with their simultaneous "need" (in free energy terms) to position their polar ends in contact with a polar environment and their nonpolar ends in a nonpolar surround, that is basically responsible for the establishment of all micelles and membranous structures in an aqueous world. By the end of chapter 4 the reader has a concise view of the behavior of these molecules in various environments, and (one is tempted to say) everything else follows as a natural consequence of these thermodynamic considerations.

A short chapter on water comes next, which in my view is the weakest part of the book. Here Tanford's insistence on not even alluding to anything that might be viewed as a speculative model makes it difficult for him to put across the notion of the many forms water must be able to assume in establishing thermodynamically and mechanically stable structures around the nonpolar, polar, and ionized functional groups inserted into it. At this point, a speculative model, presented purely as an illustration of the kinds of possibilities one needs to consider, might have served the reader better than a rigid adherence to fully established facts.

Tanford then moves on to micelles, introducing the ideas of cooperativity and the principle of the balance of opposing forces (intermonomer head group repulsion and tail group attraction) in determining the shape and stability of the resulting micellar "micro-phase," and then to the structural and thermodynamic restrictions on polar molecules inserted into a nonpolar surround of the sort presented by the interior of a micelle. The properties of monolayers are briefly presented, and then the reader is sequentially introduced to the various molecular components actually found in biological membranes, together with a discussion of their similarities to, and differences from, the simpler species discussed in the preceding "model systems" presentation. The book concludes with a very brief survey of the highlights of what (in Tanford's view) is known (and not known) about membrane structure.

This is a beautifully crafted book. In going through it one feels that one is watching a skilled cabinetmaker at work, installing supports and dovetailing joints in clear view of the audience so that the relations of the parts are apparent throughout and all can follow how each development underpins the next. Such coherent insight is not often available, and most readers will be amply repaid in the coin of increased understanding for the time they invest in reading this volume.

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Cost Engineering Analysis. A Guide to the Economic Evaluation of Engineering Projects. William R. Park. Wiley-Interscience, New York, 1973. xii, 308 pp., illus. $14.95.

Current Biochemical Approaches to Learning and Memory. Walter B. Essman and Shinshu Nakajima, Eds. Spectrum, Flushing, N.Y., 1973 (distributor, Halsted [Wiley], New York). x, 206 pp., illus. $15. Monographs in Modern Neurobiology.

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An Introduction to the Mechanics of Solids. Stresses and Deformation in Bars. A. S. Hall. Wiley, New York, 1974. xvi, 448 pp., illus. $19.95.

Introductory Microbiology. Julia Levy, Jack J. R. Campbell, and T. Henry Blackburn, Wiley, New York, 1973. xiv, 684 pp., illus. + plates. $14.95.

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The Invisible Made Visible. The Expansion of Man's Vision of the Universe through Technology. Ernst von Khuon. Translated from the German edition (Dusseldorf, Germany, 1968) by Paula Arno. New York Graphic Society, Greenwich, Conn., 1974. 290 pp., illus. $19.95.

Mathematics for Industrial Technicians. Chester Pachucki. Prentice-Hall, Englewood Cliffs, N.J., 1974. xviii, 458 pp., illus. $9.95. Prentice-Hall Series in Technical Mathematics.

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Survey of Progress in Chemistry. Vol. 6. Arthur F. Scott, Ed. Academic Press, New York, 1973. xii, 340 pp., illus. $29.50.

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Economic Geologist. Ph.D. 1966. Publications. Desires academic research-teaching position in western United States. Strong theoretical background with interests in geophysics and geochemistry. Broad North American field exploration experience in shield and cordillera. Current research and publication on porphyry deposits. Box 149, SCIENCE. 5/10, 17

Neuroanatomist, Ph.D. Postdoctoral experience in neurophysiology. Seeking position in neurology and/or psychiatry department. Box 211, SCIENCE. X

Neurobiologist. Interdisciplinarian with extensive teaching experience and publications in ethology, psychophysics, and neurophysiology. Desires stable position. Box 227, SCIENCE. X

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Please send complete curriculum vitae including publications and the names and addresses of three references to:

Chairman, Electron Microscopist Search Committee
Department of Physiology
Yale University School of Medicine
333 Cedar Street—SHM B-106
New Haven, Connecticut 06510

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A Ph.D. in plant physiology with supporting background in biochemistry, chemistry or environmental science is sought to fill a combination research-teaching position in the area of environmental pollution. Teaching responsibilities include the presentation of one graduate and one undergraduate course in environmental plant physiology. A research program is to be developed which will identify and characterize certain environmental pollution problems in Texas. Send résumé and names of three references to:

Dr. Wayne R. Jordan, Chairman
Faculty Search Committee
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