

experience in writing this book and includes many of his own photographs among the excellent color plates. From these and the text, one gets a good impression of the nature of both cryptic and aposomatic (warning) coloration. Other aspects of predator defense from anachoresis (hole dwelling) to thanatosis (death feigning) are also extensively covered.

In spite of these merits, however, the book must rate as a disappointment. This is too bad because it had available a clear niche as successor to H. B. Cott's *Adaptive Coloration in Animals* published in 1940. Edmunds does review much of the information accumulated in the last 35 years, but by and large he fails to place it in ecological and evolutionary perspective and fails to indicate the relevance of his subject to recent advances in evolutionary theory. A good example is his discussion of "chemical ecology," the study of the synthesis of various noxious or poisonous chemicals by plants and their subsequent incorporation by herbivores. Edmunds adopts the current argument that many herbivores incorporating these substances are protected from predation by aposematic coloration. Indeed this may be the case, but there remains the fundamental question of how the system evolves when a predator, while learning to avoid a noxious prey, still kills its first intended victim (as in the case of blue jays which swallow and then vomit monarch butterflies or their caterpillars). As Edmunds indicates, one solution is automimicry as suggested by Brower; but there are also obvious issues of kin selection, and these are never mentioned. In fact Edmunds himself falls back on a naive group selectionist argument involving "benefit" to the species. Group selectionist statements of this sort are scattered throughout the book, and discussion of the current ferment over kin selection, group selection, and the evolution of parenthood and social groups is conspicuously absent in spite of obvious relevance.

The book also has other faults. Throughout the author reduces every experimental design to its simplest chi-square, frequently misleadingly and sometimes incorrectly. He leaves one with the feeling that he believes that if one can do a chi-square one can do quantitative ecology; in fact, he virtually says as much in the preface. As a result the book imparts quite misleading notions about experimental design. In some cases Edmunds also falls into the "inflated *N*" trap of testing for differences between frequencies of prey items taken when in fact the sample is the predators. Finally, there is only superficial mention of the importance of predator behavior as a selective force in spite of a pen-

ultimate chapter on the evolution of predator-prey interactions.

Thus a significant opportunity has been missed. For some time we have needed a critical review of our assumptions regarding defense mechanisms and a synthesis of empirical evidence and current evolutionary theory. Regrettably that is still the case.

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## Books Received

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**Adolescent Suicide.** André Haim. Translated from the French edition (Paris, 1970) by A. M. Sheridan Smith. International Universities Press, New York, 1975. xiv, 310 pp. \$15.

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**Agriculture, Economics, and Resource Management.** Milton M. Snodgrass and L. T. Wallace. Prentice-Hall, Englewood Cliffs, N.J., 1975. xiv, 522 pp., illus. \$13.95.

**Akademie der Wissenschaften und der Literatur Mainz, 1949-1974.** Published for Akademie der Wissenschaften und der Literatur Mainz by Steiner, Wiesbaden, Germany, 1974. 186 pp. + plates. Paper, DM 26.

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**The Application of Mathematical Modelling to Process Development and Design.** L. M. Rose. Halsted (Wiley), New York, 1975. xiv, 364 pp., illus. \$37.50.

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**Artificial Paranoia.** A Computer Simulation of Paranoid Processes. Kenneth Mark Colby. Pergamon, New York, 1975. x, 116 pp., illus. Cloth, \$12.50; paper, \$7.50. Pergamon General Psychology Series, vol. 49.

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**Atlas of Gross Neurosurgical Pathology.** Klaus J. Zülch. Springer-Verlag, New York, 1975. viii, 230 pp. \$49.20.

**Atomic Absorption and Fluorescence Spectroscopy.** G. F. Kirkbright and M. Sargent. Academic Press, New York, 1974. x, 798 pp., illus. \$44.

**The Automobile and the Regulation of Its Impact on the Environment.** Frank P. Grad and eight others. University of Oklahoma Press, Norman, 1975. xiv, 482 pp., illus. Paper, \$9.95. RANN Report NSF/RA/X-74-023.

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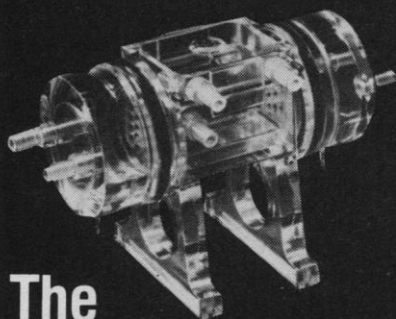
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(Continued on page 1134)

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*Chromatography, Electrophoresis and Membrane Technology* are treated in a 108-page catalog. Bio-Rad Laboratories. Circle 774.

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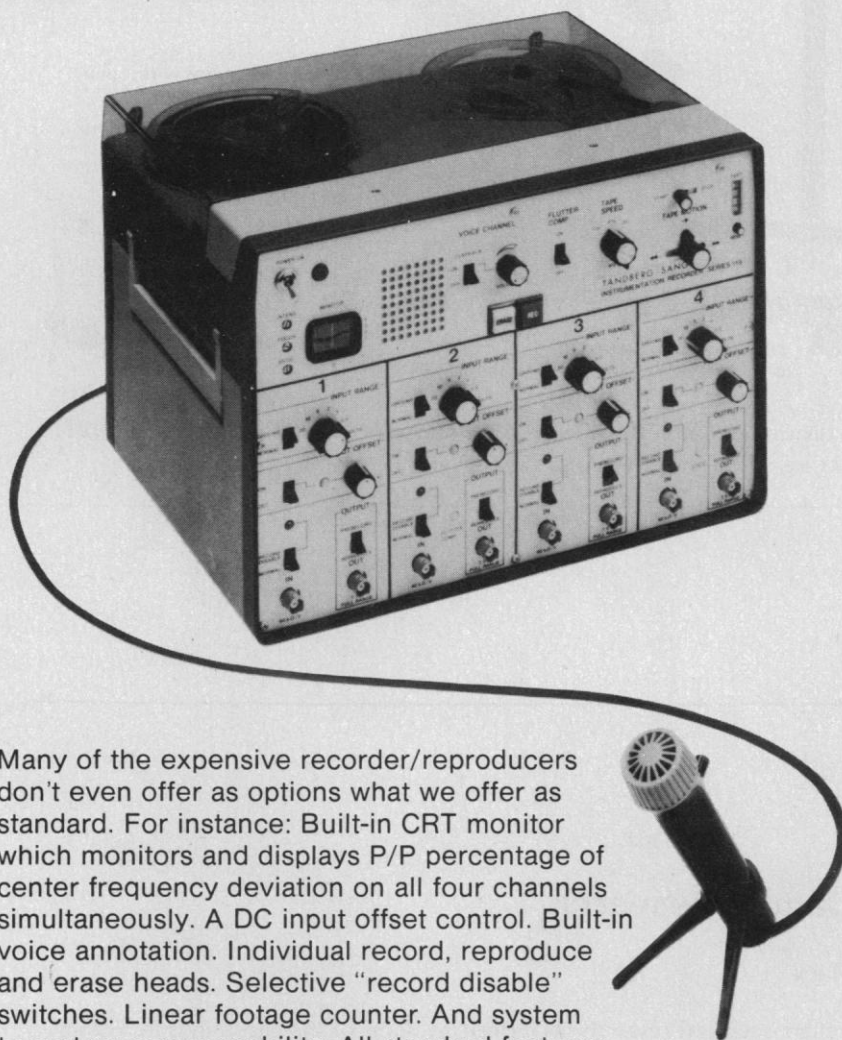
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van der Waerden. Revision and translation of the German edition (Berlin, 1932). Springer-Verlag, New York, 1974. viii, 214 pp. \$23. Die Grundlehren der mathematischen Wissenschaften, Band 214.

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**Living in the Environment.** Concepts, Problems, and Alternatives. G. Tyler Miller, Jr. Wadsworth, Belmont, Calif., 1975. xvi, 380 pp., illus. + appendices. \$13.95.

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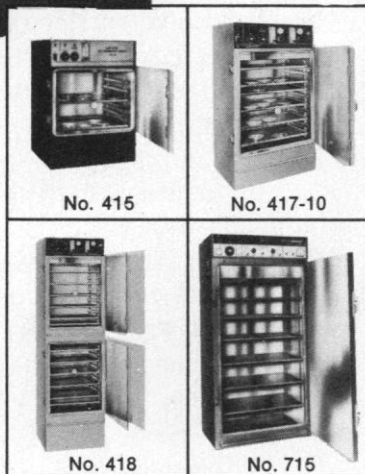
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