Contents Volume 12:1 March 1989

https://doi.org/10.1017/S0140525X00024973 Published online by Cambridge University Press

https://doi.org/10.1017/S0140525X00024973 Published online by Cambridge University Press

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https://doi.org/10.1017/S0140525X00024973 Published online by Cambridge University Press

https://doi.org/10.1017/S0140525X00024973 Published online by Cambridge University Press

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https://doi.org/10.1017/S0140525X00024973 Published online by Cambridge University Press

https://doi.org/10.1017/S0140525X00024973 Published online by Cambridge University Press

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https://doi.org/10.1017/S0140525X00024973 Published online by Cambridge University Press

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Open Peer Commentary

Author's Response

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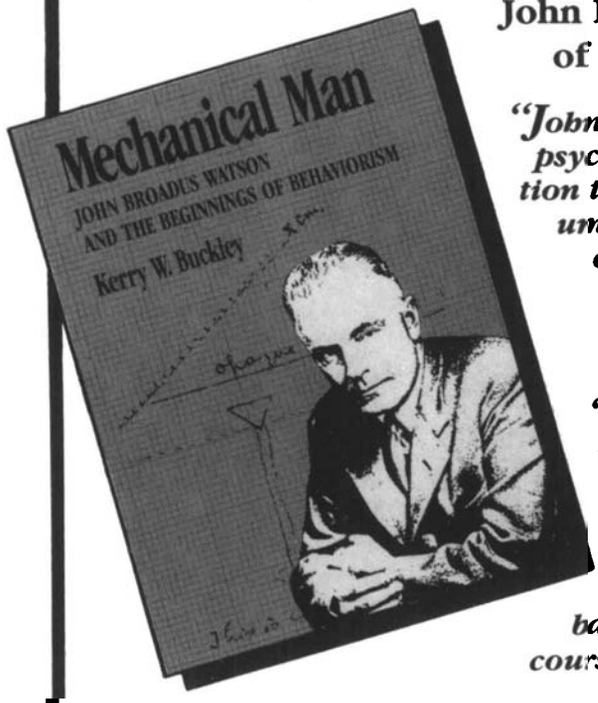
From Guilford Publications **MECHANICAL MAN**

John Broadus Watson and the Beginnings of Behaviorism, Kerry W. Buckley, Ph.D.



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The proceedings of the Ninth European Meeting on Cybernetics and Systems Research have been published as "Cybernetics & Systems '88", Robert Trappl, ed., by Kluwer Academic Publishers, Dordrecht.

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Behavioral and Brain Sciences

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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.

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 (*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.

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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. Cambridge University Press.

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

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Authors are requested to submit their double-spaced original manuscript plus **eight 2-sided copies** for refereeing, and commentators their original plus **two copies,** to: Stevan Harnad, Editor, Behavioral and Brain Sciences, 20 Nassau St., Suite 240, Princeton, NJ 08542. **Electronic mail:** *harnad@confidence.princeton.edu* or *harnad@pucc.bitnet.* Though not mandatory, ascii email versions or floppy disks of submissions (in addition to hard copies) facilitate processing. *In case of doubt as to appropriateness for BBS commentary, authors should write to the editor before submitting eight copies.*

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Behavioral and Brain Sciences

To appear in Volume 13, Number 1 (1990)

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From an animal's point of view: Motivation, fitness, and animal welfare

Marian Stamp Dawkins, *University of Oxford*

To study animal welfare empirically we need to find objective ways of deciding when an animal is suffering. The "price" an animal is prepared to pay to obtain or to escape a situation is an index of what the animal "feels" about that situation; this index can be used to decide whether the animal is suffering from being deprived of something important to it or from being unable to escape from something it finds aversive. Measuring demand curves for different commodities could provide an objective animal-centred approach to the study of animal welfare

Precommentary by P Singer

With *Commentary* from GM Burghardt, CR Chapman; R Dantzer; MA Fox; JA Gray; D McFarland; H Rachlin; BE Rollin; AN Rowan; EA Salzen; SJ Shettleworth & N Mrosovsky; W Timberlake; F Toates; PD Wall; F Wemelsfelder; and others.

Are species intelligent?

Jonathan Schull, *Haverford College*

Species are spatiotemporally localized biological entities that process information and adapt to their niches in a way that is remarkably similar to how individual intelligent animals adapt to their environments. The adaptive achievements of species are feats of design and ingenuity at least as impressive as the products of animal, human, and artificial intelligence systems. Is there a sense, then, in which species are intelligent? Whatever the answer, addressing the question of whether species are intelligent could help refine our ideas about species, evolution, and intelligence, and could open new lines of empirical and theoretical inquiry in many disciplines.

With *Commentary* from V Csanyi; DC Dennett; KC Derrickson & RS Greenberg; MT Ghiselin; JW Kalat; WA MacKay; FJ Odling-Smee; M Piattelli-Palmarini; SN Salthe; K Sterelny; RJ Sternberg; GW Strong; BH Sumida; and others.

Insensitivity of the analysis of variance to heredity-environment interaction

Douglas Wahlsten, *University of Waterloo*

The hypothesis that heredity and environment are additive is often tested by evaluating the interaction term in a two-way analysis of variance. If this is not statistically significant, it is often concluded that the two factors really are additive. However, for several realistic alternative models of nonadditivity the power of the test of interaction is substantially less than the power of tests of main effects; the sample sizes required to detect interactions are also relatively large. Transforming data to eliminate interaction changes the explanatory model drastically and may conceal theoretically interesting and practically useful relationships.

With *Commentary* from FL Bookstein; D Bullock, M Carlier & C Marchaland; JM Cheverud, DV Cicchetti, JF Crow, RM Dawes; ND Henderson, O Kempthorne; P Kline; H-P Lipp; H Nyborg; R Plomin, A van Noordwijk, and others.

Among the articles to appear in forthcoming issues of BBS:

R Näätänen, "Role of attention in auditory information processing as revealed by event-related brain potentials"

JC Prechtl & TL Powley, "B-afferents: A fundamental division of the nervous system"

SJ Hanson & DJ Burr, "What connectionist models learn: Learning and representation in connectionist networks"

JK Tsotsos, "Analyzing vision at the complexity level"

D Falk, "Brain evolution in *Homo*: The 'radiator' theory"

F Previc, "Functional specialization in the lower and upper visual fields in humans: Its ecological origins and neurophysiological implications"

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Printed in the United States of America
by Capital City Press, Montpelier, Vermont

https://doi.org/10.1017/S0140525X00014973 Published online by Cambridge University Press