these new essays to be taken as wholly representative of current British geography, the results of the enquiry would be disheartening.

There are three general chapters—on relief; climate, vegetation and soils; and population—then 27 regional chapters. Many of the latter have a textbook sameness about them: relief (discussed at considerable length); climate, vegetation, and soils (briefly noted); agriculture; industry; towns; and communications. All this despite the editorial claim that the individual chapters have differing themes. Several chapters devote more than half their space to (and almost half the maps in the book relate to) the relief of the areas discussed. This emphasis on physiography is at once the strength and the weakness of British geography today.

The accounts of the essentially simple agricultural regions, such as that by Edwards on Lincolnshire, are adequate. Nevertheless, in the essays as a whole, there is scant evidence that detailed annual agricultural returns exist for the whole country, that there are industrial and occupational tables in the *Decennial Census* as well as detailed population figures, and that there are annual employment returns from the Ministry of Labour. Numerous claims for the distinctiveness of agriculture or industry in small areas are made, yet we have to wait till page 464 for a map of any region showing its agricultural land use in detail. In chapter 3 we learn that 80 percent of the British population lives in towns, yet detailed maps of individual cities or conurbations showing major subdivision by, for example, age of buildings or by employment and population characteristics are virtually lacking.

However, Wise's essay on London, written with a controlled enthusiasm and attention to detail worthy of the national metropolis, is among the best in the book. Of the essays on industrial areas, those by North on the varied landscapes of Lancastria and by Alice Garnett on the area stretching from Pennine High Peak to the Humber are worthy contributions to the geography of Britain. So also are several of the Scottish essays, including those by Kirk and O'Dell, on North East Scotland and on Orkney and Shetland, respectively. Caird's essay on North West Scotland compresses great knowledge of the crofting problem into too few pages, while Joy Tivy's account of the Southern Uplands is rather marred by

three of its maps being crammed onto one page.

Whether or not this is an editorial fault, the editor can scarcely escape criticism for the deplorable shortage of references, even to authors from whose works quotations are used (for example, Sharp on p. 150) or whose data have been incorporated on maps (for example, Dunham on Fig. 50 and Fawcett on Fig. 7).

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Basic Electronics

The Encyclopedia of Electronics. Charles Susskind, Ed. Reinhold, New York, 1962. xxi + 974 pp. Illus. $22.50.

The encyclopedia consists of some 500 articles, each written by a different author, and it covers broadly the basic physics and mathematics of electronics in addition to materials, devices, systems, and the fundamental applications of these systems. The 21 main topics that are treated include antennas, propagation and radiation, computers, communication theory, materials and chemistry, physical electronics, modern physics, high-energy physics, semiconductor devices, and instrumentation and measurement.

The articles are condensed (average length is about two pages), so one cannot expect to find minute details. Fundamentals, however, are clearly and adequately described and illustrated by numerous figures and photographs, and important mathematical formulas are often given. Many new discoveries, theories, and disciplines, which seem to be of present or potential technological significance, are included: for example, masers and lasers, the Mössbauer effect, antiparticles, bioelectronics, the Bardeen-Cooper-Schrieffer theory of superconductivity, and the atomic clock. As a rule, the date and place of, and the name of the person responsible for, a discovery or invention is indicated. References to additional detailed information are cited in many instances.

This volume will be valuable to many people, particularly engineers and physicists who may be seeking information outside their own areas of specialization.

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Comprehensive Textbook

Topology. John G. Hocking and Gail S. Young. Addison-Wesley, Reading, Mass., 1961. 374 pp. Illus. $8.75.

This valuable addition to topological literature covers a large number and variety of topics from areas of current research and from classical topology. The exposition is generally clear and well-motivated, but the book calls for a teacher prepared to answer questions on briefly mentioned topics, to correct occasional errors, and to select judiciously from the rich abundance of material.

There is a liberal supply of examples, counterexamples, and problems, which are designed to test, extend, and deepen the student's understanding. The illustrations are of high esthetic quality and form an integral part of the exposition.

A chapter on the fundamentals of topological spaces, metric spaces, and mappings is followed by two chapters devoted to topics in point-set topology and by a chapter on homotopy theory. The remaining four chapters are primarily algebraic. They include discussions of simplicial complexes, simplicial homology theory, Cech homology, and both singular and Vietoris homology. Other topics from algebraic topology are included for completeness, although they are not generally covered in a two-semester course.

There are advantages and disadvantages to the policy of mentioning "almost every topic of interest in topology," to quote from the jacket of the book. This almost forced the authors into rather rapid, early development of some difficult concepts that could well be more gradually approached and into merely cursory mention of a number of other topics. They partly compensate for this with the carefully selected references to the literature on the briefly mentioned topics, which render the book particularly valuable as a guide to a more advanced study of topology.

The various errors, typographical and mathematical, will doubtless be corrected in later editions. Meanwhile, they are a challenge rather than an obstacle to the careful student, who will find the study of this book a most rewarding experience.

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