations now working in Antarctica. Since, under the terms of the Antarctic Treaty, international cooperation is the keynote, the studies are guided by the Scientific Committee for Antarctic Research. This coordination ensures that the value of each country’s contribution is enhanced, and together they contribute in a great many ways to a better global understanding of each scientific discipline. The contents include an introduction, various discussions and the following:

LIFE SCIENCES
Terrestrial ecosystems in the Antarctic
Aquatic primary production in the Antarctic
A limnological survey of the Ablation Point area, Alexander Island, Antarctica
Antarctic marine secondary production and the phenomenon of cold adaptation
Growth of a fur seal population
Seals and whales of the Southern Ocean
Conservation in the Antarctic
The place of the Antarctic in biological sciences

ATMOSPHERIC SCIENCES
Active very low frequency experiments on the magnetosphere from Siple Station, Antarctica
Very low frequency electromagnetic phenomena: “whistlers” and micropulsations
Radio wave Doppler studies of the Antarctic ionosphere
The Antarctic atmosphere as seen by satellites
Ozone measurements at British Antarctic survey stations
Comparison of magnetic observations in the Northern and Southern Hemispheres (summary only)
The importance of the Antarctic in atmospheric sciences

EARTH SCIENCES
The geology of Antarctica: a review
Cenozoic volcanism in the Antarctic
Towards a more certain reconstruction of Gondwanaland
Glaciological research in the Antarctic Peninsula
International studies of ice sheet and bedrock
Antarctica, a key to the understanding of the evolution of Gondwanaland

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