## BEHAVIORAL AND BRAIN SCIENCES

# **Volume 2** 1979

Reprinted with the permission of the original publisher by

Periodicals Service Company

Germantown, NY

2006

Printed on acid-free paper.

This reprint was reproduced from the best original edition copy available.

NOTE TO THE REPRINT EDITION:
In some cases full page advertisements which do not add to the scholarly value of this volume have been omitted.
As a result, some reprinted volumes may have irregular pagination.

# The Behavioral and Brain Sciences

An International Journal of Current Research and Theory with Open Peer Commentary

#### ISSN 0140-525X

#### **Editor**

Stevan Harnad

#### **Assistant Editor**

Helaine Randerson

#### **Associate Editors**

Animal Intelligence

David Premack

Department of Psychology, University of Pennsylvania

Behavioral Biology

Hans Kummer

Zoologisches Institut und Museum der Universität Zürich

Cognition and Artificial Intelligence

Zenon Pylyshyn

Department of Psychology, University of Western Ontario

Ethology and Neuroethology

John C. Fentress

Department of Psychology, Dalhousie University, Halifax, N.S.

Higher CNS Function

Robert W. Doty

Center for Brain Research, University of Rochester

History and Systems

Julian Jaynes

Department of Psychology, Princeton University

Language and Cognition

Peter Wason

Psycholinguistics Research Unit, University College London

Neurobiology

Graham Hoyle

Department of Biology, University of Oregon

Neurophysiology

Barry H. Smith

Surgical Neurology Branch

National Institutes of Health, Bethesda, Md.

Neuropsychology

Karl Pribram

Department of Psychology, Stanford University

#### Volume 2 1979

Cambridge University Press

Cambridge

London

New York

New Rochelle

Melbourne

Sydney

1979

Published by the Press Syndicate of The University of Cambridge The Pitt Building, Trumpington Street, Cambridge CB2 1RP 32 East 57th Street, New York, NY 10022 296 Beaconsfield Parade, Middle Park, Melbourne 3206

© Cambridge University Press 1979

Printed in the United States of America by Science Press, Ephrata, Pennsylvania

### Contents Volume 2 1979

### Number 1, March 1979

Target	<b>Article</b>	

<b>Eibl-Eibesfeldt, I.</b> Human ethology: of man	conce	epts and implications for the sciences	1
Open Peer Commentary			_
Barash, D. P. Human ethology and human		Hull, D. L. Universality and species specificity	38
sociobiology	26	Izard, C. E. Human ethology and the ontogeny of	00
Barkow, J. H. Human ethology: empirical wealth,		emotional expressions	39
theoretical dearth	27	Klopfer, P. H. What the ethologist's eye tells the	
Benedict, B. The dangers of analogy in human	27	ethologist's brain	39
ethology Block, N. A confusion about innateness	$\begin{array}{c} 27 \\ 27 \end{array}$	Kovach, J. K. "It just depends on what one wants to know": Eibl-Eibesfeldt's human ethology	40
Bolles, R. C. The functional significance of behavior	29	Lipp, H. P. Brain complexity enhances speed of	-10
Borgia, G. Levels of selection and human ethology	30	behavioral evolution	42
Charlesworth, W. R. "It's true, but we don't know		Montagu, A. "Instincts," infants, adults, and	
why": problems in validating human ethological		behavior	42
hypotheses	30	Peterson, S. A. On human ethology: some	49
Delgado, J. M. R. Cerebral building blocks and behavioral mechanisms	31	methodological comments Schubert, G. Classical ethology: concepts and	43
Finley, G. E. Cross-cultural methodology and	31	implications for human ethology	44
ethological universals	32	van den Berghe, P. L. Ethology versus sociobiology:	
Fraser, P. J. Analogy and dimensions of behavior	33	competitive displays	46
Ghiselin, M. T. Has human ethology rediscovered		Wahlsten, D. Some logical fallacies in the classical	
Darwinism?	33	ethological point of view	48
Gottlieb, G. Classical ethology's conception of ontogenetic development	34	Washburn, S. L. Ethologists do not study human evolution	49
Hailman, J. P. The ethology behind human ethology	3 <del>4</del> 35	Wilson, E. O. Ethology and sociobiology: a point of	40
Hausfater, G. An eclectic history of ethological	00	definition	49
theory and methods	36	Author's Response	
Hoffman, H. S. The problem of human ethology			
from the perspective of an experimental	~	Eibl-Eibesfeldt, I. Human ethology: methods and limits	50
psychologist	37	***************************************	00
Target Article		•	
Gyr, J., Willey, R. & Henry, A. Motor	-sens	ory feedback and geometry of visual	
	30113	ory recuback and geometry or visual	<b>E</b> 0
space: an attempted replication			<b>5</b> 9
Open Peer Commentary			
Bridgeman, B. Adaptation and the two-visual-		Hochberg, J. & Festinger, L. Is there curvature	
systems hypothesis	64	adaptation not attributable to purely intravisual	
Burnham, C. A. Adaptation to curvature in the	0 ==	phenomena?	71
absence of contour Craske, B. A stationary subject does perceive	65	Jeannerod, M. Visuomotor experiments: failure to replicate, or failure to match the theory?	71
curvature when wearing a prism in a spotted drum	66	Kelso, J. A. S. Motor-sensory feedback formulations:	11
Day, R. H. What is self-induced motor activity	00	are we asking the right questions?	72
adapting to?	66	Kohler, I. A provisional sensory/motor	
Ebenholtz, S. M. Insufficiencies in perceptual		"complementarity" model for adaptation effects	73
adaptation theory	67	Lappin, J. S. The encoding of spatial position in the	
Finke, R. A. Nonrandom curvature adaptation to	CO	brain Made A Non pious I determinante of increantion	74
random visual displays Freides, D. Motor factors in perception: limitations	68	Mack, A. Non-visual determinants of perception Mikaelian, H. H. Adaptation of the distortion of	75
in empirical and hierarchical analysis	68	shape is different from adaptation to the	
Haber, R. N. When is sensory-motor information		distortion of space	76
necessary, when only useful, and when		Miller, J. M. Visual-motor conflict resolved by motor	
superfluous?	68	adaptation without perceptual change	76
Harvey, L. O., Jr. Evaluating nonreplication: more	F7.0	Murthy, K. S. K. Centrifugal contributions to visual	
theory and background necessary Henn, V. Can the brain be divided into a sensory and	70	perceptual after effects Paap, K. R. Position information versus motor	77
a motor part?	70	programs: two levels of sensorimotor theory	77
	••	F O. T	• •

Redding, G. M. Attention as an explanatory concept		adaptation study	81
in perceptual adaptation	77	Turvey, M. T. The thesis of the efference-mediation	
Riesen, A. H. Re-afference in space and movement perception	78	of vision cannot be rationalized Vonèche, J. J. Visuomotor feedback: a short	81
Rock, I. The problem of adaptation to prismatically-	.0	supplement to Gyr's journey around a polka-	
altered shape	78	dotted cylinder	83
Roland, P. E. Voluntary movement and perception in		Walk, R. D. Attentional factors in depth perception	83
intrapersonal and extrapersonal space	79	Wallach, H. Three functions of motor-sensory	0.4
Shebilske, W. L. Oculomotor hysteresis: implications		feedback in object perception Welch P. P. Congresting the issues involved in the	84
for testing sensorimotor and ecological optics theories	80	Welch, R. B. Separating the issues involved in the role of bodily movement in perception and	
Singer, G., Wallace, M. & Collins, J. K. Motor system	00	perceptual-motor coordination	85
changes are not necessary for changes in			
perception	80	Authors' Response	
Steinbach, M. J. Methodological considerations in replicating Held and Rekosh's perceptual		Gyr, J., Willey, R. & Henry, A. Motor factors in perception	86
Target Article			
Toates, F. M. Homeostasis and drink	ing		95
Open Peer Commentary			
Adolph, E. F. Multiple paths in the control of		Panksepp, J. Cost-benefits of computer modelling	114
drinking	102	Peck, J. W. Thirst, homeostasis, and bodily fluid	
Beck, R. C. Roles of taste and learning in water	100	deficits	114
regulation Bolles, R. C. Toy rats and real rats: nonhomeostatic	102	Powers, W. T. Cause/effect metaphors versus control theory	115
plasticity in drinking	103	Ramsay, D. J. A defence of homeostasis	116
Booth, D. A. Is thirst largely an acquired specific		Rolls, B. J. & Wood, R. J. Homeostatic control of	
appetite?	103	drinking: a surviving concept	116
Davis, J. D. Broadening the homeostatic concept	104	Rowland, N. Natural drinking, interactions with	
Deutsch, J. A. Intragastric infusion and pressure	105	feeding, and species differences – three data	117
Fitzsimons, J. T. Nonregulatory drinking and renal function	105	deserts Schallert, T. & Hsiao, S. Homeostasis and life	117 118
Hatton, G. I. Homeostasis, the straw man	106	Severs, W. B. Homeostatic versus nonhomeostatic	110
Hirano, T. Anticipatory drinking in the eel	106	drinking behavior: an observation, criticism, and	
Horrell, I. Motivational control: homeostatic systems		hypothesis for discussion	118
or decision making strategies?	107	Snowdon, C. T. Neither homeostasis nor simulation	119
Houston, A. Replacing homeostasis by optimization:	107	Staddon, J. E. R. Thirst - a static analysis	120
preaching to the converted Johnson, A. K. The analysis of drinking behavior: the	107	Steffens, A. B. Is a mathematical concept of homeostasis adequate to explain more complex	
need for defining physiological parameters and		behavior?	121
not for proliferating constructs	107	VanderWeele, D. A. Lack of "fixed set-points" in	
Kutscher, C. L. On recognizing nonhomeostatic		fluid homeostasis does not argue for learned	
behaviors	108	satiety factors in drinking	121
Lea, S. E. G. Homeostasis, elasticity, and reinforcer	100	Vincent, J. D. Behavioral and neuro-endocrine	100
interactions Le Magnen, J. What is water regulation?	109 109	influences in homeostasis Wiepkema, P. R. The fallacy of oversimple	122
Ludlow, A. R. The importance of temporal coupling	109	homeostatic models	122
between feeding and drinking - simulations		Wong, R. Experiential and circadian influences on	
prompted by Toates' paper	110	drinking	123
McCleery, R. H. Homeostatic motivational function		Woods, S. C. & Kenney, N. J. Alternatives to	
and theory	111	homeostasis	123
Milgram, N. W. On the inadequacy of a homeostatic	111	Wright, J. W. What is "nonregulatory" drinking?	124 125
model: where do we go from here? Nicolaidis, S. Thirst is controlled by regulatory	111	Wyrwicka, W. Sensory regulation of water intake	120
stimuli, but drinking may partly escape them	112		
O'Kelly, L. I. Internal and external regulatory		Author's Response	
process and the ecology of motivation	112	Toates, F. M. The psychobiology and biocybernetics	
Overstreet, D. H. Homeostasis is insufficient to	110	of thirst: invaluable data and concepts for future	105
account for subtlety of behavior	113	theory and model construction	125
Continuing Commentary on			

**Brainerd, C. J.** (1978) The stage question in cognitive-developmental theory. BBS 1(2) pp. 173–213.

Bart, W. M. The need for synthetic cognitive development theory

Bates, E. Brainerd versus Aristotle with Piaget looking on 138

Buss, A. R. On the four kinds of causality	139	Lawton, J. T. Human understanding: a question of	
Chevalier-Skolnikoff, S. A primatological	139	description Lerner, R. M. The stage concept in developmental	144
perspective Cornell, E. H. The stage heuristic in the study of	109	theory: a dialectic alternative	144
sensorimotor intelligence	140	Moshman, D. Horizontal structure and the concept	
Gardner, H. On preserving and extending Piaget's	1.41	of stage	145
contributions Gallagher, J. M. Equilibration – the central concept	141	Nelson, K. E. On stages and stage-building Pollack, R. H. Task structure versus cognitive	146
of Piaget's theory	141	structure	147
Gyr, J. W. Scaling, uniqueness, and integration	141	Roodin, P. A. Interpretation of stage as structure	148
Hooper, F. H. Brainerd on the cognitive structure	142	Sigel, I. E. A structuralist response to a skeptic	148
and integration criteria Koslowski, B. Environmental factors and the	172	Author's Response	
organization of developmental changes	143	Brainerd, C. J. Further replies on invariant sequences, explanation, and other stage criteria	149
Number 2, June 1979			
Target Article			
Eysenck, H. J. The conditioning mo	del of	neurosis	155
Open Peer Commentary			
Bindra, D. Conditioning theory and neurosis	166	Pavlovian conditioning model for coping with the	
Bolles, R. C. The nonextinction of fear: operation bootstrap	167	complexities of neurosis Rachlin, H. Journey into the interior of the organism	179 180
Borkovec, T. D. Incubation and the relevance of	107	Rosenthal, T. L. Thesis and antithesis: S-R levers or	100
functional CS exposure	168	meaning-perceivers?	181
Dykman, R. A. The Gantt and Eysenck conditioning models for neurosis	168	Salzinger, K. Modeling neurosis: one type of learning is not enough	181
Gray, J. A. Is there any need for conditioning in	100	Soltysik, S. Conditioned alpha fear responses and	101
Eysenck's conditioning model of neurosis?	169	protection from extinction	182
Kimmel, H. D. Eysenck's model of neurotigenesis	171	Terry, W. S. Implications of recent research in	
Krasner, L. Eysenck on Watson: paying lip service to lip service	172	conditioning for the conditioning model of neurosis	183
Levis, D. J. A reconsideration of Eysenck's		Wolpe, J. The Eysenck and the Wolpe theories of	
conditioning model of neurosis	172	neurosis	184
Lyons, W. On some key concepts in Eysenck's conditioning theory of neurosis	174	Wong, P. T. P. A critique of Eysenck's theory of neurosis	185
Mahoney, M. J. Reflections on the conditioning		Wyrwicka, W. "Prepared fears" and the theory of	100
model of neurosis	174	conditioning	186
Marks, I. Conditioning models for clinical syndromes are out of date	175	Zieliński, K. Short-latency avoidance responses Zuckerman, M. What and where is the	186
McAllister, W. R. & McAllister D. E. Are the concepts	170	unconditioned (or conditioned) stimulus in the	
of enhancement and preparedness necessary?	177	conditioning model of neurosis?	187
Mineka, S. New perspectives on conditioning models	170	Author's Response	
and incubation theory Notterman, J. M. Toward an updated model of	178	Eysenck, H. J. The conditioning theory of neurosis:	
neurosis	178	criticisms considered	188
Öhman, A. & Ursin, H. On the sufficiency of a			
Target Article			
Adams, D. B. Brain mechanisms for	offens	se, defense, and submission	201
Open Peer Commentary			
Albert, D. J. The consociate modulator	213	considerations in studying the physiological	
Andrew, R. J. Avian data on aggression	213	substrates of these phenomena	216
Baenninger, R. Limits of neurophysiological	014	Decsi, L. & Nagy, J. Neurotransmitter organization of aggressive behavior	216
approaches to aggression Berntson, G. G. Cerebellar contributions to response	214	Delgado, J. M. R. Cerebral play of forces in	210
selection	214	offensive-defensive mechanisms	217
Blanchard, R. J. & Blanchard, D. C. Neurobehavioral	015	Eichelman, B. Brain mechanisms of aggression: dilemmas of perspective	218
systems for attack and defense Brain, P. F. Dividing up aggression and	215	Fentress, J. C. Motives: metaphors in motion	219
U + UU		•	