

BEHAVIOR ANALYSIS AND BIOLOGICAL FACTORS

The past decade has seen considerable attention directed to the relation between behavior analysis and evolutionary phenomena (e.g., Fantino & Logan, 1979; Skinner, 1984; Staddon, 1983). Indeed, Fantino and Logan ended their book with a call for increased interactions among ethologists, behavioral ecologists, and behavior analysts, noting that a natural area in which these disciplines shared common concerns was foraging. As it happened, since that time a plethora of interdisciplinary foraging conferences have been convened successfully.

In issuing a "call for papers" for a Special Issue on Biological Factors (vol. 48, p. 34), we hoped to encourage publication in *JEAB* of advances in other areas as well. Thus, this issue of the journal is devoted to articles that emphasize biological factors affecting behavior. Of course, the term "biological factors" is really shorthand for those topics that focus on the relationship between phylogeny, the ancestral development of a species as represented in biological endowment, and how that interacts with ontogeny, the behavioral development of the individual. Often these phylogenetic factors are expressed as boundary conditions on some aspects of the three-term contingency or limitations on elements of respondent conditioning. Because phylogeny reflects the long-term adaptation of a species to its natural environment, many of these articles establish conditions that represent a feature of the natural setting. In this issue you will find a variety of articles that explore many aspects of this complex class of variables. Because phylogenetic history implies statements about common features of a class of organisms, several reports in this issue study groups of subjects, combined with individual data. Our short-term goal is to stimulate interest in this growing area of research and to attract to this journal a broader range of authors. Our long-term goal is to expand the generality of behavioral principles by encouraging novel laboratory methods and by testing the limits of our explanatory concepts while preserving the rigor of our experimental analysis.

In these pages you will find four articles

that assess foraging costs: Fanselow, Lester, and Helmstetter introduce an experimental approach to the effects of predation risk, as simulated by infrequent aversive stimuli; Wanchisen, Tatham, and Hineline look at progressive increases in cost; Fantino and Preston look at temporal factors in choice; and Timberlake, Gawley, and Lucas examine time and cost trade-offs. Three papers, those of Hursh, Raslear, Shurtleff, Bauman, and Simmons; Rashotte and Henderson; and LaFiette and Fantino, consider aspects of regulation using concepts of behavioral economics. McSweeney, Melville, and Higa consider the relationship between behavioral contrast and the nature of the reinforcer (food and alcohol). Abramson, Armstrong, Feinman, and Feinman explore the possibility of signaled avoidance conditioning in a "primitive" species, the green crab. The final set of five research articles explores stimulus control by natural or species-specific events: Mellgren and Brown look at discrimination learning in a foraging situation; Domjan, O'Vary, and Greene explore stimulus objects involved in the appetitive and consummatory sexual behavior of male Japanese quail; Harrison assesses the control of responding by sounds of different quality from an evolutionary perspective; Honig and Stewart show that pigeons can discriminate locations presented in pictures; and last, but most certainly not least (except in number of subjects), Pepperberg demonstrates comprehension of "absence" in Alex, the African Grey parrot. In the book review, Provine discusses a hierarchy of developmental contingencies in reviewing *Principles of Neural Development* by Purves and Lichtman.

We look forward to seeing articles of this type and quality regularly in *JEAB*.

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