

# Journal of the Experimental Analysis of Behavior

## SPECIAL ISSUE ON THE EXPERIMENTAL ANALYSIS OF COGNITION

### CONTENTS (November 1989)

- K. G. White, D. McCarthy, & E. Fantino. Cognition and behavior analysis.
- D. S. Blough. Contrast as seen in visual search reaction times.
- R. S. Bhatt & E. A. Wasserman. Secondary generalization and categorization in pigeons.
- D. R. Thomas & E. K. Schmidt. Does conditional discrimination learning by pigeons necessarily involve hierarchical relationships?
- M. R. D'Amato & M. Colombo. On the limits of the matching concept in monkeys (*Cebus apella*).
- A. A. Wright, R. G. Cook, & D. F. Kendrick. Relational and absolute stimulus learning by monkeys in a memory task.
- J. G. Fetterman & D. MacEwen. Short-term memory for responses: The "choose small" effect.
- D. S. Grant. Use of an ambiguous-sample procedure to establish a cue to forget in pigeons.
- K. D. Allen & K. A. Lattal. On conditioned reinforcing effects of negative discriminative stimuli.
- C. P. Shimp, S. L. Sabulsky, & L. J. Childers. Preference for starting and finishing behavior patterns.
- J. Myerson, S. Hale, R. Hirschman, C. Hansen, & B. Christiansen. Global increase in response latencies by early-middle age: Complexity effects in individual performances.
- M. Sidman, C. K. Wynne, R. W. Maguire, & T. Barnes. Functional classes and equivalence relations.
- L. J. Hayes, S. Thompson, & S. C. Hayes. Stimulus equivalence and rule following.
- B. Lowenkron. Instructional control of generalized relational matching in children.
- K. Cheng & W. A. Roberts. Timing multimodal events in pigeons.
- M. E. Rilling & T. L. LaClaire. Visually guided catching and tracking skills in pigeons: A preliminary analysis.
- M. T. Turvey, H. Y. Solomon, & G. Burton. An ecological analysis of knowing by wielding. (*Theoretical Article*)
- J. T. Wixted. Nonhuman short-term memory: A quantitative reanalysis of selected findings. (*Theoretical Article*)
- E. J. Kehoe. Connectionist models of learning: A tutorial. (*Theoretical Article*)
- J. T. Wixted. The vocabulary of remembering: A review of Kendrick, Rilling, and Denny's *Theories of Animal Memory*.

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## CONTENTS

|   |
|---|
| Introduction  |
| Psychophysical and Cognitive Aspects of Categorical Perception: A Critical Overview<br><i>Stevan Harnad</i>                     |
| Psychophysical Foundations of Categorical Perception  |
| Categorical Perception: Some Psychophysical Models <i>Richard E. Pastore</i>  |
| Beyond the Categorical/Continuous Distinction: A Psychophysical Approach to Processing Modes<br><i>Neil A. Macmillan</i>        |
| Categorical Perception of Speech  |
| Phonetic Category Boundaries Are Flexible <i>Bruno H. Repp &amp; Alvin H. Liberman</i>  |
| Auditory, Articulatory and Learning Explanations of Categorical Perception in Speech<br><i>Stuart Rosen &amp; Peter Howell</i>  |
| On Infant Speech Perception and the Acquisition of Language <i>Peter D. Eimas, Joanne L. Miller,<br/>&amp; Peter W. Jusczyk</i> |
| Models for Speech CP  |
| Neural Models of Speech Perception: A Case History <i>Robert E. Remez</i>   |
| On the Categorization of Speech Sounds <i>Randy L. Diehl &amp; Keith R. Kluender</i>  |
| Categorical Partition: A Fuzzy-Logical Model of Categorization Behavior <i>Dominic W. Massaro</i>                               |
| CP in Other Modalities and Other Species  |
| Perceptual Categories in Vision and Audition <i>Marc H. Bornstein</i>   |
| Categorical Perception of Sound Signals: Facts and Hypotheses from Animal Studies<br><i>Guenther Ehret</i>                      |
| A Naturalistic View of Categorical Perception <i>Charles T. Snowdon</i>   |
| The Special-Mechanisms Debate in Speech Perception: Nonhuman Species and Nonspeech<br>Signals <i>Patricia K. Kuhl</i>           |
| Brain Mechanisms in Categorical Perception <i>Martha Wilson</i>   |
| Psychophysical Indices of CP  |
| Electrophysiological Indices of Categorical Perception for Speech <i>Dennis L. Molfese</i>                                      |
| Evoked Potentials and Colour-Defined Categories <i>D. M. Regan</i>  |
| Higher-Order Categories   |
| Categorization Processes and Categorical Perception <i>Douglas L. Medin &amp; Lawrence W. Barsalou</i>                          |
| Developmental Changes in Category Structure <i>Frank C. Keil &amp; Michael H. Kelly</i>   |
| Spatial Categories: The Perception and Conceptualization of Spatial Relations <i>Ellen Bialystok &amp;<br/>David R. Olson</i>   |
| Cognitive Foundations   |
| Category Induction and Representation <i>Stevan Harnad</i>  |

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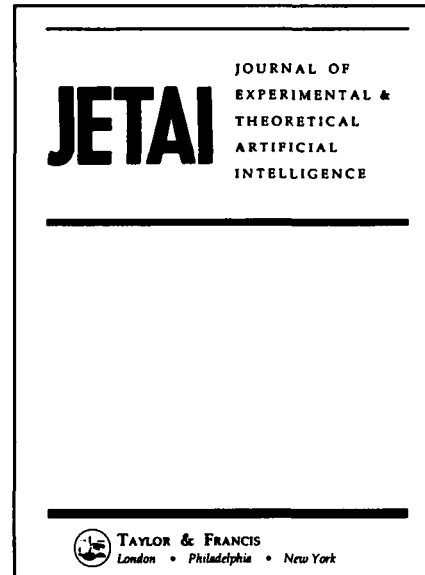
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## On the function of muscle and reflex partitioning

**Uwe Windhorst, Thomas M. Hamm & Douglas G. Stuart, *Universität Göttingen, St. Joseph's Hospital and Medical Center and University of Arizona***

Localized stretch reflexes, the partitioning of sensory output from muscles and the partitioning of segmental pathways to motor nuclei have been demonstrated in the mammalian neuromuscular system. This suggests that individual motor nuclei and the muscles they innervate are not homogeneous functional units. Functional analysis of reflex localization and partitioning suggests that segmental control mechanisms are based on subdivisions of motor nuclei-muscle complexes. A partitioned organization of segmental control mechanisms may provide a number of functional advantages for the control of neuromuscular systems with complex structure and organization.

**With Commentary from** JH Abbs & BB Edin; U Bässler; RE Burke; F Delcomyn; J Duysens; SC Gandevia; CCAM Gielen; GE Loeb & FJR Richmond; PBC Matthews; JB Munson & RC Foehring; G Székely; and others.

## Selfishness examined: Cooperation in the absence of egoistic incentives

**Linnda R. Caporael, Robyn M. Dawes, John M. Orbell & Alphons J. C. van de Kragt, *Rensselaer Polytechnic Institute, Carnegie-Mellon University, University of Oregon, and University of Manitoba***

Social dilemmas occur when the pursuit of self-interest by individuals in a group leads to collective outcomes for everyone in the group that no individual desires. According to "economic man" and "selfish gene" theories, such dilemmas can only be resolved on the basis of selfish incentives. This claim was not supported in a series of experimental social dilemmas in which subjects made single, anonymous choices about whether or not to contribute money for a shared "bonus" that they would get only if enough other people in the group also chose to contribute their money. The findings suggest that the mechanisms underlying such behavior were shaped by evolutionary pressures on small groups.

**With Commentary from** T Caraco; N Eldredge; CS Findlay & CJ Lumsden; GM Heyman; AI Houston & WD Hamilton; D Krebs; S Oyama; H Rachlin; A Rapoport; SC Stearns; NC Stenseth; J Tooby & L Cosmides; and others.

## Multiple book review of *Speech perception by ear and eye: A paradigm for psychological inquiry*

**Dominic W. Massaro, *University of California***

This book is about the processing of information in face-to-face communication. Auditory and visual sources of information are evaluated and integrated to achieve speech perception. Perceivers evaluate each source independently of other sources to obtain a continuous measure of support for each viable alternative interpretation of the stimulus. The integration process follows an optimal algorithm in which the least ambiguous sources have the greatest impact on performance. These processes occur in a similar fashion through development and aging. Performance differences across the lifespan can be accounted for by different amounts of information. These findings about speech perception also apply to personality judgments, categorization, sentence interpretation, and decision making.

**With Commentary from** MH Bornstein; RG Crowder; B de Gelder & J Vroomen; G Ehret; G Gigerenzer; S Glucksberg; LE Krueger; DG MacKay; RF Port; M Studdert-Kennedy; JT Townsend; RM Warren; RB Welch; F Wilkening; and others.

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

J Schull, "Are species intelligent?"

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

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

MS Dawkins, "From an animal's point of view: Motivation, fitness, and animal welfare," With Precommentary from P Singer, "The significance of animal suffering"

D Wahlsten, "Insensitivity of the analysis of variance to heredity-environment interaction"

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"

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