

---

# PSYCHOLOGICAL SCIENCE

*Published for the  
American Psychological Society*

---



Cambridge  
Journals

---

## EDITOR

William K Estes, *Harvard University*

*Psychological Science* is a new bimonthly publication being launched as the flagship journal of the American Psychological Society, founded 1988, to regain the scientific focus of psychological research. The journal is designed to be the forum for research, theory, and application in psychology and the closely related behavioral, cognitive, neural, and social sciences. The journal also considers psychology in government and public affairs. Unlike most research journals, *Psychological Science* encourages articles of general theoretical significance or of broad interest across specialties.

## *Recent Articles*

The Prenatal Origins of Behavioral Organization,  
*William P Smotherman and Scott R Robinson*

Facts, Fantasies, and the Future of Child Care in  
the United States, *Sandra Scarr et al.*

Serial vs Parallel Processing, *James T Townsend*

Answering Reading Comprehension Items Without  
Passages on the SAT, *Stuart Katz et al.*

Infants' Perception of Phase Structure in Music,  
*Carol L Krumhansl and Peter W Jusczyk*

*Psychological Science* (ISSN 0956-7976) is published bimonthly. Volume 1 (1990) subscriptions (US and Canada only): \$100.00 institutions; \$50.00 for non-member individuals. APS members receive the journal as part of their dues.

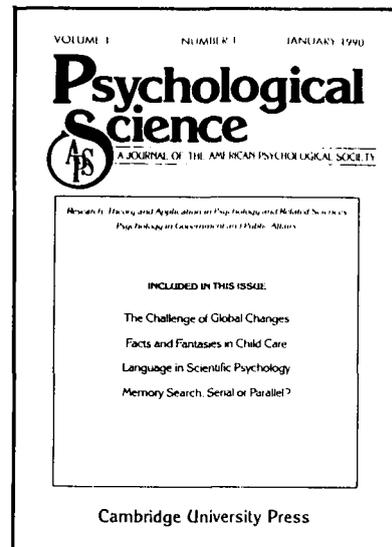
Send order to:

Journals Department

**Cambridge University Press**

40 West 20th Street, New York, NY 10011, USA; or  
The Edinburgh Building, Shaftesbury Road, Cambridge  
CB2 2RU, UK

---



# V I S U A L N E U R O S C I E N C E

Volume 6

March 1991

Number 3

## CONTENTS

### *Research Articles*

- |  |     |  |
|--|-----|--|
| FRANKLIN R. AMTHOR AND<br>NORBERTO M. GRZYWACZ               | 197 | Nonlinearity of the inhibition underlying retinal directional selectivity  |
| PAUL J. DEMARCO, JR. AND<br>MAUREEN K. POWERS                | 207 | Spectral sensitivity of ON and OFF responses from the optic nerve of goldfish  |
| MARK NAWROT AND<br>RANDOLPH BLAKE                            | 219 | A neural network model of kinetic depth  |
| THOMAS E. HUGHES,<br>ULRIKE GRÜNERT, AND<br>HARVEY J. KARTEN | 229 | GABA <sub>A</sub> receptors in the retina of the cat:<br>An immunohistochemical study of wholemounts, sections,<br>and dissociated cells |
| A.B. BONDS   | 239 | Temporal dynamics of contrast gain in single cells of the cat striate cortex   |
| DOUGLAS E. WILLIAMSON<br>AND WILLIAM D. ELDRED               | 257 | Synaptic organization of two types of amacrine cells with CRF-like immunoreactivity in the turtle retina                                 |
| S.L. PALLAS AND<br>B.L. FINLAY                               | 271 | Compensation for population size mismatches in the hamster retinotectal system: Alterations in the organization of retinal projections   |
| B.R. PAYNE,<br>D.F. SIWEK, AND<br>S.G. LOMBER                | 283 | Complex transcallosal interactions in visual cortex  |
|  | 291 | Detailed Information for Contributors  |
|  | 292 | The Humane Care and Use of Animals   |

**ISSN 0952-5238**

**© 1991 Cambridge University Press**

**Printed in the United States of America**