correctly that these bursts of REMs, as they are called, meant that the sleeping person was dreaming. The first objective indicator of dreaming had been discovered. In the 10 years since that historic observation, the scientific study of dreams has begun to flourish in laboratories all over the world.

Edwin Diamond, a general editor of *Newsweek* and formerly its science editor, has written a highly readable and accurate account of this new science of dreams. Diamond, good reporter that he is, conveys to the reader the extraordinary drama and human interest of this discovery and its considerable consequences. But that is by no means all that is in this lively book. There is an incredible chapter in which Freud is bracketed with the Iroquois Indians and a lot of other fresh material that I have not seen in other books on dreams.

This is a book not only for scientists to recommend to their nonscientific friends but one which they themselves can read with enjoyment and profit. Considering the rate at which new information about dreams is accumulating, Diamond will have to revise his book every few years to keep it up to date.

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General Biology Textbooks

Biology. Its principles and implications. Garrett Hardin. Freeman, San Francisco, Calif., 1961. xi + 682 pp. Illus. $8.

Biology. An introduction to the science of life. C. J. Goodnight, M. L. Goodnight, and R. R. Armacost. Wiley, New York, 1962. vii + 460 pp. Illus. $6.95.

The revitalization of high school biology teaching, now occurring as a result of the versions of *BSCS High School Biology* courses developed by the American Institute of Biological Sciences' Biological Sciences Curriculum Study, has exciting implications for the teaching of biology in colleges. Neither of the college texts reviewed here was written in anticipation of this happy situation, but Hardin's *Biology* should nevertheless make a distinguished contribution of its own to liberal education. It is a thoughtful, broadly conceived, and thoroughly modern presentation of biological science. The text is divided into four parts: Part 1 is concerned with general principles. Here are introduced in lucid prose, with imaginative models and clear illustrations, the concepts of cellular biology, cybernetics, and evolutionary mechanisms which are then interlaced throughout the remaining parts of the book to provide an unusually well-integrated treatment of these subjects. Part 2 deals with plants, and emphasis here is on functional interpretation of structure. Discussions of ecology, energy cycles, and evolution are appropriately and effectively integrated with the general material of this section.

Fifteen of the 37 chapters are devoted to part 3, on animal biology, in which there is a review of the major phyla with extensive discussion of physiology, primarily human. Part 4 presents a balanced modern treatment of heredity. In addition to a 17-page index, there is a glossary and 12 short appendices consisting primarily of tables of quantitative data and mathematical formulas. A teacher's manual is also provided.

This is a biology text with very few peers. Perhaps its outstanding characteristic is the accessibility of its information to the student. This derives from a number of qualities, not the least of which is Hardin's superior style of writing, and includes the careful attention he pays to the human implications of the subject. Most appealing to the clasroom teacher, however, is his extensive use of the historical method. Following the "path of discovery," as Hardin calls it, not only provides insights into the attitudes of scientists at work but also creates the atmosphere for understanding and appreciating the nature of scientific "truths" and the ways in which these are discovered and stated. Other features are (i) the arrangement of the text which allows flexible use; (ii) the end-of-the-chapter questions and problems which are worthy of the name; (iii) on-the-spot derivations of new terms from their Greek and Latin roots (greatly to be encouraged); and (iv) the deep impression, made continuously throughout the book, that biology is an intellectually exciting and rewarding study.

Biology by Goodnight, Goodnight, and Armacost is also divided into four sections. The first section is concerned with defining science, protoplasm, and the cell; the second section, six chapters, describes animal structure and physiology, primarily human; in the succeeding four chapters the structure and function of higher plants are considered, and the plant kingdom is surveyed, while the last four chapters are devoted to genetics, evolution, ecology, and conservation. The text is written in clear, short sentences, and it is well illustrated with numerous line drawings and photographs. There is a 16-page index, an appendix containing tables of classification, and a glossary (no word derivations, however).

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New Books

Biological and Medical Sciences

American Drug Index, 1962. Charles O. Wilson and Tony E. Jones. Lippincott, Philadelphia, Pa., 1962. 846 pp. $6.75.

Aspects of Medical Investigation in Africa. Charles Wilcocks. Oxford Univ. Press, New York, 1962. 133 pp. 18s.

Biological Alkylating Agents. W. C. J. Ross. Butterworth, Washington, D.C., 1962. 242 pp. Illus. $10.50.

Biological Effects of Freezing and Supercooling. A. U. Smith. Williams and Wilkins, Baltimore, Md., 1961. 472 pp. Illus. $11.

Chemotherapie und Prophylaxe des Krebses. H. von Euler. Thieme, Stuttgart, Germany, 1962. 152 pp. Illus. DM. 25.

The Enzymes of Lipid Metabolism. P. Desnuelle, Ed. Pergamon, New York, 1961. 324 pp. Illus. $10. Proceedings of the Sixth International Conference on the Biochemistry of Lipids, held at Marseilles in 1960. The papers are in English and French.

Morphogenesis of the Vertebrates. Theodore W. Torrey. Wiley, New York, 1962. 610 pp. Illus. $9.95.

Physiology of Strength. Theodor Hettinger. Thomas, Springfield, Ill., 1961. 98 pp. Illus. $4.50.

Problems in Communication. Charles Watkins and Benjamin Pasamanick, Eds. American Psychiatric Assoc., Washington, D.C., 1961. 131 pp.

Rudolf Virchow Medical Society in the City of New York. Proceedings, vol. 19. Hans E. Bejach, Hans Lehfeldt, George Schreiber, Eds. Karger, New York, 1961 (order from Albert J. Phiebig, White Plains, N.Y.). 245 pp. Illus. Paper, $8.50.

The Seeing Eye. H. Asher. Duckworth, London, 1962. 278 pp. Illus. 30s.

A Survey of Cardiac Glycosides and Genins. J. Hampton Hoch. Univ. of South Carolina Press, Columbia, 1961. 94 pp. (tables).

Soil Management for Conservation and Production. R. L. Cook. Wiley, New York, 1962. 539 pp. Illus. $9.95.

The Structure and Biosynthesis of Macromolecules. D. J. Bell and J. K. Grant, Eds. Cambridge Univ. Press, New York, 1962. 132 pp. Illus. $5.50.