

### OBSERVER

Published by the American Psychological Society

Vol. 5, No. 1

January 1992

### Summit 3 Shifts to High Gear, Summit 4 Gets into First

### Summit IV to Review Education Accreditation

Research psychologists *can* buck the system. They can change a system that serves scientific psychology inadequately, whether the issue is insufficient federal funding for research or lagging representation of the discipline at the highest levels of government policy making. And the latest issue of concern, accreditation of graduate psychology education programs, is no exception.

In fact, that's what APS designed its yearly national behavioral science summit meetings of psychologists to do — to carefully examine and act on issues of primary concern to scientific psychology.

The joint actions nearly 70 psychology

SEE SUMMIT IV ON PAGE 21

### Summit III - Human Capital Initiative Report Due

at Bowling Green State University, now heads the Human Capital Initiative (HCI) project stemming from summits II and III. The HCI project now shifts to publishing and distributing the HCI document and developing specific fundable research initiatives for private and federal funding sources. Representatives of nearly 70 psychology organizations participated in each of those two summits to develop research priorities designed to increase the volume of funding and assure psychologists a greater stake in funding decisions.

APS Past President Janet Spence and Donald Foss (Univ. of Texas-Austin) had

SEE SUMMIT III ON PAGE 24

### INSIDE

Letters to Senator Kerry	3
'92 APS Convention	4
NIMH Transfer to NIH	12
Global Change Report	15
Cognitive Science Workshop	20
T. Anne Cleary	34

### **Departments**

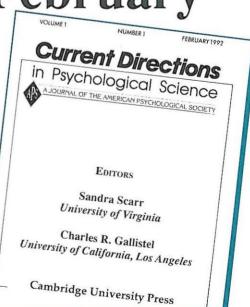
Presidential Column - Accreditation	2
Spotlight on Research -	
Overcoming Misbehavior	8
Member Profile -	
Ursula Bellugi	9
APS Cumulative Record -	
Student Distribution	13
The Student Notebook	16
Organizational Profile -	
Jean Piaget Society	26
Letters to Editor	27
Announcements	29
<b>Employment Bulletin</b>	37

### Second APS Journal Ready in February

It's on the launching ramp as these words go to press. APS members will receive the first issue next month. It's unique in the field of psychology.

It's Current Directions in Psychological Science, APS's newest journal, and it does something that hasn't been tried in a discipline as limitlessly broad as psychology. In an unspecialized, highly readable format, the new journal presents mini-reviews of research for those who want to know about new and significant research outside their own specialty area without having to spend

SEE CURRENT DIRECTIONS ON PAGE 14





### The American Psychological Society

President Past President Past President Past President Secretary Treasurer

Gordon H. Bower James L. McGaugh Janet T. Spence Charles A. Kiesler Michela Gallagher Milton D. Hakel

#### Members at Large

Nancy E. Cantor Elizabeth Loftus Claude Steele

Elizabeth Capaldi Sandra Scarr Bonnie R. Strickland

#### Staff

Executive Director Alan G. Kraut Director of Government Relations Sarah Brookhart Assistant Director Patricia C. Branch Director of Communications Lee Herring Editorial Assistant Pamela McCray

Director of Convention and

Special Projects Lauren Butler Financial/Administrative Officer Patricia Redmon Administrative Assistant Wanda Watson Membership Officer Allen Walker

### The APS Observer

Publisher Alan G. Kraut Editor Lee Herring Staff Writer Don Kent

The APS Observer (ISSN: 1050-4672) is the monthly publication of the American Psychological Society (Federal ID Number: 73-1345573). On alternative months, beginning with February, the Observer consists of the APS Employment Bulletin. The May and June issues and the July and August issues are combined. Editorial and advertising offices are at APS, 1010 Vermont Avenue, NW, Suite 1100, Washington, DC 20005-4907; Tel: 202-783-2077, Fax: 202-783-2083, Email (BITNET): APSKLH@UMUC.

Contents copyright © 1992 by the American Psychological Society. All rights reserved.

All APS members receive the Observer. Non-member subscription rates are \$30 (domestic) and \$50 (foreign) per year. Send subscription requests to the address above. Third-class postage is paid at Washington, DC. Postmaster: Send address changes to American Psychological Society, 1010 Vermont Avenue, NW, Suite 1100, Washington, DC 20005-4907.

Contributors: Unsolicited articles, announcements, and letters to the editor should be submitted to the Editor at the address above. Submit copy via mail, fax, or email. If submitting material on computer disk, submit a paper copy and a wordprocessed or ASCII file on Macintosh (3.5") or DOS (3.5" or 5.25") disks.

The job classified ad rate is \$4.50 per line (approx. 34 characters fit on a line; 6-line minimum). Copy must be received by the 15th of the month preceding the month of publication. Advertisers are invoiced after publication. An editorial calendar and a display ad rate sheet are available upon request. Contact:

APS Observer and Employment Bulletin 1010 Vermont Ave, NW, Suite 1100 Washington, DC 20005-4907

Tel: 202-783-2077 Fax: 202-783-2083

Email (BITNET): APSKLH@UMUC

### Accreditation — Whose Business Is It?

Marilynn B. Brewer Chair APS Graduate Education Committee

The announcement in this issue of the Observer (pg. 1) that APS is convening a "Summit on Accreditation" may come as a surprise to many of our members. Why, you may be asking, is APS - the society for the science of psychology — getting involved in issues of accreditation of doctoral programs in professional psychology? That is the question members of the



Marilynn B. Brewer

APS Graduate Education Committee have been grappling with over the past three years, and their conclusion is that scientific psychologists have every reason to be concerned about the current system of accreditation and its consequences for our discipline.

Although the American Psychological Association (APA) accreditation system currently applies only to doctoral programs aimed at training clinical, counseling, or school psychologists, the process of accreditation affects graduate education in psychology as a whole in a number of ways. The most direct influence, of course, is on the content and curriculum of the professional training programs themselves. However, when these programs are housed in departments of psychology, there is considerable interdependence between the accredited programs and educational programs in all other areas of psychology. Accreditation requirements affect the distribution of resources across different programs, the use of faculty time, and the priorities of graduate students in our departments.

The scope of accreditation has expanded dramatically since APA accredited its first clinical programs in 1948. Today, more than 250 doctoral programs are accredited, a large proportion of which are not the traditional scientist-practitioner training programs housed within departments of psychology in universities. As the same standards and procedures for accreditation have been extended to accommodate newer, more professionally oriented training programs, many feel that the scientistpractitioner model is being undermined by the very system of quality control that was originally designed to promote it.

Accreditation has also become the "coin of the realm" for careers in clinical research, affecting access to internships, license to practice, and even many academic jobs. In that context, control of the accreditation system affords control of graduate education in the discipline. It was with that concern in mind that some members of the APS Graduate Education Committee met with representatives from the Council of Graduate Departments of Psychology (COGDOP) in November, 1989, to discuss strategies for altering the governance of accreditation, which is currently administered by APA exclusively. A proposal, which was endorsed by both APS and COGDOP, called for the creation of a new joint commission for governing the policies and procedures of accreditation

a commission appointed by APA and COGDOP but

SEE ACCREDITATION ON PAGE 22



# Letters to the Senator

We want to thank the many APS members from Massachusetts who wrote to Senator John F. Kerry (D-MA) to thank him for introducing legislation to establish a separate directorate for behavioral and social science at the National Science Foundation (NSF). The bill [S. 1031, the "Behavioral and Social Science Directorate Act of 1991"] Kerry introduced this past spring was one of a few key factors that contributed to the eventual establishment of such a directorate. (See November 1991 *Observer*.)

Senator Kerry heard from developmental and social psychologists, from psychologists working in vision research and neuroscience, from professors in small colleges, large institutions, and private organizations, and from established leaders in our discipline as well as from young investigators. Together, these letters reflect the diversity that is a hallmark of scientific psychology, but they also speak, in a unified voice, to the importance of NSF funding for behavioral and social science research.

Here are just a few quotations from letters to Senator Kerry from but a handful of the many psychology researchers who wrote to their Senator:

### Dear Senator Kerry . . .

### A Major Development

"The establishment of the Directorate constitutes a major development for psychology and related behavioral and social sciences. Given the large amount of important research being done in these areas — research that often has significant implications for many individuals in our country — the new Directorate will benefit both the field and society more generally."

Daniel L. Schacter, Ph.D. Professor of Psychology Harvard University

#### Bravo!

"I understand you have been instrumental in successfully promoting the new directorate for psychology and other behavioral sciences within NSF. Bravo! Regardless of the wonders spawned by the basic sciences, our national priorities can only be achieved by people. Studying the variables that influence behavior is so critical. I applaud the part you have played ...."

> Beth Sulzer-Azaroff, Ph.D. Professor of Psychology University of Massachusetts-Amherst

### **Finding Senator Bradley**

"I write as a researcher who is comfortable in the biomedical and behavioral science camps. I do research on human vision .... On the medical side, I am concerned with issues such as the assessment of vision in patients with cataracts. On the behavioral science side, I study visual attention. How does a human find one visual stimulus in a crowded visual world? For example, how might you find Senator Bradley on the Senate floor?

"The two sides of my work are related in that they both deal with our ability to see and to process visual information, and I find that insights in one area help my work in the other. In my research, these two sides are co-equal partners. The creation of a behavioral science directorate will help to create a similar situation in the field as a whole. I believe that this relationship will be superior to the current state where behavioral science may be seen as a slightly off-center piece of biomedical research."

Jeremy M. Wolfe, Ph.D. Associate Professor Harvard Medical School

### Thin Soup

"I am a developmental psychologist who studies children's learning and cognitive development .... The decline in [federal] funding is felt in the universities [and this decline in turn has produced a body of knowledge that is] thin soup. We draw on that thin soup when we think about issues and programs of early diagnosis, day care, parent education, preschooling, elementary and secondary education, family service programs, treatment and training of the handicapped, mental health, etc.

"I believe ... the proposed ... Directorate, given relatively modest levels of funding and the ability to use those funds freely to sustain the health of the behavioral and social sciences, will greatly improve the knowledge and judgment we ... bring to bear on the development of programs for children and families."

Sheldon H. White, Ph.D. Professor of Psychology Harvard University

### Structure and the Scientific Enterprise

"During my ... career as a scientist and educational administrator, I have developed a strong appreciation for the critical role played by administrative structures in determining the outcomes of educational or scientific enterprises. I have no doubt that your efforts will strengthen the nation's research capability."

Robert Sekuler, Ph.D. Concord, MA

### Research Would Struggle to Survive

"As a behavioral scientist, I have devoted my career to understanding the behavioral consequences of neurological diseases, with special emphasis upon the effects of alcohol abuse on brain functioning. Based upon my work, I have been awarded numerous research grants to untangle the mysteries behind intellectual and emotional changes with alcohol abuse. Without your support, research such as mine would struggle to survive and advances would not be made."

Marlene Oscar Berman, Ph.D.
Professor of Neurology and
Professor of Psychiatry
Boston University-School of Medicine
Research Scientist
Boston VA Medical Center

# The 1992 APS Convention . . . What You've Been Waiting For . . .

an Diego is the place to be this June, particularly the Sheraton Harbor Island Hotel, host of the 4th Annual APS Convention. Come join over 2,000 of your colleagues to discuss current research and explore the diverse facets of scientific psychology through addresses, symposia, poster presentations, exhibits and video showings.

Once again, the APS Convention will concentrate on quality rather than quantity, bringing you the best of scientific psychology in a manageable format.

- APS continues to limit the number of concurrent presentations. Only a handful of addresses and symposia are scheduled at a time, along with poster presentations and exhibits. APS also plans to audiotape select sessions and make these recordings available for purchase.
- Almost half the program consists of invited speakers and symposia handpicked by the Program Committee to represent a broad spectrum of distinguished work within the discipline. The remaining addresses and symposia will be carefully culled via peer review from nearly fifty submissions.
- ◆ Each and every address and symposium is of interest to scientific psychologists regardless of specialty. Although these presentations will cover a wide range of subjects within the discipline, speakers are encouraged to target their talk to a broad audience of fellow psychologists. As always, the numerous poster sessions will provide opportunities for disseminating and discussing more specialized information.

The impressive roster of speakers and symposia highlighted in the following few pages provides a tantalizing glimpse of what awaits you in San Diego. By special invitation, the following presentations have been scheduled: a Keynote Address by William K. Estes; invited addresses

JUNE 20 - 22
1992
SAN DIEGO

APS

CATCHE
SCIENTIFIC
VALE!

AMERICAN PSYCHOLOGICAL SOCIETY

by Linda M. Bartoshuk, Judy Dunn, Elissa Newport, Robert A. Rescorla, Robert J. Sternberg, and Shelley Taylor; invited addresses by Michael I. Posner, Ulric Neisser, and David Rumelhart, with commentary by George R. Mangun, James J. Jenkins, and Richard M. Shiffrin, respectively; invited double addresses

(a new format) by Robert S. Siegler and Allan Collins and Mortimer Mishkin and Larry Squire; multispecialty symposia on reading and metacognition; and other symposia on rapid associative learning and motivation and performance. Also in the works are the Presidential Symposium on post-traumatic stress disorder featuring Chris Hatcher, Terry Keane, Francine Shapiro, and Joseph Wolpe; the APSSC student award symposium; and other presenta-

tions.

But don't think that APS has neglected the lighter side of conventioneering. For only \$89 a night, the Sheraton Harbor Island Hotel provides you with a multitude of dining options (five restaurants and lounges), a plethora of recreational possibilities (three swimming pools, sauna, health club, tennis courts, jogging and biking facilities), and enough sunshine and ocean breezes for the most dedicated sybarite. Also, such world-renowned attractions as the San Diego Zoo and Wild Animal Park and Sea World are readily accessible to you and your family. You might even consider a quick jaunt to Mexico!

All in all, the 1992 APS Convention is not to be missed. Plan now to join us in San Diego.





### ... And Here's A Preview . . .

### KEYNOTE **ADDRESS**

William K. Estes Harvard University

Concepts, Categories, and Psychological Science

### **Invited Double Addresses**

I. Siegler/Collins

Robert Siegler Carnegie Mellon University

People Than Canada? Yes: Seven Times as Many



Does Indonesia Really Have More

World events cannot be understood without comprehending the quantities involved. However, there are far too many quantities for anyone to learn. This is why ability to estimate accurately is so important. In this talk, I present both a conceptual framework for analyzing realworld quantitative estimation and methods for improving it.

Allan Collins Northwestern University

### **Epistemic Forms and Epistemic Games**

When researchers investigate a topic, they have an idea of what kind of theories they might create, and a set of cognitive strategies for carrying on their investigations. The kinds of theories I call "epistemic forms" and the cognitive strategies are the rules of the associated epistemic games.

### II. Mishkin/Squire

Mortimer Mishkin National Institute of Mental Health

**Parallel Memory** Systems

One reason memory has been so resistant to both behavioral and neurobiological analysis is that many standard tasks can each be learned in different ways simultaneously. As we begin to dissect these parallel ways and the parallel neural systems responsible, we can also foresee the resolution of some long-standing theoretical debates.

Larry Squire VA Medical Center-San Diego

Memory: The Organization of **Brain Systems and** Cognition

Recent studies of

humans and nonhuman primates have illuminated the structure and organization of memory. One new development is the possibility of obtaining functional and anatomical information from living subjects. A major conclusion is that memory is not a single thing but is composed of multiple separate systems.

### **Invited Addresses with** Commentators

Michael Posner University of Oregon

**Brain Systems of Selective Attention** Studied by Positron **Emission Tomography** 



This is a tutorial presentation on the use of imaging techniques to study neural systems underlying selective attention. The use of positron emission tomography is briefly reviewed. The results are summarized in terms of separate networks of neural areas related to attention. These attentional networks interact with more automatic data processing systems.

Commentator: George Mangun Dartmouth Medical School

Event-related potentials will be contrasted with



positron emission tomography for investigating attentional mechanisms. Each approach provides a different, although presumably overlapping view of brain processes involved in perception and cognition. Together, these measures permit analysis of both the temporal dynamics and the anatomical substrates of attention systems in the living human brain.

SEE NEXT PAGE

### **Invited Addresses** With Commentators (Continued)

Ulric Neisser **Emory University** 

**Distinct Systems For** "Where" and "What": Reconciling the Ecological and Representational Views of Perception



In J.J. Gibson's ecological theory, to perceive is to pick up optical structure (mostly movement-produced) that specifies the local layout and its affordances. In more conventional theories, perception involves matching inputs to representations. The discovery of distinct "where" and "what" mechanisms in primate

cortex suggests that both are right, but about different perceptual systems.



Commentator: James J. Jenkins University of South Florida

David Rumelhart Stanford University

Psychology and Connectionist Theory: What Have We Learned?



Richard Shiffrin Indiana University

Models in Psychology: A Look Back and a Look Forward



Recent years have seen an evolution that includes a veritable explosion of new models, in which connectionist models join neural net models, recurrent models, and non-linear dynamical systems models, to provide a rich array of tools to psychological theorists. I shall discuss what this has meant for the field, and where we are likely to go from here.

### **Invited Addresses**

Linda Bartoshuk Yale University School of Medicine

Experiments of Nature on the Sense of Taste: Genetic and Clinical Anomalies



Genes and pathology alter taste experience. Genetic variation produces "supertasters" who perceive unusually intense tastes from some sweet and some bitter compounds like sucrose, saccharine, and caffeine and unusually intense burning sensations from some spices like chili pepper. (Lecture attendees will be tested for their taster status.) Pathology can produce taste phantoms, that is, chronic tastes that cannot be rinsed away. Strangely enough, patients often fail to notice changes in everyday experience even when the taste system is damaged extensively. The mechanisms underlying this constancy involve inhibition in the Central Nervous System.

Judy Dunn Pennsylvania State University

### **Siblings**

Understanding the social world - what others feel and think,

and why they behave the way they do is a key feature of human development. With a new perspective on children as family and cultural members, the significance of relationships and talk in the development of social understanding is considered, with evidence from longitudinal research in the United States and the United Kingdom.



### The Associative Basis of Instrumental Learning



Goal-directed behavior emerges from environmentally arranged relations among three elements: a behavior, an outcome. and a stimulus context. Recent investigations suggest these relations result in the formation of binary associations among the various pairs of these elements as well as a more hierarchical structure involving all three.

Robert Sternberg Yale University

Intelligence Is Neither Domain-General Nor Domain-Specific



The psychology of intelligence has been dominated by an invalid disfunction of two opposing but equally pernicious lies: (1) that intelligence is domain-general; (2) that intelligence is domain-specific. Massive amounts of empirical evidence, systematically ignored by proponents of these viewpoints, contradict both viewpoints. Development of the field has stagnated by asking and answering the wrong questions. What is intelligence, what questions should we be asking about it, and what might the answers look like? (Come and find out.)

Shelley Taylor University of Califor-nia-Los Angeles

### A Theory of Self-Evaluation



The talk will present

a theoretical model and empirical evidence that attempts to integrate work suggesting that self-evaluation is variously driven by accuracy needs, self-enhancement needs, and self-improvement needs.



FROM PREVIOUS PAGE

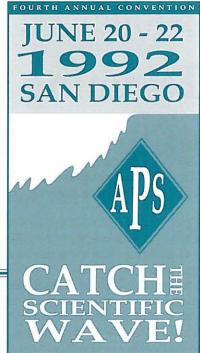
### Invited Multispecialty Symposium

Janet Metcalfe Dartmouth College

Theoretical, Cognitive, Developmental, and Neuropsychological Aspects of Metacognition



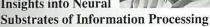
Watch for the Convention Registration and Housing Registration Forms in the March issue of the APS Observer.



### **Invited Symposium**

Norman Weinberger University of California-Irvine

Rapid Associative Learning: Recent Insights into Neural



Rapid associative learning develops in a very small number of trials, as in the case of fear conditioning. This learning situation presents an opportunity to determine the initial neural events in association, providing information complementary to that obtained with more slowly-developing learning (e.g., eyelid conditioning). This symposium will review recent behavioral and neurobiological findings from three separate but related research programs on fear conditioning. Joseph LeDoux will focus on the role of the amygdaloid complex, Donald Powell will emphasize the involvement of the pre-frontal cortex and Norman Weinberger will deal with receptive field plasticity in the auditory system. •



APS is pleased to offer its members the following discounted rates associated with its 4th Annual Convention in San Diego, June 20-22, 1992.

### **Discounted Airfares**

Fly United Airlines round-trip to sunny San Diego and save when you travel between June 18 and June 24, 1992!

- ♦ 45% off full coach fare (7-day advance purchase)
- ◆ 5% off the lowest applicable fare
- Special Canadian fares in select markets for attendees originating from Canada.

These discounts are available only through the United Airlines Meetings Desk. For details, you or your travel agent should call 1-800-521-4041 and ask for Convention File# 522QH.

#### **Discounted Hotel Rates**

Enjoy your stay at the luxurious Sheraton Harbor Island Hotel for only \$89 per night (single, double, triple, quad). This special rate will be available from June 16 through June 27, 1992, to accommodate both your convention and vacation plans. With its swimming pools, sauna, health club, tennis courts, stunning views, and proximity to such world-renowned attractions as the San Diego Zoo and Sea World, the Sheraton Harbor Island is the ideal place to refresh your mind and body this summer.

For reservations, you or your travel agent should call 619-291-2900 and ask specifically for the APS Convention Block.



### Spotlight on Research

# Teaching Children with Behavior Problems



Edward G. Carr

Effects on the Teacher and Implications For Better Treatment Planning

Requiring a child with severe behavior problems\* to repeat simple tasks until they are completed successfully may be a self-defeating teaching technique, a new behavioral study concludes.

The study, published in the fall 1991 issue of the *Journal of Applied Behavior Analysis*,\*\* suggests that "naturalistic" methods of instruction may be more productive than task management methods now widely used to overcome severe misbehavior.

Since an instructor is effectively "punished" by the kicking, biting, and screaming of a behavior-problem child, the child's misbehavior is maintained because it has a reciprocal effect on the instructor's performance. Faced with an unmanageable situation, the instructor may use negative reinforcement as a behavior management tool by withdrawing attention from the child. The result is fewer instructional tasks assigned to the child as well as escape from the situation by the instructor, the study found.

The study was conducted by Edward G. Carr, Jill C. Taylor, and Sarah Robinson of the State University of New York-Stony Brook and the Suffolk Child Development Center. The results are consistent with other studies suggesting that adults present fewer demands on a problem child because the teacher's teaching efforts are punished by the child's misbehavior.

#### **Teachers**

The study used as teachers [subjects] 12 undergraduate female students preparing for careers in special education or human services. Each of these adults conducted five 22-minute sessions with a pair of preschool children. One of the children in each pair had been systematically identified as a "problem" child and the other child as a "nonproblem" child. Four pairs of children were used in the study. The teachers were informed that they would be engaging in teaching sessions with preschoolers with developmental disabilities (e.g., language delayed development, autistic characteristics) and that the sessions would be videotaped for observation of adult-child interactions. They were not aware of the actual purpose of the study.

### **Study Results**

As the author's had predicted, the study found that the problem children frequently exhibited tantrum-like behavior problems during the sessions. However, the frequency was much higher during instructional intervals. The median was 57.5 percent, in contrast to a median of only 7.9 percent misbehavior when the adult was not attempting instruction.

The nonproblem children seldom misbehaved. Incidents were as low as 3.3 percent following instructional contact and only 0.3 percent in non-instructional intervals. (Due to the design of this study and timing characteristics of the misbehavior, it is improbable that the problem behaviors were maintained by attention.)

As an effect of the misbehavior, each adult subject provided more instructional contact to the nonproblem child than to the paired problem child, the study found. The median number of instructional intervals was 377 for nonproblem children and 226 for problem children.

The analysis also showed that the adults presented more task commands (e.g., requests to identify colors or features of the face) to the nonproblem children than to the problem children. The median was 147 presented to the nonproblem children and only 61.7 to the problem children.

The problem children tolerated some tasks better than others, and the study found that the adults presented significantly more tolerated tasks than untolerated ones to the problem children. The results imply that the child, rather than the adult, may sometimes shape the child's academic curriculum.

"It may be important to ask . . . whether the [giving] of largely nonfunctional tasks is the result of those tasks being easy for the [problem] student and thus correlated with a low rate of punishment," write the authors.

The authors suggest that existing curricula need to be assessed to determine present-day curricular choices are more a function of what is tolerated by a child rather than long-term learning benefits for the child. Existing curricula may need to be altered if it is determined that they have emerged more as a function of child effects (i.e., teachers choose activities correlated with low rates of behavior problems) than educational benefit to the child.

The authors note that this study was conducted over a short time span. They recommend that a similar analysis be undertaken over a longer time period and using state-certified teachers as instructional agents in order to allow full generalizability of study results to real-world teaching contexts.

- \* Behavior problems include crying, screaming, tantrums, biting, hitting, throwing objects, head-banging, and kicking.
- \*\* The Journal of Applied Behavior Analysis is published by the Society for the Experimental Analysis of Behavior. The study was sponsored in part by a Cooperative Agreement from the U.S. Department of Education's National Institute on Disability and Rehabilitation Research, "A Rehabilitation Research and Training Center on Community-Referenced Technologies for Nonaversive Behavior Management," and a Sigma Xi grant-in-aid.



### Member Profile

### Ursula Bellugi Receives Neuroscience Prize



Ursula Bellugi

Making Connections within and beyond the Brain Helps Understand Brain's Language Functions

Bellugi joined The Salk Institute for Biological Studies 20 years ago, when Jonas Salk suggested she set up a small lab for studies in language and cognition. "Back then," she said, "the research at Salk was molecular biology and me. I was their token non-molecular biologist."

"Now it's a very exciting place for molecular biology and the neurosciences. And my work fits squarely into the cognitive neurosciences, an area whose importance is now clearly recognized here at the Salk Institute for Biological Studies. That, too, is exciting from my point of view."

Bellugi, an APS Fellow, heads the Salk Institute's Laboratory for Cognitive Neuroscience. The lab's very existence may prove her point that behavioral science researchers now have key roles in the big league at places like the Salk Institute.

Having just shared receipt of the 1991 Neuronal Plasticity Prize — with neurobiologists Torsten Wiesel, a Nobel laureate of the Rockefeller Institute, and Wolf Singer, director of the Max Planck Institute for Brain Research in Frankfurt, Germany — there is independent evidence of her point. In fact, she views her selection for this international scientific award as a solid sign of the rising esteem for behavioral sciences among scientists in other fields.

The three researchers received the 1991 prize — which carries a 200,000-franc (\$37,000) award — from the French Foundation IPSEN for their

work on neuronal plasticity. Bellugi's award was for her pioneering work on language representation in the brain. The chair of the award selection committee was leading French neuroscientist Jean-Pierre Changeux.

### Connections Outside the Brain

In the San Diego area, Bellugi interacts with researchers of a half dozen other facilities focusing on a range of projects "from higher cognitive functions down to neurobiology and the gene." It is what she calls a "spiderweb type of network." She and other brain researchers "can reach out from a central point in the network and make connections across laboratories, across disciplines, and attempt to integrate research at the neurobiological, genetic, and brain structural levels. And, we continue to build the web to make more complete connections across all relevant research levels in our efforts to understand the neural systems that serve higher cortical functions."

Bellugi is on the governing board of the McDonnell-Pew Center for Cognitive Neurosciences at San Diego which links laboratories of the Salk Institute (where Bellugi is a Full Professor), the Scripps Research Institute, and the University of California at San Diego where Bellugi is an adjunct professor of psychology. Other key institutional players in the research network are San Diego State University and the National Institute of Health's Multi-Disciplinary Center at the University of California-San Diego.

"It couldn't be a more propitious time for this type of [brain] research with the new and very beautiful developments connected with brain imaging, both structural and functional,"

said Bellugi. She collaborates with Antonio and Hanna Damasio of the University of Iowa who are frequent visitors to Salk Institute, and she is using the Damasio's newly developed technique of three-dimensional reconstructions of the brain, a system called BRAINVOX." The latter uses magnetic resonance imaging with one-millimeter slices organized to provide three-dimensional reconstructions so realistic "that it is as if you had the living brain in front of you and you could take it apart and put it back together . . . ," exclaimed Bellugi.

... my work fits squarely into the cognitive neurosciences, an area whose importance is now clearly recognized here at the Salk Institute for Biological Studies. That, too, is exciting from my point of view.

URSULA BELLUGI

#### Connections in the Brain

Bellugi and her husband, Edward S. Klima, the distinguished linguist, are particularly well known for their studies of the structure, architecture, acquisition, processing, and representation in the brain of signed languages of deaf people. Studies of brain organization in deaf signers allow investigation of the basic neural foundations of language and spatial

SEE NEXT PAGE

### Insurance Rates Rising?

### **APS Offers Professional Liability** Insurance **At Competitive Rates**

A reliable and affordable insurance package, offering:

- ♦ Coverage up to \$1,000,000 per incident and up to \$3,000,000 per year.
- **♦** Legal fees and court costs are paid in addition to policy limits whether or not you are liable for the charges made against you.

Specifically designed for our members who:

- ♦ Have a part-time private clinical or counseling practice (10 hours or less of practice per week) (\$307-\$520 per year)
- ♦ Are engaged in academic, educational or research activities (\$78-\$128 per year)
- ♦ Do various kinds of full- or part-time industrial consulting (\$295-\$498 per year)
- ♦ Students (\$30 per year)

Contact Tony Spohn of Maginnis and Associates (1-800-621-3008, Ext. 29) (In Illinois: 1-800-621-6585, Ext. 29) for further information and application.

cognition. More generally, the work has opened new perspectives on language, the mind, and the brain. A sign language makes use of spatial contrasts at all linguistic levels - lexicon, syntax, and morphology. The grammar is essentially spatially organized, Bellugi and Klima have demonstrated. In people with hearing, each of the two brain hemispheres is differentially specialized, the left for language, the right for spatial cognition. The spatial factor suggests critical questions about how sign language will be organized in the brain, Bellugi says.

To get answers, Bellugi, Klima, and their co-researchers studied right-handed life-long deaf signers who had had a stroke or other focal brain damage to one or the other hemisphere. To date, Bellugi and Klima have studied about 10 with right hemisphere damage and 20 with left hemisphere damage. They used a carefully selected battery of probes in language and spatial cognition across both groups, and their results showed strikingly that left hemisphere damage leads to sign language aphasias and right hemisphere damage does not.

"One subject was a deaf woman who was an artist. Following a stroke, her spatial cognitive abilities including drawing were markedly impaired, but her sign language was impeccable, including spatially organized syntax. This shows just how separate and independent these systems can be," Bellugi said.

"Scientists have wondered how and why the two hemispheres became specialized for different cognitive functions, and it had been thought to be intimately connected with sound as the basis for language," Bellugi said.

"Well, our results show hearing and speech are not necessary for the development of hemispheric specialization: Sound is not crucial. These studies suggest that the left hemisphere in man has an innate predisposition for language, whatever the modality, signed or spoken," she emphasized. This capacity of brain systems to subserve language regardless of modality is a striking demonstration of neuronal plasticity.

About five years ago Bellugi and Klima started a new line of research on brain organization in children who have a rare

FROM PREVIOUS PAGE genetic disorder that leads to mental retardation called Williams syndrome. The older children often have unusual language skills and very rich vocabularies while other areas of cognition are profoundly impaired. Their cognitive peaks and valleys of abilities are ultimately what distinguishes Williams syndrome most clearly from Down's syndrome and other forms of mental retardation in which all cognitive abilities tend to be more equally depressed.

> "The Williams syndrome children say very unusual things a great deal of the time," Bellugi said. "If you asked them to name all the animals they can in a minute (a fluency task) they will give you many surprising names, some of them not typical at all, like albatross, Chihuahua, yak, unicorn, baby hippopotamus, dragon. That and their proclivity for nonprototypical vocabulary suggest unusual semantic organization of the brain. Their spatial cognition is extremely impaired, suggestive of right hemisphere damage but it is not quite the same. And their ability to recognize unfamiliar faces (generally a function of the right hemisphere) is extremely well preserved, as is their affective expression. Despite their mental retardation and cognitive deficits, they exhibit remarkable social understanding and affective relatedness. So it's as if certain cognitive functions unique to human beings are selectively preserved in these children."

> She continued, "We are beginning to put their unusual neuropsychological profiles together with studies of brain structure and brain function — we think there are important clues to how these domains become organized. We are also attempting to look at the neurobiological and the genetic bases of Williams syndrome, together with scientists in neural systems and molecular genetics, and that connects us across laboratories at The Salk Institute. We are at the frontier of being able to approach these complex problems at the level of the gene."

> Now Bellugi is beginning to lay groundwork for a possible new Center for the Study of the Child at the Institute. Research in the new center will focus on the relationship between the maturation of the brain in young children and the

### APS Swap Shop

Saddled with some obsolete research equipment that you'd like to get rid of but don't want to trash?

Or,

Need some replacement hardware or equipment that is no longer available through standard commercial outlets?

Send to the APS OBSERVER a brief description (75 words or less) of either: (a) your surplus, obsolete (but otherwise useable) research apparatus (including computers), or (b) the equipment you need. Your description will be published in a new section of the Announcements, the "APS SWAP SHOP." You can broadcast to the scientific psychology community your equipment needs or the availability of surplus equipment for loan or permanent possession. Such announcements will be accepted only if the equipment that is to be loaned or given away is free (excluding shipping/ postage) to the receiving party. [No commercial announcements will be accepted.]

In general, the deadline for receipt of announcements to be published is the 15th of the month preceding the month of publication. Send your address, phone number, and announcement to: APS OBSERVER, 1010 Vermont Ave., NW. Suite 1100, Washington, DC 20005-4907 Fax: 202-783-2083 Email (BITNET): APSKLH@UMUC

### Effective teaching through better books...

**NOW IN FULL COLOR!** 

BIOLOGICAL PSYCHOLOGY, FOURTH EDITION James W. Kalat, North Carolina State University

A new edition of the most successful biological psychology text in the field! Extensively revised and updated. Features a new chapter on development and a new short appendix on basic chemistry as well as a new modular format for more flexible assignment of material. And now in full-color throughout with many stunning new illustrations designed specifically to clarify topics students traditionally find difficult.

### **HEALTH PSYCHOLOGY:** AN INTRODUCTION TO BEHAVIOR AND HEALTH. SECOND EDITION

Linda Brannon and Jess Feist, McNeese State University

This popular book is now better than ever with a brand new visual format and complete teaching package. Firmly rooted in current research, there's new material on living and coping with chronic illness (AIDS, Alzheimer's disease) and psychoneuroendocrinology. The physiological chapter is now dispersed and integrated into appropriate topics throughout the book. Brannon and Feist's unique use of case studies anchor topics to the real world.

### AN INTRODUCTION TO THE HISTORY OF PSYCHOLOGY, SECOND EDITION B. R. Hergenhahn, Hamline University



A carefully revised and expanded version of the most balanced history text available for your students today. Extensive study aids at the end of each chapter include a new annotated bibliography, chapter outlines, discussion questions, and glossaries.

### BEHAVIORAL STATISTICS IN ACTION

Mark W. Vernoy, Palomar College; and Judith A. Vernoy



A comprehensive yet easily digestible introduction to statistics. Frequent concept quizzes, understandable discussion of tests of significance including when and why they are used, and pedagogy that encourages students to use SQ4R technique.

### STATISTICS AND RESEARCH DESIGN IN THE BEHAVIORAL SCIENCES Richard S. Lehman, Franklin and Marshall College



Lehman presents a complete treatment of statistics and methods for the first time in one text, showing students how collecting and analyzing data are simply two sides of the same coin.

### WRITING PAPERS IN PSYCHOLOGY: A STUDENT GUIDE, SECOND EDITION Ralph L. Rosnow, Temple University; and Mimi Rosnow

The only self-instructional resource that clearly and concisely walks students through every step of the research report/term paper process. Incorporating style tips specified in the APA

manual, it's a valuable supplement for any psychology course that requires writing.

For more information, please write on your school letterhead to:

### Wadsworth Publishing Company

10 Davis Drive, Belmont, CA 94002

### From Previous Page

development of their mental capabilities. It could have practical applications both in improving everyday learning situations and coping with learning disabilities. Some of the work is already going on in Bellugi's laboratory and the Neuropsychology Laboratory headed by Helen Neville, one of Bellugi's research collaborators.

Asked what advice she has for up-andcoming researchers, Bellugi said "I think that such studies across disciplines can truly broaden the horizons of psychology. We now have new opportunities to tackle some of the central issues of the neurosciences that tie cognitive functions to brain organization." D.K.

### Correction

Due to incorrect information supplied to the APS Observer, the origin of the photograph on pg. 1 of the November 1991 issue was misidentified. The photograph of the tornado chamber (vortex display) should have been identified as originating from SCIENCE WORLD British Columbia in Vancouver, Canada.



# APS Past President Appointed to Mental Health Council

APS Past President James L. McGaugh was appointed in November to the National **Advisory Mental Health Council** (NAMHC), a 12-member advisory council that makes program and policy recommendations in the field of mental health. These program and policy recommendations are made to the Secretary for Health and Human Services: the Assistant Secretary for Health: the Administrator of the Alcohol Drug Abuse, and Mental Health Administration; and the Director of the National Institute of Mental Health (NIMH). Among other responsibilities, the Council may make recommendations regarding research and research training funding, and the acquisition, development, or maintenance of facilities and equipment for NIMH.

McGaugh, one of the Council's nine leading representatives of the health and scientific disciplines, will serve a four-year term. As the *Observer* goes to press, three of the other such official representatives have yet to be made final. These voting members are selected by the Secretary for Health and Human Services. The chair of the Council is Alan I. Leshner, Acting Director of NIMH. The Council meets at least three times per year.

### NIMH Move to NIH: It's Anybody's Guess

Washington, DC — Until September, the transfer of the National Institute of Mental Health (NIMH) to the National Institutes of Health (NIH) appeared to be a done deal. The Administration wanted it, the service and research communities wanted it, the U.S. Senate wanted it. People at NIMH were packing their bags, and NIH was already incorporating NIMH into its planning activities. But all that changed when the proposal went to the House of Representatives, where it has been languishing in legislative limbo.

The most eloquent commentary on this recent turn of events was offered by Alan Leshner, Acting Director of NIMH, during a report to the National Mental Health Advisory Council. His presentation began with a title slide labeled "NIH/ADAMHA Reorganization." The second and final slide on the topic said, "Your Guess Is As Good As Mine."

And that pretty much says it all.

### **Raised Expectations**

The transfer was part of a plan to reorganize the Alcohol, Drug Abuse, and Mental Health Administration (ADAMHA) into separate agencies for services and research. Initially proposed by the Secretary of Health and Human Services in the Spring 1991, it was taken up by the Senate Labor and Human Resources Committee shortly thereafter and was approved by the full Senate in August. Astonishing speed for the legislative process. Hopes were raised accordingly. And dashed accordingly in the House.

### Inquiring Minds Want to Know

When you think about it, the House's approach is really more typical of Congress. It's just that everyone's expectations were raised by the momentum with which the proposal moved through the

Senate. And realistically, although APS favors the transfer of NIMH to NIH, our agenda *vis a vis* both NIMH and NIH will not change regardless of where NIMH is located.

So what does this situation mean for psychology researchers funded or interested in being funded by ADAMHA? In many ways, nothing. Perhaps the biggest question is what the stalled bill does to the position of NIMH Director, which has been vacant for over two years.

Leshner, a research psychologist, has been serving as Acting Director. He also was widely regarded as a leading contender for the directorship before the transfer proposal surfaced. But Leshner's candidacy was, like the transfer proposal itself, suspended by unforeseen events, and now remains in administrative limbo (right next door to legislative limbo).

Frederick Goodwin, current head of ADAMHA, was named NIMH Director earlier this year by Health and Human Services Secretary Louis Sullivan, when Sullivan assumed the move to NIH would happen. So now what happens? Does Goodwin take the NIMH job knowing that the Institute may not join NIH? Unlikely, since it would be a step down for him in terms of the current ADAMHA structure. Does Leshner get the job? Then what would happen to Goodwin if the ADAMHA reorganization does get approved by Congress? In the immortal (as of a few paragraphs ago) words of Leshner, "your guess is as good as mine."

### Small Change for a Big Bill

Only a small portion of the almost 200page Senate bill was actually concerned with the transfer of NIMH and two other ADAMHA components, the National Institute on Drug Abuse and the National Institute on Alcohol Abuse and Alcohol-



### FROM PREVIOUS PAGE

ism. The major provisions of the bill were the establishment of a new services agency and revisions to the formula for distribution of \$1.5 billion in authorized federal funding to states under the Alcohol, Drug Abuse and Mental Health Services (ADMS) block grant. The bill was held up for a short time by a few Senators who were concerned that the new formula would mean less money for their states. Ultimately, however, the bill was approved unanimously.

Three months went by before there was a flare-up of activity in the House. An alternative ADAMHA bill (H.R. 3698) was introduced in the House on November 1 by Health Subcommittee Chair Rep. Henry Waxman (D-CA) and passed by the subcommittee a few days later. Waxman's bill essentially maintains current law regarding the structure of ADAMHA, but would create two separate block grants, one for mental health services and one for substance abuse services.

#### Spring Thaw

The full Energy and Commerce
Committee, chaired by Rep. John Dingell
(D-MI), did not consider the bill before
Congress adjourned for the year. But a
letter sent to Secretary Sullivan from
Dingell, Waxman, and Senator Ted
Kennedy (D-MA), chair of the Senate
Labor and Human Resources Committee,
indicates that legislation on the block
grant will be enacted this Spring.

"We fully expect that legislation affecting the ADMS block grant will become law prior to April 1, 1992," they stated in the November 26th letter.

No reference was made to the reorganization of ADAMHA or the proposal to fold NIMH into NIH. Further, the letter did not provide insight into how the differences between the House and Senate positions on the ADMS block grant would be resolved. But Sullivan was asked by the Senators to advise states that their block grant allotments "are subject to change" in the third and fourth quarters of the fiscal year.

### Schools with the Most APS Students \*

### The APS Cumulative Record

Univ of lowa 24 Univ of Maryland 24 Univ of Maryland 24 Univ of South Florida 24 Univ of West Florida 24 North Carolina State Univ 23 Temple Univ 23 Univ of California-Berkeley 23 Univ of Massachusetts 23 California State Univ 22 Claremont Graduate School 22 Univ of Akron 22 Univ of Evansville 22 Univ of Illinois-Chicago 22	Luther College Univ of North Texas 26 Univ of Rhode Island 26 Yale Univ Arizona State Univ Purdue Univ Southern Illinois Univ Texas Christian Univ 26 27 28 29 29 20 20 21 22 22 23 24 24 26 26 27 28 29 20 20 20 20 20 20 20 20 20 20 20 20 20	Harvard Univ 28 Rutgers Univ 28 Slippery Rock Univ 28 Univ of Chicago 28 Univ of Kansas 28 Univ of Scranton 28	SUNY-Albany 30 Univ of Oklahoma 29 Carnegie Mellon Univ 28	Stanford Univ 34 Memphis State Univ 33 Hofstra Univ 31 Wayne State Univ 31	George Mason Univ 38 Univ of Pittsburgh 37 Central Michigan Univ 35 SUNY-Stony Brook 35 New York Univ 34	Univ of Georgia 41 Univ of Houston 40 Michigan State Univ 39 Bowling Green State Univ 38	Univ of Michigan 90 Univ of Minnesota 60 Univ of California-Los Angeles 56 San Diego State Univ 55 Univ of Southern California 53 Univ of Texas-Austin 51 Ohio State Univ 50 Univ of Virginia 50 Univ of Connecticut 42
---	---	--	--	--	--	--	---

<sup>\*</sup> Numbers in the right column are the number of student APS members at the institution. Including these 53 institutions, APS students are enrolled in 244 different universities and colleges.



### CURRENT DIRECTIONS FROM PAGE 1

a lifetime learning about it.

"There is no other journal in psychology doing what we intend for *Current Directions*," said Charles R. Gallistel of UCLA, co-editor (with Sandra Scarr of the University of Virginia) of the new journal. "When something interesting is happening in any part of that huge expanse of terrain of psychology and its adjacent fields, psychologists soon are going to find it in *Current Directions*," he said.

Gallistel believes what some may deny: "Psychologists can get a little bored with their own specialty areas. They're curious about what is going on in other areas of psychology. Current Directions will help them find out." And perhaps the new journal will appropriately divert many researchers seeking refuge from modern day information overload. As Scarr points out, given the recent trend toward increased intellectual isolation of specialists, this journal is a "natural solution in the evolution of psychological science, a science that demands interdisciplinary knowledge and cooperation among researchers in diverse subspecialties."

"We hope it will also find readers among news media people, science policy makers, and others who want to know what is going on in the broad expanse of psychological research. But it's primarily for the field, for psychologists," Gallistel said.

The inaugural issue "covers a lot of territory: from distance perception in insects to the psychosocial impact of job loss," notes Scarr, and it is a "prototypical example of the breadth and scope of future issues." [See box for a list of the first issue's articles.] Along these lines, Gallistel emphasized that it is "our job as editors is to know what is going on, or at least to know who knows what is going on in a wide range of fields, and that is why we are so pleased with this first issue."

Some of the articles focus on the work of one or a small number of investigators fitting together five or six pieces of their own work to make a story. Other articles — for example, a piece titled "Objects, Attributes, and Visual Attention: Which, What, and Where," by Nancy Kanwisher (UCLA) and Jon Driver (University of Cambridge), pull together work from a dozen different laboratories, all of it recent

and some of it still in press.

Though all articles focus on new and recent research, *Current Directions* doesn't publish original reports of new studies, Gallistel points out. Rather, its special format presents reviews of fast-breaking developments and syntheses of important new perspectives.

In many other fields there are journals that fill this niche for breadth and freshness, responding to the itch of the specialist, well aware that his/her specialty area is not *all* there is. Now psychologists, with their legendary insatiable need to know, at last will have theirs. **D.K.** 

### **Articles Appearing in the Premier Issue of**

### Current Directions in Psychological Science

- Buy Low and Sell High: An Investment Approach to Creativity Robert J. Sternberg & Todd I. Lubart (Yale University)
- Siblings and Development
   Judy Dunn (Pennsylvania State University)
- Psychosocial Impact of Job Loss on Individuals and Families Richard H. Price (University of Michigan)
- Attention as a Cognitive and Neural System Michael I. Posner (University of Oregon)
- Seeking 'Truth,' Finding Despair: Some Unhappy Consequences of a Negative Self-concept William B. Swann, Jr. (University of Texas-Austin)
- Pretense, Autism, and the "Theory of Mind" Module Alan M. Leslie (University of London)
- Objects, Attributes, and Visual Attention: Which, What, and Where Nancy Kanwisher (UCLA) & Jon Driver (University of Cambridge)
- Distance Perception in Insects
   Mandyam V. Srinivasan (Australian National University)
- A Picture Is Worth a Thousand Words, But That's the Problem:
   The Role of Syntax in Vocabulary Acquisition
   Lila R. Gleitman (University of Pennsylvania) &
   Henry Gleitman (University of Pennsylvania)
- Neural Foundations of Visual Motion Perception
   J. Anthony Movshon (New York University) &
   William T. Newsome (Stanford University)

# Human Behavior Must Be Probed To Understand Global Change

### National Research Council Releases New Report

Washington, DC — Why does tropical deforestation proceed more rapidly in some nations than in others? Why do land-use practices vary so greatly among seemingly similar societies? And why does the United States consume much more energy per unit of economic output than most other industrialized countries?

Answers to these questions about human behavior could help clear up much of the uncertainty that surrounds global environmental change, concludes a new report from a National Research Council committee. Yet such issues have received only scant attention from the research programs mounted to investigate the human-caused changes that are transforming the planet's surface and atmosphere.

Nor has much research been directed toward a better understanding of how people and institutions are affected by, and respond to, global changes. For example, most climate models used to forecast the consequences of increasing concentrations of greenhouse gases in the atmosphere make assumptions about critically important human activities, from energy use to reproduction. But if such assumptions are wrong, projections of rates of environmental change will be far off the mark, and efforts to devise effective policies may be misdirected.

"The quality of environmental analyses is limited by the quality of the behavioral analysis that it includes," concludes the two-year study, Global Environmental Change: Understanding the Human Dimensions. The report by a 15-member committee includes several examples of environmental problems — deforestation of the Amazon Basin and the world-wide consumption of chloroflurocarbons, for example — and explores issues in human behavior related to them. The report should help "build a solid foundation under human dimensions research as a coherent intellectual enterprise and legitimate field of study," said committee

chair Oran R. Young, director of Dartmouth College's Institute of Arctic Studies.

"The report should be read by psychologists," said Study Co-Director and psychologist Daniel Druckman, "as there are insights for psychology regarding issues such as decision making, conflict management, and risk assessment." [Social psychologist Paul C. Stern was the other Study Co-Director.] In particular, explained Druckman, "Chapter 8, 'A National Research Program on the Human Dimensions of Global Change,' lays out six action-oriented recommendations directed at the National Science Foundation [NSF], other agencies, and private funding sources — for implementation over the next three to five years, and several of these have a direct bearing on psychological research." For example, the report recommends that NSF substantially increase support for investigatorinitiated research and that studies are needed that differentiate among distinct methods or mechanisms for influencing human behavior.

Psychologist and committee member Baruch Fischhoff (Carnegie Mellon University) indicated that another important recommendation relates to the potential establishment of a targeted federal program to support studies on individual, organizational, and community decision making in response to environmental change. How do individuals, organizations, and governments, for example, perceive changes in and identify possible responses to environmental systems that may require action? Are there cultural differences?

Various "driving forces" — population growth, economic growth, technological change, and others - influence the human activities that cause global change. These should be examined on an interdisciplinary basis for a better understanding of their relative importance, how they affect each other, and how they sometimes combine to produce global effects, the committee said. While researchers in a number of fields have studied humanenvironment relationships, they typically have done so within the boundaries of single disciplines, studying one driving force at a time and nearly always below the global level. But "understanding the linkages is a major scientific challenge that will require developing new interdisciplinary teams. The research effort should include studies at both global and lower geographic levels," the committee said, "with strong emphasis on comparative studies."

Stressing the need for interdisciplinary research within the social sciences and for close collaboration with the natural sciences, the report identifies three

SEE GLOBAL ON PAGE 18



Be sure to notify the Membership Officer at APS Headquarters:

American Psychological Society 1010 Vermont Ave, NW Suite 1100 Washington, DC 20005-4907

Include a copy of your mailing label to speed processing.

### **Attention APSSC Student Chapters**

New Membership Recruitment Competition Is Announced

The more the merrier. Join the crowd.

Get on the bandwagon.

Two's company; three's a crowd; eight or ten is a party.

What do all these sayings have in common? They all extol the virtues of big numbers. To prove it, the APSSC is going to add one more to that list . . . "More is better" and has established a new member recruitment competition to back it up!

APSSC is pleased to announce that student chapters can compete for a \$500 award which will go to the chapter recruiting the most new members between August 1991 and April 15, 1992. This competition is for existing chapters and for chapters that are approved before the deadline of April 15, 1992.

The money will be given to the winning chapter to be used by its members for travel to the Fourth Annual APS Convention [to be held June 20-22 in San Diego, California] or for any other activities the chapter members desire. The money can be used to help fund one person, five people, two hundred people, whatever the chapter decides. The winning chapter will be recognized and awarded a certificate during the annual business meeting at the convention.

Keep a record of who is new. By April 15, 1992, send your list to Carolyn Roecker, Department of Psychology, University of Iowa, Iowa City, IA 52246. The final count will be confirmed with the APS office in Washington, DC. Each new student recruit will count as one point and each new faculty recruit will count as two points. To count as a new recruit, membership applications (found in any APS) Observer) must be postmarked between August 1991 and April 15, 1992. The winning chapter will be contacted in mid-May so that they can make travel plans. If you have any questions, please write or call Carolyn Roecker at 319-338-9817. Good Luck!

> The APS Student Caucus represents all the Society's student affiliates. It is not an honor society. All chapter chairs are additionally recognized as members of the APSSC national Advisory Committee. Students or faculty wanting information about APSSC school chapter applications should contact:

Dianna Newbern Department of Psychology Texas Christian University Fort Worth, TX 76129 Tel.: 817-921-7415

When applying, student chapter founders are asked to provide information about the institution, department, and students, and to designate a faculty sponsor.

### Call for **Nominations**

APS student members will elect new national officers to the APS Student Caucus Executive Council at the Society's June conference in San Diego, California. Student members are therefore invited to submit a personal statement or platform announcing their candidacy for specific offices and a brief statement of why they are running for a particular office or offices.

To help voters make informed decisions, the candidates' statements will be printed in the May Observer. Each candidate should provide a statement (not to exceed 100 words), school address, and status as a student in 1992-1993 (e.g., senior undergraduate or third-year graduate). One copy each should be sent to both Student Caucus President Carolyn Roecker and Student Notebook Editor Michael Patterson. All candidacy statements must be received not later than April 1 in order to appear in the May edition of the Observer.

Council positions include President, Secretary, Treasurer, Student Notebook Editor, Graduate Advocate, Undergraduate Advocate, and Past-President. In the event the current President is unwilling or unable to serve as Past-President, this officer will be elected and referred to as Member-at-Large. The APSSC charter allows for more than one person to serve in one office in some cases. For example, there could be two Graduate Advocates or two Undergraduate Advocates. Committee chairs and other special officers such as the National Chapter Coordinator are appointed by the President of the APSSC and are subject to the approval of the APSSC Executive Council.



### Meet the APSSC Officers and **Committee Chairs**

In this issue of the Student Notebook, as well as the following issue, we will give profiles of the individuals who serve as APSSC officers and committee chairs.

Carolyn Roecker is a second-year graduate student at the University of Iowa. Her area of training is in clinical psychology. Her areas of interest are assessment; neuropsychological assessment; divorce, custody and the family. Carolyn has been involved actively with the APSSC for the past two years, first as Treasurer and currently as President.

Michael Patterson is a third-year graduate student at the Texas Christian University. His general areas are in cognitive and quantitative psychology. His research interests include investigating how individuals cognitively represent spatial displays, and how computer-intensive techniques can be used in data analysis. Michael holds a university fellowship and is interested in teaching at a university when he graduates. He has been involved with the APSSC for nearly one year as Student Notebook Editor.

Paul Reber is a third-year graduate student at Carnegie-Mellon University. His general area is in cognitive psychology. Paul is currently doing research with simple puzzles to examine learning and reasoning processes in problem solving. He holds a NIMH training grant and plans on seeking an academic position at a university that has a strong research orientation when he graduates. He has been involved with the APSSC for two years as Secretary.

**Kenn White** is a second-year graduate student at the University of Maryland. His general areas are in child development and neuroscience. His research interests include studying the neuropsychological factors that influence the emotional development of children of depressed and bi-polar mothers, and studying the emotional and social adjustment of children with acute hypo- and hyperglycemia. Ken is interested in eventually teaching and conducting research at a university after he completes a post-doctorate. Ken has been active in the APSSC for three years and is the current Past-President of the APSSC.

Dianna Newbern is a second-year graduate student at Texas Christian University. Her general area is in cognitive psychology. Dianna's interests are in theories of mental representations and information processing. She holds a university fellowship and is interested in research and teaching at the university level when she graduates. She has been involved with the APSSC for two years, first as assistant to the National Chapter Coordinator and currently as National Chapter Coordinator.

Lisa Fournier is a fifth-year graduate student at the University of Illinois at Champaign-Urbana. Her general area is in cognitive-experimental psychology. Lisa's research interests center on selective attention and visual information processing. When she graduates, Lisa would like an academic position that emphasizes both research and teaching. She has been active in the APSSC for two years, serving as the Travel Awards Chairperson and as the Student Research Award Co-chair.

### APSSC Officers Executive Council 1991-1992

All the officers welcome students and others who wish to contact them about concerns particular to their own offices. Contact Secretary Paul Reber for general inquiries, regional student conference information, and other requests. Correspondence, inquiries, and submissions to the Student Notebook should be directed to Editor Michael Patterson.

#### President

Carolyn Roecker Department of Psychology University of Iowa

Iowa City, IA 52246 Tel.: 319-338-9817

#### Graduate Advocate

Bonnie Eberhardt PO Box 10819 Calder Square

State College, PA 16805 Tel.: 814-234-8879

#### Undergraduate Advocate (Resources)

Lîz Gruskîn 323 Washington Ave.

Pleasantville, NY 10570 Tel.: 914-741-0583

#### Student Notebook Editor

Michael Patterson Department of Psychology Texas Christian University Fort Worth, TX 76129 Tel.: 817-921-7415 BITNET: IP721PS@TCUAMUS

### Secretary (Information Networking)

Paul J. Reber Department of Psychology Carnegie-Mellon University Pittsburgh, PA 15217 Tel.: 412-268-8115 BITNET: PR18+@ANDREW.CMU.EDU

#### Treasurer

Zografos Caramanos Department of Psychology McGill University 1205 Doctor Penfield Ave. Montreal, Quebec, Canada H3A 1B1 Tel.: 514-956-5894 BITNET: AKI@HEBB.PSYCH.MCGILL.CA

#### Past-President

Kenn White Institute for Child Study University of Maryland 3102 Quartet Lane Silver Spring, MD 20904 Tel.: 301-890-8669 Email: KWHITE@WAM.UMD.EDU

#### Special Officers and Committee Chairs

### Membership Conversion

Kathleen Morgan Department of Psychology Wheaton College Norton, MA 02766 Tel.: 508-285-7722, ext. 483

### Mentorship Program

John Newman Mount Saint Mary's College

### Student Chapter Recruitment

Dianna Newbern Department of Psychology Texas Christian University Fort Worth, TX 76129 Tel.: 817-921-7415 BITNET: RP901PS@TCUAMUS

### Travel Awards

Lisa Fournier University of Illinois



### GLOBAL FROM PAGE 15

interrelated areas for study: human causes of global change, human responses and consequences, and theories and methods for studying these complex phenomena. Much existing knowledge — from studies of collective action, conflict resolution. and human responses to natural hazards, for example — can help unravel the knotted issues that both lead to global change and are the result of change. Gaps in understanding are large, however, and the large scale of the problem is unprecedented.

A reorientation in scientific perspectives may be needed, the report suggests. If resources are channeled only into traditional fields that work in isolation and focus on separate pieces of a much larger research puzzle, progress may be impeded. "The need to understand global change may well become a powerful force for change in the existing structure of scientific disciplines."

The committee recommended develop-

ing a "comprehensive national research program on the human dimensions of global change." Such a program would consist of five major elements: investigator-initiated research; projects focused on topics chosen by funding agencies because of the "obvious significance for global environmental change"; a federal program for gathering and disseminating data to researchers; a fellowship program to expand the pool of talent in environmental social science; and the creation of five national centers for interdisciplinary research on the human dimensions of global change.

Currently, NSF is the only federal agency with a coherent program of funding for studies of global humanenvironment interactions. Other agencies with research programs addressing global change occasionally support applied research on the human dimensions. The committee recommended that these agencies support research programs on human interactions relevant to their mission areas and that they include basic research in these programs. •

### Report Availability

Global Environmental Change: The Human Dimensions, is available for \$29.95 prepaid plus \$3.00 shipping from:

National Academy Press 2101 Constitution Ave., NW Washington, DC 20418 Tel.: 202-334-3313 or 800-624-6242 (Toll-free outside Washington, DC)

The report was sponsored by the National Science Foundation, the John D. and Catherine T. MacArthur Foundation, the U.S. Geological Survey, and the National Research Council Fund. The National Research Council is the principal operating agency of the National Academies of Sciences and Engineering.



### T-SHIRTS TOTE BAGS



Keep the third APS convention alive! Order your very own comemorative APS T-shirt and/or Tote Bag TODAY!

	Qu	antity	<u>Item</u>	Amount
size)	SOLD OUT L	XL	T-Shirt @ \$10.00 each	
			Tote Bag @ \$6.00 each	-
			Shipping	(\$2.00)

design is ecru. Psychological Science logo is on the back. Tote Bags are canvas with convention design in blue.

T-Shirts are 50/50 heavyweight cotton/polyester. The shirt is royal blue and the convention

ddress_				
	(Street)			DI (D.)
	(City)	(State)	(Zip)	Phone (Day)

**GRAND TOTAL** 

APS OBSERVER January 1992



### Cocaine Use Is on the Rise

Cocaine and heroin use are rising sharply in the United States, especially among innercity dwellers over 35 years of age who have a history of drug use. Among young people, cocaine use is continuing to decline but at a slower rate than a year ago.

The new findings are contained in two national surveys published in December by the National Institute on Drug Abuse (NIDA).

The National Household Survey on Drug Abuse for 1991 estimates that 855,000 Americans used cocaine frequently or about once a week this year, as compared to an estimated 606,000 last year.

Meanwhile, the *Drug Abuse Warning Network*, or DAWN, which samples hospital emergency rooms, showed an increase of 12 percent in drugrelated admissions during the first two quarters of 1991.

For copies of the reports, call the NIDA clearinghouse: 301-468-2600 or toll-free at 800-729-6686.

# ANOVA? ANCOVA? MANOVA? MANCOVA? SuperANOVA for the Macintosh!

If you analyze data using general linear models, shouldn't you be using the best? SuperANOVA™ is a revolutionary approach to data analysis, combining powerful GLM techniques (ANOVA, ANCOVA, MANOVA, MANCOVA, repeated measures, regression, and more), full presentation graphing features, and a remarkably user-friendly interface.

Need a second opinion? Critics are unanimous in their praise for Super-ANOVA. The *American Statistician* says "Super-ANOVA demonstrates that power nearly equivalent to that of SAS Proc GLM can be had with far less effort on the part of the user." And

MacUser Magazine awarded Super-ANOVA the 1989 Editors' Choice Award for Best New Data Analysis Product.

Need a third opinion? Chances are many of your colleagues are already using SuperANOVA. Ask them to show you what it can do. Or ask us. Call 1-800-666-STAT, ext. 5405 to learn more about SuperANOVA.



1984 Bonita Avenue, Berkeley, CA 94704-1038 (510) 540.1949; (510) 540.0260 fax

1992 Abacus Concepts, Inc. SuperANOVA is a trademark of Abacus Concepts, Inc. All other trademarks are property of their respective holders

## Get the Best Recruits for Your Position Openings

By Advertising in the

### OBSERVER Employment Bulletin

Advertising rates for OBSERVER Employment Ads went up slightly for new ads in January, 1992,\* but the OBSERVER remains the best bargain around:

- Competitive ad rates are lower than other publications, and the ads are read by . . .
- A large, select audience of academic, applied, and research psychologists distributed across all psychology's scientific subdisciplines.
- A short, two-week lead time is all that is needed to get your ad published. Some other publications require up to four weeks lead time, and
- Readers easily find ads by referring to the popular and unique subject index to the jobs listed in each issue.
- Job display-ad rates remain at 1991 levels. But line-ad rates for position openings published in the OBSERVER and OBSERVER Employment Bulletin are now \$4.50 per line for new ads beginning in January 1992.



# A Future for Cognitive Science Research

Proposals Being Considered for NSF Planning Activities

To Strengthen American Cognitive Science for the Twenty-First Century is a report prepared at a Washington, DC, workshop attended by 17 cognitive-science researchers and 13 National Science Foundation (NSF) officials. The report is providing guidance in planning for continued work on a Cognitive Science Initiative at the Foundation.

The initiative is funded for planning activities during the current fiscal year, and funding for increased support of cognitive-science research is being considered for the FY 1993 federal budget request. The workshop was held in April, 1991, with a charge from the NSF to "assist those of us involved in this initiative to identify the directions which it should take in FY 1993 and beyond," by addressing the questions, "What can cognitive science do for the country in meeting the needs of society and what should the NSF ideally do to facilitate the development of cognitive science?"

The report focussed on three lines of potential development:

- extensions of the interdisciplinary scientific study of individual agents, including language, problem solving, representations of knowledge in memory, perception, and decision making;
- integrating the study of individual cognition with research about social practices and about systems in which natural resources and technology contribute to cognitive functioning; and
- connecting the study of cognitive processes with the growing body of research results in neuroscience.

As examples of research accomplishments and prospects, workshop participants contributed overviews of current and prospective research about four general topics: language, conceptual knowledge, abstract neural networks, and cognitive activity in social and physical environments.

### **Growth Prospects**

Prospects for continued growth of cognitive science require resources for vigorous interdisciplinary research efforts. Workshop participants assigned highest priority to new funding to extend the working corps of interdisciplinary cognitive scientists. Structures in support of interdisciplinary research should include program-level activities at NSF and interdisciplinary institutes. Needs were also identified for development of enabling technologies. Participants judged that the level of NSF funding for cognitive science could be increased productively from its present level of approximately \$10 million to at least \$50 million by the beginning of the 21st century. This would include about \$15 million to extend the working corps of interdisciplinary researchers and to develop and support research resources for interdisciplinary and interlaboratory collaboration, \$10-12 million for new program-level activities, and \$15-20 million to enable current programs to grow at a rate that is modestly higher than normal.

Proposals for support of planning activities relevant to the Cognitive Science Initiative are presently being considered at NSF, and according to Joseph Young, Program Director of NSF's Human Cognition and Perception Program, "it isn't too late to send in ideas for planning activities, as there are some topics we haven't received ideas on." Planning activities eligible for support should be designed to lead to recommendations to NSF in an area of the report. Researchers interested in the report can obtain a copy by contacting James G. Greeno, School of Education, Stanford Univ., Stanford CA 94305. NSF will release its official report on this initiative in the near future. Contact Joe Young for more information: (BITNET): JYOUNG@NSF; or (INTERNET): JYOUNG@NSF.GOV

### Cognitive Science Workshop Participants

James G. Greeno (Chair), Stanford Univ. and the Institute for Research on Learning James Anderson, Brown Univ. Kathryn Bock, Michigan State Univ.

Gail Carpenter, Boston Univ.
John Carroll, MIT
Paul Chapin, NSF
Y. T. Chein, NSF
Mary Clutter, NSF
Allan Collins, Bolt Beranek and
Newman, Inc., and

Northwestern Univ.

Gary Dell, Univ. of IllinoisChampaign

Alan Gevins, EEG Systems Laboratory

Helen Gigley, NSF Richard Granger, UC-Irvine Raymond Hannapel, NSF Max Henrion, Rockwell Research Laboratories

John Hestenes, NSF Edwin Hutchins, UC-San Diego William Hutchinson, BehavHeuristics

Aravind Joshi, Univ. of Pennsylvania

Peter Katona, NSF
Frank Keil, Cornell Univ.
L. Robin Keller, NSF
Jill Larkin, Carnegie Mellon Univ.
Alan Lesgold, Univ. of Pittsburgh
Richard Louttit, NSF
Andrew Molnar, NSF
Nathaniel Pitts, NSF
Paul Smolensky, Univ. of
Colorado-Boulder

Paul Werbos, NSF Joseph Young, NSF

### SUMMIT IV FROM PAGE 1

organizations undertook in Tucson, Arizona, (1990) and Houston, Texas, (1991) at the second and third APSsponsored summits (see March issues of 1990 and 1991 APS Observer) are now providing psychologists with a concerted strategy for increasing their influence and power in critical areas of research funding and federal policy making. Two specific outcomes of those summits are: (1) the research prioritization incorporated in the Human Capital Initiative document (now in press), and (2) the approval of the APS effort to establish a separate directorate for behavioral and social sciences within the National Science Foundation.

As the 1991 summit shifts into its next phase (i.e., distribution of the Human Capital Initiative and development of specific and fundable research initiatives for private and federal agencies to utilize), a new item of potential action is being prepared for attention at the 1992 summit in Chicago, Illinois.

#### Summit IV - Accreditation

But unlike past summits in which representatives of scientific psychology organizations met, this summit will bring together academic departments of psychology. The department representatives will focus on a long-established system that many educators feel no longer serves psychology well - the current American Psychological Association (APA) accreditation system for graduate departments of psychology. [See column by Marilynn Brewer on pg. 2.]

It will be a national meeting of representatives or delegates of multi-program psychology departments that have accredited professional programs. About 150 departments meet this criterion. The agenda for the April 10-12 meeting, sponsored in part by a grant from the National Institute of Mental Health, calls for a review of the fundamental foundations of accreditation including questions such as: Why have accreditation at all? Is it really serving the purposes it intended? Are there alternatives to the current structure? Is there motivation to pursue alternatives? If so, what would be the costs and risks?

"We hope it will be an action meeting,

not just a sharing of gripes and information," said Marilynn Brewer, UCLA social psychologist who chairs the steering committee for the 1992 meeting. "We hope there will be a willingness on the part of the departments who attend to commit themselves to joint action for change, to the extent that there is agreement on the problems and concerns."

"The accreditation summit is intended as a forum for . . . representatives who are concerned about the impact of the present system of accreditation on the science of psychology and committed to the scientistpractitioner model of training for professional psychology . . . . Above and beyond discussion and information exchange, the summit will provide a forum for resolutions involving joint action," states a January 6 letter from APS President Gordon Bower and Brewer inviting departments to participate in the summit.

Perhaps one of the most significant points made in the letter is reference to the fact that there "has not been a national forum to review the principles and consequences of accreditation in psychology since the late 1940's. We believe it is time to take a new look."

Other members of the steering committee are Richard Bootzin, director

of the clinical psychology program at the University of Arizona, Emanuel Donchin, chair of the psychology department of the University of Illinois-Urbana Champaign, Virginia O'Leary, chair of the psychology department at Indiana State University [and COGDOP Executive Committee representative], and Richard Weinberg, director of the Institute of Child Development at the University of Minnesota.

Richard Bootzin, Director of the

Univ. of Arizona's clinical psychol-

### Money and Credit

One major point the accreditation issue has in common with research funding is money. Donchin said, "In the final analysis, every statement about the accreditation system, from my perspective as a department head, is a statement about money. If accreditation people say our

students have to take a course, they think they are making an educational statement, but for me it's a statement about allocation of money."

"Every other course we teach, every other decision we make is made collectively by us in the department on the basis of purely academic concerns. We decide what is the right way to teach, what the curriculum should be. We know what our resources are, and we decide how to allocate those resources between different needs," continued Donchin.

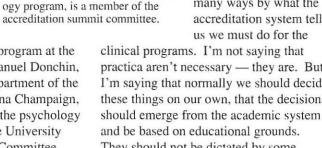
"But in accreditation, a whole domain of responsibility for the structure of the educational system is given away to an outside committee that comes in and tells us what we must do - that every student must do a practicum, that no faculty member should have more than X-number of students in practica, and that students must take this many courses the first year

> and that many in the second year," explained Donchin.

"Once this is stated and accepted, we must provide the faculty to teach those courses and handle those practica. And that costs money. The shape of the education program of the department as a whole is affected severely in many ways by what the accreditation system tells

clinical programs. I'm not saying that practica aren't necessary - they are. But I'm saying that normally we should decide these things on our own, that the decisions should emerge from the academic system and be based on educational grounds. They should not be dictated by some outside body," said Donchin.

Donchin also stressed that "any accreditation system should assure that people practicing psychology do so with a very strong basis in scientific psychology. We should not allow the science of psychology to serve only as a fig leaf to cover the theoretical nakedness that we see in a vast amount of what happens now in professional psychology. If you want to offer psychological services based on





### FROM PREVIOUS PAGE

psychological science, the psychological science must be intertwined and controlling. No one would dream of sending physicians out into the world without requiring them to know physiology and pharmacology and all the other basic medical sciences, including, by the way, behavioral science." Donchin said psychologists should not allow the equivalent to happen in their own professional practice areas.

### Tension Between Clinical And Scientific Interests

Weinberg said his current work as director of the Institute of Child Development at the University of Minnesota made him "even more attuned to the tension that can exist between a clinical program and the effective training of a PhD-level researcher — the tension in terms of resources." The dilemma is "how can you create course-work somehow unique for the clinical program versus course-work

necessary for anyone who is going to be a serious scientist?"

Weinberg said, "This is the right time to take another look at what accreditation

does — how it connects with the scientist-practitioner model and what it is doing to both the science areas as well as the professional practice areas of psychology. It's time to take a hard look at whether the accreditation process is doing all that it needs to do.

and whether there is a need to modify that process, whether that means alternatives or some more nominal sort of modification. All of this will be open for discussion [at the April meeting] among the people most concerned, from the departments that house the programs."

Weinberg has served on the APA accreditation committee, was the director of an APA-accredited school psychology

program for many years, and is a former president of the American Association of State Psychology Boards.

Bootzin, a member of the executive

board of the Council of University Directors of Clinical Psychology (CUDCP) listed some of the questions that the summit will address: What are the costs and benefits of accreditation? Is

RICHARD WEINBERG

This is the right time to take

tation does - how it con-

nects with the scientist-

practitioner model . . .

another look at what accredi-

the current accreditation system the best or are there other better ways? What are the alternative models? What has been the experience with them?

#### Alternatives

"We'll look at alternatives," Bootzin said, "instead of assuming that we have to

CONTINUED ON NEXT PAGE

### **ACCREDITATION FROM PAGE 2**

existing outside of the governance structure of either organization.

Two years of effort and negotiation between COGDOP and APA failed to result in any significant change in the structure of accreditation. In August, 1991, APA's Council of Representatives passed a motion to alter the composition of the Committee on Accreditation to include representation from COGDOP and national organizations of training directors, but ultimate control over composition of the committee and accreditation policy remained with APA Council. The interests of educational institutions and scientific psychologists are still not well represented in the accreditation structure.

With these developments, the APS Committee on Graduate Education appointed a subcommittee on accreditation to assess concerns about the present system. The subcommittee contacted department chairs and training directors in large research universities and learned that dissatisfaction is widespread but that individual departments feel relatively helpless in the face of a wellentrenched accreditation structure. It was on that basis that the members of the subcommittee concluded that there was need for a forum in which department representatives could get together to share their concerns and consider alternatives to the present system of accreditation.

The subcommittee recommended to the APS Board that it would be appropriate for APS to convene such a meeting, and the Board agreed. Ideas for the goals and format of the meeting came from the model provided by the successful behavioral science "summit" meetings convened by APS. In previous summits, national organizations for psychological science met to consider issues of funding for research and ultimately produced the outline for a national research agenda for psychological science. With that model in mind, the new "accreditation summit" will be convened in Chicago in April, with invitations to all university-based

departments of psychology with accredited doctoral programs to send representatives. The summit will address fundamental questions regarding accreditation: Is accreditation necessary? What alternatives are there to the current accreditation structure? What are the costs and risks associated with pursuing alternatives?

A steering committee consisting of myself, Richard Bootzin, Emanuel Donchin, Richard Weinberg, and Virginia O'Leary (COGDOP Executive Committee representative) will oversee planning and conduct of the meeting. We are hopeful that the summit will provide a forum not only for discussion and information exchange but also for joint action.

Accreditation *is* our business, and it is time to bring it back under control.

Marilynn Brewer is Professor of Psychology and Director of the Institute for Social Science Research at the University of California-Los Angeles.

### FROM PREVIOUS PAGE

continue with what we have. There have been dissatisfactions of various sorts, and some proposed solutions would solve some problems but not others. One problem for programs that focus on research is that there doesn't seem to be an appreciation of the research training components within the accreditation process. Instead there is a sort of checklist of requirements and courses that programs have to comply with, and one doesn't get a very good sense of how to fit one's own model of training in to accomplish that. There's a loss of flexibility . . . . Innovation, flexibility, and experimentation with new curricula and teaching methods becomes difficult. There's a feeling that the program has been driven too much by some licensing and practice issues rather than by the advancement of knowledge considerations," said Bootzin.

As a clinical psychologist Bootzin said he believed he was bringing to the summit the perspective involved in developing clinical psychology training programs with a strong commitment to the scientist-practitioner model and thus strong emphasis on the science side. "What I'm hoping for from this summit is a much broader examination of alternative models and ways to advance the field and allow clinical psychology to grow as a science rather than to be set at a particular place in its development by practice considerations. I hope this will be a serious attempt to consider such issues," he said.

### Self-determination

Donchin said he sees the issue of governance as the nub of the accreditation problem. "The basic question is who decides what is the scope of accreditation, what gets accredited, and whether accreditation should be lenient or restrictive — it's a question of governance. And it always has been in the hands of APA, since about 1948 when APA was basically a scholarly organization. Over the years APA could legitimately claim to represent equally well the academic/research interests and the practitioner interests," explained Donchin.

"There's really no question presently, however, that the APA Council of Representatives is dominated by practitioner interests that makes it completely unconcerned with the needs of psychology as a science and as an academic discipline, or with any kind of attention to the needs and values of the rest of psychology. So the question arises as to whether the Council of Representatives of APA should have full and official control over accreditation. This is in violation of the basic rules which the Committee on Professional Accreditation (COPA) established for governance and accreditation. COPA explicitly says that accreditation should be

governed jointly by the educational and the practitioner components on a parity basis . . . ," said Donchin.

"The present process is basically unacceptable. But that doesn't mean it won't continue, because there is a perceived need for an accreditation system. Many departments feel they must be accredited, they cannot afford not to be. They are afraid, and I think rightly

so, that they might not get the kind of student they want without accreditation. So unless *everybody* drops accreditation, *nobody* is going to drop it, unless there is a serious alternative that would assure clinical programs that quality students will enroll in them. We're basically stuck," explained Donchin.

The Council of Graduate Departments of Psychology (COGDOP) will decide in February whether to cosponsor the national summit meeting in April. Irving Goldstein, chair of COGDOP, said the COGDOP executive committee has asked APS to sponsor the conference and is recommending to COGDOP member departments that emphasize the Boulder model of training that they participate in the meeting to discuss alternatives to accreditation. The resolution is one of six concerning accreditation that will go before COGDOP's national meeting February 14-16 in Tampa, Florida. Goldstein is Dean of the College of Behavioral and Social Sciences at the University of Maryland-College Park.

### Psychology Accreditation Not Alone

Accreditation issues have received important attention in the academic press recently. In a September 18, 1991, article, "Too Much Power? Specialized Accrediting Agencies Challenged by Campus Officials," the *Chronicle of Higher Education* said, "At issue is whether too many accreditors are wielding too much power at too high a cost to institutions of higher education."

About 90 specialized groups accredit

particular programs. 'Many administrators charge that the [accrediting| groups operate like guilds: They promote the special interests of their professions, with little concern for the health of the whole institution. the critics argue. They dictate an institution's mission, then drain its resources," Chronicle reporter Courtney Leatherman states.



Richard Weinberg, Director of the Institute of Child Development at the Univ. of Minnesota, is a member of the accreditation summit committee.

William Prokasy, an APS Charter Fellow and Vice President of Academic Affairs at the University of Georgia, was reported in the article to have advocated that institutions should band together against some accrediting organizations. He and other provosts believe that there has been a proliferation of accrediting agencies in recent years without a demonstrated social need.

In only some fields is there a need for accrediting in order to protect public safety, according to Prokasy and others. But while psychology may be one of those areas, many states link accreditation inextricably to professional licensure, making graduation from an accredited school a requirement for those wishing to take state licensing exams. And this, says Prokasy, violates the voluntary principle of accreditation.

"Some higher-education officials worry that the emphasis that accrediting groups place on professional schools draws attention and money away from general education and the core curriculum," according to the article.

### Accreditation Costs and Appeals

APS Treasurer Milton Hakel said that as a department chair one of his main concerns regarding accreditation was that "accreditation fees are simply so steep." Hakel, now professor and Regent Scholar of Psychology at Bowling Green State University, said that "I was department chair at [the University of] Houston the last four years, and we had a site visit during that time that we ended up having to appeal. We won the appeal. But we wiped the free balance in the department's operating account."

What has all this meant for scienceoriented psychology? Hakel believes that one effect has been the "driving away" of disciplines such as neuroscience into other schools, pushing I/O psychology into business shools, and pushing education and counseling psychology off into colleges of education.

Another important consequence of APA's total control over accreditation became painfully evident this past summer when the APA Council easily overrode and undercut earlier agreements reached between COGDOP and APA representatives - over a two-year period of negotiation efforts - concerning the structure of accreditation. A compromise agreement, approved by COGDOP at its 1991 meeting - concerning accreditation policies and the composition of the Committee on Accreditation - was changed to allow APA Council to retain ultimate control. This, according to some, demonstrated to even the most doubtful that APA could choose to change the rules at any time. Under such an arrangement nothing would appear to be binding. D.K.

### FROM PREVIOUS PAGE | SUMMIT III FROM PAGE 1

co-chaired the HCI steering committee that initiated the HCI effort and have passed the gavel on to Hakel and his new HCI coordination committee. The new committee members are: Kay Deaux (CUNY-Graduate Center), Michael Davis (Yale Univ.), John Hagen (Univ. of Michigan-Center for Human Growth and Development), Rue Cromwell (Univ. of

Kansas and Past-President of the Society for Research in Psychopathology), James Greeno (Stanford Univ. School of Education), and Charles Perfetti (Univ. of Pittsburgh's Learning Research and Development Center).

The Human Capital Initiative document will be published soon and distributed to all APS members. It targets six critical contemporary

problems facing the nation, communities, and families that can be helped by psychological science: Worker productivity, schooling and literacy, the aging society, drug and alcohol abuse, mental and physical health, and violence in American society.

The document will serve as a starting point to ask individual psychological societies and groups of societies to propose specific research initiatives in each of the six areas. Hakel expects a life of about 10 years for the initiatives.

The document will be used both inside and outside of psychology — within, to focus and motivate groups to be involved in working up specific initiatives under the general umbrella document, Hakel said. Outside of psychology, it is for members of Congress and their staffs, private research funding agencies, and particularly for psychologists in federal agencies. "We hope to increase the size of the pie for behavioral sciences generally," Hakel said, "and hope to influence Congress and the way agencies deploy funds."

"At least two or three of the critical problems focused on in the HCI are in the headlines and at the top of television news every day," Hakel pointed out. "The American public is constantly exposed to bad news about each of these six, and at base they are all behavioral problems.

Psychologists and other researchers, neuroscientists, basic researchers as well as applied, have a lot to offer with respect to helping solve these problems. We can't create miracles overnight. But certainly things are not going to get better without a lot more knowledge, including basic research, for each of these problems."

### **Developing Research Initiatives**

Following a December 19 meeting of the HCI committee, Hakel said, "Now we plan to go back to the participants in the 1991 Houston summit and get them to organize the process of putting together specific initiatives."

Here are the next steps in moving from planning to action stages: The umbrella HCI document will be

sent to all participants in the summit meetings and also to the current officers of the societies that took part in the summits. These participants now will be invited indicate their interest in being part of specific initiatives.

"So we are casting a broad net and hope to identify a lot of people who are interested and willing to spend time writing up cutting-edge research issues that might relate to the national problems sketched in the overall document," Hakel said.

Asked how the steering group defined an initiative, Hakel said that an initiative doesn't outline specific investigations. What is not desired is a mere compilation of your personal research proposals and stapling them around a national problem, he said. Rather, it's an effort to talk about some of the bigger picture issues that an agency could cut down into grant-size and project-size projects.

"We are looking for a 10- or 15-page document each that would be suitable to show to program officers in, for example, the Department of Labor, Department of Commerce, or Department of Defense. It would give program officers information with which to work in developing and allocating their research budgets internally," Hakel said. Each document would



Milton Hakel, at Bowling Green State Univ., is chair of the HCI committee.



### From Previous Page

describe a specific initiative and have four parts. Part one outlines the problem in the real world that the initiative is intended to address. **Part two** reviews the findings and approaches that have been used in the past to address that problem, laying out the track record on any of the focal topics or additional topics.

Part three is a review of the important remaining questions that need to be investigated. Part four deals with the opportunities and needs that can be addressed in the foreseeable future, perhaps a five-year time span.

"We don't mean to limit consideration to just the six major topics described in the HCI initiatives. We really want this to be an open process — so when people see other needs that should be addressed, we would certainly like to help out in coordinating those programs, too,"

Hakel said.

"The major point in an initiative is to take some large theme and essentially market that in a way that gives people in the agencies more to work with in their internal budget allocation. Once Congress makes appropriations they do it in such huge amounts that they don't break that down below the tens of millions of dollars, and it's the agency that decides in which direction the funds will be spent. What we hope to do is give psychologists in the agencies more to work with in terms of internal allocation processes."

"The military will decide, for example, on a general direction, for example that they need more research on the personmachine interface or complex control and command systems. And so they will put out requests for specific projects to be done under that general theme area. And that's open to all comers in terms of responding to proposals, and they will choose one or more that they believe gives them the best value. What we are talking about as specific initiatives are those larger chunks, like controlling complex systems," said Hakel.

"We want to increase the size of the pie here — we certainly don't want to get into trying to play one area against another.

It's the notion of the rising tide lifting all boats. We think it will take about a year to get much going. However, we will work with groups as they come forward rather than try to hold everything for some grand announcement," explained Hakel.

### Coordination of Initiatives

"If there are different groups working on related projects we need to make them aware of each other. We will coordinate, because we'll get better results from concerted action non-competing action. What we see evolving is a much stronger effort to market psychological research in Washington, DC. An incentive for groups

> getting involved in this is that we can make contacts to Washington agencies and congressional committees through APS, the Federation of Behavioral. Psychological and Cognitive Sciences, and other appropri-

MILTON HAKEL

ate organizations," said Hakel.

At least two or three of the

and at the top of television

news every day.

critical problems focused on

in the HCl are in the headlines

John Hagen emphasized that "Some of us on the coordinating committee have taken on specific assignments to make sure these next-stage documents get in we need input at the next level that fleshes out areas of special interest in the umbrella document." Hagen will work on an initiative in child development and families. He intends to contact individuals and organizations that he knows are working on documents relevant to various areas of the HCI document.

"A developmental theme links all six of the main subject areas — productivity, schooling, drug abuse, aging, health, and violence - so in some ways the developmental perspective is an overarching theme. But some areas lend themselves particularly well to the developmental context, for instance, schooling and literacy, and families as participants in the education process," Hagen said. Health as a preventive issue also has important developmental perspectives, beginning with infancy through prevention of physical and emotional problems. "We're trying to be very open. We're encouraging people to contact the committee especially if they have documents already prepared to draw upon," said Hagen.

### **Untapped Potential**

Committee member and physiological psychologist Michael Davis said after reading the HCI draft, "It made me proud to be a psychologist, because it touches on so many problems of our society that bear directly on things that can be solved perhaps by psychological research. Very important . . . are the potential economic ramifications of better psychological research relating to productivity in the workplace. It makes a lot of sense to think that good surveys of what Americans want for cars might have prevented General Motors from going under — they weren't making what Americans wanted, and Japan had figured out what we wanted and swept into the market. Surveys are things psychologists do very well," said Davis.

"The consensus of the meeting was that productivity might be a good place to start to elicit new funding from the Labor Department. The excitement of the meeting for me was seeing that there are very important sources of funding that have not been appropriately tapped or approached, yet where psychologists have a great deal to contribute, as in the Labor Department and industry. There's also an enormous amount that physiological psychologists can do, particularly in health, drug abuse, and aging. We've learned more about the brain in the last 10 years than in the whole history of humanity," Davis concluded.

Committee member Kay Deaux said, "This is the second leg of the journey begun in Tucson and Houston. Society faces problems that psychologists can address with research tools and conceptual frameworks. Our task now is to convey that capability to the people who have direct influence on how research is funded and what problems have priority. Now we have to translate our capability into definable research initiatives that will excite and potentially result in the allotment of funds to follow through."

Deaux hopes to work on research in the area of women and health, and also on the changing nature of work, in the latter case as part of an informal task force including other coordinating committee members. She will also serve as a link to projects that may be developed by the Society of Personality and Social Psychology of which she is the president. D.K.



### Organizational Profile

### Jean Piaget Society:

Society for the Study of Knowledge and Development

### ORIGINS AND PURPOSE

The Jean Piaget Society: Society for the Study of Knowledge and Development, established in 1970, has an international, interdisciplinary membership of scholars, teachers, and researchers interested in exploring the nature of the developmental construction of human knowledge. The Society was named in honor of the Swiss developmentalist, Jean Piaget, who made major theoretical and empirical contributions to understanding the origins and evolution of knowledge. The Society's aim is to provide an open forum, through symposia and publications, for scholarly work on issues related to human knowledge and its development. The Society further encourages application of advances in the understanding of development to education and other domains.

### **MEMBERSHIP**

Membership is open to anyone interested in the nature of human knowledge, the processes of knowing, and their development. Members receive: (1) the Genetic Epistemologist, the Society's newsletter; (2) reduction in the Annual Symposium registration fee; (3) price discounts on publications of Lawrence Erlbaum Associates, Inc.; and (4) permission to use the Piaget library holdings at Paley Library, Temple University. In addition, members receive the annual volume of the Jean Piaget Society Symposium Series. The Society currently has approximately 550 members. Dues are \$45 per year, \$25 for students.

The "Organizational Profile," a fairly regular feature of the APS Observer, informs the research community about organizations devoted primarily to serving psychological scientists and academics. It is difficult for anyone to keep abreast of the various organizations of potential personal interest. This section should help in that task. The Editor welcomes your suggestions as to organizations warranting coverage.

### **OFFICERS**

Jack Meacham, President Editor, Genetic Epistemologist State Univ of New York-Buffalo

William Gray, Vice President Univ of Toledo

Judith Newman, Secretary Pennsylvania State Univ, Ogontz Campus

Ann Renninger, Treasurer Swarthmore College

Ellin Scholnick, Past-President
Editor, Jean Piaget Society Symposium Series
Univ of Maryland

David Palermo, Editor-Elect Genetic Epistemologist Pennsylvania State Univ

### BOARD OF DIRECTORS

Eric Amsel, Vassar College Terrance Brown, Univ of Chicago Michael Chandler, Univ of British Columbia Judy DeLoache, Univ of Illinois Kurt Fischer, Past-President, Harvard Univ Melanie Killen, Wesleyan Univ Elisa Klein, Univ of Maryland Deanna Kuhn, Teachers College-Columbia Univ Henry Markovits, Univ of Quebec Patricia Miller, Univ of Florida Gil Noam, Harvard Medical School Willis Overton, Past-President, Temple Univ Peter Pufall, Past-President, Smith College Edward Reed, Franklin and Marshall College Fabien Savary, Student Member, Univ of Elliot Turiel, Univ of California-Berkeley

### **BACKGROUND**

### Annual Symposia

In a break with tradition, the Twenty-Second Annual Symposium will be held at the University of Quebec in Montreal, Canada, on May 28-30, 1992. The Annual Symposia, typically held in Philadelphia, are organized around a series of invited plenary addresses. In addition, proposals for papers and posters are welcomed. The deadline for such proposals is November 15th. The theme of the 1992 symposium, organized by Gil Noam and Kurt Fischer, is "Development and Vulnerability in Close Relationships." The theme of the 1991 symposium in Philadelphia was "The Nature and Ontogenesis of Meaning." The theme of the 1993 symposium will be "The Nature and Construction of Values."

#### **Publications**

Members receive the newsletter and the annual symposium series mentioned above. Recent volumes in this *Jean Piaget Society Symposium Series* have included: *Reasoning, necessity, and logic: Developmental perspectives*, Willis Overton (Ed.),

(1990); Constructivist Perspectives on developmental psychopathology and atypical development, Daniel Keating and Hugh Rosen (Eds.), (1990); and The epigenesis of mind: Essays on biology and cognition, Susan Carey and Rochel Gelman (Eds.), (1991). The series is published by Lawrence Erlbaum Associates, Inc.

The Society's Translation Advisory Committee serves as a resource to publishers in determining the value of translating works and recommending translators and as an advisory resource for translators.

#### Contacts:

**To join the Jean Piaget Society**, send dues to Ann Renninger, Treasurer, Swarthmore College, 500 Chester Avenue, Swarthmore, PA 19081.

For information regarding the 1992 Annual Symposium, write to William Gray, Department of Educational Psychology, University of Toledo, Toledo, OH 43606-3390.



### Letters to the Editor\_

### **Grant Writing and NSF Programs**

Dear Editor:

I want to commend the APS for publishing an excellent and informative article "Writing Successful Grant Applications" by Jane Steinberg and Cille Kennedy [November 1991 APS Observer].

One clarification may be useful to applicants to the National Science Foundation (NSF). As the article indicates, NSF staff request written reviews from about six outside reviewers for each proposal prior to meetings of advisory panels at which proposals are discussed. Applicants are encouraged to suggest potential reviewers for their proposals. However, the advisory panel does NOT "make the final decision regarding funding." The panel's recommendation is advisory to the responsible program director, who must consider a number of factors, including available funds, in making a formal recommendation for or against support.

If readers have questions about support for psychological research at the NSF, they may contact me at 202-357-7564 or on BITNET at RLOUTTIT@NSF.

> Richard T. Louttit, Ph.D. Director, Division of Behavioral and Neural Sciences National Science Foundation 1800 G Street, NW Washington, DC 20550

### Speak Write Up and Be Heard!

### Send Letters to the Editor

Submit typewritten letters of up to 300 words in paper form and, if possible, on computer diskette: DOS (5.25" or 3.5" diskette) or Macintosh (3.5" diskette). Indicate which word processor you used or, ideally, save as an ASCII or text file.

### **Library Allocations Calculations**

Dear Editor:

The judicious allocation of funds for building academic library collections depends upon the accuracy of library managers' knowledge of the information needs of their users. It is therefore of tremendous importance that academic psychologists participate in the process of framing the future of academic research libraries. The headline article in the May 1991 APS Observer discussed one proposal for how psychologists may approach this challenge. I suspect Emanuel Donchin's preliminary conclusions may be based on faulty logic, a likely consequence of having underestimated the complexities of collection development in large academic libraries. Unfortunately, the APS article did not clearly delineate between supportive and disconfirming evidence for Donchin's conclusions. To the points addressed in previous letters to the editor, I add the observation that Donchin's fundamental assumption — that most academic libraries allocate funds for monographic purchases on the basis of static and

arbitrary figures — ignores a vast library literature to the contrary. Figure 1 below is an example of a formula for budget allocations developed and still in use at Ohio University. It takes into account 14 different variables.

I suggest the following direct actions faculty may take to ensure their research needs, and the resource needs of their students, are considered in the library's budget allocations process:

- 1. Discuss your areas of research and instruction with the librarian who orders books in psychology.
- 2. Alert your librarian to curriculum changes which may affect library
- 3. Encourage students to use scholarly books in their library research.
- 4. Approach your librarian about writing a grant to strengthen the collection (federal funds are available for this purpose).

With this information, your librarian can offer stronger justification for budget requests submitted to library administrators at the time allocations for collection development are being made.

> Gail F. Latta Psychology Subject Specialist University Libraries University of Nebraska-Lincoln Lincoln, NE 68588-0410 402-472-2525

Email: Gaill@UNLLIB.UNL.EDU

CONTINUED ON NEXT PAGE

$$U_{A^{t}}^{A^{d}} + V_{B^{t}}^{B^{d}} + W(C_{C^{t}+D^{t}+E^{t}}^{C^{d}+E^{t}}) + X_{E^{t}}^{E^{d}} + Y_{G^{t}}^{G^{d}} + Z_{H^{t}}^{H^{d}} = \%$$

- A. Circulation records (checked out & used in the library) expressed in percent of book stock
- Interlibrary loan statistics
- Publishing costs of books
- Publishing costs of non-print materials
- Publishing costs of journals
- Enrollment weighted by level
- Number of majors weighted by level
- Number of faculty

- V. Factor rating for Circulations records (A)
   V. Factor rating for Interlibrary Loan statistics (B)
   W. Factor rating for Publishing costs of books, non-print materials, & journals (C, D, E)
- Factor rating for Enrollment weighted by level (F)
- Factor rating for Number of majors weighted by level (G)
- Factor rating for Number of faculty (H)
- department or subject area
- total of all numerators for that fraction

Figure 1. Proposed allocations formula - May 1, 1978. (reprinted with permission from: Mulliner, K. (1986) "The Acquisitions Allocation Formula at Ohio University", Library Acquisitions: Practice and Theory, 10, 315-327. Pergamon Press,

### Obituary

### T. Anne Cleary 1936-1991

T. Anne Cleary was my friend and colleague for nearly thirty years. We first met at the University of Illinois where we were fellow graduate students during the early 1960s. As new PhDs, we both started at Educational Testing Service where we worked closely together on several projects. Like the many others whose lives she touched, I benefitted greatly from our association.

Anne was born on December 12, 1936, in Shanghai, China, and died on November 2, 1991, in Iowa City, Iowa. She died as the result of gunshot wounds inflicted by a profoundly disturbed graduate student who went on a shooting spree after failing to receive an academic honor he sought.\*

Anne was an internationally recognized leader in the field of educational and psychological measurement. She received her bachelor's degree in psychology from Marquette University in 1958 and started her graduate work at the University of Minnesota where she majored in developmental psychology and received an M.A. in 1960. After a brief experience as a research assistant at Educational Testing Service, she continued her graduate work at the University of Illinois at Urbana-Champaign where she received her doctoral degree in psychology with an emphasis on psychometrics in 1964.

She joined Educational Testing Service as an Associate Research Psychologist upon completing her PhD and then accepted a faculty position at the University of Wisconsin at Madison in 1966. Before becoming a member of the University of Iowa faculty in 1979, she worked at the College Board from 1971 to 1978, where she served as Executive Director of Examinations. Vice President for Program Planning and Research, and as a Research Consultant. In addition to her role as Professor of Measurement and Statistics, Anne served as Director of the Evaluation and Examination Service, Acting Director of Admissions, and most recently as Associate Vice President for Academic Affairs during her 1979-1991 tenure at

the University of Iowa.

Anne had a lasting interest in enhancing the effectiveness and equity of uses of tests. Much of her early research was focused on questions of predictive bias and the identification of items that function differently for ethnic minorities or women. Her 1968 paper on predictive bias, published in the *Journal of Educational Measurement*, set a standard for research on this important topic. The approach she used is still widely referred to as the "Cleary Model."

Understanding factors that contribute to group differences in performance on standardized tests continued as an interest throughout her career. Indeed, just days before her untimely death, she presented a paper, titled "Gender Differences in Aptitude and Achievement Scores," at the ETS Invitational Conference. That talk was typical of much of Anne's work. It was motivated by the recognition of a significant measurement issue with many practical implications for test use and interpretation. The issue is also one with far-reaching social implications that are the subject of considerable controversy. Her contribution, however, is an example of her thorough and meticulous scholarship. It reflects the work of a keen analytical mind that obviously understood the social and political context but based conclusions on evidence and careful analyses rather than personal preferences.

Anne was a superb teacher and mentor. She had high expectations for her students but was always ready to listen and to provide support needed for them to live up to those expectations. She was equally generous with her support and counsel to colleagues.

She was an active and energetic leader in several professional associations and was an APS Charter Fellow. She served as a member of the Council of Representatives of APA and as president of two APA Divisions (5 - Measurement and Evaluation and 15 - Educational Psychology). She also served as President of the APA Coalition for Academic and Applied Psychology. In each of these roles she provided effective leadership.

Her early graduate school interests in developmental psychology were reflected in her extensive interactions with children of all ages. She quickly became a close friend with any child with whom she came in contact.
Her affection and interest in nurturing the development of children was readily apparent to any who had



T. Anne Cleary

the opportunity to observe her, as was the affection returned by the children.

Anne's philosophy of generosity and forgiveness was nicely summarized in a letter written by her three brothers, Frank, Michael, and Paul Cleary, to the family of her assailant on the day of her funeral. They wrote:

Anne believed in love and forgiveness, and we would like to reach out to you in your grief, and share our prayers and love with you at this very difficult time. During this time of pain, Anne would want our hearts to be filled with compassion, generosity and love. We all know that the only family which feels more grief than us at this time is your family, and we want you to know that we are with you in this sorrow.

Together we can gain strength and support from this. Anne would want it that way.

The profession and everyone who knew Anne have suffered a great loss. All who knew her will miss her, but we all feel fortunate to have had our lives enriched by our association with her.

Robert L. Linn University of Colorado-Boulder

Editor's Note: Anne Cleary was one of six victims shot at the University of Iowa by Gang Lu, 28, a physics doctoral degree recipient. A total of five were killed in the November 1 shooting incident, in addition to Lu who died of a self-inflicted wound. Among the victims were a physics student who had received the honor Lu sought, and three professors. Cleary was an administrator for the committee that decided on the recipient of the doctoral dissertation honor last spring. Lu had filed a complaint about the nomination process through Cleary. Lu was assisting in research at the university since receiving his degree the year before.