https://doi.org/10.1017/S0140525X00006312 Published online by Cambridge University Press

The Behavioral and Brain Sciences

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

ISSN 0140-525X

Volume 3 1980

Cambridge University Press
Cambridge
London New York New Rochelle
Melbourne Sydney
1980

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

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

Contents Volume 3 1980

Number 1, March 1980

Target Article

Target Article

https://doi.org/10.1017/S0140525X00006312 Published online by Cambridge University Press

Target Article

Number 2, June 1980

Target Article

Target Article

Target Article

https://doi.org/10.1017/S0140525X00006312 Published online by Cambridge University Press

Target Article

Number 3, September 1980

Target Article

Target Article

Target Article

Continuing Commentary on

Eysenck, H. J. (1979) The conditioning model of neurosis. BBS 2(2):155–99.

https://doi.org/10.1017/S0140525X00006312 Published online by Cambridge University Press

Number 4, December 1980

Target Article

Open Peer Commentary

Target Article

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The Behavioral and Brain Sciences

Instructions to Authors and Commentators

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 any area of psychology, neuroscience, behavioral biology or cognitive science. If a submitted 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 his article, but he can respond formally to all commentaries accepted for publication. The target article, commentaries and author's response then co-appear in BBS. Continuing Commentary and replies can appear in later issues.

Criteria for acceptance

To be eligible for publication, a paper should not only meet the standards of a journal such as *Psychological Review* or the *International Review of Neurobiology* in terms of conceptual rigor, empirical grounding, and clarity of style, but it should also offer **a clear rationale for soliciting Commentary.** That rationale should be provided in the author's covering letter, together with **a list of suggested commentators.** The original manuscript plus **eight copies** must be submitted.

A paper for BBS can be (1) 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; (2) an unusually significant theoretical article that formally models or systematizes a body of research; or (3) 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. Authors submitting previously published articles for consideration should give full information of place of publication, date, and include permission from the copyright holder to reprint. **The Associateship and professional readership of BBS are encouraged to nominate current topics and authors for Commentary.**

In all the categories described, the decisive consideration for eligibility will be the desirability of Commentary for the contents of the submitted material. Controversiality *simpliciter* is not a sufficient criterion for soliciting Commentary: a paper may be controversial simply because it is wrong or weak. Nor is the mere presence of interdisciplinary aspects sufficient: general cybernetic and "organismic" disquisitions are not appropriate for BBS. Some appropriate rationales for seeking Open Peer Commentary would be that

- the material bears in a significant way on some current controversial issues in behavioral and brain science;
- its findings substantively contradict some well-established aspects of current research and theory;
- it criticizes the findings, practices, or principles of an accepted or influential line of work;
- it unifies a substantial amount of disparate research;
- it has important cross-disciplinary ramifications;
- it introduces an innovative methodology or formalism for consideration by proponents of the established forms;
- it significantly integrates a body of brain and behavioral data;
- it places a hitherto dissociated area of research into an evolutionary or ecological perspective; etc.

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.**

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, acknowledgements, appendixes, 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:

Kupferman, I. & Weiss, K. (1978) The command neuron concept. *The 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: Cambridge University Press.

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

Journal titles should not be abbreviated.

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 accommodate approximately 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.

Each table and figure should be submitted on a separate page, not interspersed with the text. Tables should be typed to conform to BBS style. Figures should be ready for photographic reproduction; they cannot be redrawn by the printer. Charts, graphs, or other artwork should be done in black ink on white paper and should be drawn to occupy a standard area of 8½ by 11 or 8½ by 5½ inches before reduction. Photographs should be glossy black-and-white prints. 8 by 10 inch enlargements are preferred. All labels and details on figures should be clearly printed and large enough to remain legible even after a reduction to half size. It is recommended that labels be done in transfer type of a sans-serif face such as Helvetica.

Authors are requested to submit their original manuscript with **eight copies** for refereeing, and commentators their original plus **two copies,** to: Stevan Harnad, Editor, The Behavioral and Brain Sciences, P.O. Box 777, Princeton, N.J. 08540.

Editing

The publishers reserve the right to edit and proof all articles and commentaries accepted for publication. Authors of articles will be given the opportunity to review the copyedited manuscript and page proofs. Commentators will be asked to review copyediting only when changes have been substantial; commentators will not see proofs. Both authors and commentators should notify the editorial office of all corrections within 48 hours or approval will be assumed.

Authors of target articles will receive 50 offprints of the entire treatment, and can purchase additional copies. Commentators will also be given an opportunity to purchase offprints of the entire treatment.

*Qualified professionals in the behavioral and brain sciences who have either (1) been nominated by a current BBS Associate, (2) refereed for BBS, or (3) had a commentary or article accepted for publication can become BBS Associates. Editors of learned journals and officers of scientific societies are invited to become BBS Associates *ex officio* for liaison purposes. Please write to the Editor for further information.

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The Behavioral and Brain Sciences

To appear in Volume 4, Number 1 (1981)

Offprints of the following forthcoming BBS treatments can be purchased in quantity for educational purposes if they are ordered well in advance. For ordering information, please write to Journals Department, Cambridge University Press, 32 East 57th Street, New York, N.Y. 10022.

Hemispheric laterality in animals and the effects of early experience

Victor H. Denenberg, *University of Connecticut*

A review of research with chicks, songbirds, rodents, and nonhuman primates indicates that the brain is lateralized for a number of behavioral functions. These findings can be understood in terms of three hypothetical brain processes: hemispheric activation, interhemispheric inhibition, and interhemispheric coupling. It is predicted that functional lateralization, when present, will be similar across species: the left hemisphere will tend to be involved in communicative functions while the right hemisphere will respond to spatial and affective information; both hemispheres will often interact via activation–inhibition mechanisms when affective or emotional processes are involved. Homologous brain areas and their connecting callosal fibers must remain intact throughout development for lateralization to reach its maximum level. On the basis of the finding that in rats early experience can induce laterality or facilitate its development in an already biased brain, it is hypothesized that one major function of early experience is to provide stimulation during development, which acts to enhance the growth and development of the corpus callosum.

With *Commentary* from M. C. Corballis, G. Ettlinger, C. E. Giurgea, L. Goldstein & J. Nelsen, R. A. W. Lehman, R. Puccetti, D. N. Robinson, T. E. Robinson & J. B. Becker, J. M. Warren, and others.

The case for mental duality: Evidence from split-brain data and other considerations

Roland Puccetti, *Dalhousie University*

The hypothesis that dual consciousness is characteristic of brain organization has been rejected, if not refuted, by almost every neuroscientist and philosopher of the mind who has bothered to consider it. Principal objections have been that it is counterintuitive and based on an arbitrary notion of what constitutes the basis of mind or person. This paper attempts to meet those objections, gives an evolutionary rationale for double consciousness in the normal brain, and invokes evidence from two kinds of visual defects that seems inexplicable on any other theory.

With *Commentary* from R. M. Anderson, Jr. & J. F. Gonsalves, J. E. Bogen, J. L. Bradshaw, J. W. Brown, P. S. Churchland, J. C. Eccles, M. S. Gazzaniga & J. E. LeDoux, N. Geschwind, M. B. Green, C. E. Marks, D. N. Robinson, E. A. Weinstein, K. V. Wilkes, and others.

The nature of hemispheric specialization in man

J. L. Bradshaw and N. C. Nettleton, *Monash University*

The traditional verbal/nonverbal dichotomy is inadequate to completely describe cerebral lateralization. Nor does there seem to be a specialist processor for the encodedness of speech in the left, or for dealing with faces in the right; rather, both functions may stem from hemispheric differences in terms of analytic/holistic modes of processing, with other distinctions (e.g., focal/diffuse and serial/parallel) being special cases of this. More fundamentally, sensory discriminations and motor control of aspects of temporal order, sequencing and rhythm characterize left hemisphere processing, and more purely spatial function characterizes the right, there being a continuum of function between the hemispheres rather than a true dichotomy.

With *Commentary* from H. H. Brownell & H. Gardner, G. Cohen, W. E. Cooper, J. C. Marshall, W. F. McKeever, M. J. Morgan, F. Nottebohm, R. Puccetti, M. Studdert-Kennedy, and others.

Contrasting approaches to a theory of learning

Timothy D. Johnston, *North Carolina Division of Mental Health*

Current opinion in the study of animal learning is divided between two groups: those who advance the "general process" view that ecological differences among species do not affect the generality of learning principles, and those who argue that "biological boundaries" on learning severely limit the generality of such principles. Although the latter approach has provided several important criticisms of the general process view, it has only limited potential as an alternative to that view. An ecological approach to the study of learning is proposed that grounds its analyses in descriptions of what it is that animals normally learn. The ecological approach expressly advocates a search for general principles of learning, while not assuming the existence of general processes; it thus offers a powerful alternative to current approaches to the study of learning.

With *Commentary* from P. Bateson, W. R. Charlesworth, M. T. Ghiselin, R. A. Hinde, J. Kruse & E. Reed, J. L. & R. Lachman, L. Petrinovich, H. C. Plotkin & F. J. Odling-Smee, H. Rachlin, B. Schwartz, and others.

Among the articles to appear in forthcoming issues of BBS:

M. T. Ghiselin, "Categories, life, and thinking"
H. C. Plotkin & F. J. Odling-Smee, "A multiple-level model of evolution and its implications for sociobiology"
R. M. Warren, "Measurement of sensory intensity"
L. J. Cohen, "Can human irrationality be experimentally demonstrated?"
C. H. Vanderwolf & T. E. Robinson, "Reticulo-cortical activity and behavior: A critique of the arousal theory and a new synthesis"
H. Rachlin, R. Battalio, J. Kagel, & L. Green, "Maximization theory in behavioral psychology"

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