Salt Formations

Paleozoic Salt Bearing Formations of the World. MICHAIL A. ZHARKOV. A. L. Yanshin, Ed. Springer-Verlag, New York, 1984. viii, 427 pp., illus. $62. Translated from the Russian edition (Moscow, 1974) by R. E. Sorkina, R. V. Fursenko, and T. I. Vasilieva.

The avowed purpose of this book is to provide a compilation, analysis, and classification of the various types of salt formations as an aid to the understanding of salt accumulation through the Paleozoic portion of geological history. The volume is the second in a pair of books concerning Paleozoic salt-bearing deposits throughout the world. The first volume (*History of Paleozoic Salt Accumulation*, English edition 1981) introduced the various stages of evaporite accumulation and discussed the paleogeography, paleoclimatology, areal extent, volume, and stratigraphic position of the major evaporite deposits. The second discusses evaporite deposits in each of the geological periods of the Paleozoic and in the Precambrian. The volume most successfully fulfills its goal in its good systematic review of almost all known pre-Mesozoic evaporite deposits.

The scope of the book is broad, and the volume of literature that has been combed for data is prodigious. Particularly significant are the references to Russian and Polish publications, which are generally not well known in the West. The bibliography updates that of the earlier volume and includes some of the evaporite literature of the 1980's.

The coverage of European and Asian evaporite basin stratigraphy and the associated types and volumes of salt deposits is very detailed, as is that of non-Eurasian deposits, although some key references have been missed for a few non-Eurasian deposits, such as the Elk Point-Williston Basin complex and the Delaware Basin (North America).

In the past 10 to 15 years many papers have been written showing that, although broad concepts concerning the stratigraphy of salts are important, analysis of internal detail and of facies is both possible and necessary. Some presentations of stratigraphic sequences in the book do not include mention of sedimentary facies, except as mineral or rock names. Those features of sedimentary facies formed in evaporite basins that indicate depositional variation within any stratigraphic level are significant, for the variation not only controls the evaporites but also signifies important features in associated non-evaporitic deposits. Such features are not discussed in the volume. Despite this failing, Zharkov's new volume contains so many data brought together for the first time that it provides a vital resource for interested geologists.

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Sensory Physiology

Somatosensory Mechanisms. CURT VON EULER, OVE FRANZÉN, ULF LINDBLOM, and DAVID OTTOSON, Eds. Plenum, New York, 1984. xiv, 396 pp., illus. $55. Wenner-Gren Center International Symposium Series, vol. 41. From a symposium, Stockholm, June 1983.

The warm introduction by David Ottoson to this volume of papers from a meeting tells us that the meeting was initially planned by Yngve Zotterman, who, with E. D. Adrian, pioneered recording from single somatosensory elements over 50 years ago. Zotterman's death before the meeting took place imparts a "festschrift" character to a selection of topics and speakers that clearly emphasizes the marriage of electrophysiology and psychophysics—the central theme and propelling force in Zotterman's career.

There is essentially nothing here that has not been published in more complete and useful form elsewhere, but the initial chapter provides a wonderfully insightful account by Vernon Mountcastle of changing trends, new discoveries, and exciting future prospects. Painted with a broad brush, it serves as an excellent backdrop for understanding the value of cortical mapping studies of different parts of the body in various species, the multiplicity of representations and the segregation of modalities, and the environmental influences capable of altering topographic features. The section on dysfunction is especially interesting in its elaboration of ideas and observations consistent with the concept of plasticity of receptive field size and properties in the context of hyperpathia, neuralgia, hyperalgesia, and paresthesia. The most valuable feature of the volume is a summary of the excellent work deriving from Swedish laboratories, which have consistently led the field in relating sensory and neurophysiological responses in human subjects. There is scant consideration of the controversial aspects of interpretation of psychophysical data or of the difficulty of quantifying feature-extraction properties of central neurons, but on the whole the excitement generated by highly effective new technology is nicely presented in reasonably up-to-date fashion. The inclusion of papers on metabolic and electrophysiological mapping studies of primate cortex and the emphasis on neurophysiology in humans should attract many clinicians.

Robust activity in the field of pain research reveals many new findings and approaches. Not unexpectedly, some of the problems that have emerged are not easily resolved. There are interesting discussions of the failure of systemic morphine to elicit analgesia and the discrepancies between nociceptor sensitization and hyperalgesia, an evaluation of a specific labeled-line pathway in the context of hyperpathias, and a plea for the importance of nociceptive-specific neurons in thalamic and cortical representation despite the apparent dominance of multireceptive neurons in most studies of central neuronal mechanisms.

The offset reproduction of various typefaces, the numerous spelling and stylistic misfortunes, and the hard-cover paper binding do not contribute aesthetic delight or notable economy to the book, but perhaps this is part of the price that must be paid for rapid publication.

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Vitamin A and Its Derivatives

The Retinoids. MICHAEL B. SPORN, ANITA B. ROBERTS, and DEWITT S. GOODMAN, Eds. Academic Press, New York, 1984. In two volumes. Vol. 1, xiv, 424 pp., illus. $46. Vol. 2, xiv, 446 pp., illus. $48.

These two volumes are a timely and comprehensive treatise on the chemical and biological functions of vitamin A and its natural and synthetic derivatives (retinoids). Following an introductory chapter, 15 dense, encyclopedic chapters cover in detail the chemistry, biochemistry, biology, and clinical applications of these compounds. The two volumes in toto convey the strong message that re-