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**Human Embryology.** *Bradley M. Patten.* The Blakiston Company, Inc., New York. Second edition, 1953. xvii+798 pp. \$12.00.

Recent contributions in two widely different aspects of human development have induced the author to prepare a second edition of this well known and widely used text.

Since the publication of the first edition in 1946 younger embryos than any heretofore known have been recovered. These include cleavage, blastodermic vesicle and implantation stages. Chapter 4 entitled Cleavage, Germ Layers and the Establishment of the Embryonic Body, and Chapter 6 dealing with Fetal membranes and Placenta have been extensively reviewed and expanded on the basis of this new material.

The notable recent progress in the handling of congenital cardiovascular defects has emphasized the importance of a thorough knowledge of the development of the heart and large blood vessels. The material on this subject in Chapter 19 has been expanded and a number of illustrations in color added.

Only minor changes have been made in other chapters of the book. However, a supplement to the bibliography has been added which includes pertinent articles published between 1945 and 1952. This book is designed for medical students and medical practitioners but it will serve as a useful reference in elementary courses in embryology.

R. A. KNOUFF.

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**Naturalists Directory.** Published by the Naturalists Directory, 720 Fillmore Road, East Meadow, N. Y. 37th Edition, 1954. \$5.00 postpaid.

This latest edition of the familiar *Naturalists Directory* should prove a helpful reference book to those interested in the study of nature in any of its branches.

F.W.F.

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**The Biochemistry of Genetics.** *J. B. S. Haldane.* George Allen and Unwin, Ltd., London. 1954. 144 pp. \$2.75.

A genetically determined variation has a biochemical basis. The foregoing statement is the central thesis of J. B. S. Haldane's recent volume concerning the biochemistry of genetics. Following an introductory chapter on the elements of genetics, the reader is brought up to date on the biochemical genetics of blood antigens, haemophilia, fungi, bacteria, viruses, plant pigments, animal pigments, and "inborn errors of human metabolism." The author points out that although genes control biochemical processes, the control is usually remote, and through the action of enzymes. He believes we are approaching the time when we can specify what a gene or a group of them does, but not through the investigation of gene controlled processes. Instead, it will be through investigations of the synthesis of molecules of moderate size, such as those occurring in *Neurospora*.

Haldane discusses extranuclear influences on biochemical activity, including training, and various interpretations of the latter phenomenon. Summing up this discussion he states "some workers . . . while probably not denying the existence of adaptive enzymes, appear to deny that their synthesis continues, or is in any way facilitated when the stimulus to it ceases. It is reasonable to adopt this view as a working hypothesis during a critical examination of results . . . , but to adopt it without further ado to explain such results is, in my opinion a piece of dogmatism as regrettable as that of Lysenko in the opposite direction."

This small volume is written in a clear, logical and interesting fashion. Those wishing to keep abreast of developments in biochemical genetics and their philosophical implications can ill afford to neglect reading it.

DAVID C. RIFE