Louis Chauvois' book fills this gap quite well. It contains what the title promises. It gives a very scholarly and many-sided account of Harvey's times. It summarizes all the known data on Harvey, adding some that are new. Chauvois, a scientist himself, gives a very clear and original analysis of the scientific problems involved. His genuine enthusiasm for his hero is such an asset to the book that one gladly overlooks a few minor exaggerations, injustices, and omissions and gets used to a style the superlatives of which should sound better in French than in English.

ERWIN H. ACKERKNECHT
University of Zurich

Building an Engineering Career. Clement C. Williams and Erich A. Farber. McGraw-Hill, New York, ed. 3, 1957. x + 299 pp. Illus. $4.75.

Some 30 or 40 years ago, the professors of electrical engineering decided that young electrical engineers ought to learn something about the science of illumination. After all, most modern lights were electric, weren't they? About the same time it was decided, also, that such students ought to learn something about electric railways because of their growing importance in transportation. Unfortunately, no one knew enough about either to construct a full 16-week semester course from his material. A compromise was, therefore, reached, in which a course in "Illumination and Electric Railways" was put together. This strange marriage of subject matter was copied by other schools, and eventually such a course appeared in many engineering catalogs. It has long since gone the way of courses in stereometry, for which we can all be thankful.

A new trend, one that is probably only 15 or 20 years old, is to teach a course on "what every young engineer ought to know." This course usually includes the history of engineering, an insight into the "engineering method" (some engineers still think they have a patent on quantitative thinking), a discussion on how and what to study, a preview of all engineering courses, a taste of ethics, and a glance into the future. Such things as how to get a job and how to run a slide rule are sometimes included, if the book doesn't get too thick and heavy.

This volume does not contain all these features but does contain most of them. It is divided into three major parts, the first of which is intended to tell the student how to get his education, and the second, to give him some historical background. The third, called "Engineering Achievements," (its purpose is not at all clear to me), recounts, almost in encyclopedia form, some of the wonders of engineering. Apparently this section is supposed to be a "come-on" to convince the student, while he is studying mathematics, physics, chemistry, English, and all the other subjects that seem to be only remotely connected with his engineering goal, that all is well, the faculty is not leading him astray, and eventually he, too, will design a bridge and rocket off to the moon.

There must now be dozens of little books aimed at guiding the student's first unsure steps toward professionalism. I have grave doubts that any of them really accomplish their purpose. There must be many good teachers who, early in their students' careers, inspire them and help them to see more clearly what they may accomplish in their four years at college. But this kind of inspiration is a personal thing, and any attempt to catch the full flavor in a written document is fraught with danger.

This little book, which was originally written by Clement C. Williams, an engineer who in his later years was president of Lehigh University, has been brought up to date, and certain new material has been added. It is a textbook that undoubtedly goes hand-in-hand with a series of lectures. It is not a book that may be expected to inspire the casual reader or the unguided student.

ERIC A. WALKER
Pennsylvania State University

The Physiology of Fishes. vol. I. *Metabolism.* Margaret E. Brown, Ed. Academic Press, New York, 1957. xiii + 447 pp. Illus. $12.

Young physiologists have often remarked to me that they were writing a physiology of fishes. Encouragement was never possible because of the tremendous difficulty of the venture. But the need for such a work has been increasing sharply in recent years, and volume I, *Metabolism*, of *The Physiology of Fishes*, by Margaret E. Brown and coauthors, is very welcome. It is no surprise that the contemplated single volume had to be published as two, or that the work is not a textbook in the teaching meaning of the term. If the work may be said to have a shortcoming, it is in the limited integration of such factual knowledge as is now available. Whether for printing economy or by choice of the authors, there is insufficient histology in the first volume.

Much more may be said in praise of the enterprise. An admirable group of authors were persuaded to participate, and the work clearly reflects the authority of its members. (As an aside it may be noted that the authors were drawn six from Great Britain, three from Canada, and one from the United States. To an administrator in this wealthy country it is sobering to think that, in spite of the large number of workers engaged in practical fisheries in this country, perhaps we do not provide a proportionate number of leaders in so basic an area as physiology. But of more than 1000 basic literature citations, about 37 percent are from journals edited in the United States—a figure that is reassuring, though perhaps smaller than might be expected from the large sums of money spent here on fisheries research.)

From the first chapter, that by F. E. J. Fry on the aquatic respiration of fish, there emerges a truism that is generally borne out through the work. One might assume that greater complexity would always be encountered in a study of mammalian function than in that of piscine function. But, as is revealed in Fry's careful analysis, the metabolic rates of fishes must adapt over a wide range of environmental temperatures, and the additional parameter of temperature adaptation leads not to simplicity but to complexity. Similarly, the combination of gill respiration with gut, pharyngeal, and lung respiration, treated in a later chapter, reflects itself in the properties of the blood and the adaptations of the circulatory system. The subject of fish physiology is therefore revealed as being exceptionally challenging, and it is to be hoped that this valuable book will stimulate ever wider interest and activity in the subject.

Space will not permit description of individual chapters. Coupled with the chapters on the systems supporting metabolism are chapters on skin and scales, on development and hatching, and on growth. Volume II will present the nervous and sensory systems, behavior, and such special topics as electric organs, swimbladder, luminous organs, color changes, and physiological genetics. It may suffice, then, to say that the book will be required reading for all professional fisheries investigators, to whom the carefully selected bibliography alone will be worth the cost of the volume. In addition, the book is highly recommended to every student and scientist interested either in fish or in comparative physiology or biochemistry.

ARTHUR W. MARTIN
University of Washington

A History of Industrial Chemistry. F. Sherwood Taylor. Abelard-Schuman, New York, 1957. xvi + 467 pp. Illus. + plates. $7.50.

After an introductory summary, the author devotes about one-third of his book to the "prescientific" period and two-thirds to "the scientific chemical industries." The first part is an interesting survey of the older chemical industries,

presented in 11 chapters, divided according to subjects from metallurgy to fermentations, and illustrated by 34 figures and 10 plates, many of them containing two pictorial presentations, from a variety of sources. The second part, which brings the total number of figures to 62 and that of plates to 22, contains long chapters on the history of scientific chemistry and leaves insufficient space for discussion of the special industrial aspects. The author argues in the preface that he makes "no apology for the introduction of much that is ordinarily regarded as belonging to the history of chemical theory rather than to that of the industrial or applied aspects of the subject." No apology would have been necessary if he had shown the connections and influences between science and industry in their development. Instead, Taylor leaves the two parts quite separate. His history of chemical industries becomes a catalog of industrial chemicals. Very little is said about the methods of production or about equipment and materials of construction, and almost nothing is said about the many other sides of the chemical industry, such as organization, markets, size of production, or financial matters. Within these severe limitations, the author attempts to describe all groups of industrial chemicals and even includes a chapter on "The Road to Nuclear Power."

Scarcely any typographical errors and only a few errors of fact are to be found in Taylor's book. In some instances important names are omitted while others are given, and some condensations are so worded that they could be easily misunderstood.

An appendix, "not intended to be a bibliography of industrial chemistry," lists 227 publications suggested for further reading.

In spite of its shortcomings, Taylor's posthumous book may well stimulate greater interest in the history of an important part of our civilization.

EDUARD FARBER

Washington, D.C.

New Books

Managing Southern Soils. H. B. Vanderford. Wiley, New York, 1957. 389 pp. $4.75.

Flowering Trees in India. M. S. Randhawa. Indian Council of Agricultural Research, New Delhi, 1957. 209 pp. Rs. 15.

Symposium on Nutrition and Behavior. Nutrition Symposium Series, Number 14. National Vitamin Foundation, New York, 1957. 124 pp. $2.50.

An Atlas of Fetal and Neonatal Histology. Marie A. Valdes-Dapena. Lippincott, Philadelphia, 1957. 209 pp. $11.

Phenazines. G. A. Swan and D. G. I. Felton. Interscience, New York, 1957. 712 pp. $22.50.

A Pictorial History of the American Indian. Oliver LaFarge. Crown, New York, 1957. 272 pp. $7.50.

The Ancient Civilizations of Peru. J. Alden Mason. Penguin Books, Baltimore 11, Md. 350 pp. Paper, $1.25.

The Order of Presentation in Persuasion. Carl I. Hovland and others. Yale University Press (for the Institute of Human Relations), New Haven; Oxford University Press, London. 1957. 202 pp. $4.

First Symposium on Host Specificity among Parasites of Vertebrates. Institut de Zoologie, Université de Neuchatel, Neuchatel 7, Switzerland, 1957. 324 pp.

International Review of Cytology. vol. VI. G. H. Bourne and J. F. Danielli, Eds. Academic Press, New York, 1957. 566 pp. $12.

Marine Electrical Practice. G. O. Watson; chapters by R. A. Harvey, R. V. Mills, H. R. Ruff. Philosophical Library, New York, 1957. 334 pp. $12.

The Clinical Application of Antibiotics. vol. III, *Chloramphenicol and the Tetracyclines.* M. E. Florey. Oxford University Press, London, 1957. 402 pp.

A Basic Laboratory Course in College Chemistry. With supplementary exercises. J. F. Hazel. Wiley, New York, ed. 2, 1957. 241 pp. $3.95.

Oxine and Its Derivatives. vol. I, *Oxine,* pt. 1; vol. II, Oxine, pt. 2; vol. III, *Derivatives of Oxine,* pt. 1; vol. IV, *Derivatives of Oxine,* pt. 2. R. G. W. Hollingshead. Butterworths, London; vols. I and II, 1954; vols. III and IV, 1956. 1211 pp. $8.50 per volume.

Handbuch der Physik. vol. 39, *Structure of Atomic Nuclei.* S. Flügge, Ed. Springer, Berlin, 1957. 571 pp. DM. 125.

Host-Parasite Relationships in Living Cells. A symposium. Sponsored by the James W. McLaughlin Fellowship Program, University of Texas, Medical Branch, 27 Apr. 1956. Compiled and edited by Harriet M. Felton. Thomas, Springfield, Ill., 1957. 264 pp. $6.50.

The Chronically Ill. Joseph Fox. Philosophical Library, New York, 1957. 248 pp. $3.95.

Die Bluteiweisskörper des Menschen. Untersuchungsmethoden und Deren Klinisch-Praktische Bedeutung. Ferdinand Wuhrmann and Charlie Wunderly. Schwabe, Basel, Switzerland, 1957. 499 pp. $13.

Transistor A. F. Amplifiers. D. D. Jones and R. A. Hilbourne. Iliffe, London; Philosophical Library, New York, 1957. 160 pp. $6.

Darwinism, Reaction or Reform? Bert James Loewenberg. Rinehart, New York, 1957. 60 pp. $0.75.

The Chemistry of Organic Medicinal Products. Glenn L. Jenkins, Walter H. Hartung, Kenneth E. Hamlin, Jr., John B. Data. Wiley, New York; Chapman & Hall, London, 1957. 579 pp. $10.75.

Nuclear Stripping Reactions. S. T. Butler and O. H. Hittmair. Horowitz, Sydney, Australia; Wiley, New York, 1957. 139 pp.

Principles of the Properties of Materials. Jacob Porter Frankel. McGraw-Hill, New York, 1957. 242 pp. $6.

Digitalis. E. Grey Dimond. Thomas, Springfield, Ill., 1957. 269 pp. $7.

Miscellaneous Publications

(Inquiries concerning these publications should be addressed, not to Science, *but to the publisher or agency sponsoring the publication.)*

The Early Development of Rana Capito Sevosa. Tulane Studies in Zoology, vol. 5, No. 9. E. Peter Volpe. 19 pp. $0.35. *Variation and Subspecies of the Crawfish Orconectes Palmeri (Faxon) (Decapoda, Astacidae).* vol. 5, No. 10. George Henry Penn. 32 pp. $0.60. *Christo-Paganism.* A study of Mexican religious syncretism. Preprinted from Publ. 19, Middle American Research Institute. William Madsen. 76 pp. Tulane University, New Orleans, 1957.

International Geophysical Year 1957–1958, Meteorological Data Centre. Report No. 7. *Microcards of IGY Meteorological Data.* World Health Organization, Geneva, 1957.

Commemorative Symposium. Twentieth anniversary of the National Cancer Institute. *Journal of the National Cancer Institute,* vol. 19, No. 2. 216 pp. $2. *Bibliography of Medical Reviews.* vol. 2, 1957. National Library of Medicine. 111 pp. $0.60. U.S. Public Health Service, Washington, 1957 (order from Supt. of Documents, GPO, Washington 25).

Electric Hygrometers. NBS Circular 586. Arnold Wexler. U.S. National Bureau of Standards, Washington 25, 1957 (order from Supt. of Documents, GPO, Washington 25). 21 pp. $0.20.

Financial Aid for College Students: Graduate. Bulletin 1957 No. 17. Richard C. Mattingly. 151 pp. $0.50. *Careers in Atomic Energy.* Pamphlet No. 119. Walter J. Greenleaf. 36 pp. $0.25. *Faculty in Institutions of Higher Education.* November 1955. Circular No. 504. M. Clemens Johnson and Leah W. Ramsey. 40 pp. $0.30. U.S. Office of Education, Washington 25, 1957 (order from Supt. of Documents, GPO, Washington 25).

Selected Bibliography: Fatigue, Stress, Body Change and Behavior. WADC Technical Rept. 57–125. ASTIA Document No. AD 118091. William Bevan and Rollin M. Patton. Wright Air Development Center, Wright-Patterson Air Force Base, Ohio, 1957 (order from ASTIA Documents Service, Knott Building, Dayton 2, Ohio). 64 pp.

Anatomy and Taxonomy of the Mature Naiads of the Dragonfly Genus Plathemis (Family Libellulidae). Smithsonian Miscellaneous Collections, vol. 134, No. 11. Harvey R. Levine, 28 pp. *A New Species of Calanopia (Copepoda: Calanoida) from the Caribbean Sea.* Proceedings of the U.S. National Museum, vol. 107, No. 3382. Thomas E. Bowman. 7 pp. Smithsonian Institution, Washington 25, 1957.

An Archaeological Survey of West Central New Mexico and East Central Arizona. Papers of the Peabody Museum of Archaeology and Ethnology, vol. XLIV, No. 1. Deward Bridge Danson. Peabody Museum, Cambridge, Mass., 1957. 133 pp.

Research for Life. A report from the Jackson Laboratory. 33 pp. *Roscoe B. Jackson Memorial Laboratory, Twenty-eighth Annual Report, 1956–1957.* 76 pp. Roscoe B. Jackson Memorial Laboratory, Bar Harbor, Me., 1957.