posed upon genetically diverse populations by habitats gradually approaching limiting conditions for survival, as the situation was interpreted by Fernald. Rather, the chance invasion of unoccupied habitats by the dispersal of accidentally homozygous, initially small and genetically uniform populations has given the aspect of "ancient" endemism and disjunct distribution of long-inbred vestigial types.

It must not be forgotten that newly exposed unleached glacial till at the edge of the receding ice sheet would have contained so much pulverized limestone that it would have provided a temporary habitat for calciphile species.

Anyone interested in the plant geographical problems of the glaciated region will find all the data that pertain to Gaspé admirably assembled in Scoggan's book. As a regional flora it is extremely satisfactory, for the keys will enable the local or visiting botanist to determine most collections without recourse to other books. Space limitations prevent discussion of any systematic details, but in general it appears that Scoggan has found himself botanically in agreement with the conclusions of Fernald and his associates. We are indebted to him and the National Museum of Canada for a fascinating account of an important local flora.

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Antennas. John D. Kraus. New York: McGraw-Hill, 1950. 553 pp. $8.00.

The day when the antenna for a radio receiver was just any old piece of wire has passed. The philosophy behind this has, however, taken a long time to die. It required the advent of ultra short waves to bring antenna design into true perspective, and to set the subject alongside other aspects of radio engineering as one worth studying for its own merits.

In many present-day radio applications the antenna is the most vital part of the equipment and that on which its whole accuracy depends, the transmitter and receiver being merely a source and detector of power. This is particularly true of radar applications, which have probably done more than anything else to stimulate modern interest in antenna design.

Accordingly, there has arisen a need for a textbook that deals comprehensively with the subject at a level which can be understood by a student in the final years of his university course. The present text, written by one who has by his own research added considerably to our knowledge of the subject, goes far toward meeting this need. The student using the book requires a good grounding in the fundamentals of electromagnetic theory, and some knowledge of physical optics is an advantage, but at no stage is a very advanced mathematical treatment involved.

Antennas covers all aspects of the subject, starting with the properties of point sources and simple linear elements and dealing with combinations of these to form arrays of various types. In order to do this the self and mutual impedances of the elements of the arrays are fully dealt with. Some consideration is given to the fundamental theory of the biconical and cylindrical dipole, but the complex mathematics usually associated with this subject has been omitted. This aspect might have received a fuller treatment, in view of the recent important theoretical advances in this field, but it must be admitted that most of the mathematics involved is beyond the average student.

The theory of antennas acting as sources with a continuous distribution across their aperture is also treated, and many applications to microwave antennas are discussed. It is not surprising that the helical antenna should be treated in some detail in view of the author's important contributions to this subject. One or two subjects of importance receive, however, rather scanty treatment, the most notable being the Yagi aerial, which is now widely used.

References to published work given throughout the text are most useful. These are largely confined to American research and do not include much of the work carried out in England during the war. Recent British publications, however, cover this work rather fully.

The number of textbooks on antennas is not great, and some err by being either so full of engineering details as to obscure the fundamental principles, or so full of mathematics as to leave no room for practical considerations. The author has struck a happy compromise between these viewpoints. *Antennas* can be confidently recommended as a textbook for students of radio engineering and as a reference book for those engaged in research or in engineering practice.

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Thoracic Surgery. Richard H. Sweet. Philadelphia: Saunders, 1950. 345 pp. $10.00.

This new book on the techniques of thoracic surgery has been written by one of the recognized leaders in this field in American surgery, and it adds luster to his reputation. The book is "based upon the concept that any properly qualified surgeon can acquire with relative ease a satisfactory proficiency in thoracic surgery by employing the techniques herein described." With this as a starting point Dr. Sweet has written a thoroughly inclusive volume which will lead the interested reader through a rather abbreviated section on the surgical anatomy of the thorax, general considerations of thoracic operations, and finally the techniques of specific operations for specific disorders.

The author's experience in thoracic surgery and his wide knowledge of past and present literature have