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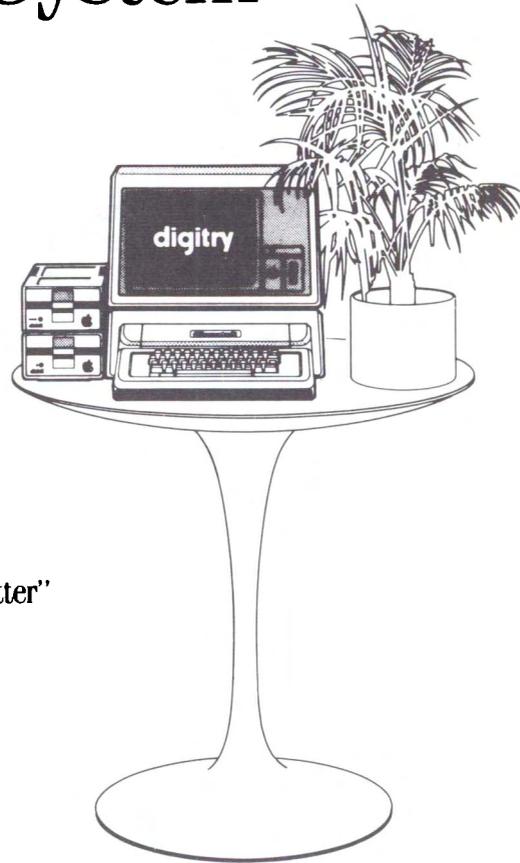
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Contributors: T. Burish & M. Carey (*Vanderbilt University/USA*), V. Dilman & M. Ostromouva (*Petrov Research Institute of Oncology/USSR*), B. Fox (*Boston University/USA*), A. Greenberg, D. Dyck & L. Sandler (*University of Manitoba/Canada*), A. Liebelt (*National Cancer Institute/USA*), R. Lloyd (*Goodwin Institute for Cancer Research/USA*), B. Newberry & B. Boyle (*Kent State University/USA*), E. Shkhinek & E. Korneva (*USSR Academy of Medicine/USSR*), L. Temoshok (*University of California, San Francisco/USA*), H. Teshima & C. Kubo (*Kyushu University/Japan*)

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# The Behavioral and Brain Sciences

To appear in Volume 8, Number 2 (1985)

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## The nature of the black-white difference on various psychometric tests: Spearman's hypothesis

Arthur R. Jensen, *University of California*

Variation in the mean difference between black and white populations on various psychometric tests of mental ability is examined in the light of Spearman's hypothesis that the variable magnitudes of the black-white difference are directly related to the tests' loadings on the *g*, or general intelligence, factor. Eleven large-scale studies, each comprising anywhere from 6 to 13 diverse tests, consistently show substantial correlations between tests' *g* loadings and the mean black-white difference in standard score units, thus bearing out Spearman's hypothesis. The results are discussed in relation to theories of the nature of *g* and in terms of the chronometric measurement of individual and group differences in speed and efficiency of information processing.

**With Commentary from** E Callaway; TH Carr & JL McDonald; RB Cattell; HJ Eysenck; P Kline; YH Poortinga; MI Posner; PMA Rabbitt; PH Schönemann; RJ Sternberg; PE Vernon; and others.

## Four frames suffice: A provisional model of vision and space

Jerome A. Feldman, *University of Rochester*

This paper presents a general computational treatment of how mammals are able to deal with visual objects and environments. Among the issues addressed are constancies and the stable visual world, categorization and context effects, perceptual generalization, and allocentric spatial maps. The computational model is expressed in connectionist terms, allowing biological as well as psychological experiments to be included. The model is perforce crude, but appears to be consistent with all relevant findings.

**With Commentary from** PC Dodwell, S Grossberg; RN Haber; GE Hinton; SM Kosslyn, SD Mainwaring & TA Corcoran; B Kuipers; BJ Richmond & ME Goldberg; SW Zucker; and others.

## Choice, optimal foraging, and the delay-reduction hypothesis

Edmund Fantino, *University of California, San Diego* and Nureya Abarca, *Pontificia Universidad Catolica de Chile*

The recent convergence of operant conditioning and behavioral ecology on theory and research in foraging has motivated the present operant laboratory simulations of foraging. We examine the effects on subjects' choice of varying (1) the time spent searching for or traveling between potential outcomes, (2) the independent availability of preferred and less preferred outcomes, and (3) the rate, amount, and probability of food, and we assess the effects of different types of deprivation. The findings are largely consistent with both optimal foraging theory, developed in behavioral ecology, and the delay-reduction hypothesis, developed in the operant laboratory: Pigeons maximize both rate of energy intake and reductions in time to reinforcement.

**With Commentary from** MN Branch; JA Dinsmoor; AI Houston; A Kacelnik & JR Krebs; PR Killeen; SEG Lea; RL Mellgren; N Rowland; M Sato & T Sakagami; SJ Shettleworth; and others.

### Among the articles to appear in forthcoming issues of BBS:

Multiple book review of A Grünbaum, *The foundations of psychoanalysis*

R Ader & N Cohen, "CNS-immune system interactions: Conditioning phenomena"

MB Berkinblit, AG Feldman & OI Fukson, "Adaptability of innate motor patterns and motor control mechanisms"

G Goldberg, "Supplementary motor area structure and function"

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A Harrington, "Nineteenth century ideas on hemisphere difference and 'duality of mind'"

J Hartung, "Matrilineal inheritance"

D Holender, "Semantic activation without conscious identification in dichotic listening, parafoveal vision, and visual masking"

GW Humphreys & LJ Evett, "Are there independent lexical and nonlexical routes in word processing?"

B Libet, "Unconscious cerebral initiative and the role of conscious will in voluntary action"

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