the present. The story of back-arc basin deposition would seem especially to need further sorting out, as does trench deposition, for these deposits are highly tectonized where they appear on dry land. As in other fields of geology, the imprint of plate tectonics as the ultimate control is clearly apparent in studies of sedimentation.

The book is well organized and nicely illustrated. Balance has been achieved by the addition of a few papers not presented at the original symposium. K. O. Emery has provided a foreword, and the editors have written both a preface and a final summing up—called by them an "appraisal and augury." One does question, however, why the publishers chose to print this tome in coffee-table format on thick paper stock, thus making it overly large for its content. As a scholarly and specialized source book that updates one aspect of marine geology, it should find space not on a coffee table but rather on the shelves of those interested in sedimentology, oceanography, and petroleum geology.

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## Plant Growth

**Controlling Factors in Plant Development.** HIROH SHIBAOKA, MASAKI FURUYA, MASAYUKI KATSUMI, and ATSUCHI TAKIMOTO, Eds. Botanical Society of Japan, Tokyo, 1978. x, 278 pp., illus. Paper, Y4100. Special Issue No. 1 of the *Botanical Magazine*.

This paperback volume is the first of a new "special issue" series from the Botanical Society of Japan designed for botanists and advanced students. The 14 papers are somewhat arbitrarily grouped into four sections. The first section, overoptimistically entitled Major Developmental Stages in Plant Life, begins with a theoretical discussion by P. F. Wareing of the application of the concept of determination, that is, progressive specialization through the restriction of developmental potential, to the development of plants. K. V. Thimann's paper "Senescence" is a comprehensive and well-documented treatment of a subject that he has played an important role in developing.

In the second section, Metabolic Control, I. Takeuchi and colleagues describe their recent use of fluorescence-labeled antiserum as a marker of cell differentiation in roller tube cultures of the slime mold *Dictyostelium discoideum*. N. Yanagishima presents evidence for a peptide "pheromone" that induces agglutinability in mating types of common yeast. A great deal of attention has been focused on the interaction of gibberellic acid $A_3$ with aleurone cells of grains in the hope that insight will be gained into the mechanism of action of this major plant hormone. R. L. Jones and J. V. Jacobsen review the post-1970 work, baring the great complexity of a subject that at first seemed quite tractable.

In section 3, Hormonal Control, papers by Y. Masuda and by R. E. Cleland and D. L. Rayle review our current understanding of the long-sought mechanism by which auxins promote cell wall growth. Here again one is impressed by the complexity exposed by the data. In an especially lucid treatment, M. Katsumi and H. Kazama provide a rationale for the unification of the two seemingly disparate major roles of gibberellic acid. The final paper in this section, by E. Miginiac, presents support for the frequently overlooked importance of interorgan correlation in the control of flowering.

In the last section, Environmental Control, research with five rather diverse model systems is reviewed. Y. Oota and N. Nakashima summarize their efforts to elucidate the complex photoperiodic control of flowering in *Lemna gibba*, and M. Furuya documents our growing awareness of the complexity of the photocontrol of spore germination, protonemal growth, and cell division in ferns. Years of experience with mustard seedlings have provided H. Mohr and his co-workers with a good system for developmental studies. Here Mohr describes the formation of both temporal and spatial patterns of differentiation in cotyledon development in light and darkness. A. W. Galston summarizes the highly original and productive studies of leaf movements in legumes. Exploration of these unique plants has yielded insight into many of the important biological problems of our time and promises to enrich our understanding of the complex interactions of light with endogenous rhythmic processes. M. B. Wilkins, himself a major force in the study of geotropism, concludes with the welcome news that the statolith and Cholodny-Went hypotheses of the early 1900's are standing the test of time, at least as guiding concepts. All is not quicksand!

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## Books Received

**Adolescence**. Transition from Childhood to Maturity. B. Geraldine Lambert, Barbara F. Rothschild, Richard Altland, and Laurence B. Green. Brooks/Cole, Monterey, Calif., ed. 2, 1978. viii, 376 pp., illus. $12.95.

**Annual Review of Medicine**. Selected Topics in the Clinical Sciences. Vol. 29. William P. Creger, C. H. Coggins, and E. W. Hancock, Eds. Annual Reviews, Palo Alto, Calif., 1978. x, 614 pp., illus. $17.

**Annual Review of Neuroscience**. Vol. 1. W. Maxwell Cowan, Zach W. Hall, and Eric R. Kandel, Eds. Annual Reviews, Palo Alto, Calif., 1978. xiv, 506 pp., illus. $17.

**Annual Review of Pharmacology and Toxicology**. Vol. 18. Robert George, Ronald Okun, and Arthur K. Cho, Eds. Annual Reviews, Palo Alto, Calif., 1978. x, 650 pp., illus. $17.

**Annual Review of Physiology**. Vol. 40. Ernst Knobil, Ralph R. Sonnenschein, and I. S. Edelman, Eds. Annual Reviews, Palo Alto, Calif., 1978. x, 604 pp., illus. $17.

**Applications of Digital Signal Processing**. Alan V. Oppenheim, Ed. Prentice-Hall, Englewood Cliffs, N.J., 1978. xii, 498 pp., illus. $23. Prentice-Hall Signal Processing Series.

**Applied Mineral Exploration with Special Reference to Uranium**. Robert V. Bailey and Milton O. Childers. Westview Press, Boulder, Colo., 1977. xx, 542 pp., illus. $65.

**Aquatic Microbiology**. Papers from a conference, 1976. F. A. Skinner and J. M. Shewan, Eds. Academic Press, New York, 1977. xii, 370 pp., illus. $30.25. The Society for Applied Bacteriology Symposium Series No. 6.

**Biology in Transition**. A Critical Inquiry. Harry Lehman. Exposition Press, Hicksville, N.Y., 1978. 176 pp., $8.50. An Exposition-University Book.

**The Biology of People**. Sam Singer and Henry R. Hilgard. Freeman, San Francisco, 1978. xiv, 546 pp., illus. $15. A Series of Books in Biology.

**Biomolecular Structure and Function**. Papers from a symposium, Columbia, Mo., May 1977. Paul F. Agris, Richard N. Loeppky, and Brian D. Sykes, Eds. Academic Press, New York, 1978. xxvi, 614 pp., illus. $25.

**Coal Resources, Characteristics and Ownership in the U.S.A**. Robert Noyes, Ed. Noyes Data Corporation, Park Ridge, N.J., 1978. xii, 606 pp., illus. $45.

**Control System Design by Pole-Zero Assignment**. Papers from a meeting, Cambridge, England, Sept. 1974. F. Fallside, Ed. Academic Press, New York, 1977. x, 240 pp., illus. $22.50.

**Cosmic Catastrophes**. Gerrit L. Verschuur. Addison-Wesley, Reading, Mass., 1978. x, 214 pp., illus. Cloth, $9.95; paper, $4.95.

**The Courage to Be Imperfect**. The Life and Work of Rudolf Dreikurs. Janet Terner and W. L. Pew with the editorial assistance of Robert A. Aird. Hawthorn Books, New York, 1978. xvi, 412 pp., illus. $14.95.

**Creation**. Frank Jakubowsky. Published by the author, 1565 Madison Street, Apt. 308, Oakland, Calif., 1978. iv, 106 pp., illus. Paper, $1.95.

**Current Trends for the Developmentally Disabled**. Papers from a conference. Atlanta, 1976. Margo S. Berkler, Gary H. Bible, Shawn M. Boles, Diane E. D. Deitz, and Alan C. Repp, Eds. University Park Press, Baltimore, 1978. viii, 232 pp. Paper, $9.95.

**The Eel**. Biology and Management of An-