

New

Biological Perspectives on Language

edited by David Caplan, André Roch Lecours, and Allan Smith

“Investigations of the psychobiology of language have always been at the cutting edge of intellectual inquiry into the nature of human cognition. How can we best characterize normal and pathological language abilities, and how relate these functional analyses to their underlying neuronal substrate? *Biological Perspectives on Language* introduces the exciting new facts and theories that fuel current controversy about the anatomy, physiology, and psychology of linguistic capacity. Twenty leading researchers present detailed technical findings and ideas in a clear and comprehensive fashion that will appeal both to students and established practitioners in a wide range of basic and clinical neurosciences.” –John C. Marshall, The Radcliffe Infirmary, Oxford
\$40.00

New

The Grammatical Basis of Linguistic Performance

• Language Use and Acquisition

Robert C. Berwick and Amy Weinberg

“The question of how systems of knowledge are acquired and put to use has been a central one in cognitive psychology and related fields for many years, and of course has far earlier antecedents. Berwick and Weinberg have significantly advanced our understanding of these difficult and fundamental issues in their investigation of how certain ideas about linguistic structure can be incorporated in efficient computational models of use and acquisition and can even be in part motivated by such considerations. It is a valuable contribution, which clarifies and answers many questions and raises and reformulates others in a way that should inspire much productive work.”

–Noam Chomsky

\$30.00

New from Bradford Books

Language, Thought, and Other Biological Categories

• New Foundations for Realism

Ruth Garrett Millikan • Foreword by *Daniel C. Dennett*

Beginning with a general theory of function applied to body organism behaviors, customs, and both inner and outer representations, this book argues that the intentionality of language can be described without reference to speaker intentions and that an understanding of the intentionality of thought can and should be divorced from the problem of understanding consciousness. The results support a realist theory of truth and of universals and open the way for a nonfoundationalist and nonholist approach to epistemology.

“Exciting, challenging and rewarding.” –Hector-Neri Castañeda

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Intending and Acting

• Toward a Naturalized Action Theory

Myles Brand

In this book, Myles Brand links the philosophical with the scientific study of action, with psychology and artificial intelligence. He provides a clear and comprehensive summary of the state of human action, discusses the ontological foundations for action theory and the folk psychology of intending, desiring and believing, and makes suggestions for an original theory of naturalized action.

“This is an urgently worthy project, in my opinion, and Brand’s book will be the only one of its kind that I know of.” –William Lycan

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Catecholamines and Behaviour

S. T. MASON

A detailed summary of the present state of knowledge in a fascinating area of research, Stephen Mason's book examines the part the catecholaminergic pathways of the brain play in the behaviour of both human beings and animals. Illustrations are included, experiments are detailed, and technical terms are explained throughout, making this a text ideally suited for undergraduate courses.

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From Darwin to Behaviourism

Psychology and the Minds of Animals

ROBERT BOAKES

Illustrated throughout with fascinating historic photographs, this volume surveys the way our understanding of the minds of animals and our ideas about the relationship between human and animal behaviour developed between about 1870 and 1930. The principal researchers and their pioneering work and theories are all described and placed in context.

Hard covers £35.00 or \$69.50, Paperback £15.00 or \$19.95

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Editor: **Brian A. Iwata**



Selected volume 17 (1984) articles

Mayer, Butterworth and Sulzer-Azaroff. Preventing school vandalism and improving discipline: a three year study.

Klesges, et al. Parental influences on children's eating behavior and relative weight.

Kissel, Whitman and Reid. An institutional staff training and self-management program for developing multiple self-care skills in severely/profoundly retarded individuals.

Wacker and Berg. Effects of picture prompts on the acquisitions of complex vocational tasks by mentally retarded adolescents.

Koop and Martin. Evaluation of a coaching strategy to reduce swimming stroke errors with beginning age-group swimmers.

Mosk and Bucher. Prompting and stimulus shaping procedures for teaching visual-motor skills to retarded children.

Lagomarcino et al. A leisure-dance training program for severely and profoundly mentally retarded persons: teaching an intermediate community-living skill.

Kelly et al. Decreasing burned children's pain behavior: impacting the trauma of hydrotherapy.

Wilson et al. Normalization of institutional mealtimes for profoundly retarded persons: effect and noneffects of teaching family-style dining.

Gaylord-Ross et al. The training and generalization social interaction skills with autistic youth.

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The Behavioral and Brain Sciences

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The *Behavioral and Brain Sciences* (BBS) is a unique scientific communication medium, providing the service of Open Peer Commentary for reports of significant current work in psychology, neuroscience, behavioral biology or cognitive science. If a manuscript is judged by BBS referees and editors to be appropriate for Commentary (see Criteria below), it is then circulated to a large number of commentators selected (with the aid of systematic bibliographic searches) from the BBS Associateship* and the worldwide biobehavioral science community, including individuals recommended by the author.

Once the Commentary stage of the process has begun, the author can no longer alter the article, but can respond formally to all commentaries accepted for publication. The target article, commentaries and authors' response then co-appear in BBS. Continuing Commentary and replies can appear in later issues.

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A paper for BBS can be (i) the report and discussion of empirical research that the author judges to have broader scope and implications than might be more appropriately reported in a specialty journal; (ii) an unusually significant theoretical article that formally models or systematizes a body of research; or (iii) a novel interpretation, synthesis, or critique of existing experimental or theoretical work. Occasionally, articles dealing with social or philosophical aspects of the behavioral and brain sciences will be considered.

The service of Open Peer Commentary will be primarily devoted to original unpublished manuscripts. However, a recently published book whose contents meet the standards outlined above is also eligible for Commentary if the author submits a comprehensive, article-length précis to be published together with the commentaries and his response. In special cases, Commentary will also be extended to a position paper or an already published article dealing with particularly influential or controversial research. Submission of an article implies that it has not been published or is not being considered for publication elsewhere. Previously published articles appear by invitation only. **The Associateship and professional readership of BBS are encouraged to nominate current topics and authors for Commentary.**

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In order to assure communication with potential commentators (and readers) from other BBS specialty areas, **all technical terminology must be clearly defined or simplified, and specialized concepts must be fully described.** Authors should use numbered section-headings to facilitate cross-reference by commentators.

Note to commentators The purpose of the Open Peer Commentary service is to provide a concentrated constructive interaction between author and commentators on a topic judged to be of broad significance to the biobehavioral science community. Commentators should provide substantive criticism, interpretation, and elaboration as well as any pertinent complementary or supplementary material, such as illustrations; all original data will be refereed in order to assure the archival validity of BBS commentaries. Commentaries and articles should be free of hyperbole and remarks *ad hominem*.

Style and format for articles and commentaries Articles must not exceed 14,000 words (and should ordinarily be considerably shorter); **commentaries should not exceed 1,000 words.** Spelling, capitalization, and punctuation should be consistent within each article and commentary and should follow the style recommended in the latest edition of *A Manual of Style*, The University of Chicago Press. It may be helpful to examine a recent issue of BBS. A title should be given for each article and commentary. An auxiliary short title of 50 or fewer characters should be given for any article whose title exceeds that length. Each commentary must have a distinctive, representative **commentary title**. The contributor's name should be given in the form preferred for publication; the affiliation should include the full institutional address. **Two abstracts**, one of 100 and one of 250 words, should be submitted with every article. The shorter abstract will appear one issue in advance of the article; the longer one will be circulated to potential commentators and will appear with the printed article. A list of 5–10 keywords should precede the text of the article. Tables and figures (i.e. photographs, graphs, charts, or other artwork) should be numbered consecutively in a separate series. Every table and figure should have a title or caption and at least one reference in the text to indicate its appropriate location. Notes, acknowledgments, appendices, and references should be grouped at the end of the article or commentary. Bibliographic citations in the text must include the author's last name and the date of publication and may include page references. Complete bibliographic information for each citation should be included in the list of references. Examples of correct style for bibliographic citations are: Brown (1973); (Brown 1973); (Brown 1973; 1978); (Brown 1973; Jones 1976); (Brown & Jones 1978); (Brown, Jones & Smith 1979) and subsequently, (Brown et al. 1979). References should be typed in alphabetical order in the style of the following examples. **Journal titles should not be abbreviated.**

Kupfermann, I. & Weiss, K. (1978) The command neuron concept. *Behavioral and Brain Sciences* 1:3–39.

Dunn, J. (1976) How far do early differences in mother-child relations affect later developments? In: *Growing points in ethology*, ed. P. P. G. Bateson & R. A. Hinde, pp. 1–10. Cambridge University Press.

Bateson, P. P. G. & Hinde, R. A., eds. (1976) *Growing points in ethology*. Cambridge University Press.

Preparation of the manuscript The entire manuscript, including notes and references, must be typed **double-spaced** on 8½ by 11 inch or A4 paper, with margins set to 70 characters per line and 25 lines per page, and should not exceed 50 pages. Pages should be numbered consecutively. It will be necessary to return manuscripts for retyping if they do not conform to this standard.

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The Behavioral and Brain Sciences

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Evolution and ontogeny of neural circuits

Sven O. E. Ebbesson, Louisiana State University School of Medicine

Recent studies on neural pathways in a broad spectrum of vertebrates suggest that, in addition to migration and an increase in the number of certain select neurons, a significant aspect of neural evolution is a "parcellation" (segregation-isolation) process that involves the loss of selected connections by the new aggregates. Because the process is repeated, at least partially, during ontogenetic development, it is suggested that in many neuronal systems axons do not invade unknown territories during evolutionary or ontogenetic development but follow in their ancestors' paths to their ancestral targets; if the connection is later lost, it reflects the specialization of the circuitry.

With Commentary from P Alberch, WH Calvin, CBG Campbell, J-P Ewert, TE Finger, BE Fritsch, H Ito, JH Kaas, JJ Koenderink, PD MacLean, RG Northcutt, E Ramon-Moliner, J Szentágothai, W Wilczynski, JZ Young, and others.

The scope of neuroethology

Graham Hoyle, University of Oregon

Neuroethology is now a formal subdivision of neuroscience, boasting two recent introductory texts, but there is as yet no common focus for research interests. This article examines the history of ethology and shows that its profound success was due to the confinement of research to the study of stereotyped, complex, nonlearned, innate behaviors. A useful model propounded by Lorenz in 1949 summarized the principles. This model and its updated derivatives imply common neurophysiological mechanisms that are as yet unknown. It is argued that neuroethologists should restrict their attention to working out the underpinnings of these principles for a variety of instinctive behaviors of animals from diverse phyla.

With Commentary from U Bässler, P Bateson, TH Bullock, F Clarac, F Delcomyn, J Erber, J-P Ewert, DM Guthrie, RA Hinde, I Kupfermann, A Manning, H Markl, CHF Rowell, AI Selverston, JZ Young, and others.

Sensation seeking: A comparative approach to a human trait

Marvin Zuckerman, University of Delaware

Sensation seeking in humans is compared with potential models in animal behavior in terms of genetic determination and common biological correlates. The augmenting-reducing of cortical evoked potentials and levels of platelet monoamine oxidase (MAO) provide two biological markers with common correlates in animal and human behavior. The monoamine systems regulated by MAO have been implicated in general behavioral activity, behavior in novel situations, socialization, sexual and consummatory behaviors, and intracranial self-stimulation in animals. Indicators of activity in the noradrenergic system have been correlated with sensation seeking in humans. An optimal-level theory of behavior in relation to the activity of catecholamine systems is suggested.

With Commentary from E Callaway, G Claridge, VA Eterović & PA Ferchmin, HJ Eysenck, JA Gray, CE Izard, L von Knorring, ST Mason, RWJ Neufeld, DE Redmond, Jr., EN Sokolov, J Strelau, P Suedfeld, JF Wohlwill, and others.

Among the articles to appear in forthcoming issues of BBS:

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MC Baker & MA Cunningham, "The biology of bird song dialects"

Multiple book review of J Fodor, *The modularity of mind*

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