

Leighton treats the elementary nature of photochemical reactions. This is followed by a chapter on the nature of sunlight and its intensity over the whole spectrum, but especially the intensity in the high-frequency range active in causing reaction. Next, an effort is made to apportion responsibility for the important reactants among the known absorbers of radiation. These primary reactions lead to a variety of secondary reactions, which are examined and their relative importance assessed. Out of this scientifically interesting complexity the practical problem still remains—the problem of deciding just what it is that causes the changes observed in the atmosphere. It eventually emerges “that all of the major photochemical products, all of the photochemically produced eye irritants and phytotoxins which have thus far been identified, and probably a major share of the photochemically originated organic particulates in photochemical smog are due to the nitrogen dioxide-olefin photolysis and the reactions which follow.”

The author draws on a wealth of experience with photochemical reactions in simple systems. This information is indispensable, but without the careful appraisal that was made of the peculiar situations existing in the atmosphere itself it would not suffice.

This is a pioneering report, and although many features will undoubtedly be modified and amplified with time, no one interested in atmospheric pollution can afford not to read it. It also provides an interesting account of many important reactions and should be widely read by people with an understanding and appreciation of chemical kinetics.

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Panorama of Early Man

The Epic of Man. Editors of *Life* and Lincoln Barnett. Time Inc. New York, 1961. 307 pp. Illus. \$13.50.

Beginning in November 1955 and continuing irregularly for a couple of years thereafter, *Life* magazine presented, in installments, a journalistic version of the story of man's physical and cultural evolution. A feature of this series was the colorful and imaginative artist's reconstructions of man and his ways of life at various times and places in the past. Credit for the ideas behind

the text and illustrations in each issue was indicated by listing names of scientists, led by the well-known anthropologist, Carleton Coon of the University of Pennsylvania. The fact that a scientist was consulted does not necessarily mean that his suggestions were followed, and certainly not in full. Therefore, the list, while giving an aura of authenticity, actually bears about the same relation to the series as the names on the program of a scientific meeting do to the news accounts emanating therefrom.

Now, 6 years later, mainly the color sections of the series, reedited, rearranged, and indexed, appear in book form. That this time-lapse was not more fully offset by rewriting is unfortunate, because much has happened in this area of science since 1955 and some of the ideas represented in the paintings or expressed in the text are no longer current. For example, in the book earliest recognized man (*Zinjanthropus*) is still given an antiquity of only 600,000 years (the new figure is 1,750,000 years), whereas the modern variety of man is said to go back nearly half that far (the evidence is very poor). Also, Neanderthal man, who lived until 45,000 years ago, is pictured as a bull-necked, bent-kneed creature, a concept certainly no longer held by many of the authorities cited. I am less sensitive to the cultural details, although some of the reconstructed scenes startled me, for instance on page 51 where so many beautiful women of northern Europe 7000 years ago are shown in such scanty attire.

In spite of such defects and dubious reconstructions from sparse evidence, the book has much to recommend it, not the least being a lively format that is guaranteed to catch and hold the attention of readers of all levels. Once caught, many readers may even be induced to dip into some of the 80 books, written by scientists, which are listed in the bibliography.

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New Books

Biological and Medical Sciences

Annual Review of Entomology. vol. 7. Edward A. Steinhaus and Ray F. Smith, Eds. Annual Reviews, Palo Alto, Calif., 1962. 563 pp. \$7.

A Flora of the Alaskan Arctic Slope. Ira L. Wiggins and John Hunter Thomas. Univ. of Toronto Press, Toronto, Ont., Canada, 1962. 437 pp. Illus. \$9.50.

Fundamentals of Human Physiology for Students in the Medical Sciences. W. B. Youmans. Yearbook, Chicago, Ill., ed. 2, 1962. \$8.50.

Introduction to the Mathematical Theory of Genetic Linkage. Norman T. J. Bailey. Oxford Univ. Press, New York, 1961. 308 pp. \$8.80.

Keratin and Keratinization. An essay in molecular biology. E. H. Mercer. Pergamon, New York, 1961. 330 pp. Illus. + plates. \$12.

Laboratory Studies in Developmental Anatomy. Theodore W. Torrey. Burgess, Minneapolis, Minn., ed. 2, 1962. 120 pp. Illus.

Methods in Enzymology. vol. 5. Sidney P. Colowick and Nathan O. Kaplan. Academic Press, New York, 1961. 1112 pp. Illus. \$28.

The Molecular Control of Cellular Activity. J. M. Allen, Ed. McGraw-Hill, New York, 1962. 335 pp. Illus. \$10.50.

Nerves and Muscles. R. Galambos. Doubleday, Garden City, N.Y., 1962. 159 pp. Illus. Paper, \$0.95.

Nervous Inhibition. Proceedings of the second Friday Harbor symposium. E. Florey, Ed. Pergamon, New York, 1961. 490 pp. Illus. \$15.

The Psychoanalytic Situation. An examination of its development and essential nature. Leo Stone. International Universities Press, New York, 1961. 160 pp. \$4. Freud Anniversary Lecture Series, New York Psychoanalytic Institute.

Research and Public Health. Sir John Charles. Oxford Univ. Press, New York, 1961. 122 pp. \$4.50.

Rhythmic Activity in Animal Physiology and Behaviour. J. L. Cloudsley-Thompson. Academic Press, New York, 1962. 236 pp. Illus. \$6.80.

Second Conference of the International Organization of Citrus Virologists, Proceedings. W. C. Price, Ed. Univ. of Florida Press, Gainesville, 1961. 279 pp. Illus. \$7.50.

The Structure and Function of Skin. W. Montagna. Academic Press, New York, ed. 2, 1962. 474 pp. Illus. \$16.50.

Symposium on Proteins, Proceedings. 14-16 August 1960. Chemical Research Committee and Society of Biological Chemists of India, Mysore, 1961. 474 pp. Illus. \$7.

The Terrestrial Acari of the British Isles. An introduction to their morphology, biology, and classification. vol. 1, *Introduction and Biology.* G. Owen Evans, J. G. Sheals, and D. MacFarlane. British Museum (Natural History), London, 1961. 226 pp. Illus. 40s.

Traité de Paléontologie. vol. 6, pt. 1, *Mammifères.* Origine reptilienne. Évolution. Jean Pivetau, Ed. Masson, Paris, 1961. 1138 pp. Illus. NF. 165.

Trematodes of the Pacific Northwest. An annotated catalog. Ivan Pratt and James E. McCauley. Oregon State Univ. Press, Corvallis, 1961. 125 pp. \$2.50.

Vitamins and Hormones. vol. 19. Robert S. Harris and Dwight J. Ingle. Academic Press, New York, 1962. 377 pp. Illus. \$13.

The Wild Species of Gossypium and Their Evolutionary History. J. H. Saunders. Oxford Univ. Press, New York, 1961. 70 pp. Illus. \$2.40.