inferences and which pertain to characteristics of the animals involved.

Neither is it clear for whom the book is specifically designed. The American graduate student in physiological psychology might find it useful. It could serve to acquaint him with the work of France's greatest psychologist in the physiological tradition—an acquaintance that is seldom made. In the psychological literature that is widely regarded as basic in graduate training, one finds slight reference to Pieron. Thus, this selection of writings from one of the world's most prolific psychologists could have an effect in an unanticipated direction.

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A History of Public Health. George Rosen. MD Publications, New York, 1958. 551 pp. $5.75.

This book is a "comprehensive international account of community health action." History's importance is indicated by the statement, "Every situation that man has faced and every problem that he has had to solve have been the product of historical developments." A paragraph from the volume's jacket defines public health. "From the earliest civilizations to the present, communities have endeavored to cope with health problems that arise as a result of human beings living in groups. Such problems include the control of infectious diseases, the provision of water and food, maintaining a sanitary environment, supplying medical care and providing for the disabled and destitute. When a group is involved, these problems cannot be handled individually, they require action by the community, and as a result there has developed what we know as *public health.*"

Rosen quotes the late Herman Biggs as follows: "Disease is largely a removable evil, it continues to afflict humanity, not only because of incomplete knowledge of its causes and lack of individual and public hygiene, but also because it is extensively fostered by harsh economic and industrial conditions and by wretched housing in congested communities. These conditions, and consequently the diseases that spring from them, can be removed by better social organization. No duty of society, acting through its governmental agencies, is paramount to this obligation to attack the removable causes of disease . . ." The author himself says: "These developments must be seen, however, not alone as events peculiar to the United States but in perspective of a world wide historical evolution that has brought into being the modern state with its concern for individual, family and community needs for organized social security and service. . . . Today, the principle of state intervention and control in health matters is admitted. . . . Its emergence has resulted from the interaction of important economic and social trends." It is the business of a history of public health to tell the story of this development, and since many nations have contributed, of necessity that narrative must be international.

George Rosen writes from a rich personal background and from a broad point of view, drawing on the experiences of Classical Greece, Imperial Rome, the Medieval World, Italy, Spain, France, Germany, England, and the United States, chiefly, with references to China, India, the Near East, Eastern Europe, and such other parts of the world as contribute to the complete picture.

Following the customary foreword, preface, and acknowledgments, the subject is discussed in seven divisions: "The Origins of Public Health"; "Health and the Community in the Greco-Roman World"; "Public Health in the Middle Ages"; "Mercantilism, Absolutism and the Health of the People"; "Health in a Period of Enlightenment and Revolution"; "Industrialism and the Sanitary Movement"; and "The Bacteriological Era and its Aftermath" (in two sections). Public health is treated from its earliest history to 1950. There are nearly 140 headings of the subject matter under these seven divisions, among them: "Airs, waters and places"; "Baths as well as bread and circuses"; "Leprosy—the great blight"; "Toward a national health policy"; "The bookkeeping of life and death"; "Lunacy and conscience"; "Enter Mr. Chadwick"; "First steps toward international health organization"; "The vanishing diseases"; "The rise of scientific nutrition"; "The responsibility of government for the advancement of health"; and "The health and welfare of the industrial worker."

When it is recalled that the book is limited to 551 pages, the author may be forgiven if some aspects of public health history are not covered to the satisfaction of the reader. The discussion on vaccines should have mentioned smallpox vaccine again, should have included the work of F. F. Russell on typhoid vaccine, and should have included whooping cough (pertussis) vaccine; moreover, Rosen tells only part of the story when he makes no mention of the toxoids—diphtheria and, particularly, tetanus. Within the space available, industrial problems are well covered, but one feels a lack of coverage of the accomplishments of military medicine in public health and of the geography of disease. Perhaps more could be said about the Crusades, and about the discovery of new lands and the movements of peoples. Nevertheless, the book is a remarkably complete collection of data, and the story is admirably told.

The author makes few references to the future. Past may be prologue, and no doubt we can better understand the present and cope with the future because of our knowledge of history, but it would be unwise to attempt to reveal the future—a fact no one knows better than the historian. Too many factors impinge on the firm base of the past for us to be sure just what the future will be, although certain general trends may be clear.

The book contains no charts, diagrams, maps, plates, or illustrations but does include eight simple tables. I have two comments to make regarding them. Table III was not intended by the author to do more than illustrate his statement: "Then with the 1880's the golden age of bacteriological discovery was ushered in . . . causative organisms of various diseases were demonstrated in rapid succession, often several in one year. The explosive character of this process is clearly seen from Table III." This table is headed "Discovery of pathogenic organisms," and the title is misleading. A better one would be "Early discoveries of pathogenic organisms," or "Discovery of some important pathogenic organisms." The table also contains minor errors. Thus, the pneumococcus, the discovery of which is attributed to Fraenkel, 1886, was described by Pasteur as a septicemic microbe of saliva in 1881 and, in the same year, by Sternberg as a micrococcus of rabbit septicemia. The organism of leprosy, not even yet cultivated in the laboratory, was seen and described by Hansen in 1874, significantly earlier than the date 1880 given in the table. Soft chancre should be dated 1889 instead of 1887. I do not see why the anthrax bacillus (1876, Koch) was not included, since it was in a way the fuse that touched off the era, and for that matter the gonococcus, the meningococcus, and the organisms that cause whooping cough, tularemia, relapsing fever, and syphilis might well have been included because of their importance. Since the table includes the animal parasite that causes malaria and is not therefore restricted to bacteria, it would be logical to include also representative virus and rickettsial diseases, such as rabies, smallpox, typhus, and yellow fever, although to do so could be confusing, since the emphasis is on the last two decades of the 19th century as the golden era of bacteriological discovery.

My criticism here arises from the fact that a book as interesting, comprehensive, and authoritative as this one will be read by many people, some of whom

will not have sufficient background to realize that the organisms listed are only a few of those that cause disease and that it is not always easy to state when a certain discovery was made.

Another minor criticism is that the names in the tables are not indexed, nor are they uniformly presented. Thus, the complete names of 11 persons named in Table VII are given, whereas for the more than 30 persons listed in Tables III and IV, with one exception, only the last names are given. The historical accuracy of the author is attested to by that one exception. In Table III, Fraenkel is listed with his initial, A., presumably so that he will not be confused with Karl Fraenkel, mentioned a few pages further on by his full name.

The text is followed by a bibliography of some 200 titles, mostly in English—intentionally a simplified list, designed to facilitate further reading by those interested.

Next in order is a section entitled "Memorable figures in the history of public health," which, in 9 pages, presents thumbnail sketches of 68 "figures," from Empedocles of Agrigentum to Charles-Edward Amory Winslow. One wonders what led the author to choose the four women and the 64 men he has named, but the choice certainly serves a very useful purpose in that it challenges the reader to produce a better list. Some, certainly, of the following could, in my judgment, have been included: Hans Zinsser, Milton J. Rosenan, Charles V. Chapin, William T. Sedgwick, Frederick Fuller Russell, James S. Simmons, Edward L. Trudeau, William C. Gorgas, Athanasius Kircher, and William Pickles, the English country doctor. I have no quarrel with the selection Rosen has made, which is that of outstanding figures throughout the centuries covered.

A "Selected list of periodicals concerned chiefly or entirely with public health" occupies pages 516 to 519 and includes more than 80 publications from 33 countries. Next come 3½ pages naming 75 public health societies and associations in the United States and other countries. On pages 524 and 525, schools of public health in 16 foreign countries and the 11 schools of the United States are listed.

Indexes are important for a book like Rosen's *A History of Public Health*. In this respect the book is excellent. There is a subject index of 18 double-column pages, comprising well over a thousand topics discussed in the text. The author index follows (pages 544 to 551) and includes more than 660 names which have been mentioned. A peculiarity of this index is the fact that, if the name in the text is the last name only (as for instance Wyman), that is all that appears in the index, whereas if the name has appeared in the text in full, it so appears in the index (thus, Edgar Sydenstricker). I think the index would be more useful if all names in the index were given in full. For instance, the following names are not uncommon and should be amplified by inclusion of the Christian name or at least of initials: Ashby, Carpenter, Fuller, Johnson, Kahn, Kirby, and Woods.

This inexpensive and highly readable book can be recommended to all medical students and should be required reading for all students and practitioners of public health. In this era, when great numbers of our lay people read good literature, including scientific books, Rosen's *History* should be an item for their attention. The Janson type used is pleasing to look at and easy to read. Two errors in spelling were found on one page but none elsewhere in the book. I believe this history will appeal to the philosopher as well as to the technologist and will, without doubt, take its place among the outstanding science histories of the times.

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New Books

Adolescence and the Conflict of Generations. An introduction to some of the psychoanalytic contributions to the understanding of adolescence. Gerald H. J. Pearson. Norton, New York, 1958. 186 pp. $3.95.

Animal Ecology To-Day. vol. VI of *Monographiae Biologicae.* F. S. Bodenheimer. W. Junk, The Hague, Netherlands, 1958. 276 pp.

Annual Reports on the Progress of Chemistry for 1957. R. S. Cahn, Ed. Chemical Society, London, 1958. 465 pp. £2.

The Biology of Hair Growth. William Montagna and Richard A. Ellis. Academic Press, New York, 1958. 537 pp. $15.

Body-Marking in Southwestern Asia. Papers of the Peabody Museum of Archaeology and Ethnology, Harvard Univ., vol. XLV, No. 1. Henry Field. Peabody Museum, Cambridge, Mass., 1958. 175 pp.

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Contributions to the Theory of Nonlinear Oscillations. vol. IV. S. Lefschetz, Ed. Princeton Univ. Press, Princeton, N.J., 1958. 216 pp. $3.75.

Doctor Squibb. The life and times of a rugged idealist. Lawrence G. Blochman. Simon and Schuster, New York, 1958. 383 pp. $5.

Electronic Digital Computers. Their use in science and engineering. Franz L. Alt. Academic Press, New York, 1958. 366 pp. $10.

Flavor Research and Food Acceptance. A survey of the scope of flavor and associated research, compiled from papers presented in a series of symposia given in 1956–1957, sponsored by Arthur D. Little, Inc. Reinhold, New York; Chapman & Hall, London, 1958. 397 pp. $10.

Fourth National Symposium on Vacuum Technology, Transactions, 1957. 9–11 October, Somerset Hotel, Boston, Mass. Wilfrid G. Matheson, Ed. Pergamon, New York and London, 1958. 176 pp. $12.50.

Glass Engineering Handbook. E. B. Shand. Special sections by C. H. Greene and J. A. Grant. McGraw-Hill, New York, ed. 2, 1958. 494 pp. $10.

Introduction to Meteorology. Sverre Petterssen. McGraw-Hill, New York, ed. 2, 1958. 337 pp. $6.75.

Kinetic Theory of Gases. R. D. Present. McGraw-Hill, New York, 1958. 294 pp. $7.75.

Land. The yearbook of agriculture, 1958. U.S. Dept. of Agriculture, Washington, 1958 (order from Supt. of Documents, GPO, Washington 25). 616 pp. $2.25.

Marine Ecology. Hilary B. Moore. Wiley, New York; Chapman & Hall, London, 1958. 504 pp. $9.50.

Mathematics in Fun and in Earnest. Nathan Altshiller Court. Dial, New York, 1958. 250 pp. $4.75.

A Method of Anatomy. Descriptive and deductive. J. C. Boileau Grant. Williams & Wilkins, Baltimore, Md., ed. 6, 1958. 904 pp. $11.

Negroes and Medicine. Dietrich C. Reitzes. Published for the Commonwealth Fund by Harvard Univ. Press, Cambridge, Mass., 1958. 431 pp. $7.

Operational Research in Practice. Report of a NATO conference. Max Davies and Michel Verhulst, Eds. Pergamon, New York and London. 1958. 210 pp. $12.

Physical Acoustics and the Properties of Solids. Warren P. Mason. Van Nostrand, Princeton, N.J., 1958. 414 pp. $9.

The Physical Foundation of Biology. An analytical study. Walter M. Elsasser. Pergamon, New York and London, 1958. 229 pp. $4.75.

Psychopathology. A source book. Charles F. Reed, Irving E. Alexander, Silvan S. Tompkins. Harvard Univ. Press, Cambridge, Mass., 1958. 815 pp. $12.50.

Radioaktive Isotope in der Biochemie. Engelbert Broda. Deuticke, Vienna, Austria, 1958. 339 pp.

Remedies and Rackets. The truth about patent medicines today. James Cook. Norton, New York, 1958. 252 pp. $3.75.

Selected Studies of Migration since World War II. Proceedings of the thirty-fourth annual conference of the Milbank Memorial Fund, held 30–31 October 1957, at the New York Academy of Medicine, pt. III. Milbank Memorial Fund, New York, 1958. 244 pp. $1.

Semiconductors and Phosphors. Proceedings of the International Colloquium, 1956. M. Schon and H. Welker, Eds. Interscience, New York; Vieweg and Sohn, Braunschweig, Germany, 1958. 692 pp. $16.50.