

ance and maternity benefits. For the first time, a routine contribution to medical research was offered (one penny per insured person). The Act was greatly modified and increased in coverage in subsequent years.

It is entertaining and instructive to read this careful study in the light of our present initiation into Medicare. The excellent series of articles on the events leading to the passage of the Medicare bill published in July of this year in the *New Yorker* offers an interesting contrast to the material in this book.

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Anaerobic Microorganisms

André Prévot's *Manuel de Classification et de Détermination des Bactéries Anaérobies* has been an essential reference book for microbiologists ever since the first edition came out during World War II. The second French edition of 1948 and the third of 1957 incorporated changes rendered necessary by work carried on in the intervening years. The first American edition of **Manual for the Classification and Determination of the Anaerobic Bacteria** (Victorien Fredette, Transl. Lea and Febiger, Philadelphia, 1966. 402 pp., \$15), which has just been published, is primarily a translation of the third French edition but incorporates changes in taxonomic arrangement. It includes 50 genera and about 500 species, 56 of which are new.

The fundamental advantages of Prévot's system of classification of the anaerobic bacteria are retained. This unified approach to all of the obligately anaerobic bacteria offers advantages to the microbiologist seeking to identify an unknown organism, and the use of only morphological characteristics to designate genera allows any strain to be placed within a genus. This feature is most appealing to the inexperienced worker, for there is a place for every organism; Prévot's strict adherence to the rules of nomenclature is likely to appeal to the classical taxonomist. That Prévot's system of classification has filled some real needs is shown by the increasing number of workers who use it, particularly for the non-spore-forming rods, the group that gives the most trouble and has had the least critical taxonomic work.

Nevertheless, this scheme of classification is not without difficulties, for while it is simple, application is not always easy. Closer attention than usual must be given to details of technique, for a minor variation in procedure or a slight misinterpretation of results may result in the selection of an incorrect genus. Also, daily observation and measurement, for several weeks, may be necessary to determine in which of two genera a strain should be placed.

Although genera in this system are characterized only on morphological characteristics, subgenera are established by several criteria. Some subgenera are established on the basis of physiological properties, others on the basis of pathologic changes produced in laboratory animals. Species differentiation is based on gas production, colony shape and color, nutritional requirements, and the classical culture characteristics long used by the microbiologist with any system of classification.

There have been many minor but few major changes from the third French edition. Two genera, *Fusocillus* and *Sphaerocillus*, have been removed, with the species formerly listed in *Fusocillus* having been transferred to *Zuberella*. The species formerly listed in *Sphaerocillus* have disappeared entirely. Some desirable changes have not been made. For instance, the clear establishment by recent workers of four distinct species in *Actinomyces* (*Actinobacterium*)—*A. israelii*, *A. naeslundii*, *A. eriksonii*, and *A. bovis*—has not been recognized.

Like almost all books, the *Manual* has its flaws. The publishers are to be complimented on producing a well-made book printed in highly legible type, well bound, and quite suitable for constant use in the laboratory. It is unfortunate, however, that careless proofreading has resulted in so many errors. The translation is exact but tends to be literal; for example "this genus groups presently 15 species" and "To revitalize the pathogenicity, non-specific agents must alter the host's tissues." One also occasionally finds a puzzling statement such as that concerning *Cillobacterium endocarditis*, "The sterile filterate [sic] kills mice (intravenous injection) at 1 to 20 ml.," a massive dose for an animal that usually weighs between 20 and 30 grams. There are a few inconsistencies such as the statement in the preface that "*Fusiformis* cannot be considered as

autonomous any longer but a subgenus of *Sphaerophorus* which brings together all the species with pointed ends," although in the text *Fusiformis* is listed as a valid genus in its own right with three former species having been transferred to *Ristella*.

Although few workers with the anaerobes will agree with every detail of this system of classification or with every species description they will, nevertheless, appreciate that this manual is the only book that endeavors to treat all the anaerobic bacteria by a single system, and that only a microbiologist with Prévot's decades of experience could have written it. It will find a place on the reference shelf of every laboratory concerned with the anaerobes and will undoubtedly fulfill the hope of the author "to bring closer together the taxonomic concepts of French and American bacteriologists."

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New Books

General

The Adventure of Man: His Evolution from Prehistory to Civilization. Arthur S. Gregor. Macmillan, New York, 1966. 192 pp. Illus. \$4.50 (juvenile).

Ancient Oaxaca: Discoveries in Mexican Archeology and History. John Paddock, Ed. Stanford Univ. Press, Stanford, Calif., 1966. 432 pp. Illus. \$18.50. Contributions by Ignacio Bernal, Alfonso Caso, Robert Chadwick, Howard F. Cline, Wigberto Jiménez Moreno, Howard Leigh, John Paddock, Donald Robertson, and Charles R. Wicke.

Ancient Peruvian Ceramics: The Nathan Cummings Collection. Alan R. Sawyer. New York Graphic Soc., Greenwich, Conn., 1966. 144 pp. Illus. \$8.50.

John James Audubon. Alexander B. Adams. Putnam, New York, 1966. 510 pp. Illus. \$7.95.

Behind the Dim Unknown. John Clover Monsma, Ed. Putnam, New York, 1966. 256 pp. \$4.95. Contributors are Russell C. Artist, Donald G. Baker, Paul G. Bartels, John A. Buehler, Wilbur L. Bullock, Clifford L. Burdick, Leonard F. Burkhardt, Ralph F. Coleman, Lion F. Gardiner, Frederick H. Giles, Duane T. Gish, Terry F. Godlove, John J. Grebe, Dean Owen Harper, H. Harold Hartzler, George F. Howe, O. Carroll Karkalits, M. Joseph Klingensmith, William G. Pollard, Dwight L. Randall, Harold L. Slusher, William H. Van de Born, Laurence C. Walker, Kurt Weiss, Albert M. Winchester, and Merlin Wayne Zook.

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