

hydra the first instance of asexual reproduction in animals, and Abraham Trembley (1744) described for the first time successful animal grafting experiments, vital staining of tissues, phototaxis in "eyeless" animals, and thorough proof of budding and regeneration—all with hydra. Today we find hydra widely used throughout the world for investigations of behavioral physiology and cellular ultrastructure and differentiation.

Despite such an illustrious past and contemporary history, there exist but few compendia on hydra. There are the classic *Mémoires* of Trembley (1744) in the original French, as well as in German (1786) and Russian (1927) translations, and Kanaev's (1952) comprehensive monograph in Russian. A modern English volume in the same tradition of excellence has been long overdue. Burnett's book does not fill the bill.

The book contains some reviews, some previously published papers, and some preliminary papers not yet published elsewhere. It is an "in-house" book—all of the articles are either co-authored by the editor or authored by his former graduate or postdoctoral students. Hence, as might be expected, it lacks the rigor as well as the richness and variety in ideas that are normally found in comparable volumes having contributors of diverse educational experience. Instead this book for the most part vigorously promotes the authors' interpretation of growth and differentiation in hydra, an interpretation not shared by most workers in the field.

A number of the contributors treat the work of others with scorn. For example, on Campbell's widely accepted investigations demonstrating the uniform distribution of cell division along the body column (a discovery which negated one of Burnett's major theories), Burnett writes, "This is a false notion and one that must be corrected. . . . It is hoped that this paper will settle once and for all [these] spurious notions" (p. 343).

In the chapter "Ecology" by Reisa, there are numerous deprecatory remarks pertaining to the use of laboratory-grown animals (p. 57), to the role of glutathione in controlling mouth opening (p. 86), and to the observed rapid growth rate of hydra (p. 91). In addition, Reisa brushes off Loomis's careful work on the induction of gonadogenesis with, "It is not the best practice to delay closing a barn door until some of the livestock al-

ready have been lost. Natural selection usually results in an organism 'wiser' than that" (p. 86). This last statement, like most of Reisa's comments, shows a lack of understanding of the work he is criticizing. In fact, his criticism of Loomis (the "father" of modern hydra research) appears to be based solely on a reading of Loomis's *Scientific American* article; he refers to none of Loomis's original scientific papers.

Homespun philosophy and dogma permeate the book. For example, "Teleological devices may have been detected by mechanistic purists. . . . Empathy can be heuristic" (pp. 97–98) and "we maintain that the I-cell [interstitial cell] is here to stay" (p. 267).

Such bursts of rhetoric and defensiveness obviate the editor's introductory statement that "the authors have judiciously [my italics] chosen to cite only those [papers] most pertinent to their [own] contributions" and to discuss some of these fields with heretofore unprecedented "authority" (p. xiii).

Yet the book is interspersed with some interesting ideas on behavior and development, descriptions of tantalizing phenomena that can be studied with hydra (among them cellular differentiation, polarity, and effect of environment on behavior), and some fine electron micrographs. Rushforth's review of hydra behavior is scholarly, but stands alone. It is unfortunate that there is not a chapter on hydra electrophysiology—a subject on which Rushforth is an authority.

Because some of the Burnett group seem determined to scold other hydra workers and to push their own interpretations, they make it difficult for the reader to sift out the fact from the fancy. For that matter, they discourage him from even trying.

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Books Received

Activités Evoquées et Leur Conditionnement chez l'Homme Normal et en Pathologie Mentale. (Average Evoked Responses and Their Conditioning in Normal Subjects and Psychiatric Patients.) Proceedings of a conference, Tours, France, Sept. 1972. Institut National de la Santé et de la Recherche Médicale, Paris, 1972. xiv, 448 pp., illus. Paper, 50 F.

Advances in Chemical Physics. Vol. 24. I. Prigogine and Stuart A. Rice, Eds. Interscience (Wiley), New York, 1973. x, 358 pp., illus. \$22.50.

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Algebra. An Algorithmic Treatment. Kenneth E. Iverson. Addison-Wesley, Menlo Park, Calif., 1973. xiv, 362 pp., illus. Paper, \$8. Addison-Wesley Innovative Series.

Algebraic Number Fields. Gerald J. Janusz. Academic Press, New York, 1973. x, 220 pp. \$18. Pure and Applied Mathematics, vol. 55.

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Amphibians. J. F. D. Frazer. Wykeham, London, and Springer-Verlag, New York, 1973. vi, 122 pp., illus. Paper, \$5.80. Wykeham Science Series, vol. 25.

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Australia Antigen. Proceedings of a symposium, Philadelphia, Nov. 1971. James E. Prier and Herman Friedman, Eds. University Park Press, Baltimore, 1973. xviii, 236 pp., illus. \$12.50.

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Biographical Memoirs. Vol. 43. Published for the National Academy of Sciences by Columbia University Press, New York, 1973. viii, 356 pp. + illus. \$5.

The Biological Efficiency of Protein Production. Proceedings of a symposium, Reading, England, Sept. 1971. J. G. W. Jones, Ed. Cambridge University Press, New York, 1973. xii, 386 pp., illus. \$21.

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Educability and Group Differences. Arthur R. Jensen. Harper and Row, New York, 1973. viii, 408 pp., illus. \$10.

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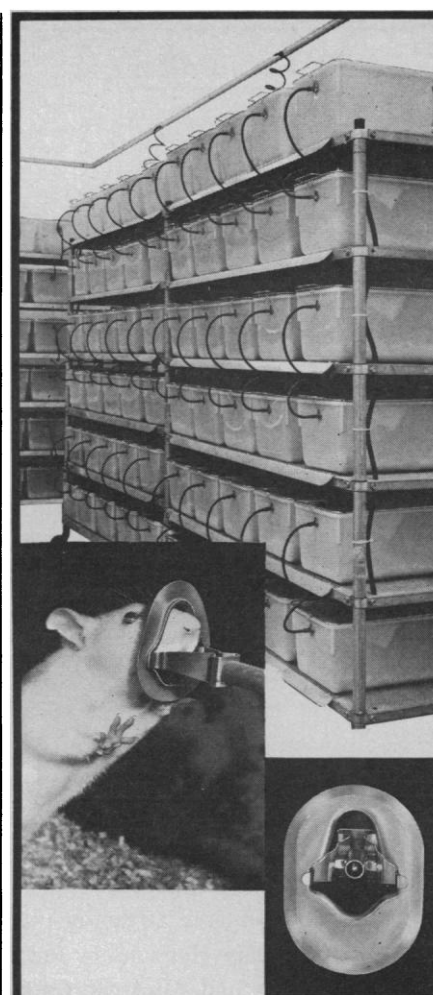
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The Politics of Environmental Concern. Walter A. Rosenbaum. Praeger, New York, 1973. viii, 298 pp. Cloth, \$9; paper, \$3.95.

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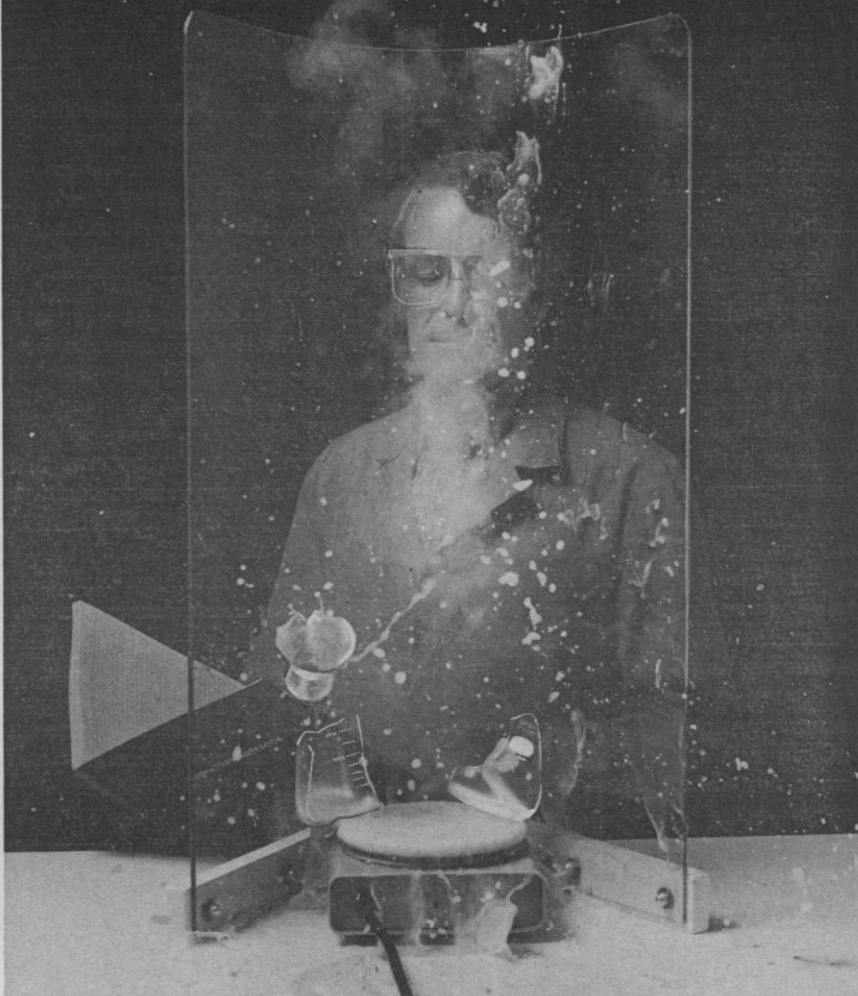
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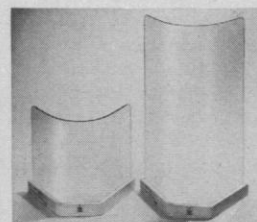
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