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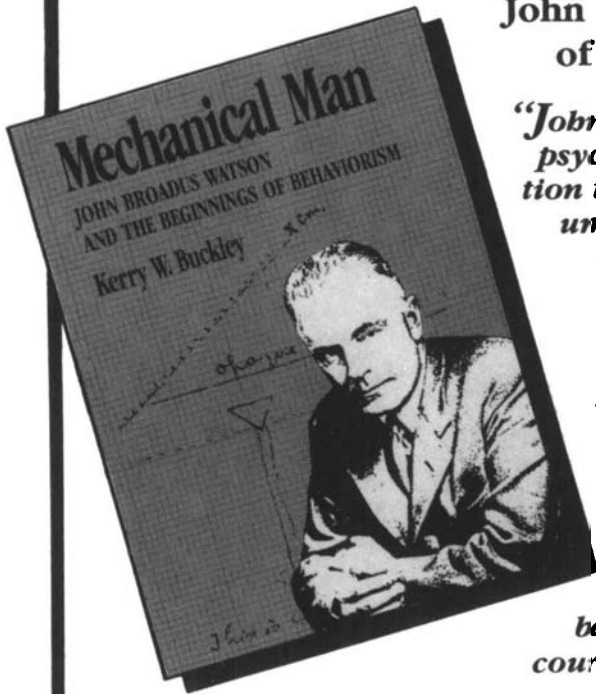
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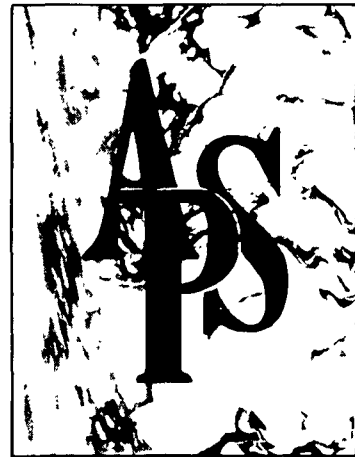
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## Are species intelligent?

**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"