

agreement with his declaration that "we are in the happy situation of still being confronted by unsolved problems" and that future work in Iceland must provide the key to many of them.

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**KEOEET — THE STORY OF THE AURORA BOREALIS.** By W. PETRIE. A Pergamon Press Book. *Toronto: Collier-Macmillan Canada, Ltd.* 1963. 10 x 7½ inches, xii + 134 pages, 46 plates, 23 text figures. \$5.95 (in Canada).

The author, Dr. W. Petrie, can rightly be acknowledged as an expert on the subject and it is gratifying that one of his experience should attempt the rather difficult feat of telling its story in relatively simple language. In the prologue there is an inference that the book is written for children and indeed the language and the inclusion of footnotes is such that highschool students who have an interest in the northern lights they see could get a great deal out of it. On the other hand, the subject seems to me to be covered more in a way that it would give adults, with little scientific training, a picture of why the aurora is so important in understanding the atmosphere in which we live.

To scientists concerned with upper atmosphere physics, particularly over Canada, the "Aurora" and the "Ionosphere" go together as important subjects for research so that we may understand radio communication from a practical point of view and know something about the wondrous phenomenon we see in the sky; only occasionally at southern parts of our country but practically every night in higher latitudes.

Dr. Petrie has drawn together a picturesque historical approach (and there were plenty of early superstitions about the aurora), an explanation of what we know about the aurora, how it effects communications and its relation to other geophysical phenomena, such as

spots on the sun and magnetic storms. He has done this without the use of mathematics and with few relatively simple diagrams. To a physicist of his standing it would probably have been easier to write a treatise designed to impress his scientific colleagues who carry out research in the upper atmosphere. Incidentally, the book includes groups of well selected references at the end of each chapter for the reader who may have more than an amateur's interest.

It is extremely difficult to get a photograph of an aurora that is anywhere nearly as impressive as seeing the real thing. Even colour photographs are not very impressive. The book contains eight reproductions of paintings, which do far more than any photograph could do. They are very good indeed, not only in presenting the desired effect but as works of art. These were painted by Mrs. Petrie and the reproduction appears to be good.

The printing is good. The arrangement of pictures and diagrams which are too often not on the page where reference is made to them, makes reading a little awkward. This may be excused in the case of the eight reproductions of paintings as these required special paper and are mounted together, but the other plates might have been better arranged even if they had to be placed less artistically.

The last chapter on the "Cause of the Aurora and its Relatives" is rather diffuse. It would perhaps be difficult to make it otherwise because there is so much in upper atmosphere physics that is not understood. In writing scientific papers and treatises of this sort, authors naturally tend to emphasize achievements in the advancement of knowledge with little explanation of the weaknesses or the fields where knowledge is lacking or where more work is required. It is this last that is challenging to scientists. The author recognizes this in his epilogue, as anyone must whose interest and duties involve the furthering of research in upper atmosphere physics.

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