

will result depending upon whether fungicides are used or not. There are other chapters, of course: fungi on foliage and fruit, fungi on wood, and fungi on paper, plastics, paint, fuel oil, and so on.

If one wishes to learn about the fight with the fungi and how even the fungus fights back by degrading fungicides, I think he will find this book useful and satisfying. I shall look forward to the second volume.

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Protein-Analysis Technique

Electrophoresis. Theory, Methods, and Applications. Vol. 2. MILAN BIER, Ed. Academic Press, New York, 1967. xviii + 553 pp., illus. \$21.

It is evident from volume 2 of this series that the electrophoretic method has received widespread application. In the new volume, applications have assumed the predominant role, whereas theory and methodology predominated in volume 1. It is also evident that the resolving power, speed, and simplicity of electrophoresis on paper, on starch gel, and more recently on polyacrylamide gel, have accounted for its unprecedented utilization in biology.

Among the contributions to this volume are reviews devoted to the application of electrophoretic methods for the identification of normal human serum proteins, protein variants in human serum, antibodies and myeloma proteins, the macromolecular constituents of lymph and cerebrospinal fluid, and gastrointestinal secretions. Each of these is a complex protein system which can be uniquely resolved by electrophoresis, alone or in conjunction with immunological techniques, and the ways in which this can be done are described. The chapter by Burtin and Grabar on the nomenclature and identification of the normal serum proteins is a clearly written and well-organized review. A significant portion of the chapter on the inheritance of protein variation in human serum by B. H. Bowman is a review of the molecular biology of genetic variation. The author's intent is to point out the impact that this subject has on understanding of the variations in serum proteins. However, because there are many unanswered questions on the

structure and macromolecular configurations of the serum proteins, attempts to relate the two kinds of variation may be premature, especially since there are still differences (with respect to initiators, histone control, and so on) to be resolved between *Escherichia coli* and mammalian systems. H. M. Grey provides an informative review of the structure of the myeloma proteins and their relation to the immunoglobulins, particularly with reference to the portions of the heavy and light chains which contribute to the antibody moiety and the crystallizable or tissue-binding moiety.

In the chapter "Primary protein structure," by Sorm and Meloun, only one-fourth of the information is related to electrophoretic techniques. Unfortunately, only brief mention is made of the "diagonal electrophoresis" method of Hartley and co-workers [see *Science* 156, 376 (1967)]. In his chapter "High resolution techniques," Bloemendal stresses the advantages of gel electrophoresis over other methods. His review of the techniques and literature on the many applications of gel electrophoresis is excellent, and he is even kind enough to include sources from which current information on the latest applications may be obtained.

In general, the volume is a thorough compilation of reviews on the theory, methods, and applications of electrophoresis, with some references dated as recently as 1967. It should be useful, as is volume 1, as a reference manual to any investigator utilizing the electrophoretic method.

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Books Received

The Addictive States. Proceedings of the Association for Research in Nervous and Mental Disease, New York, Dec. 1966. Abraham Wikler, Ed. Williams and Wilkins, Baltimore, 1968. xii + 520 pp., illus. \$24.

Advances in Atomic and Molecular Physics. Vol. 3. D. R. Bates and Immanuel Estermann, Eds. Academic Press, New York, 1967. xii + 371 pp., illus. \$16.50.

Advances in Immunology. Vol. 8. F. J. Dixon, Jr., and Henry G. Kunkel, Eds. Academic Press, New York, 1968. xvi + 246 pp., illus. \$12.

Advances in Microwaves. Vol. 3. Leo Young, Ed. Academic Press, New York, 1968. xiv + 450 pp., illus. \$19.50.

Advances in Organometallic Chemistry.

Vol. 6. F. G. A. Stone and Robert West, Eds. Academic Press, New York, 1968. xvi + 363 pp., illus. \$16.50.

Advances in Quantum Chemistry. Vol. 4, 1968. Per-Olov Löwdin, Ed. Academic Press, New York, 1968. xvi + 334 pp., illus. \$17.

Alchemical Studies. C. G. Jung. Translated by R. F. C. Hull. Princeton University Press, Princeton, N.J., 1967. xiv + 453 pp., illus. \$7.50. Bollingen Series 20. The Collected Works of C. G. Jung, vol. 13.

Alcoholism and Mortality. Per Sundby. Universitetsforlaget, Oslo, Norway, 1967 (distributed in the United States by Rutgers University Center of Alcohol Studies, New Brunswick, N.J.). 207 pp. \$8. Alcohol Research in the Northern Countries. National Institute for Alcohol Research, Publication No. 6.

Allgemeine und experimentelle Immunologie und Immunpathologie. Sowie ihre klinische Anwendung. Carl Steffen. Thieme, Stuttgart, 1968 (distributed in the United States by Intercontinental Medical Book Corp., New York). xxiv + 702 pp., illus. DM 89.

An American Genius. The Life of Ernest Orlando Lawrence. Herbert Childs. Dutton, New York, 1968. 576 pp., illus. \$12.95.

American Indian Painting of the Southwest and Plains Areas. Dorothy Dunn. University of New Mexico Press, Albuquerque, 1968. xxviii + 429 pp., illus. \$25.

Astronomy. Globes, Orreries and Other Models. H. R. Calvert. Her Majesty's Stationery Office, London, 1967 (distributed in the U.S. by British Information Services, New York). Unpaged, illus. Paper, \$1.20.

Anabolic Steroids. H.-L. Krüskemper. Translated from the German edition (Stuttgart, 1963) by Charles H. Doering. Academic Press, New York, 1968. x + 236 pp., illus. \$12.50.

An Atlas of the Brains of Fishes of Japan. Hideomi Tuge, Kiyoshi Uchihashi, and Hatsutarō Shimamura. Tsukiji Shokan, Tokyo, 1968. 240 pp., illus., boxed \$75.

Antibiotics. David Gottlieb and Paul D. Shaw, Eds. Vol. 1, Mechanism of Action (xii + 785 pp., illus. \$39); vol. 2, Biosynthesis (xii + 466 pp., illus. \$24). Springer-Verlag, New York, 1967.

Antibiotics in Agriculture. Proceedings of the 5th symposium of the Group of European Nutritionists, Jouy-en-Josas, April 1966. J. C. Somogyi and A. C. François, Eds. Karger, Basel, 1968 (distributed in the United States by Phiebig, White Plains, N.Y.). viii + 208 pp., illus. Paper, \$17.50.

Application of Physico-Chemical Methods in Chemical Analysis. Plenary lectures presented at a conference, Budapest, April 1966. International Union of Pure and Applied Chemistry in conjunction with the Hungarian Academy of Sciences and the Hungarian Chemical Society. Butterworths, London, 1967 (distributed in the United States by Plenum, New York). vi + 144 pp., illus. \$10.

Applied Mathematics for Electronics. John H. Westlake and Gordon E. Noden. Prentice-Hall, Englewood Cliffs, N.J.,

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