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Initial Rave Reviews for New NIMH Director

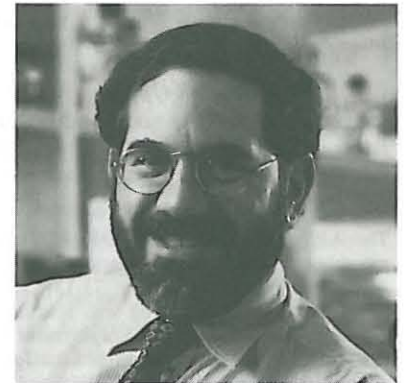
Long-awaited permanent director assumed office in April

The series of short-term and acting directors lasted more than a decade, but the wait may have been worth it. The National Institute of Mental Health (NIMH) finally got a new, permanent head in April, in the person of Harvard research psychiatrist Steven E. Hyman.

Hyman, 44, comes to NIMH from Harvard's Mind/Brain/Behavior Initiative, where he directed an interdisciplinary faculty group drawn from medicine, public health, business, law, religion, philosophy, and psychology. According to his psychologist colleagues, Hyman understands and appreciates behavioral research along with the full range of basic and clinical aspects of mental health research.

NIMH is a leading supporter of psychology research, with approximately \$180 million going to psychologist principal investigators (PI) and much more to behavioral and social science more broadly.

The past decade or so has been somewhat tumultuous, though, for NIMH, particularly for its behavioral and social science programs. Hyman's arrival brings new hope of a more



Steven E. Hyman received warm welcome as new NIMH director.

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NINDS and Psychologists Share in Promise of Neuroscience

Psychologists integral to the revolution in study of brain and nervous system

How central is psychological research to the central nervous system? Very, if you consider that over \$36 million in extramural research and research training money found its way—from the nation's head institute of basic and applied neuroscience research support—out to the labs of nearly 160 psychologist principal investigators (PIs). We are speaking here of the National Institute of Neurological Disorders and Stroke's (NINDS) behavioral science research funding record for fiscal year (FY) 1995.

See NINDS Director Zach Hall's Guest Contributor column on page 2.

NINDS supports more behavioral science than psychologists realize. As seen in the list of these NINDS grantees (page 3),

SEE NINDS ON PAGE 3

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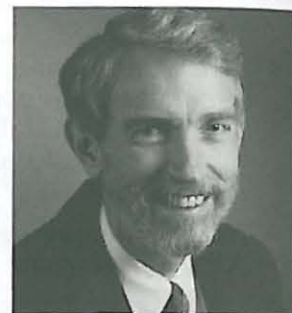
NINDS and Behavioral Science

Zach W. Hall

Director

National Institute on Neurological Disorders and Stroke

Guest Contributor



The National Institute of Neurological Disorders and Stroke (NINDS) supports research relevant to disorders of the brain, spinal cord, and peripheral nerves. Our Institute is responsible for research support for more than 600 neurological disorders, which are estimated to strike more than 50 million Americans each year.

Among the major diseases that we study are stroke, Alzheimer's disease, Parkinson's disease, epilepsy, multiple sclerosis, brain and spinal cord injury, brain tumors, and developmental disorders of the nervous system. We support research through our extramural grant program, through our intramural research program, and through the training of young investigators.

I appreciate the invitation from the *APS Observer* to present the activities of our Institute to the behavioral science community. We view behavioral science as a key component of the broad effort of neuroscientists to understand how the brain works.

Progress

We are in the midst of an especially exciting time in research on the brain, in which progress in understanding how the brain works has been rapid, almost breathtaking. Although there is still much that we do not know, we have powerful tools at our disposal.

At the most complex levels of organization of the brain, we have new imaging techniques that allow us to examine the functioning mammalian brain in a non-invasive way, and new computational techniques by which we can follow, analyze, and predict the activity of large populations of neurons.

At the least complex level of organization, advances in molecular genetics have opened the field of inherited diseases to new exploration. Over one-third of all genetic diseases are estimated to affect the brain, and we have now identified altered genes in more than 50 of these diseases. During just the last year, for example, genes for three rare childhood diseases (Batten disease, Friedreich's ataxia, and ataxia-telangiectasia) have been identified, as well as two new genes responsible for familial Alzheimer's disease and the first gene for an inherited form of epilepsy called progressive myoclonic epilepsy. In each case, the identification of the gene gives us new ideas and new tools for research.

One exciting consequence of the new advances in technology is that behavior and biology are being brought closer together. Because our methods of biological analysis are increasingly able to deal with complex biological systems, we can now make correlations between behavioral and biological changes with a sophistication that was only imagined a few years ago. Imagine being able to see the parts of the brain that become activated as one thinks of nouns or verbs, or to trace the neurophysiological circuits that underlie a young bird learning to sing.

On the other side, we are also learning that discrete molecular defects can have such subtle effects on behavior that sophisticated methods of behavioral analysis are required to tease them out. In fact one of the major challenges for neuroscience is to tie

SEE HALL ON PAGE 42

NINDS FROM PAGE 1

there were a total of 158 psychologists serving as PIs on extramural NINDS grants in FY95. That's a sizable enough chunk of basic and applied research to warrant our attention and makes NINDS's commitment to behavioral researchers among the highest at any of the NIH institutes.

Success Rate

Of course, data presented here does not even begin to uncover the hundreds of psychologists working as co-investigators on other NINDS grants. It consists mostly of regular R01 type grants and FIRST awards. The Institute-wide success rate of grant applicants applying to receive NINDS funding for regular grants in FY95 was approximately 31 percent. That is higher than most NIH institutes.

For the period 1993 through 1995, NINDS grant funds were distributed as follows:

Distribution of NINDS Grants in FY93 - FY95

	Percent of Total*	Success Rate (in Percent)*
Research Project (R01)	71	27
FIRST Award (R29)	4	28
Program Project (P01)	17	39
Centers (P20 and P50)	7	40
Clinical Trials**	7	

* Average for the 3-year period.

** Clinical trials are a subset and not part of the total.

To put some of these numbers in a temporal perspective, psychologists now receive in grants an amount equivalent to 36 times the initial total budget of the Institute of 1951!

Seven Percent Solution

To put this in context, NINDS's overall FY95 extramural portfolio included 2,442 grants. So, while the number of grants to psychologist PIs represented about 6.5 percent of the total grants, psychologists' share of research dollars represented about 1 percent more (or nearly 7 percent) of the total FY95 extramural research funding of \$546,595,000 distributed to all PIs.

From which NINDS extramural divisions do psychologists get their research support? All four of them! In fact, the most striking aspect of the NINDS investment in behavioral science is the incredible range of research areas receiving support. Each of NINDS's four extramural divisions lays claim to a decent percentage of the 158 FY95 grants. Specifically, NINDS extramural divisions consist of the following (number of psychologist PI grantees for each division appears in parentheses):

- ◆ Convulsive, Developmental and Neuromuscular Disorders Division (45)
- ◆ Demyelinating, Atrophic and Dementing Disorders Division (39)
- ◆ Fundamental Neurosciences Division (50)
- ◆ Stroke and Trauma Division (24)

To get a better sense of the range and specific content of these FY95 psychology grants from NINDS, listed below are the PI names (alphabetical by last name) along with their institutional affiliation and their grant title.

See the March 1992, September 1993, and November 1994 *Observer* for stories in this ongoing series of research support to psychologist Principal Investigators. Those past *Observer* issues feature similar "roundups" of behavioral science grantees funded by the National Institute of Mental Health, the National Institute on Drug Abuse, and the National Institute on Alcoholism and Alcohol Abuse, respectively.

Future *Observer* issues will continue this series of articles with a focus on other significant agencies and some of the more obscure federal outposts of basic and applied behavioral science grant support.

NINDS Projects Whose PIs Are Psychologists

Fiscal Year 1995

Principal Investigator

Affiliation

Grant Title

ALBERS, H ELLIOTT
ALBERS, H ELLIOTT
ALGER, BRADLEY E
ALLOWAY, KEVIN D
AMARAL, DAVID G
ANDRASIK, FRANK
ARMSTRONG, WILLIAM E
ASARNOW, ROBERT F
BARTH, DANIEL S
BASBAUM, ALLANI
BATES, ELIZABETH A
BEATTIE, MICHAEL S
BECK, SHERYL G
BENDER, DAVID B
BLAUSTEIN, JEFFREY D
BLOCK, GENE D
BOWERS, DAWN
BREEDLOVE, S MARC
BROWN, GREGORY G
BROWN, LUCY L

GEORGIA STATE UNIV
GEORGIA STATE UNIV
UNIV OF MARYLAND
PENNSYLVANIA STATE UNIV
SUNY-STONY BROOK
UNIV OF WEST FLORIDA
UNIV OF TENNESSEE
UNIV OF CALIFORNIA
UNIV OF COLORADO
UNIV OF CALIFORNIA SAN FRANCISCO
UNIV OF CALIFORNIA SAN DIEGO
OHIO STATE UNIV
LOYOLA UNIV MED CTR
SUNY-BUFFALO
UNIV OF MASSACHUSETTS-AMHERST
UNIV OF VIRGINIA-CHARLOTTESVILLE
UNIV OF FLORIDA
UNIV OF CALIFORNIA BERKELEY
CORNELL UNIV MED CTR
YESHIVA UNIV

INTERACTION OF NEUROPEPTIDES COLOCALIZED IN SCN NEURONS
REGULATION OF CIRCADIAN BEHAVIORS BY GABA
ELECTROPHYSIOLOGY OF THE PI-PKC SYSTEM IN HIPPOCAMPUS
SOMATOSENSORY THALAMOCORTICAL INTERACTIONS
FUNCTIONAL ORGANIZATION OF THE HIPPOCAMPAL FORMATION
DRUG/NON-DRUG TREATMENT FOR ADULT & PEDIATRIC MIGRAINE
ELECTROPHYSIOLOGICAL CORRELATES OF VASOPRESSIN RELEASE
NEUROBEHAVIORAL SEQUELAE—MILD BRAIN INJURY CHILDREN
MEG MEASUREMENT OF EPILEPSY IN THE CORTEX
BRAINSTEM CONTROL OF PAIN TRANSMISSION
NEUROLOGICAL BASIS OF LANGUAGE
CONTROL OF GASTROINTESTINAL ELIMINATIVE REFLEXES
ADRENALCORTICOID EFFECTS ON HIPPOCAMPAL NEURAL ACTIVITY
THALAMOCORTICAL MECHANISMS OF ATTENTION IN VISION
NEUROENDOCRINE REGULATION OF BEHAVIORS
NEURAL BASIS OF CIRCADIAN ORGANIZATION
MODULATION AFTER UNILATERAL TEMPORAL LOBECTOMY
HORMONAL EFFECTS ON BEHAVIOR AND SPINAL CORD MORPHOLOGY
LEXICAL DECISION-MAKING IN PARKINSON'S DISEASE
FUNCTIONAL NEUROANATOMY OF MOVEMENT DISORDERS

NINDS Psychology Grants in FY 1995

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APS and Friends Testify on NIH

What a difference a year makes. Last spring, while official Washington was reeling from the changes in Congress, the entire federal budget was on the potential chopping block, including the National Institutes of Health (NIH)—normally a perennial favorite of Congress—which was facing a 5- to 10-percent cut. The good news is: NIH ended up getting a sizeable increase (5.7 percent) and has emerged as one of the more protected federal agencies.

APS was part of the effort that encouraged Congress to preserve NIH's budget last year, through direct advocacy and through leadership in several Washington-based health research coalitions. NIH includes a large amount of behavioral and social science research, with many of the national institutes funding sizeable portfolios in these areas.

Now, the preliminary stages of the budget process for FY97 are under way. What we are seeing is considerably different this year, and we have already gotten assurances from key congressional leaders that the events of the past year will not be repeated.

"Mindless Attacks"

One of the biggest reversals from last year occurred during a hearing before the House appropriations subcommittee that oversees the National Institute of Mental Health (NIMH). The budget battles in Congress last year were the backdrop for an attack on NIMH in which more than 30 of its grants, many behavioral, were singled out as examples of wasteful government spending. Leading the attack was Rep. Ernest Jim Istook (R-OK), a member of the appropriations subcommittee. Istook, was supported by a coalition of scientologists and other groups portraying themselves as taxpayer watchdogs. Their tactics included misleading press releases and other statements that grossly distorted the research.

NIMH responded with a compelling defense of the grants. The issue was elevated to national importance when Istook's claims were investigated by *Primetime Live* co-anchor Sam Donaldson. The story featured interviews with several of the scientists whose grants were targeted, with Istook, and with Rex Cowdry, then acting director of NIMH. Donaldson said he started out thinking he had found the "mother-lode" of government waste, but became convinced of the value of the research. The positive television story and NIMH's strong defense of the grants combined to derail the attack.

Now, a year later, the issue boiled down to one small but telling scene when APS Executive Director Alan Kraut delivered our testimony on the NIH budget before the same subcommittee where the attacks had originated. He discussed the importance of

behavioral science in public health and requested stronger NIH support of training for the field.

The chair of the subcommittee, Rep. John Edward Porter (R-IL), responded very favorably, underscoring the importance of linking health and behavior, and urging APS and others to continue to "get the message out."

Porter also made a surprisingly strong statement against what he called the "mindless attacks" on NIMH from last year. His comments were a clear signal that similar attacks would not fare well in the subcommittee this year.

Porter was similarly encouraging when APS Director of Government Relations Susan Persons testified on the budget for the National Institute of Child Health and Human Development (NICHD). Persons, who chairs the Friends of NICHD coalition, presented a consensus of more than 100 groups regarding the NICHD budget and asked the subcommittee to support research in child health and development. In response, Porter said he

would do his best to fulfill the coalition's funding request, and that efforts should be directed toward the House Budget Committee and its chair, Rep. John Kasich (R-OH).

Another encouraging sign was that congressional members of the subcommittee raised questions with NIH Director Harold Varmus and several Institute directors during NIH budget hearings about what NIH is doing in behavioral research. Topics discussed included training young behavioral science investiga-

tors, fetal alcohol syndrome, the status of behavioral science at NIMH, and child abuse.

The main points of the APS and Friends Coalition testimony are presented below.

◆ **NIH and Training.** APS recommended a 6.5-percent increase for NIH in FY97, an amount that was agreed on as "reasonable" in the current fiscal climate by two major Washington coalitions that advocate for the NIH—the Coalition for Health Funding (CHF) and the Ad Hoc Group for Medical Research Funding. APS is well-represented in the leadership of both groups, with Kraut serving as president of the CHF and on the executive committee of the Ad Hoc Group.

APS also asked Congress to strengthen training in behavioral sciences at NIH through two specific actions: Encourage NIH to increase the number of National Research Service Awards (NRSA) in behavioral sciences, as recommended by the National Academy of Science; and encourage wider use of the B/START (Behavioral Science Track

The chair of the subcommittee, Rep. John Edward Porter (R-IL), responded very favorably, underscoring the importance of linking health and behavior, and urging APS and others to continue to "get the message out." Porter also made a surprisingly strong statement against what he called the "mindless attacks" on NIMH from last year. His comments were a clear signal that similar attacks would not fare well in the subcommittee this year.

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Award for Rapid Transition) program among institutes that fund large amounts of behavioral science.

B/START is a program of small grants aimed at newer investigators. It originated at NIMH in 1994, and is designed to attract new investigators to the field and to sustain them while they collect pilot data and gain experience in the NIH grant review process. Other institutes have developed or are considering developing B/START programs (see below).

"Ten years from now, NIH will be pointing with pride to the discoveries of former B/START'ers who have gone on to be full NIH grantees," Kraut told the subcommittee.

Several other behavioral science projects at various NIH institutes were highlighted in APS's and Friends' testimony to the House of Representatives. A selection of these are summarized below.

◆ **B/START and More at NIDA.** As reported in

the in the March 1996 *Observer*, the National Institute on Drug Abuse (NIDA) has launched its own B/START program to encourage new researchers in the areas of cognition, social and personality development, motivation, and the mechanisms of craving involved in drug abuse and addiction.

Other NIDA activities include a behavioral therapies development program that applies to the assessment of such therapies the same controlled evaluation process used in evaluating new medications.

◆ **Patient/Treatment Matching in Alcoholism.** The National Institute on Alcohol Abuse and Alcoholism is sponsoring behavioral research on ways to match patients to the most appropriate intervention. Project MATCH, a large, randomized, multisite, clinical trial involving more than 1,700 patients, is the largest and most complex trial of patient-treatment matching and treatment effectiveness ever taken.

◆ **Cognitive Changes in Aging.** The National Institute on Aging supports a number of behavioral and social science projects on problems of perception, memory, and mobility associated with aging. Such research is looking at how problems develop, how cognitive impairment can be an early warning of Alzheimer's disease, and whether exercise can improve cognitive functioning in older individuals.

◆ **Child Development.** NICHD leads the federal government's research efforts in child development. A recent ground-breaking, 10-site study of child care, which involved over 1,300 children, has found that placing children in the care of someone other than their mothers does not, by itself, damage the emotional attachment between mother and child. Unlike previous studies, this one is taking into consideration family and individual characteristics in combination with day care.

Other important behavioral research described in the testimony of the Friends of NICHD, includes efforts to

combat Sudden Infant Death Syndrome (SIDS). NICHD's research has shown a clear link between infant sleep position and SIDS. NICHD has launched a major public education campaign called "Back to Sleep" to change the behavior of parents by encouraging them to put their babies to sleep on their sides or back, a behavioral intervention that has been shown to be the first effective way to prevent SIDS. More than 6,000 babies die every year of SIDS, and now for the first time, that number is diminishing.

NICHD is also supporting studies on adolescent pregnancy that have been instrumental in examining the factors leading to adolescent sexual activity, pregnancy, and parenting. Additionally, the Institute is conducting studies to

improve our understanding of the consequences of these behaviors by teenagers.

Because minority youth so often face unique risks as they grow to adulthood, NICHD is committed to finding behavioral interventions that will decrease the generally higher levels of

violence, disease, and sexual activity. NICHD will identify, implement, and evaluate these interventions.

◆ **Traumatic Head Injury.** Traumatic head injury in children is a major public health problem. Most research in this area has focused on children with severe brain injury, whose problems are persistent and often evolve over time. However, the majority of cases are considered "mild." The National Institute of Neurological Disorders and Stroke is sponsoring research that will enable more precise detection of cognitive impairments and other abnormalities in brain functioning that may be associated with such injuries.

◆ **Solutions to Heart Disease.** The National Heart, Lung, and Blood Institute launched a \$30 million, 6- to 7-year multicenter study of interventions that provide social support and treat depression in coronary heart patients. The study is investigating whether reducing depression and isolation can prolong patients' survival and decrease other cardiac problems. It is part of a more general effort to devise alternatives to "high tech" solutions to heart disease. ◆

Another encouraging sign was that congressional members of the subcommittee raised questions with NIH Director Harold Varmus and several Institute directors during NIH budget hearings about what NIH is doing in behavioral research.

NIDA B/START Is Official

The National Institute on Drug Abuse (NIDA) has now announced its small grants program. Known as B/START (Behavioral Science Track Award for Rapid Transition), it is open only to new psychologists and other behavioral scientists. For full details point your internet browser at URL: gopher://gopher.nih.gov:70/00/res/nih-guide/rfa-files/RFA-DA-96-005, or contact Jaylan Turkkan at NIDA with any questions you have, either by phone: 301-443-1263, fax: 301-594-6043, or email: jaylan@nih.gov. The proposal receipt date is June 18, but the tight time frame is somewhat less daunting in that a B/START proposal is limited to 10 pages.

Psychology in the Institute of Medicine

Institute of Medicine has a major behavioral science mission and a number of prominent psychologist members

"The name 'Institute of Medicine' is a bit misleading—it might convince psychologists there's nothing there for them," said APS Charter Fellow H. Carl Haywood, a member of the IOM since 1972.

"In fact, the IOM is concerned very broadly with issues of health and human development. It's right in the middle of what many psychologists are concerned about," Haywood said.

"Most obviously, mental health falls right in there," Haywood added. "But there also are other issues such as substance abuse, chronic illnesses of children or adults including asthma or allergies that last for a lifetime and affect all sorts of behavioral and social dimensions of people, and anything that affects child development."

APS Past-President Charles Kiesler suggests another good reason why psychologists are interested and involved in the IOM. "Whether you like it or not, the Institute is a major player in federal policy regarding health and health services," said Kiesler, who is chancellor of the University of Missouri-Columbia and has been an IOM member since 1988.

More psychologists like it than not, judging from conversations with seven of the 27 members the IOM identifies as psychologists in its current membership of 465 "active members" and 556 non-voting "senior members" over age 66.

"We're taken very seriously, we're listened to, and we're treated as genuine colleagues—though, pardon my modesty, we're a pretty select group," said APS Charter Fellow Edward Zigler of Yale University, an IOM member since 1987. "We've got people like Judy Rodin [University of Pennsylvania] in the Institute; she has pushed behavioral medicine, and that's a very concrete activity of the IOM."

Nancy Adler of the University of

California-San Francisco, an APS Lifetime Member who was elected to the IOM in 1994, said, "We're kind of the new kids on the block, but the whole field of health psychology isn't that old. It's exciting for me to be able to represent the psychological perspective on major health problems, which has not always been front and center. It's important to me to be able to contribute a perspective that's usually not there."

IOM studies that probe knotty health issues are valuable sources of fundable research ideas, affirms Dyanne D. Affonso, who also became an IOM member in 1994.

"An example is my multimillion-dollar grant from the National Institute of Nursing Research (1990-96) that I built off of the IOM study of the

prevention of low-birth-weight babies, particularly among minority groups," said Affonso, a psychologist who last year became dean of the Nell Hodgson Woodruff School of Nursing at Emory University. "I took that publication and literally spun off my grant from it," she said.

In an era of information overload, Barbara C. Hansen, an IOM member since 1982, emphasizes that "one of the major roles of the IOM is to provide a forum for examining in a balanced manner some of the most difficult issues in all the areas of health care and biomedicine [and coming up with] a consolidated judgment of the very diverse views." Hansen, a charter member of APS, is a professor at the University of Maryland Medical School whose specialty areas are endocrinology and the mechanisms of obesity and diabetes.

IOM gets the highest four-star ratings from Hansen and several other psychologists for the diversity and multidisciplinary composition of its study panels, unique in the health care field. This is achieved even though almost 75 percent of IOM members are physicians, the maximum set by IOM regulations.

Kiesler sees a few clouds hovering

over IOM's lofty mission, however. He noted, "IOM was started [in 1970] because of the lack of people doing something about public policy other than bench science. So I think the Institute now should be emphasizing people who have been out there in the public policy arena" rather than bringing in more "bench scientists who are already members of the National Academy."

Even for psychologists, the bridge over to the public policy arena may not be an easy one to walk across, Baruch Fischhoff of Carnegie Mellon University has observed before and since becoming an IOM member in 1993.

"As psychologists we talk about our issues, but it requires a different kind of energy to make the bridge over to public policy. You've got to talk to people with different perspectives and deal with their preconceptions of what psychology is all about. You've got to repeat yourself a lot."

"My guess is that there are very few psychology departments that have graduate courses in public policy," said Fischhoff.

Fischhoff is currently serving on a newly-formed IOM committee surveying health effects of "environmental justice." He expects it to examine neurotoxicological effects on behavior, including industrial, agricultural and household exposures, which, he said, "are sometimes best documented by psychologists." His own special area focuses on how citizens can be involved in decisions concerning their environment, and it uses the expertise of cognitive psychologists and perspectives of social psychologists, he pointed out. His regular teaching and research work is under a joint appointment to the Department of Social and Decision Sciences and the Department of Engineering and Environment at Carnegie Mellon.

Fischhoff anticipates that when the IOM committee concludes its work in a year and a half "it might end up recommending increased recognition of these



H. Carl Haywood

APS Journals Rank Among Top Ten!

Psychological Science and *Current Directions* are among the most heavily cited core publications in psychology

APS's flagship journal, *Psychological Science*, may still be a baby in the publishing world, but it already has a citation record that puts it eighth among psychology journals, and it has been at that top-ten slot since it was four years old! This ranking was based on a comparison (among 97 general psychology journals) of how many times on average the journal's recent articles had been cited by authors of scholarly papers.

The ranking (by impact factor) is documented in the 1994 edition, the latest available, of *Journal Citation Reports* (JCR) of the *Social Science Citation Index*, published annually by the Institute for Scientific Information (ISI) in Philadelphia. (The 1995 JCR will be published in fall 1996.) The impact factor was derived by dividing the total number of scholarly citations in 1994 that referenced *Psychological Science*'s articles published in 1992 and 1993 by the number of articles published in those same two years.

William K. Estes, of Harvard University, and the founding editor of *Psychological Science*, was responsible for the journal during the time period on which the impact factor is based. Upon learning of the impact factor and being asked what contributed to the journal's comet-like appearance in eighth position, Estes said a number of factors conspired to achieve it.

One was the psychological community. "There was a tremendous enthusiasm in the discipline at the prospect of a new general psychology journal that would begin pulling the increasingly splintering subfields together again along their shared scientific lines," said Estes. "There was an outpouring of support from virtually every psychologist I needed to call upon in the early days of establishing this journal."

"This is great news, for the journal and for the Society; it is a tribute to the efforts of Bill [Estes]," said Yale University professor John F. Kihlstrom, the journal's current editor.

Concurring with Estes, Kihlstrom said, "I think the status of the journal also reflects an increased interest in general psychology. Our field can be fragmented so easily, with scientists in various subfields as well as

clinicians all going their separate ways. *Psychological Science* tries to moderate these centrifugal influences. And it started a trend, so now we have a number of such journals coming into existence—*Psychonomic Bulletin and Review*, for example, and soon *General Psychology Review*."

"But I also think the impact of the journal reflects a desire for the 'short form.' Articles in specialty journals these days tend to go on and on, dotting every 'i' and crossing every 't,' and sometimes it's difficult to understand why it's all there. *Psychological Science* articles, like the articles in *Current Directions* and *Psychonomic Bulletin and Review*, are more focused, they get right down to business and leave you with a clear, concise, take-home message. There's real appeal in that."

No doubt Estes's success in creating a much needed general psychology journal that is both readable and accessible to most readers was a significant factor in attaining this ranking. "*Psychological Science*'s impact factor makes it a formidable player among scholarly behavioral science publications," said APS Director of Communications Lee Herring. "Most other general psychology journals have had decades to cultivate their impact on the discipline, but even our four-year-old journal, *Current Directions in Psychological Science*, is projected to be among the top ten in the 1996 JCR," said Herring.

Too Young to Be Admitted

"Because impact factors are based on articles published in two previous years, a journal must have accumulated three years of citation data before an impact factor can be calculated and listed in the JCR," according to JCR editor Janet Robertson. *Current Directions*, therefore, is not yet listed in JCR. But, there is a top-ten trend building there, too, according to Robertson. "If we assume *Current Directions* published about the same citation rate each year as it did in its first years, we can estimate the 1994 impact factor would have placed the journal about tenth among psychology journals." *Current Directions* was only three years old in 1994!

How do these impact factors compare to the 217 journals in ISI's seven other categories of psychology journals? Impact factors in the range achieved by APS's journals would also place them in the top few, sometimes the top three, among the seven other categories of psychology journals covered by ISI (i.e., applied, clinical, developmental, educational, experimental, mathematical, and social).

Psychological Science also ranks highly on an "immediacy rating." The immediacy index indicates the average citation rate for the current year only for each article within the journal. It is a measure of a journal's "hotness," so to speak.

Who Notices?

These JCR rankings and ratings serve as a kind of "prestige measure," which is noted by librarians, authors, publishers, and educational administrators and are used extensively by these groups in making decisions to purchase journals and allocate marketing dollars.

The JCR, a well-respected international publication, also publishes a "citation half-life" rating for each journal. Citation half-life indicates the number of years back in time that account for 50 percent of the total citations received by a given journal. *Psychological Science*, a relatively young journal by comparison, has a citation half-life of 3.0 years, indicating that half the citations to the journal occurred in articles that are three years old or younger. According to Robertson, "cited half-life measures the chronological distribution of citations to a journal, which helps evaluate the currency or longevity of published articles...but it does not imply a particular value for a journal. Such figures may be useful to librarians in their collection management and archiving decisions."

Estes's advice for the future of *Psychological Science*? "This is very good news, but we should not rest short of obtaining the number '1' ranked position."

Look out Dallas Cowboys, here comes APS! ♦

Is Graduate Education in Need of Reshaping?

Report says production of science and engineering PhDs is at risk of overwhelming the demand; Psychology may be saved by its own diversity

A joint committee of the National Academy of Sciences (NAS), the National Academy of Engineering (NAE), and the Institute of Medicine (IOM) has issued a report indicating that higher education may no longer be producing PhDs compatible to today's job market and could be in need of some retooling.

"All three primary areas of employment for PhD scientists and engineers—universities, industry, and government—are simultaneously experiencing enormous changes," said the Director of the Institute for Advanced Study Phillip A. Griffiths. "This suggests that new scientists and engineers must be prepared not only to be flexible in their work, but also to change positions and even careers more than any previous generation," added Griffiths, who chaired the committee that produced the report.

The report, *Reshaping the Graduate Education of Scientists and Engineers*, says that changes both in science and in the needs of the employers now require a PhD who is more diversified in his or her field and experience. The supply of PhDs is at risk of overwhelming the demand.

Psychology, though, seems to be at less of a risk than other fields. Statistics in the report indicate that the number of PhDs in psychology has stayed fairly constant from 1983 to 1993, whereas the number of doctorates awarded in other fields—especially engineering, biological sciences, and the physical and mathematical sciences—has increased markedly. While many psychologists and department heads agree that change is inevitable in the psychology PhD program, it is not determined just how and where change will occur.

According to APS Charter Fellow Emanuel Donchin, of the University of Illinois-Urbana-Champaign, the very diversity that exists already within the field of psychology has kept the field competitive without creating a glut of PhDs. He added that change in PhD programs will occur, though mostly in terms of what financial support is available to researchers and universities. Others, like APS Member Roy Herrenkohl, believe that it is time to take a close look at the needs for psychology PhDs within the workforce and reevaluate opportunities for positions outside the standard academic career path.

"I think there needs to be a serious look at what society needs that psychology can deliver. Then shape programs more to meet those needs," said Herrenkohl, vice provost for research and dean of graduate studies at Lehigh University. "If people are going to get jobs, they will have to look at where the needs are and begin to address those needs as well as the on-going possibilities for academic careers."

Either way, in light of the evolving global economy, the across-the-board shrinking of financial resources, and an increasingly competitive job market, *Reshaping the Graduate Education of Scientists and Engineers* demands attention from all concerned with the scientific community.

The Report's Recommendations

"The PhD of the future should be a new and improved version of the current degree," said Griffiths. "It would retain the existing strengths while substantially increasing the information available, the potential versatility of the students, and the career options afforded to them by their education."

According to the report, the market for psychologists and other scientists—already affected by the end of the Cold War, the rapid growth of international competition in industrial-based countries, and constraints on research spending—is now being influenced by a rapid increase in the number of foreign students, widespread federal budget cuts, and a potential slowdown in the growth of university positions. Traditionally universities have been the primary employer of psychology PhDs. Additionally, the growth of managed care and health maintenance organizations will have an effect on the job market for psychologists and medically-based scientists.

Currently, many universities are having to suspend department growth and even cut back on positions due to lack of funding.

"It is not that we can't train the students or that we can't place them," said Donchin. "The reason [departments are cutting back] is because many universities have cut the budget and reduced the funding for graduate support."

The committee noted, and Herrenkohl agrees, that PhDs are spending more time now in postdoctoral positions before securing an academic post. "I think we are seeing more people with postdoctoral experience," said Herrenkohl. "Thirty years ago, people got jobs even though they hadn't finished their doctorates."

To achieve a better alignment between the number and quality of graduates and the realities of the job market, the report recommends that PhD programs, especially at the department level, maintain what is at the heart of the PhD. Specifically, the report applauds the original research that has been the hallmark of doctoral training. However, it recommends that educational facilities, with help from federal agencies, develop greater versatility both in students and the career options available to them. Specifically, the report recommends that PhD-producing institutions offer a broader range of academic options to students and provide better information and guidance through a cooperative effort between universities



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and federal scientific agencies. Third, the report further recommends, again through a cooperative effort, devising a national human-resource policy for advanced scientists and engineers.

In psychology, where options run the gamut from adolescent and applied to quantitative and social, the first recommendation is almost a mute point. But the report indicates that versatility can be achieved on several levels.

"On the academic level, students should be discouraged from overspecializing," wrote the committee. "Those planning research careers should be grounded in the broad fundamentals of their fields and be familiar with several sub-fields. Such breadth might be harder to gain after graduation."

The report also suggests that the government and other federal assistance agencies readjust their support mechanisms to include an increased emphasis on education and training grants that include a proposer's plan to improve the versatility of students—both through curricular innovation and effective faculty mentoring to familiarize students with a range of employment options. To the extent that grant proposals included such plans, they would be more favorably evaluated.

To facilitate the second recommendation, the committee suggested the establishment of a national database of employment options and trends information, including data on career tracks,

graduate programs, time to degree, and placement rates. NSF would coordinate federal participation in the database, which would ideally be available on the Internet, making it readily available to students and faculty. The more information that is available to students, wrote the committee, the more careful and informed career choices the students can make.

"In preparing our last report...we found that no coherent national policy guides the education of advanced scientists and engineers, even though the nation depends heavily on them," wrote the committee. "At present there is neither the conceptual clarity nor the factual basis needed to support a coherent policy discussion."

The committee suggested that in beginning a national human resource policy for scientists and engineers, an agenda should include issues such as national goals and policy objectives and the relationship between the process of graduate education and employment trends.

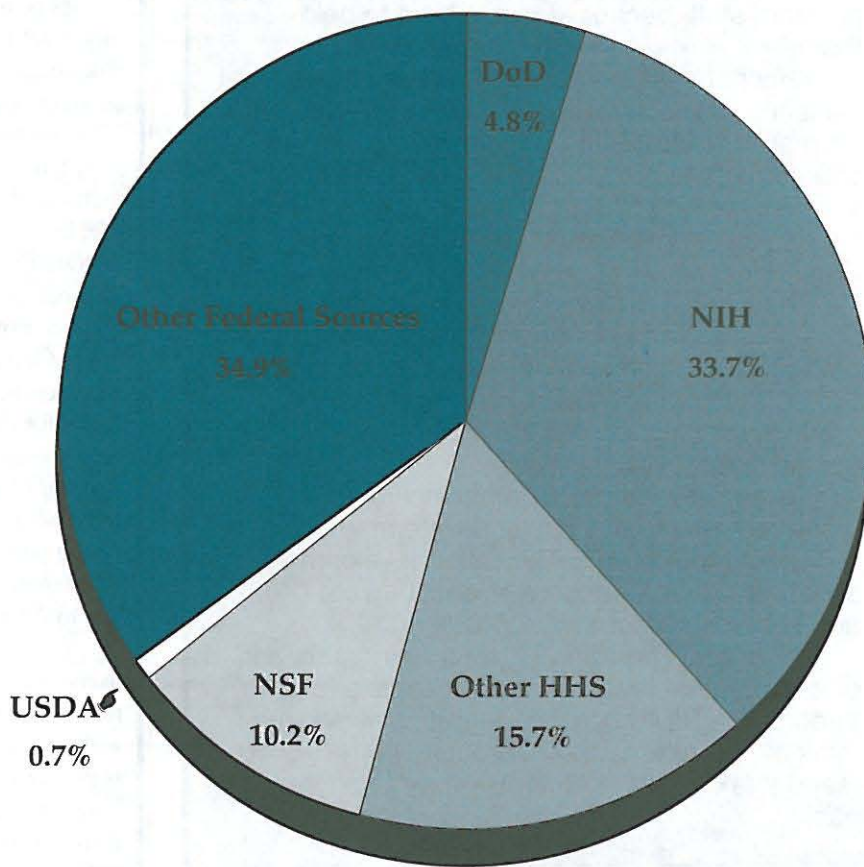
"I think the word 'versatility' is a good, appropriate word because I think psychologists are trained in ways that make what they do relevant across a larger spectrum of issues than they may be thought of as addressing," said Herrenkohl, who added that employers and even psychologists themselves who are in the job market may not be fully aware of what psychologists are able to offer. "I think we need to simply open up a wider spectrum of opportunities for them, and I think there are many more opportunities out there than we are currently aware of." **E.R.**

Psychology Training in Perspective

Federal Sources of Support for Full-Time Psychology Graduate Students, 1992

In a survey of nearly 3,000 psychology graduate students receiving federal support, the National Institutes of Health (NIH) served as the primary source for more than a third, while other Health and Human Services (HHS) agencies funded about 16 percent of the students—more than in any other field in science and engineering. Another 10 percent received funding from the National Science Foundation (NSF), while nominal support was given by the Department of Defense (DoD) and the US Department of Agriculture (USDA). Other federal agencies, whose support can include loans, personal funds, and/or tuition payments, were the major source of support for about 35 percent of those surveyed.

Adapted from *Reshaping the Graduate Education of Scientists and Engineers*, (1995)
National Academy Press



NIMH Supports Young Investigators

Khachaturian, director of Division of Neuroscience and Behavioral Science, heads up strong training programs

The National Institute of Mental Health (NIMH) offers a wide variety of training opportunities for young behavioral science researchers through its Division of Neuroscience and Behavioral Science. One of the three major components of NIMH, the division provides institutional grants and individual fellowships in psychology and other disciplines that are typically supported through its Behavioral, Cognitive, and Social Sciences Research Branch.

The training programs are headed by associate division director Henry Khachaturian, a neuroanatomy researcher, who is encouraging more applications from young behavioral science investigators.

"Students and fellows should be active participants, along with their mentors, in the process of seeking an appropriate mechanism of support at each stage of their career," says Khachaturian. "The single most important message to young scientists is that they should contact the NIMH program staff, because we are here to help them."

Khachaturian oversees the division's National Research Service Award and career development programs. In addition to coordinating with his counterparts in other NIMH divisions, he is involved in setting NIH-wide training policy through his participation in the NIH Training Advisory Committee.

The kinds of training grants supported by the division include the following: institutional training grants (T32); short-term institutional training (T35); predoctoral MD/PhD fellowships (F30); predoctoral PhD fellowships (F31); and postdoctoral fellowships.

Career development grants include: mentored research scientist development award (K01); mentored clinical scientist development award (K08); independent scientist award (K02); and senior scientist award (K05).

Information on applying for these grants and on the areas of research they cover is available through the NIMH homepage (<http://www.nimh.nih.gov>) or, alternatively, through NIMH FAX4U (send a fax to 301-443-5158—they'll fax you back).

MISCELLANY

In its first comprehensive review of AIDS research, the National Institutes of Health detailed a blueprint for restructuring and augmenting its AIDS research program in which it calls for the Office of AIDS Research, developed in 1988, to develop and coordinate a comprehensive Prevention Science Agenda combining behavioral and social interventions with biomedical interventions. The 40-page report was developed by an independent, cross-disciplinary panel that included scientists, researchers, clinicians, and representatives of pharmaceutical companies and the HIV community. According to NIH Director Harold Varmus, it was time for a review of NIH's efforts in AIDS research, "looking at every component of the NIH research effort and assessing how these components fit together and whether as a whole the program is moving effectively and efficiently toward the goal of preventing and curing AIDS."

According to *The Report of the NIH AIDS Research Program Evaluation Working Group of the Office of AIDS Research Advisory Council*, the ideal comprehensive HIV prevention strategy includes behavioral and social interventions along with biomedical technologies, and vaccines. The publication also detailed several areas in prevention science that would require an infusion of new funds for research including: studies testing the utility of combined biomedical, behavioral, and social interventions in reducing sexual, parenteral, and perinatal transmission of HIV; studies of the impact of social-interventions (e.g., community-level interventions, legal or policy changes) on HIV risk behavior and transmission; and studies on prevention services delay.

A new study shows that skills related to attention, memory, and learning are impaired with heavy marijuana use, even after use is discontinued for 24 hours. According to National Institute on Drug Abuse (NIDA) Director Alan Leshner, this indicates that the ability of a student to learn is affected not only when he or she smokes marijuana but for at least a day after. "This casts serious doubt on the common belief among many marijuana users that they are fine once the marijuana high wears off," he said.

The study was published February 21, 1996, in the *Journal of the American Medical Association*. "We know from NIDA-funded research that daily marijuana use among young people has increased in recent years," said Leshner. "Young people are putting themselves at high risk of failure due to their marijuana use."

The study's finding of greater impairment among heavy users suggests an alteration of brain activity produced by marijuana, residue of the drug in the brain, or an actual drug withdrawal syndrome from marijuana. Continued research is planned to determine the neuropsychological function of long-term heavy marijuana users for up to 28 days after use is discontinued.

Getting in: A look at the Election Process Of the National Academy of Sciences

In the March *Observer* (page 1), we featured a number of psychologists who are members of the National Academy of Sciences. In this feature article, we examine the process by which scientists are elected to the Academy. See also in this issue the story on page 6, which features some of the psychologist members of the NAS sister organization, the Institute of Medicine. —Editor

Ask APS President Richard Thompson, of the University of Southern California, how one is elected to the National Academy of Sciences (NAS), and he will bluntly answer: "With great difficulty."

On April 30, NAS elected 60 new members. Until notified of their election to the elite corps of scientists, those new members were oblivious not only to the fact that they were nominees but also of the exhaustive balloting process they made it through to join the ranks of NAS members.

"The election process is not random, believe me," said NAS member and APS Past President James McGaugh, of the University of California-Irvine. "It is not just taking a name out of the air. It is an intense filtering process that goes through many ballots."

Just how many ballots? Well, while individual NAS disciplinary sections may have their own non-binding ballots and polls, in the official process, there are no fewer than four elections: two within individual sections and two within the entire membership. In psychology's Section 52, a non-binding straw ballot is the first step in whittling down a list of proposed members into the two or three psychologists that ultimately get elected each year.

"The election process is an ongoing, year-round process," said McGaugh, who has served as chair of the psychology section. "We start the straw ballot [for next year] about the time that the final ballot is taken for the current year."

A private organization, the Academy

was established by a congressional act signed by Abraham Lincoln, in 1863. It was dedicated to the furtherance of science as well as to the application of science to promote the general welfare. It's original mission is still the Academy's priority today: Act as advisor to the government, upon request, in any matters of science and technology.

The Academy includes 25 sections representing the different disciplines

Section 53, Social and Political Sciences.)

"It is a high honor," said current Section 52 Chair Gardner Lindzey, of Stanford University. "It is an indication that your colleagues, both within your field and across a broad range of academic disciplines, think well of your work."

Lindzey added that there are many people who are not elected to the Academy but who are arguably just as talented and distinguished as actual members. McGaugh agreed, saying, "There are an awful lot of very, very good scientists who are not honored by election to the academy just because the quota is so stringent and the balloting process is so exhaustive."

Candidacy and Nominations

Any member of the Academy can nominate someone as a candidate for membership. Additionally a section, if it so chooses, can appoint a nominating committee to coordinate nominations. "During the time that I was chair, we had a nominating committee consisting of three people who were in the psychology section, and what they did was simply to encourage members of the section to nominate people," said Thompson, who has also served as section chair.

CONTINUED ON NEXT PAGE

There are two questions here. What process does the Academy use, and how does someone get elected? One of them is straight forward. There are a series of ballots and people have to get more than a certain percentage of the ballots in order to move on to the next ballot. How do people get nominated, and what are the criteria for voting? Only individuals know that.

JAMES MCGAUGH
UNIVERSITY OF CALIFORNIA-IRVINE

across science. With nearly 1,800 members and about 300 foreign associates, NAS's membership is very limited. With the April 30th election, the psychology section has only 78 members and foreign associates. (However, psychologists can be elected to other sections. For example, APS Fellow Donald T. Campbell, not listed in the March *Observer* among the psychologists of Section 52, is in

On April 30th, the National Academy of Sciences held its annual meeting and elected two psychologists, both APS Fellows:

- ◆ Victoria A. Fromkin, professor emeritus of linguistics, Dept of Linguistics, Univ of California-Los Angeles
- ◆ Edward E. Smith, professor, Dept of Psychology, Univ of Michigan-Ann Arbor

FROM PREVIOUS PAGE

Proposals for membership include a short statement highlighting the primary scientific achievements of that individual and potential members can be nominated in several different ways: within a section; jointly by two sections; by a voluntary nominating group (a group of 20 to 30 Academy members); or by a temporary nominating group. Additionally, a non-US resident can be nominated as a Foreign Associate.

As noted earlier, the psychology section holds a preliminary, and non-binding, straw ballot first. "We try to hold that in the spring,"



Richard Thompson

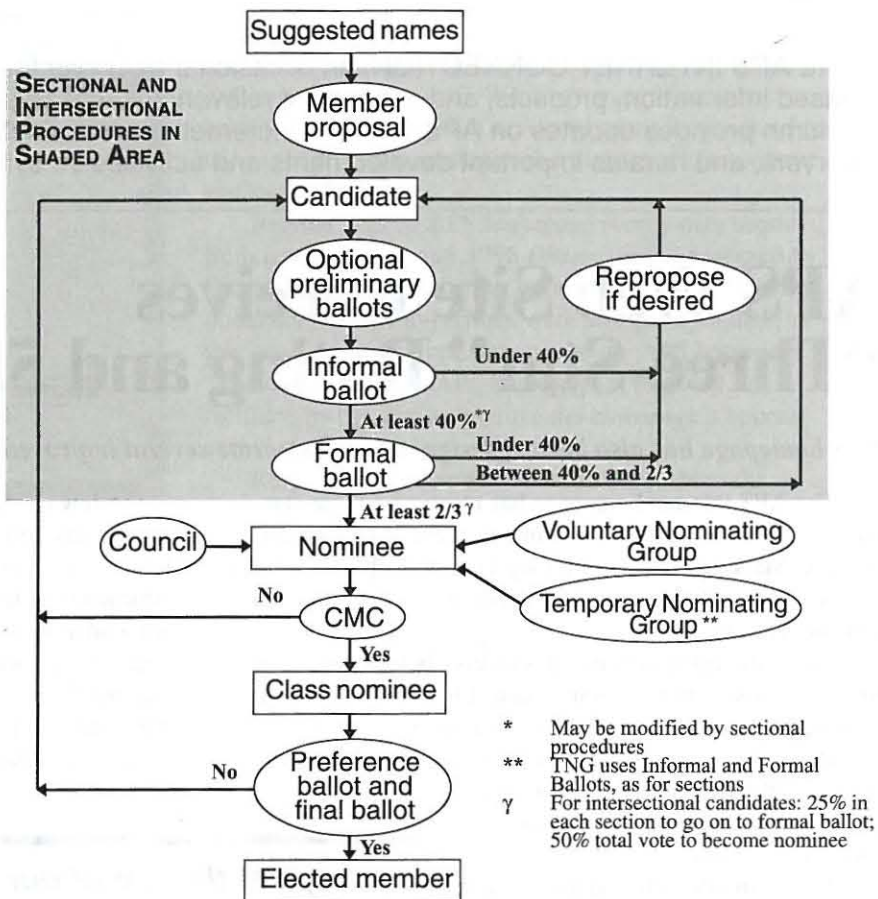
said Thompson. "The section chair organizes a list of everyone who has been suggested as a possible candidate and then just asks people to indicate their preference. It is literally a straw ballot in that it has no force."

Balloting

The first official ballot, as outlined in the Academy's constitution and bylaws, is the Informal Ballot. To pass from the Informal Ballot on to the next step, the Formal Ballot, someone must get at least 40 percent of the section members' votes. This ballot occurs in the fall. "We start with about 50 names on the straw ballot, and then on the Informal Ballot—the first time people are actually nominated—we end up with somewhere between 12 and 15," said Thompson.

In November, the next ballot, the Formal Ballot, is formulated using the results of the Informal Ballot. Potential members are ranked according to the voting in the Informal Ballot and are voted on by the section members. The ballot is returned to the chair in December. To pass successfully through this stage, potential members must receive the votes of at least two-thirds of the section members. Upon successfully passing through this stage, candidates are formally known as Nominees. In the

Flow Chart of the Nomination-Election Process



psychology section there are usually three nominees who go from the Formal Ballot on to the next step. It is at this next step that the election process breaks out of the section's realm.

Within the organization of the

It is a high honor. It is an indication that your colleagues, both within your field and across a broad range of academic disciplines, think well of your work.

GARDNER LINDZEY
STANFORD UNIVERSITY

Academy, each section is part of a class. Psychology—in addition to economics, anthropology, and social and political sciences—is part of Class Five. Once the results are garnered from the Formal Ballot, a group called the Class Member-

ship Committee reviews and ranks the resulting nominees within the class.

"Here is where the real complication comes in," said Thompson. The complication he refers to is the combining of the Nominees from each section into one ranked list.

"Typically three representatives from each section make up the Class Membership Committee. Usually the typical number of nominees from each of the four sections in Class Five is around three, so, for example, in our class we have 12 names at this point: Three apples, three oranges, three lemons, and three grapes. How do we rank them in one list?"

Despite the fact that this group of Nominees comes from completely different disciplines, it must be ranked on a single list, called the Preference Ballot. Within each Class Membership Committee, this negotiation varies, but in Class Five's Class Membership Committee, Thompson said members try to be as honorable, fair, and diplomatic as possible in voting for

SEE NAS ON PAGE 24

The APS Internet Connection

THE APS INTERNET CONNECTION, an occasional *Observer* feature, is a practical guide to Internet-based information, products, and services of relevance to the scientific psychology community. This column provides updates on APS's ongoing Internet services, including gopher and world-wide web servers, and heralds important developments and activities in "cyberspace."

APS Web Site Receives "Three-Star" Rating and 5,000 Hits a Day!

APS homepage has also been redesigned to incorporate several improvements . . .

The APS internet homepage has received a three-star ranking from the world-known independent Magellan rating service. Magellan raters assign world-wide web sites up to 10 points on each of three criteria: depth, ease of exploration, and "net appeal."

Magellan top-rated web sites receive between three and four stars, based on total points earned for the three criteria. Web sites are evaluated by a team of editors and writers operating under the guidance of an International Editorial Advisory Board, a group of professionals and academics chaired by Interop founder Dan Lunch.

Magellan rates sites on an ongoing basis and considers a site's "depth" as a gauge of its comprehensiveness and currency. The criterion "ease of exploration" is a measure of how well organized the site is and how easy it is to navigate, and "net appeal" is an assessment of, among other things, aesthetics and the level of innovation.

High Usage

"The incredibly high usage of the APS homepage—5,000 hits or more per day—also tells a story about the utility of the APS web service," said APS Director of Communications Lee Herring, "and readers can easily access these usage statistics directly on the homepage."

Web site usage is measured typically in terms of number of "hits" (accesses of the homepage and its files) and can be presented automatically by the web server machine by special statistical and database software.

A few caveats are in order when interpreting the results of current-day software of this sort, explained APS "webmeister" John Krantz. For example, every access to a graphic or an informational file counts as a "hit." "But since the APS site is not loaded with lots of graphical or other such downloadable elements that would tend to inflate usage statistics, said Krantz, "the numbers are astounding." The APS site is, on the contrary, informationally intense, explained Krantz, "so even if you discount a certain percentage of the hits—for even the minimal

APS graphics—to accommodate a more informed interpretation of the data, it's still a rather impressive hit rate." Another factor that can artificially influence the number of "hits" is the size of the web reader's computer cache. Thus, the larger your machine's local cache, the fewer times it "hits" on the web site to resend graphics, pages, and other elements, when you return to a web page you have viewed already.

Similarly, the presence of computer "firewalls" (often having their own cache) within a network can affect access statistics on web pages. Some of these factors likely will never allow a precise calculation of usage at any web site unless somehow users' machines could be "queried" by the web site for information on configuration and network characteristics.

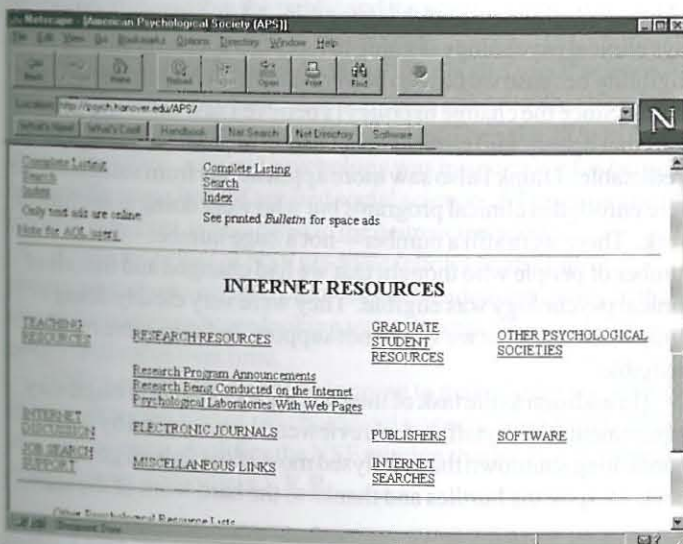
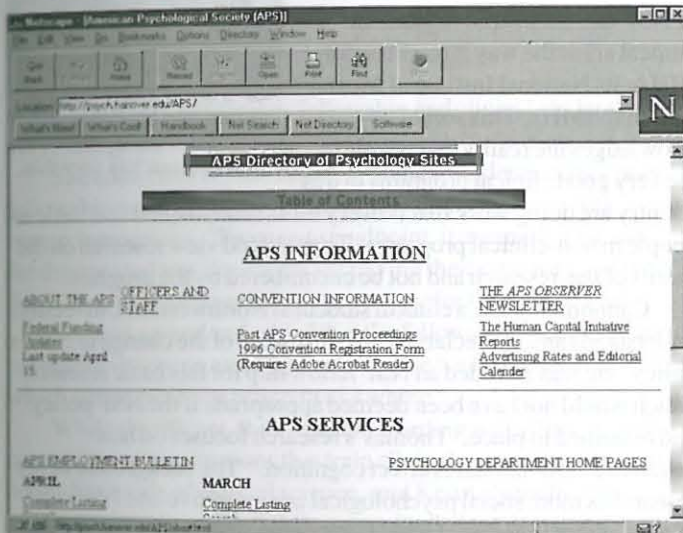
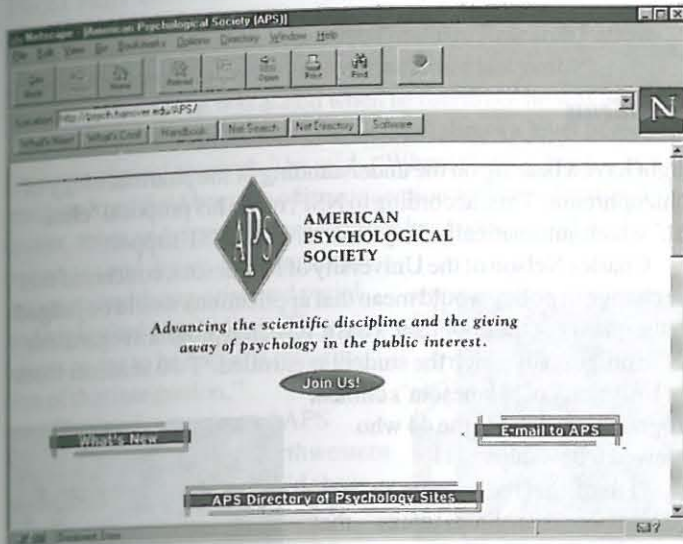
Always at the top of our priority list in redesigning the homepage is the issue of maintaining web server performance. We don't want to create a homepage whose speed of access to pages is sacrificed for unjustifiable visual aesthetics that slow access to content and hyperlinks.

LEE HERRING
AMERICAN PSYCHOLOGICAL SOCIETY

Redesigned With User Input

High ratings and impressive popularity notwithstanding, Herring said that "improvements in the APS homepage are underway, and many will be in place by the time readers are

The APS homepage is accessible via world-wide web browsers at either of the two following URL addresses: <http://psych.hanover.edu/APS/> or <http://www.hanover.edu/psych/APS/aps.html>



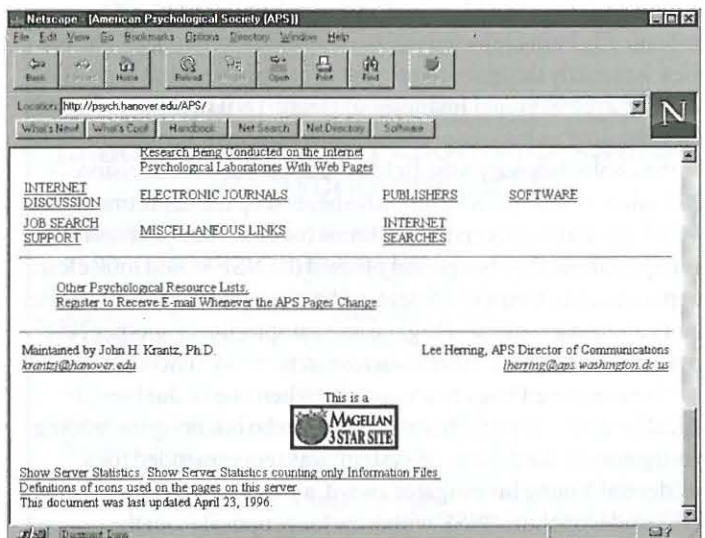
reading this.” With an eye toward enhancing the logical layout and navigability of the site as well as aesthetic elements, Herring said “always at the top of our priority list in redesigning the homepage is the issue of maintaining web server performance. We don’t want to create a homepage whose speed of access to pages is sacrificed for unjustifiable visual aesthetics that slow access to content and hyperlinks.”

Relying also on APS homepage survey data acquired from users (see January 1996 *Observer*) and analyzed by Krantz, enhancements to the organization of the informational content and hyperlinks were also incorporated into this latest series of improvements to the APS homepage. “The overhaul of the APS homepage is intended to facilitate its use and to improve the homepage’s appearance,” said Krantz.

Responders who submitted comments about the homepage’s logical layout voted overwhelmingly in favor of an informationally intense format that improved readability while also increasing the amount of information visible on the reader’s computer screen.

With web pages being so ubiquitous, several “industry standards” are beginning to emerge in terms of page design, and some changes incorporate some of those standards. To accommodate users who have older web browsers (e.g., Netscape versions prior to 1.22 and prior to Mosaic 2.0), APS maintains a homepage at psych.hanover.edu/APS/index.list.html. ♦

The pictures to the left and below illustrate the main APS homepage, using the Netscape web browser, incorporating the changes discussed in Internet Connection.



NSF Opens a Door

Change in policy opens funding up to basic research of clinical students

Approximately 900 Graduate and Minority Graduate Fellowships were announced in March by the National Science Foundation (NSF). This year, a small but significant change in the eligibility guidelines gave a handful of students potential access to funding that was once off limits.

"Until 1996, under the main heading of psychology, there was a parenthetical comment that said that clinical psychology was not eligible for support. This year, we simply took out that parenthetical comment," said Susan Duby, program director for NSF's graduate research fellowships, who explained that while NSF's policy remains that it will not fund clinical research, students from clinical programs will not necessarily be disqualified. "We made it easier for students who are legitimately doing non-clinical work, but who are enrolled in clinical psychology programs, to apply."

The NSF "clinical" prohibition applied to students in clinical programs, even if they were doing purely basic research. The fellowship program has funded graduate students expected to contribute to research, teaching and industrial applications in science, mathematics and engineering since 1952. This year, 44 Graduate and 11 Minority Graduate Fellowships were awarded to students across the discipline of psychology. (See box, page 17) About 90 more psychology students received Honorable Mentions.

NSF eliminated the simple but significant "clinical prohibition" language in part due to the efforts last year by APS and its executive director, Alan Kraut, who said that the change strengthens the view that there is a science of clinical psychology that includes basic research. (See July/August 1995 *APS Observer*)

"NSF should not be in the business of clinical science but clinical science has a basic side that ought to be supported and encouraged by NSF," said Kraut. "The happy ending here is that NSF realizes it too."

The change does not signal a move away from NSF's basic mission of supporting programs of basic research, but it does allow for applications from students enrolled in clinical psychology programs to be evaluated on the basis of substance, rather than automatically being rejected due to any clinical reference. The old policy was partly designed to prevent overlap in research portfolios of NSF and the National Institutes of Health (NIH). But NSF's old policy required an inappropriately rigid interpretation of "clinical."

Psychologists across the field have applauded the decision. APS Fellow Emanuel Donchin, who headed up the department of psychology at the University of Illinois for almost 20 years, said he was happy about the change and pleased the NSF would look closer at applications in terms of content, rather than bar automatically and blindly anything clinical. He gave an example, using another NSF program, of the kind of frustration researchers have encountered.

"I encountered it several years ago when one of our non-clinical faculty, a psychopharmacologist, who is among the leading investigators of the dopamine system, was recommended for a Presidential Young Investigator award, a program administered by NSF," said Donchin. "NSF withdrew his proposal from the competition because in the introduction, he said that the results

might have a bearing on the understanding of the pharmacology of schizophrenia. This, according to NSF, made his proposal 'clinical,' which automatically disqualified it from NSF support."

Charles Nelson of the University of Minnesota, concurred that the change in policy would mean that applications would be judged on the quality of the applicant's basic research program regardless of the program in which the student is enrolled. Two students from the University of Minnesota's clinical program were among the 44 who received fellowships

"I think that the concern about training people in clinical areas—that is, to train clinicians—was warranted, given the Foundation's goals," he said. "That is, it was not the mission of NSF to train people to work in clinical areas the way it might be for NIH or its National Institute of Mental Health (NIMH). This sort of acknowledges the reality that people in the very good clinical programs in this country are doing work that is every bit as fundamental and basic as people in non-clinical programs. They should view research on the merits of the research and not be encumbered by the program."

Cannon Thomas, a clinical student at Northwestern University, understands and appreciates the significance of the change in NSF's policy. He was awarded an NSF fellowship for this basic research which would not have been deemed appropriate if the NSF policy had remained in place. Thomas's research focuses on how negative emotional states affect cognition. "The background of my research is more social psychological and cognitive and I drew off of a lot of that in terms of what I was doing with emotional disorders," he said.

Duby says that the line between basic research in clinical science and clinical research is very thin. "Any application that says clinical psychology is going to receive a special review of eligibility because we have to be very careful in the screening," she said. "[Since the change in policy] I believe I saw more applications that openly said clinical than I had in the past, and that was predictable. I think I also saw more applications from students who were enrolled in clinical programs but who were doing non-clinical work. There were still a number—not a huge number—but a number of people who thought that we had changed and that all of clinical psychology was eligible. They were very clearly doing clinical research that we would not support, and they were ruled ineligible."

(In addition to the task of interpreting the change in eligibility requirements, NSF staffers and reviewers were stymied by the month-long shutdown that paralysed most of the federal government. Despite the hurdles and thanks to the hard work of the staff,



NSF's Susan Duby said the line between basic research in clinical science and clinical research is very thin.

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Duby was able to announce the 1996 Graduate Research Fellowships on the same day as they were announced last year.)

Thomas says he was elated when he found out he was awarded a fellowship. "I do think that [the change] shows a level of respect for basic clinical research," he said. "Where that has been seen as a marginalized field because of its connection with a professional career, more and more clinical research has focussed on basic processes and drawn off of and been integrated with cognitive and social and biological psychology. This seems to me to be sort of a recognition of that integration."

Thomas is a student of APS Fellow Susan Mineka, a Northwestern University professor who said she is pleased that students from clinical programs are now privy to such a great opportunity.

"Even if [the policy change] applies to a subset of clinical students—which is all it will ever apply to—I still think it is incredible," she said. "It is a very prestigious fellowship and clinical students are very, very good."

She added that the successes of clinical students in this year's fellowship program have broader implications for university research programs. "From our standpoint, it means that we can fund more students if students are paying their own way and we don't have to use university money to pay for them," she said.

Thomas agreed and added that the fellowship "opens up our program to invite an extra student because we have more financing, which strengthens our program as a whole."

While significant, the change in wording will affect, at best, a core of 20 to 40 institutions that train clinical researchers focusing on the basic side of clinical science, said Kraut. Nonetheless, psychologists across the field have applauded the decision.

APS Charter Fellow Irving Gottesman, of the University of Virginia, said the policy change was important in changing misperceptions, within the public and the scientific community, in the characterization of clinical psychology.

"Psychology must be understood to be both a social science and a natural science, in effect occupying a spectrum that interfaces both with, say, sociology and neuroscience," he said. "Up to this change in policy...clinical psychology was misperceived as being essentially some kind of applied social science. A large amount of interest, however, is dedicated to the neuroscience side."

As the first class of NSF graduate fellows from clinical programs embarks on their basic research endeavors, many in the scientific community are looking towards what NSF's change in policy will mean over time.

"My bet is that this change is going to make NSF even stronger in supporting the best of psychological science," said Kraut. "The change properly amplifies the NSF mission that all excellent basic science is welcome there." **E.R.**



Cannon Thomas, a clinical student at Northwestern Univ., received a fellowship for his basic research program.

National Science Foundation Graduate Fellowship Awards in Psychology 1996

Thomas Altermatt	Univ of Illinois-Urbana-Champaign
Jodie Baird	Univ of Oregon
Jeremy Beer	Univ of Texas-Austin
Anna Beylin	Princeton Univ
Michelle Bosquet	Univ of Minnesota-Minneapolis
Ching-Yune Chen	Univ of California-Berkeley
Marie Coppola	Univ of Rochester
Michelle Cornette	Univ of Wisconsin-Madison
Jared Curhan	Stanford Univ
Bryan Duff	Univ of Chicago
Christopher Federico	Univ of California-Los Angeles
Joseph Gaugler	Pennsylvania State Univ
Jennifer Henderlong	Stanford Univ
Andrew Hollingworth	Michigan State Univ
Karin Humphreys	Univ of Illinois-Urbana-Champaign
Derek Isaacowitz	Univ of Michigan
Audrey Kaplan	Univ of Illinois-Urbana-Champaign
Devorah Klein	Univ of Illinois-Urbana-Champaign
Kristi Lemm	Yale Univ
Alissa Levy	Univ of Minnesota-Minneapolis
Hassan Lopez	Univ of California-Santa Barbara
Bradley Love	Northwestern Univ
Brian Malone	Harvard Univ
Alison Miller	Univ of Michigan
Andrea Montaldi	Univ of Michigan
Laura Morgan	Univ of Michigan
Michael Neelon	Univ of Wisconsin-Madison
Clifton Oyamoto	Univ of Minnesota-Minneapolis
Erica Palmer	Purdue Univ
Michelle Poris	Univ of Michigan
Emily Pronin	Ohio State Univ
Ronald Rogge	Univ of California-Los Angeles
Keith Rozendal	Univ of California-Santa Barbara
Jon Sakata	Univ of Texas-Austin
Susan Schneck	Univ of California-Davis
Meredith Shafto	Univ of California-Los Angeles
Richard Shakarchi	Univ of California-Los Angeles
Lauren Shapiro	Stanford Univ
Cannon Thomas	Northwestern Univ
Tom Trainham	New York Univ
Muffie Wiebe	Univ of California-Santa Cruz
Sue Woodward	Harvard Univ
Ekaterina Zalkind	Univ of Michigan
Julia Zehr	Emory Univ

National Science Foundation Minority Graduate Fellowship Awards in Psychology 1996

Erika Blackburn	Cornell Univ
Stephen Garcia	Harvard Univ
Azenett Garza	Univ of Texas-El Paso
Rosanna Guadagno	Arizona State Univ
Anthony Hermann	Ohio State Univ
Adriana Lozano	Duke Univ
Shawn McDougal	MIT
Melba Nicholson	Univ of Illinois-Urbana-Champaign
Victoria Plaut	London School of Economics
Marika Ripke	Univ of Texas-Austin
Blanche Wingate	Stanford Univ

HYMAN FROM PAGE 1

stable funding outlook for these areas.

"The respect for him is universal," said Alan Kraut, executive director of APS. "And he has gone out of his way to be inclusive in his initial fact-finding about the Institute. Even before he came on board officially, he was consulting with us and other groups about our views and concerns about the Institute."

"I have a real sense that we are already in agreement about some ways to position behavioral scientists, particularly a new generation of behavioral scientists, to be on the cutting edge of NIMH research issues," said Kraut.

Psychologist Alan Leshner, director of the National Institute on Drug Abuse (NIDA), was co-chair of the search committee that recommended Hyman. "The search committee recognized right away that Dr. Hyman was an ideal candidate," said Leshner. "He's a fine scientist and extremely broad in his perspective, and he laid out an impressive vision for NIMH that spanned the breadth of the field's activities."

Norman Anderson, a psychologist who heads the NIH Office of Behavioral and Social Sciences Research (OBSSR), was a member of the search committee and shares Leshner's view. No single thing led to Hyman's selection, according to Anderson, but "his overall vision for maintaining and expanding the scientific excellence of NIMH research was critical."

"He also had a good understanding of the many complex issues facing the Institute, including setting priorities in a steady-state budget, the needs of the intramural program, and training concerns," said Anderson.

Renaissance Man

The image of Hyman as a kind of scientific renaissance man is vivid in the comments of the APS members who worked with him in the Mind/Brain/Behavior Initiative (MB²).

APS Fellow Steven Kosslyn knows him through his experiences as a member of the steering committee for the Initiative and as a collaborator on a paper on different perspectives on intelligence. "I have nothing but the best to say about Steve Hyman," said Kosslyn. "I have gotten to know his intellectual style well—he is remarkably broad in his approach, and a very quick study."

"He is also patient in drawing out ideas from others," continued Kosslyn, who thinks that Hyman's involvement with the Initiative has contributed to his appreciation of the value of different perspectives. Kosslyn described Hyman as "a very fair, honest, and reasonable person," adding that "we are lucky to have him in his current position" at NIMH.

These sentiments are shared by APS Fellow Daniel Schacter, another MB² participant. In commenting on the selection of Hyman as NIMH director, Schacter said "Psychologists should be delighted that the NIMH has appointed a superb scientist with a broad view of mental health research."

"I have been consistently amazed by the breadth of Steve's perspective on central issues in neuroscience, psychology, and psychiatry," said Schacter, predicting that Hyman "will appreciate and support the best that scientific psychology has to offer. His colleagues at Harvard will miss him, but the entire field of mental health will benefit from his appointment."

A Busy Guy

In addition to running the MB², Hyman also headed up a large and active research laboratory looking at the effects of drugs of abuse on the brain. This was funded by the National Institute on Drug Abuse and the National Institute on Neurological Disorders and Stroke. Hyman taught neurobiology at the Harvard Medical School, trained psychiatric residents at Massachusetts General Hospital (where they voted him "best teacher" for several consecutive years), and, with the residents, saw emergency patients one morning each week.

Hyman also has authored and edited several clinical books as well as many other scientific writings. (News of his appointment in the *Washington Post* was accompanied by a teasing observation that he is the author of such "hits" as "6-hydroxydopamine lesions of the substantia nigra upregulate CREB phosphorylation in rat striatum.")

Hyman's response? "They spelled a word wrong.")

And, there's more: Hyman has an extensive record of service to the scientific community, serving on review sections, editorial boards, and expert panels across a broad range of topics. Among other things, he is a member of an *ad hoc* committee of the Institute of Medicine that is looking at ways to attract new investigators to research on drug and alcohol addiction. And in his spare time, he's a father of a five- and a three-year-old, with another on the way in June. (Hyman's wife, Barbara Bierer, is a prominent NIH-funded researcher in her own right.)

Spare Time?

In addition to Hyman's impressive scientific achievements, he is described as a hands-on contributor to whatever project he's working on. "Enormous amounts of energy," observes Kosslyn. Here are some of the other adjectives his colleagues use to describe Hyman: impressive, clear-headed, knowledgeable, creative, and remarkably good with people.

Charter Fellow J. Richard Hackman, also at MB², sums it up this way: "Steve has shown in his work—both as a scientist and as a research administrator—a healthy disregard for traditional disciplinary boundaries and guild-based thinking. When he goes to work on an intellectual or social issue, he draws on contributions that range from molecular biology and genetics to sociology and cultural anthropology."



Steven E. Hyman meets with APS Executive Director Alan Kraut, who said that Hyman's appointment will greatly benefit NIMH.

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“Moreover,” said Hackman, “he has exhibited a remarkable ability to get scientists from all disciplines—very much including psychology—working together on significant human problems.” Hackman and the others are confident that Hyman will bring these same qualities to the job of NIMH director.

Some Tough Times

So what will Hyman be facing in his new position? Sure, it’s a \$600-million agency with 850 staff supporting some hot science. But NIMH has had some tough times. In the 1970s, the Institute’s budget was declining while other federal research institutes were increasing.

In the early 1980s, the Institute was targeted by a Reagan Administration dead set on banning social research. (NIMH’s response, by the way, was to say, “okay, you’re right, we’ll just narrow our mission,” which was pretty much what they wanted to do then anyway. It was a huge setback for psychology and other disciplines in terms of research momentum and in training.)

Current troubles started in 1992, when psychiatrist Fred Goodwin, the head of the Alcohol, Drug Abuse, and Mental Health Administration (ADAMHA) and staunch defender of animal research, was demoted to the job of NIMH Director after being forced to resign from ADAMHA because of controversy generated by remarks he made that were seen as racist by the public and several influential people in Congress.

Goodwin, who presided over NIMH’s move to the National Institutes of Health (NIH), was the last permanent director of NIMH. From day one as director, he was steeped in controversy, and never able to shake it during his short one-year tenure, which, among other things, rendered him ineffective in dealing with Congress.

On either side of Goodwin, NIMH has had two outstanding acting directors: psychologist Alan Leshner, now head of NIDA, and psychiatrist Rex Cowdry, of the NIMH intramural program. But no matter how good an acting director is, any organization with a temporary leader ultimately suffers, particularly when the vacancy at the top becomes a permanent feature.

For NIMH, the situation was agonizingly prolonged by a stop-and-start search for a director, which three separate times reached the point where “short list” candidates were known and the official Washington-Area Gossip and Speculation (a.k.a. WAGS) network was calculating odds on who would be named.

Meanwhile, back at the Institute, dramatic policy decisions could not be made, important hiring decisions were deferred, a lot of things were basically on hold. Overlay this with the changes in Congress bringing in a seemingly less-sympathetic

legislature, plus the general downsizing in the federal government, and you have a serious vulnerability problem. And that’s even before you get to the science and the fact that NIMH is dealing with issues that are stigmatized by much of society.

On the Defensive

During this period, it seemed like NIMH was on the defensive much of the time. One small example: Because of strong public objections, which no doubt capitalized on the Goodwin flap, the Institute was prevented from convening a conference on violence. In fact, during all of Goodwin’s tenure, NIMH, the agency that should be most concerned with violence as a public health issue, was unable to touch the topic.

One big example: Last year NIMH was the target of a strident attack by a member of the subcommittee in the House of Representatives that determines the Institute’s annual budget (and that of NIH as a whole). Rep. Ernest Jim Istook (R-OK) took information fed to him by a coalition of groups that included the anti-psychiatry Scientologists, and attacked NIMH’s portfolio, singling out 30-plus grants, some of which were behavioral, as examples of government waste.

This was alarmingly reminiscent of the Reagan Administration attacks. Fortunately, NIMH responded differently this time.

Under Cowdry’s leadership, NIMH mounted a strong defense of the targeted grants. NIH Director Harold Varmus also helped out by expressing the view that the attacks constituted an attack on all of science.

Ultimately, the attempt to pillory NIMH’s research backfired in a big way. The research was featured in a very positive light in a lengthy piece on *Primetime Live*. Investigative reporter Sam Donaldson said he started his inquiries assuming he would find

the “mother-lode of government waste.” Instead, he said he came to appreciate the relevance and importance of the projects, and he ended up making a strong case for NIMH’s research.

During hearings on the NIMH budget this year, the chair of the House subcommittee called last year’s attacks on NIMH “mindless” and praised the Donaldson story, giving the strong impression that further attacks would not be acceptable. (See the article on APS congressional testimony on page 4 for more details.)

The problem has not quite gone away, however. NIMH’s portfolio is under attack still by some who want to narrow NIMH’s mission to focus only on schizophrenia and similar disorders. This effort is linked to a presumed hostile review of the awards in NIMH’s portfolio by the House subcommittee—reportedly undertaken with the help of organizations normally supportive of NIMH. At the same time, proposals have also been circulating for the creation of a “brain institute” at NIH by combining portions of

The respect for him is universal. And he has gone out of his way to be inclusive in his initial fact-finding about the Institute. Even before he came on board officially, he was consulting with us and other groups about our views and concerns about the Institute.

ALAN KRAUT
AMERICAN PSYCHOLOGICAL SOCIETY

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NIMH with the neurology institute.

The idea doesn't have much credence and has little chance of getting past the trial balloon stage, but the fact that such proposals are being made at all speaks to NIMH's continued vulnerability.

Home of Behavior

On another front, NIMH's too-large intramural program is the subject of scrutiny by a blue ribbon committee of "outside" experts—in quotes because the committee is chaired by former NIMH director Herbert Pardes—which is expected to develop a plan for revamping the program. Hyman reportedly already told the committee he thinks that too much of the program's research is "incremental," and threatened the committee with replacement if they do not produce bold recommendations.

Hopefully, this will mean a broadening of the intramural program. However, there are other forces at work that might pressure for narrowing it and the rest of NIMH's portfolio in favor of biomedical research. Some are from outside forces, such as Congress or interest groups. Other pressure comes from within

NIH. While APS's perspective is that NIMH is slanted toward biomedical research, the rest of NIH tends to refer to NIMH as the "behavioral" institute, driving the NIH wannabes at NIMH apoplectic. Whether Hyman feels comfortable with that behavioral image or will feel compelled to counter it remains to be seen.

"I'm not sure how Dr. Hyman will feel about that image," said OBSSR's Anderson. "I am personally ambivalent about it," he added. "It is an acknowledgment of NIMH's leadership role in behavioral science funding," but it lets the other institutes off the hook by implying that NIMH is the 'true' home of behavioral science at NIH."

Hyman's appointment "bodes well for behavioral and social science as a whole," said Anderson, whose forecast is that "psychology will continue to be the top-funded discipline at NIMH" while "interdisciplinary research will gain in importance." Even there, notes Anderson, "psychologists are heavily involved in development of models for that kind of research."

Some of Hyman's thoughts about psychology and interdisciplinary research are presented in the box below.

Sarah Brookhart

In the Words of the NIMH Director

In response to a request from the *Observer*, newly-appointed NIMH Director Steven E. Hyman made the following observations about research on mental disorders.

Interdisciplinary Research

The NIMH mission demands that we understand the overall workings of the brain and the ways in which things go wrong in mental disorders. To pursue these goals we must work in parallel on molecular and cellular neurobiology, integrative neuroscience, and behavioral research.

Moreover, we must ensure that there is better communication across levels of analysis than there has been. Most scientific progress to date has been made within a given discipline; nonetheless, molecular biologists cannot afford to ignore behavioral science if, for example, they want to analyze gene knockout mice. Conversely behavioral scientists cannot afford to treat the brain as a black box if they hope to inform the mainstream of research on mental disorders.

A Golden Age

The identification of genes that confer vulnerability to mental disorders should usher in a golden age of behavioral and psychological research, because it will then be possible to identify those at-risk, and engage in more focused studies of the environmental factors that collaborate with genes to produce illness.

Phreno-imaging?

Clinical neuroimaging is at risk of becoming phrenology if it is not adequately informed by an understanding of neural circuitry and the insights of cognitive science.

Next Century's Scientists

In thinking about the training of psychologists who will be active scientists in the 21st century, I want to make sure that they have had opportunities to think profoundly about the brain.

REQUEST FOR APPLICATIONS: DA-97-001

Craving in Drug Abuse and Addiction

NATIONAL INSTITUTE ON DRUG ABUSE

Adapted from the NIH Guide, Volume 25, No. 12, Apr. 19, 1996

Letter of Intent Receipt Date: June 24, 1996 ♦ Application Receipt Date: July 24, 1996

PURPOSE: The National Institute on Drug Abuse (NIDA) is seeking research applications to study the nature, determinants, and consequences of drug craving as well as potential interventions on drug craving. The objective of this Request for Applications (RFA) is to encourage the investigation of craving to further our understanding of and treatment for drug abuse and addiction.

MECHANISM OF SUPPORT: This RFA will use the National Institutes of Health (NIH) research project grant (R01), FIRST Award (R29), exploratory/developmental grant (R21), and small grant (R03). Competing continuation applications of ongoing grants are excluded from this solicitation. Responsibility for the planning, direction, and execution of the proposed project will be solely that of the applicant. The anticipated award date is March 1, 1997.

FUNDS AVAILABLE: It is anticipated that up to \$2 million in FY 1997 will be available to support projects submitted under this RFA. It is anticipated that approximately six to seven new awards will be made under this RFA.

RESEARCH OBJECTIVES: Many scientists and treatment providers believe that craving plays a critical role in the maintenance of and relapse to drug abuse. Accordingly, a number of definitions and theoretical models including cognitive, neuronal, behavioral, social, and motivational factors have been proposed to delineate the processes involved in craving. While some models have attempted to confirm suggested relationships between drug craving, drug seeking behavior and relapse, others have focused on subjective factors such as potential distinctions between craving and liking (i.e., craving can occur in the absence of liking), or between craving and urges. Still other models have placed wants, desires, urges, and cravings along a continuum of increasing intensity. Although there is support for the idea that craving is an important subjective motivational state, the empirical relationships between craving and physiological measures or drug seeking behavior have not always been straightforward. For example, self-reports of craving in human subjects frequently do not correlate with physiological measurements or actual drug taking. Because at present there is no consensus on how best to elucidate the nature of drug craving, NIDA is encouraging rigorously designed and controlled research to increase our knowledge and understanding of craving, and the relationship between craving, drug abuse and addiction. A wide range of research in both existing and new frameworks is encouraged. Both animal and human research and multidisciplinary approaches are encouraged. Gender differences or gender-specific effects on craving (e.g., effects of menstrual cycle) are also of interest. Additionally, because craving has been a major focus of study in ingestive behaviors and eating disorders research as well as in alcoholism research, applications that relate these models and hypotheses to issues in drug abuse are encouraged.

LETTER OF INTENT: Prospective applicants are asked to submit, by June 24, 1996, a letter of intent that includes a descriptive title of the proposed research, the name, address, and telephone number of the Principal Investigator, the identities of other key personnel and participating institutions, and the number and title of the RFA in response to which the application may be submitted. Although a letter of intent is not required, is not binding, and does not enter into the review of a subsequent application, the information that it contains allows NIDA staff to estimate the potential review workload and avoid conflict of interest in the review. The letter of intent also will allow program staff to assess the responsiveness of the potential application to this RFA. Consequently, prior to submitting a letter of intent, applicants are strongly urged to contact program staff. Send the letter of intent to: Office of Extramural Program Review ♦ National Institute on Drug Abuse ♦ 5600 Fishers Lane, Room 10-42 ♦ Rockville, MD 20857.

APPLICATION PROCEDURES: The research grant application form PHS 398 (rev. 5/95) is to be used in applying for these grants. Application kits are available at most institutional offices of sponsored research and may be obtained from the Grants Information Office, Office of Extramural Outreach and Information Resources, National Institutes of Health, 6701 Rockledge Drive, MSC 7910, Bethesda, MD 20892-7910, telephone 301/435-0714, email: ASKNIH@odrockml.od.nih.gov. Applications must be received by July 24, 1996. If an application is received after this date it will be held for the next regular receipt date and reviewed under standard circumstances; however, it will not be considered as a response to this RFA.

AWARD CRITERIA: Funding decisions will be made on the basis of overall scientific and technical merit of the proposal as determined by peer review, appropriateness of budget estimates, program needs and balance, policy considerations, adequacy of provisions for the protection of human and animal subjects, and availability of funds. In addition, criteria for awards will be based on the Research Objectives above. Dates for submission, initial review, council and award are: Letter of Intent Receipt Date: June 24, 1996 ♦ Application Receipt Date: July 24, 1996 ♦ Initial Review Date: September 1996 ♦ Advisory Council Date: January 1997 ♦ Earliest Start Date: March 1997.

INQUIRIES: Direct inquiries regarding programmatic issues to:

Jaylan S. Turkkan (basic research), tel.: 301-443-1263,

fax: 301-594-6043; email: jaylan@nih.gov

Jack Blaine (treatment research), tel.: 301-443-0107;

jblaine@aoda.ssw.dhhs.gov

Both are at: National Institute on Drug Abuse,

5600 Fishers Lane, Rm. 10A-12, Rockville, MD 20857

Direct inquiries regarding fiscal or grants management issues to:

Gary Fleming, Chief, Grants Management Branch, National

Institute on Drug Abuse, 5600 Fishers Lane, Room 8A-54,

Rockville, MD 20857, tel.: 301-443-6710; email:

GFLEMING@AODA.SSW.DHHS.GOV

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effects in psychological research, as well as recommending additional funding.”

IOM’s most valuable members tend to be bench scientists who can see far beyond the bench, maintains Huda Akil, co-director of the Mental Health Research Institute at the University of Michigan and the Gardner Quarton Professor of Neuroscience and Psychiatry there. “The trick is to be bench scientists who understand what is coming down the pike, who see what the advances look like—not the kind who are so engrossed in the details that they can’t see the implications. It takes the type who can interface with physiologists, public health scientists and others and help translate some of the advances in science to potentials for future consequences.

“Advances come from research in ways that are totally and completely unexpected,” Akil continued. “The best example of that is the fact that a lot of treatment that we have now came from microbiology, from people studying bacteria, viruses in births, things that seemed a million miles remote from anything human. Yet avian retroviruses have helped us understand AIDS, and these seemingly remote fields have given us tools for molecular biology which we use for various diseases, and they have completely opened up the world of neurobi-

The Smallest Academy?

The **Institute of Medicine** may become the **National Academy of Medicine** as early as next year if a motion to that effect—already approved by IOM members—receives approval of the members of the National Academy of Sciences.

The IOM has a combined total of 1,021 active members and senior members, making it slightly over half as large as its two sister institutions, the National Academy of Sciences with about 1,800 members and associates, and the National Academy of Engineering with about 1,900 members and associates.

ology, developmental biology and other fields.”

Akil observed, “IOM studies are very interesting because they sit at the interface of science and science policy. I think that’s what the Institute does. It sits back and takes a broader look once in a while and says, These are the issues we are facing as a nation, this is the progress we have made, these are the areas we can focus on now. It’s done in a multidisciplinary way. It’s perceived either by the IOM or by various



Dyanne Affonso

major agencies as focusing on very important central issues. It has a good reflective function and advisory function to the country broadly, in many ways. And I think that it eventually affects where we put some resources.”

Some of Nancy Adler’s main research and practice has focused on “what seem like irrational behaviors” in sexual areas of life. “Like not using contraception when you don’t want to get pregnant, or not practicing safe sex when you don’t want to get a sexually transmitted disease (STD),” she said.

Now on an STD panel of the IOM, Adler hopes she can help change some notions about STD prevention.

“The conventional view,” Adler said, “is that prevention is confined to treating the person who comes into the STD clinic, and tracking the partners and treating them. But in my view that person should never have gotten infected in the first place. How do we provide education, motivation for people so that they do not put themselves at risk for developing the disease? That’s the important issue I have been able to represent from the perspectives of psychology, where we know something about how to motivate behavior.”

Affonso was a member of the IOM committee that last month [April] published its report titled *Nursing Staff in Hospitals and Nursing Homes: Is It Adequate?*

“One of the main points of the report is that we do not have adequate data on current issues and practices or on how we handle the staffing mix in hospitals and nursing homes. Some studies of quality care were looking at variables of years ago

that don’t count for much any more,” Affonso said.

“Our committee included people from economics, medicine, health and service research as well as nursing; it was a true interdisciplinary dialogue,” Affonso said. “And it was incredible to see how well the issues that we brought forth in the nursing area really have to do with the work force in all health professions.”

Affonso hopes the IOM will now take the nursing study to a broader level and examine issues such as: What is the ideal mix of health professionals to help people stay healthy and help when they have disease encounters? How should we organize patient care services?

APS Charter Fellow Haywood, an emeritus professor at Vanderbilt University and now dean of graduate education and psychology at Touro College in New York City, was involved in two large and memorable IOM studies in the 1970s. One was on the effectiveness of the community mental health centers that had then been operating for more than a decade. The other was a study of the effects of marijuana.

“Like most other studies the IOM undertakes, these were not so much for deciding what to do,” Haywood said. “They were for laying out the options and saying: Here are the policy options, the

things that will happen if you follow this opinion, and the other things that will happen if you follow a different option.”

There was no unanimity in the marijuana study group, Haywood said. “My first draft of the chapter focusing on the behavioral and societal effects of marijuana, based on



Nancy Adler

some 6,000 or 7,000 studies, was fairly strong, but it was watered down subsequently.” However, there was general consensus on the point “that there are effects especially on psychomotor processes that last up to 18 hours after the subjective high,” Haywood commented. “So for 18 hours after you may think you are functioning normally you are not, especially when driving, operating machines, and especially flying airplanes.”

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Psychologists in the Institute of Medicine

Nancy E. Adler
Dyanne D. Affonso
Huda Akil
Richard C. Atkinson
Albert Bandura
Henry Lewis Barnett
William Bevan
John J. Conger
Jack Elinson
Ruth R. Faden

Baruch Fischhoff
Norman Garmezoy
Barbara C. Hansen
H. Carl Haywood
Phillip S. Holzman
Lyle V. Jones
Jerome Kagan
Charles A. Kiesler
Gardner Lindzey
Eleanor E. Maccoby

Neal E. Miller
Mortimer Mishkin
Bernice Neugarten
Michale I. Posner
Henry W. Riecken
Judith Rodin
Charles R. Schuster
Stanley Watson
Edward Zigler

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As to the mental health center study, Haywood said the committee did not find "evidence of great success in the purposes for which the centers were created. For one thing, the mental health centers were not doing much to serve people with mental retardation or other developmental disabilities—they seemed much more singly focused on psychiatric disorders," Haywood said. "Yet they were not picking up the load with respect to deinstitutionalization." However, in general it was better to have them than not to have them, Haywood said, adding that such points "are probably still true today."

Hansen has served on major study panels and program committees frequently since her election to the IOM, bringing the combined perspectives of a psychologist and physiologist. One of the studies weighed the relative merits of different approaches to prostate cancer treatment, "from every perspective including costs—psychological costs, loss of work time, such issues as whether watchful waiting produces more stress on the patient than having it out right away. We had to look at prostate cancer from the standpoint of its physiology, its known treatment modes and the costs to the patient, to society and to the medical care system, so the study was very broad," Hansen said. "Our goal was to examine the process by which patient outcomes can be used to shape treatment decisions," she said.

Hansen also took part in a large study

of all major aspects of the National Institutes of Health (NIH) that culminated in the NIH reorganization several years later. She worked primarily with a group "examining the institutes and the non-institutes, the centers, the bureaus, to see what we thought about the structure of the NIH," Hansen recalled. "The staff of each task force collected a lot of information but the report that came out was based on what I would call the digested judgment of the very diverse views, so that no individual person's views could be discerned in the report."

Hansen said that according to a news commentator she heard one day last month, there are facts and true facts. She pretty much agrees. "Everyone knows what facts are," she said. "But the true facts are the ones you select and choose to put on the table, those you focus on and view as the most important, the ones that weigh in most heavily. In a sense, that's just about what IOM committees are about," she said.



Barbara C. Hansen

Zigler said the most important activity he engaged in with IOM was when he chaired, five or six years ago, a conference on the controversial issue of infant day care.

"Some people think it's wonderful, and some think that if you put your child in infant day care it will turn to dust. Leading psychologists in this country ... were giving very conflicting points of view, and parents were just going crazy, because they didn't know what to do, but the media loved that stuff," Zigler recalled. "So under the aegis of the IOM we held a conference and called together

all the major workers in the field of infant child care.

"The point was to see if we could come up with a common point of view, and that 'This is what the best thinking is on the matter.' And we were able to do that within one day. That statement is still being distributed by Zero-3, which used to be called the National Center for Clinical Infant Programs. What it essentially says is that a growing child needs a variety of environmental nutrients; if he gets them at home he's going to do well, and if he gets them in good quality day care he's going to do well. So that was a big step forward in reaching consensus," Zigler said.

"The other thing that developed at that meeting was that Duane Alexander, the director of the National Institute of Child Health and Human Development, said that a lot of these issues are empirical issues. So what we recommended at that time, and what Alexander has put in place, to his credit, is a network of 10 sites around the country that are now are empirically studying the effects of day care. These grew out of that IOM meeting and they're still in place, and that's probably one of the most important social science studies going on in America today," Zigler concluded.

"The IOM has a list of efforts that are as long as your arm and I've been involved in some of them—they all tend to be of very high scholarly quality, and I think it's very important in the society in which we live that we have bipartisan, non-ideological people who are able to transmit the best knowledge base to decision makers, and that's of course the primary role of the IOM and it does it very well, I think." **D.K.**

In 1896 . . .

Swiss developmental psychologist Jean Piaget is born, as are Nikolai Bernshtein, Fritz Heider, Mary Cover Jones, Emilio Mira y Lopez, Lev Semyonovich Vygotsky, and David Wechsler. In the same year, Emil de Bois-Reymond and Richard Avenerius die.

While at the University of Chicago, John Dewey publishes a paper on the reflex arc, his most famous contribution to functional psychology.

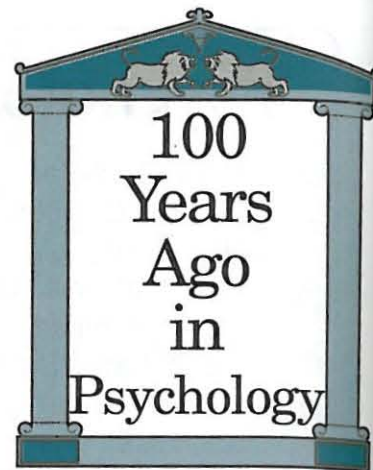
Carl Stumpf and Theodor Lipps jointly serve as president of the International Congress of Psychology in Munich.

Wilhelm Wundt writes his *Principles of Psychology* and *Outline of Psychology*, while Edward Bradford Titchener writes the similarly titled *An Outline of Psychology*. All are published the following year.

The second edition of Hermann von Helmholtz's *Optik* is published posthumously.

Franz Brentano retires and settles in Florence.

The psychology department at the University of California-Berkeley is organized by George Stratton.



NAS FROM PAGE 13

Nominees to be ranked on the Preference Ballot. According to McGaugh, empirical data tend to be a strong indicator of the Preference Ballot ranking.

"You can take a look at the percent of the members of the section that actually voted for each of the candidates and those comparisons can be made quantitatively," he said. "For example, if 100 percent of the psychology section voted for a candidate, that person would have a high probability of making it on to the ballot in comparison to somebody who got 68 percent of the vote in another section. There are quantitative data as well as discussions of qualities of people."

Once the Class Membership Committee agrees on the ranking, the Preference Ballot, reflecting that ranking, is distributed to the entire membership of the Academy, accompanied by a statement outlining the accomplishments of the nominee, and a record of the section voting. Members are at this point instructed to place a mark on the ballot next to the names of the nominees they judge worthy of election. In order to ensure that everyone places votes within each class, there is a requirement, for instance in Class Five, that members vote for at least four people and no more than six people. If that requirement is not met, the ballot is discounted.

The Academy may elect only 60 people per year, and 91 make it to the Preference Ballot. After voting is done, the 91 people are ranked by the number of votes they received and the first 60 are placed on one list while the remaining nominees are placed on the second list. This first list essentially becomes the Final Ballot, the aptly-named end to the election process.

At the annual meeting in the spring, the Academy membership votes to accept the first 60 people unless someone objects to a particular name. "That happens—not very often—but it happens," said Thompson. "If that happens, that name is removed from the list and the list is voted on and then the name is taken up and considered individually. Of the total number of candidates, the first 60 typically get elected."

Membership

"There are two questions here," said McGaugh. "What process does the Academy use, and how does someone get elected? One of them is straight forward. There are a series of ballots and people have to get more than a certain percentage of the ballots in order to move on to the next ballot. How do people get nominated, and what are the criteria for voting? Only individuals know that. I presume people are looking for the quality and impact of the achievements of the

scientists, by whatever judgments they use to arrive at these decisions."

While each member may be looking for something in particular in a potential member, McGaugh notes that most members have had evaluating experience before. "Most members are pretty mature by the time they are elected," he said. "So they generally know a great number of people and they have also, in most cases, sat in on many, many evaluations of faculty for merits and promotion decisions, and they have often been editors of journals. It is not as though this is the first time in their lives they have had to judge other people's achievements."

And what happens when one is elected? In McGaugh's case, he got a phone call at 6:20 in the morning. (He lives on the West Coast and the Academy meets on the East Coast.) "I just couldn't believe it," he said of his reaction when he heard he had been elected. "I would guess it is the reaction of people who win the lottery: Why me? And, good gracious! I walked around in a fog for about six months. I mean, it is such an honor."

Thompson said how much he enjoyed sharing the news with someone when they were elected. "I had the opportunity to tell Eleanor Maccoby when she was elected, and she is an old friend from Stanford," he said. "She was absolutely flabbergasted. There is nothing like it." **E.R.**

New Staff at APS . . .

APS Welcomes . . . William Ryan

As APS's New Director of Meetings

APS is pleased to welcome William Ryan as the new Meetings Director. Bill will be taking over meeting planning responsibilities from Lauren Butler who is leaving us to attend law school at Georgetown University.

Bill is an experienced meetings professional with an extensive background in meeting logistics as well as hotel management. Bill comes to APS from Circle Solutions, Inc., where he was responsible for providing administrative and conference management for national meetings, workshops, forums, and training programs for federal government agencies.

While at Circle Solutions, Bill enjoyed planning several meetings for the National Institute of Mental Health and the National Institute on Drug Abuse. "One of the most rewarding aspects of meeting planning is having the opportunity to provide top-notch meeting logistics for people working on the cutting edge of interesting issues."

Previously, Bill spent three years with the Coalition for Juvenile Justice as their Director of Conferences and five years with Choice Hotels as a Director of Sales and Marketing. Since he has worked as both a meeting planner and a hotelier, Bill has a unique perspective on the meeting planning process. When asked how working in the hotel business influenced him,

Bill replied, "When meeting logistic problems arise it really helps to be able to see the issue from the hotel's perspective. Since I'm familiar with most hotel operations, I can usually propose a solution that can resolve the problem quickly."

Bill's first order of business is to take over the reins for the APS annual convention, June 29-July 2 in San Francisco. As a seasoned meeting planner, Bill is skilled at handling the many tasks it takes to plan a successful convention. "I love the challenge of helping pull a convention together. I'm looking forward to working with all the people that make the APS annual convention a success."

A native of Albany, New York, Bill attended Siena College in upstate New York. While working in the hotel industry Bill traveled extensively throughout the world. He moved to Washington, DC, in 1987 and currently resides in Arlington, Virginia.



STOP!

Have you visited
APS on the Web yet?

Check out the AMERICAN PSYCHOLOGICAL SOCIETY's World-Wide-Web homepage on the Internet and discover a whole world of information of relevance to the academic, applied, and research psychologist.

URL: <http://www.hanover.edu/psych/APS/aps.html>

or

URL: <http://psych.hanover.edu/aps/>



AMERICAN
PSYCHOLOGICAL
SOCIETY

Indexed Bibliography of Behavioral Interventions for Chronic Disease

An indexed bibliography of controlled trials, meta-analyses, and review articles for 18 chronic diseases and conditions has been compiled and will be available June 1, 1996, in both hard copy (\$20) and electronic (\$15) versions. The bibliography includes over 400 selected references indexed by illness, type of intervention (e.g., problem-solving, case management), and mode of delivery (e.g., telephone, mini-clinic, computer-based instruction). It will provide ready access to critical scientific studies relevant to self-management training and support for cancer, diabetes, asthma, headache, back pain, arthritis, heart disease, frailty in old age, and other chronic conditions. Each citation is accompanied by its abstract. The bibliography is indexed to facilitate locating studies, specific interventions and delivery modalities. The bibliography was developed by the Center for the Advancement of Health and the Center for Health Studies of Group Health Cooperative of Puget Sound. Please contact Renee Douglas at 202-387-2829 for more information.

Teaching Tips

TEACHING TIPS provides the latest in practical advice on the teaching of psychology. TEACHING TIPS is aimed at current and future faculty of two- and four-year colleges and universities.

Complementing the Annual APS Institute on the Teaching of Psychology, TEACHING TIPS will inform teachers about the content, methods, and profession of teaching. Chief editor Baron Perlman and Co-editors Lee McCann and Susan McFadden, all of the University of Wisconsin-Oshkosh, welcome your comments and suggestions.

Send article ideas or draft submissions directly to Barry Perlman, TEACHING TIPS Editor, Dept. of Psychology, Univ. of Wisconsin-Oshkosh, Oshkosh, WI 54901-8601; Tel.: 414-424-2300; Fax: 414-424-7317, Bitnet: PERLMAN@OSHKOSHW; Internet: PERLMAN@VAXA.CIS.UWOSH.EDU

Using Evolution by Natural Selection as an Integrative Theme in Psychology Courses

Peter Gray
Boston College

Many who teach the introductory course bemoan the enormous breadth and diversity of our field. How, we ask, can we present psychology in an organized fashion, not as just a hodgepodge of facts and theories? One answer: Use evolution by natural selection as an integrative theme. No other concept can tie all of psychology together as meaningfully. Here are some thoughts about how to use the evolutionary theme in an introductory or more advanced psychology course.

Early in the course, explain clearly the concept of evolution by natural selection and its relevance to all of psychology

Many students hold misconceptions about evolution that can interfere with their ability to apply the concept as the course progresses. Some conceive of evolutionary "fitness" in terms that go beyond the survival and reproduction of genes. Some believe that species can be arranged on an evolutionary ladder, that "lower" species are on their way to becoming humans, or that evolution is guided to meet future conditions or higher moral purposes.

One way to help students overcome such misconceptions is to elaborate on

examples of evolution that have been observed and documented in our time, such as the evolution of beak thickness in finches on the Galapagos Archipelago, which has been studied for many years by Peter and Rosemary Grant (Grant, 1991). Over prolonged years of draught the finches evolved thicker beaks, which could crack the harder seeds available, and over years of heavy rains the same species evolved thinner beaks, efficient for eating the softer seeds the rains produced. What was fit in one situation was not fit in the other. In no case did the species anticipate a change in climate by evolving characteristics to meet it in advance, and we know of no mechanism by which that could happen.

Ask "why" questions throughout the course and categorize answers as proximate or ultimate explanations.

The relevance of evolution to all of psychology can be made clear by pointing out that psychology is the study of behavior and that all behavior is produced by biological mechanisms built through natural selection. The mechanisms of sensation, perception, motivation, emotion, learning, memory, reasoning, and language are products of natural selection, as are all of the mechanisms that make us cultural animals, underlie our social behavior, and allow us to develop personalities. This fact allows us to take a functionalist perspective

in every realm of psychology. The psychological processes, traits, and tendencies that characterize our species as a whole came about because they promoted the survival and reproduction of our ancestors' genes.

For every universal human characteristic introduced in a course, we can ask a "why" question. Why does our visual system exaggerate the physical contrasts in patterns of light? Why do people everywhere sleep about 8 hours of every 24, usually at night? Why do children everywhere, when they have a chance, play in certain predictable ways? Why does essentially everyone have the capacity to feel depressed, given certain conditions, or anxious, given others? By asking such questions and discussing students' tentative answers, we can help students understand the distinction between proximal causation (the immediate inducers of behavior) and ultimate causation (the evolutionary advantage served by the behavior-producing mechanism). Such questions often lead to lively debate in which students conclude that the two kinds of explanations are compatible with one another and serve different purposes.

Use functionalist, evolutionary accounts as frameworks for organizing behavioral facts, and use the facts to test the accounts.

Suppose, in response to the question of

why humans sleep about 8 hours per night, your students suggest more than one plausible evolutionary answer. The sleep pattern might have evolved as a mechanism to restore tissues that wear out from the activities of the day (restoration theory); to keep individuals quiet and hidden at night, when they are most vulnerable to predators and other dangers (protection theory); to conserve energy during that part of each 24-hour day when individuals can do little else to promote their survival (energy conservation theory); or for a combination of these.

With functional theories on the blackboard, the facts that you might want to present about sleep assume additional meaning. They are not simply curiosities but are data for testing theories. The fact that some people (with abnormally low sleep drives) sleep much less than 8 hours per night without tissue damage is evidence against the restoration theory. Across species, differences in the amount and timing of sleep correlate with such factors as vulnerability to predation and amount of time that members must spend feeding, supporting the protection and energy conservation theories. Our knowledge of the physiological regulation of sleep—that sleep is controlled by a circadian clock linked to the day-night pattern of light and dark, and not by any known correlate of tissue damage—provides further evidence for the protection and energy conservation theories and against the restoration theory.

When facts are presented to support or refute a theory, students learn more than facts; they learn how psychologists use facts to test theories. The lesson is more compelling if students have developed the theories themselves, and in my experience, students become quite ingenious at developing plausible functional theories after a little practice.

Use evolutionary accounts to help students overcome the pathology bias.

Many students equate psychology with the study of psychopathology, and, in fact, psychology courses do often emphasize pathology at the expense of function. For instance, introductory presentations of social psychology typically focus on the harmful consequences of conformity, obedience, and concern for approval. Similarly, students often learn about the so-called negative emotions (such as anger,

jealousy, fear, and shame) primarily as pathologies. But if these are universal human tendencies, they almost certainly served life-promoting functions to our ancestors. To overcome the pathology bias, we and our students can contemplate the potential evolutionary value of such tendencies before attending to the harmful consequences they sometimes have.

As an example, consider young children's bedtime protest, which in our culture is often discussed in pathological terms as evidence of spoiling. Why do young children resist going to bed? Some student may suggest that the resistance is not so much to going to bed as to going to bed alone in the dark. Children talk about fear of the dark and fear of monsters hiding in the closet. In hunter-gatherer days, being alone in the dark was undoubtedly dangerous to a child (the monsters were real), and children who protested this condition and drew adult attention were more likely to survive. Such an analysis is supported by cross-cultural data. Present-day hunter-gatherers believe that putting a child to bed alone is an act of child abuse, and in cultures where children sleep with a parent or grandparent bedtime protest is absent (Konner, 1982).

Ask students to critique classic psychological theories from an evolutionary perspective.

All of the grand theories in psychology, even those that place greatest weight on the role of environment or culture in shaping behavior, are implicitly theories of human nature. As such, they should be at least compatible with the theory of evolution by natural selection. We can ask students (as a written assignment or in small-group discussion): Are a theory's basic premises compatible with evolution by natural selection? How might each premise be understood as promoting survival and reproduction? How might the theory be modified to make it more compatible with evolutionary theory, yet consistent with the facts used to develop the theory?

At a minimum, such exercises lead students to identify and think about the basic premises of each theory, and at best they lead to reasoned arguments involving evidence and suggestions for further research.

Describe the limitations of evolutionary, functionalist accounts.

The evolutionary perspective, like any other broad perspective in psychology, has limitations. Functional, evolutionary accounts of specific human tendencies are easy to develop as theories but not always easy to test with facts. Some universal human traits may be side effects of our behavioral machinery rather than directly selected adaptations. Depending on conditions, our learning mechanisms can produce behaviors that are irrelevant to or even contrary to survival and reproduction. These and other limitations—all made famous through the writings of Steven Jay Gould—can be hinted at early in the course and then clarified in the exercises and discussions described above, as the course progresses. Evolutionary theory is not a royal road to understanding in psychology, but it is the best general guide we have.

Use the evolutionary perspective to explain the entwinement of nature and nurture.

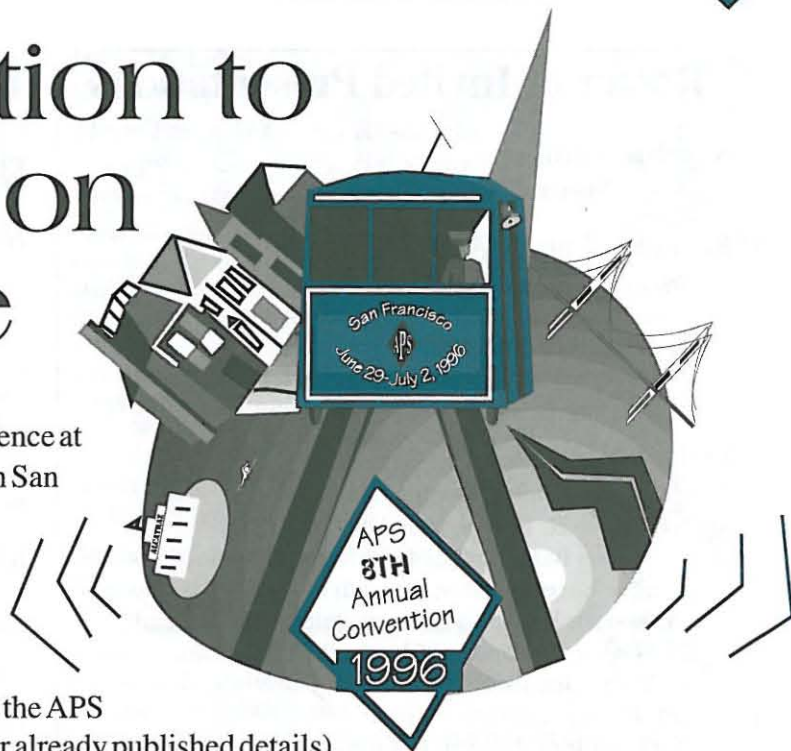
At one time psychology tended to treat instincts and learned actions as separate behavioral categories, but today—largely due to the influence of the evolutionary perspective—most psychologists realize that learning and instinct are inseparable. Evolution has not endowed us with one or two all-purpose learning mechanisms, nor with many rigid, unmodifiable behavior patterns. Rather, evolution has endowed us with many behavioral biases, or tendencies, each of which may have its own mechanism of modifiability (learning) built into it. The laws by which we learn about food, about the movements of objects in three-dimensional space, about other people's minds, and about the grammar of our native language are all apparently different from one another. The behaviors and mental activities through which we explore, assess, and thereby learn in each domain of our world are themselves instincts.

From an evolutionary perspective we can ask why different learning mechanisms have different characteristics, and

SEE TIPS ON PAGE 37

APS Convention to Register "10" on Richter Scale

APS will present its own brand of earth-shaking science at its upcoming 8th Annual Convention, June 29-July 2, in San Francisco. Over 900 addresses, symposia, and poster presentations spanning the breadth of scientific psychology will be delivered, making the APS Annual Convention the epicenter of psychology. See pages 30 through 32 for more details on the concurrent session program, including those sessions submitted by the APS membership (also see your January and March issues for already published details).



But, believe it or not, the upcoming San Francisco meeting offers more than just the most recent and exciting developments in scientific psychology. The 3rd Annual APS Institute on the Teaching of Psychology on June 29, in addition to talks by leading researchers, includes two interactive forums where you may exchange information on successful teaching strategies, classroom demonstrations, course organizations, and more with your teaching colleagues. Two breakfast workshops, hosted separately by the National Institute on Drug Abuse and the National Institute of Mental Health, offer concrete advice on how to obtain federal funding for psychological research (see page 33), and additional information on federal funding and research opportunities is available at the Federal Funding Poster Session on July 1. The APS Exhibit Hall will be jam-packed with the latest in publications, computer software, and laboratory equipment. And, last but certainly not least, a number of affiliated psychological organizations (see pages 34 and 35) have scheduled their own meetings in conjunction with the APS Annual Convention. Combine all these elements with the opportunity to see old friends and make new ones and you have the makings of a truly extraordinary event!

Once again, all the information you need to join us in San Francisco is enclosed—convention registration form, hotel registration form, and travel information. Advance registration and hotel deadlines are MAY 28, 1996, so don't delay! See you in the City by the Bay!

Donations Sought for Student Travel Award Fund

As all APS members know, the annual convention offers our Student Affiliates a rare forum for presenting their research, exploring the vast array of work being done in the field, and networking with future colleagues. But, given the substantial costs involved in traveling to the convention, this valuable professional experience is too often an unaffordable luxury.

With your support, the APS Board of Directors and the APS Student Caucus plan to continue their commitment to provide travel funds to students requiring financial assistance to attend the annual convention. Over the past eight years, these funds have allowed more than 130 Student Affiliates from almost 100 different institutions of higher learning to attend the annual convention and present their research.

Once again, **APS urges its members and students to make tax-deductible contributions to this cause.** Checks should be made payable to APS and sent to: APS Student Travel Award Fund, 1010 Vermont Avenue NW, Suite 1100, Washington, DC 20005-4907. Travel funds will be made available to graduate and undergraduate Student Affiliates who will be presenting research at the convention, are willing to work at the convention, and can demonstrate financial need. The number of awards given will depend upon funds available, so please give generously.

Related Organizations Convene Satellite Meetings at APS 1996 Convention

In recognition of their members' participation as presenters and attendees at our upcoming San Francisco meeting, a number of psychology-oriented organizations have accepted APS's invitation to hold mini-conventions, workshops, poster sessions, business meetings and social events in conjunction with the 1996 APS Convention. Satellite meetings (with the exception of closed business meetings) are open to all interested individuals, often at no additional cost.

Specific scheduling information and program descriptions will be published in the *APS Convention Program*, or you may contact the APS Convention Department or the following organizations themselves for more information:

Academy of Clinical Psychological Science
American Board of Professional Neuropsychology
American Association of Applied and Preventive Psychology (AAAPP)
APA Committee on Accreditation
Psi Beta, the National Honor Society in Psychology for Community and Junior Colleges
Psi Chi, the National Honor Society in Psychology
Society for Personality and Social Psychology (SPSP)

◆ SPECIAL APS CONVENTION ANNOUNCEMENT ◆

Accreditation Site Visitor Training

The American Psychological Association (APA) Committee on Accreditation plans to conduct an accreditation site visitor workshop on its new guidelines and procedures in conjunction with the 1996 Annual Convention of the American Psychological Society in San Francisco. The workshop will be held on Saturday, June 29, beginning at 8:30 AM and concluding at 5 PM, with a break for lunch. The Committee is prepared to train up to 30 participants in a single workshop or up to 60 participants in two concurrent workshops depending on the number of respondents.

The Committee has need in its site visitor pool for psychologists whose areas of teaching, research, and/or application are outside as well as within the fields of clinical, counseling, and school psychology. The Committee is committed to a site visitor pool that represents the full spectrum of psychology's substantive areas as well as the individual and cultural diversity represented among psychologists.

Participants will be responsible for the cost of their hotel accommodations (the APS hotel reservation may be used in order to obtain the discounted convention rate) and lunch on the day of the workshop. A continental breakfast will be served, and refreshments will be provided throughout the afternoon by the Committee. Training materials will be provided at no expense to the participants.

If you are interested in participating in the workshop(s) to be scheduled in conjunction with the 1996 APS meeting, please advise the APA Office of Program Consultation and Accreditation as soon as possible, but **no later than June 14**. This affords the Committee time to obtain additional information from persons not presently in the accreditation site visitor pool, but who are interesting in participating in that form of professional activity in the future. To indicate your interest, please send a brief letter stating whether or not you are presently in the site visitor pool and a current vitae to: Office of Program Consultation and Accreditation, c/o Lorraine Winderlich, American Psychological Association, 750 First Street NE, Washington, DC 200042-4242.

SPSP Meeting to Precede APS Convention in San Francisco

In 1996, the Society for Personality and Social Psychology (SPSP), an organization of approximately 3,500 personality and social psychologists, will continue its tradition of meeting in conjunction with the APS annual convention. SPSP will hold its sixth annual meeting on June 28-29 at the San Francisco Hilton Hotel & Towers, immediately preceding the 8th APS Annual Convention. The theme for this year's preconference is **Up to the Roots: The Role of Lewinian Thought in Contemporary Personality/Social Psychology**.

The meeting will begin on Friday, June 28, at 3:30PM, with the Donald T. Campbell Award Address. Claude Steele (Stanford Univ.) will chair the award ceremony, and Shelley Taylor (Univ. of California-Los Angeles) this year's award recipient, will deliver an address entitled *Positive Illusions, Mental Health, and Survival: Integrating Old and New Evidence*. A social hour will follow at 5:30PM.

On Saturday, June 29, a series of three symposia are planned. The first symposium, *So, What Would Lewin Think About the Field Today? An Exchange*, is scheduled from 10 to 11:30AM, and will feature Robert Cialdini (Arizona State Univ.) as chair, Lee Ross (Stanford Univ.) as moderator, and Jack Block (Univ. of California-Berkeley), Morton Deutsch (Columbia Univ.), Miriam Lewin (Manhattanville College), Albert Pepitone (Univ. of Pennsylvania), and Alvin Zander (Univ. of Michigan) as interactants. After a break for lunch, sessions will resume with *The Practical Theorist: Contemporary Examples* at 1PM. This second symposium, chaired by Mark Zanna (Univ. of Waterloo), will include presentations by Eugene Borida (Univ. of Minnesota), Geoffrey Fong (Univ. of Waterloo), and Claude Steele. At 3PM, Robert Cialdini will chair the final symposium, *The Motivated Person in the Situation*, which features presentations by David Funder (Univ. of California-Riverside), Dan McAdams (Northwestern Univ.), Lynn C. Miller (Univ. of Southern California), and Julie Norem (Wellesley College).

All those attending the APS convention (SPSP members and nonmembers) are welcome to attend the SPSP convention. No extra registration fee is required.



AAAPP Program Complements APS Convention Offerings

The American Association for Applied and Preventive Psychology (AAAPP) has planned a series of discussion sessions and invited addresses to supplement the APS convention. AAAPP does not collect separate convention registration fees and asks that attendees register for the APS Annual Convention itself. All APS registrants are welcome to attend AAAPP sessions.

Program offerings begin on Sunday, June 30, at 10AM with a one-hour discussion of *Grants and the Changing Face of NIMH* hosted by Jane Steinberg (NIMH). That session is followed immediately by a discussion led by Ellen Kimmel (Univ. of South Florida) on *Ideal Student-Faculty/Faculty-Student Relationships*. At 1PM, Steven Hayes (Univ. of Nevada) will chair a discussion session on *Heritability and Human Traits* featuring Stephen Jay Gould (Harvard Univ.) and J. Michael Bailey (Northwestern Univ.), and at 3PM, Margaret Chesney (Univ. of California-San Francisco) will deliver a one-hour invited address titled *Women and Health: In Search of a Paradigm*. The day's program will conclude with the AAAPP Awards Ceremony at 5:30PM, where Stephen Jay Gould will deliver an invited address titled *Evolutionary Misreadings of the Mind and Morality*.

The AAAPP program resumes on Monday, July 1, with a small poster session scheduled as part of APS Poster Session I at 9AM, followed at 10:30AM by a panel discussion, *Consumer Satisfaction as a Way of Evaluating Psychotherapy: Ecological Validity and All That Versus the Good Old Randomized Trial*. The panel, chaired by Robyn Dawes (Carnegie Mellon Univ.), includes Ken Howard (Northwestern Univ.), Richard McFall (Indiana Univ.), Lee Sechrest (Univ. of Arizona), and G. Terence Wilson (Rutgers Univ.). The afternoon portion of the program consists of a discussion session on *Training Implications for Practice Standards in Counseling Psychology Programs* led by Ursula Delworth (Univ. of Iowa) at 1PM, and an invited address by Stanley Sue (Univ. of California-Los Angeles) on *Ethnic Minority Research: Challenges to the Science of Psychology* at 3PM.

Individuals wishing to receive more information on the AAAPP program are urged to contact Steven Hayes at the Department of Psychology, University of Nevada, Reno, NV 89557-0062 (e-mail: hayes@scs.unr.edu).

Alex Martin, National Institute of Mental Health, *The Washington Post*, Feb. 19, 1996: Determining where the brain stores attributes of different classes of objects; *Science News*, Feb. 17, 1996: Cerebral recognition and networks of the brain

Warren Meck, Duke Univ., *Science*, Feb. 16, 1996: Circadian and interval timers in the brain

Janet Metcalfe, Columbia Univ., *The Boston Globe*, Jan. 14, 1996: Break-through moments and the "Aha" phenomenon

Richard Mohs, Mount Sinai School of Medicine, *Parade*, Mar. 17, 1996: Keeping memory sharp

Paul Paulus, Univ. of Texas-Arlington, *Fitness*, Mar. 1996: Effectiveness of group communal thought compared to individual brainstorming

James Pennebaker, Southern Methodist Univ., *First*, Apr. 1, 1996: Relationship between writing in a journal and health

Judith Rodin, Univ. of Pennsylvania, *The Scientist*, Mar. 18, 1996: President's Committee of Advisors on Science and Technology

Mark Rosekind, Ames Research Center, *The Washington Post*, Mar. 11, 1996: "Fitness for duty" testing

Michael Siegal, Univ. of Queensland, *The Melbourne Age*, Apr. 8, 1996: Cultural differences in children's concepts of geography and astronomy

Rae Silver, Barnard College, *Science*, Feb. 16, 1996: Circadian and interval timers in the brain

Paula Tallal, Rutgers Univ., *Chicago Tribune*, Jan. 5, 1996: Computer therapy to improve speech skills

Amos Tversky, Stanford Univ., *The New York Times*, Apr. 4, 1996: Arthritis pain's correlation with weather; *The Washington Post*, Apr. 8, 1996: Arthritis pain's correlation with weather

Francis J. Winn, Jr., Center for Substance Abuse Prevention, *Safety+Health*, Jan. 1996: Working later in life and adapting to needs of aging workforce

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we should expect to obtain answers in terms of their survival and reproductive value. The same mechanism that is well designed to help us learn whether a potential food is healthful or poisonous, based on the aftereffect of eating it, is not well designed to help us learn whether a new word should be treated as a verb or a noun. The evolutionary perspective provides us and our students with a powerful tool for understanding and thinking about all processes of learning.

When humans are compared to other species, discuss the evolutionary rationale for the comparison.

Knowledge of evolution helps students understand and appreciate psychological research with non-human animals. From an evolutionary perspective, two kinds of similarities can exist across species. Homologies are similarities due to common ancestry, and analogies are similarities due to convergent evolution. Homologies necessarily involve common underlying mechanisms, but analogies do not. Psychologists who wish to learn about mechanisms of human behavior by studying other animals usually focus on characteristics that are homologous to those in humans. Analogies are of less value in the study of mechanisms, but they provide clues about ultimate function. Species that are analogous in some characteristic can be compared to see what other characteristics they share or what environmental pressures they face in common, to test theories about the value of that characteristic.

In his Nobel lecture, Konrad Lorenz (1974) contended that his main contribution was to clarify the distinction between homologies and analogies in behavior and to show the different values of studying each. I have found that sharing Lorenz's insight with students helps them overcome their confusion as to how and what psychologists can learn about humans through studying other species.

Use the evolutionary perspective to foster critical thinking.

All of the just-described applications of evolutionary theory involve critical thinking. They all ask students to generate evolutionarily plausible answers to "why" questions.

A Final Word of Advice

If you haven't previously employed the evolutionary perspective in your course, start gradually. Make students aware of the perspective and apply it in ways with which you feel most comfortable. If it works, go a little further next time you teach the course. Don't use the perspective in ways that seem artificial or strained to you; in that case they will certainly seem so to students. This approach has worked well for me, and I believe it will improve the academic survival of both you and your students.

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Peter Gray received his PhD in the behavioral and life sciences at the Rockefeller University in 1972 and then joined the Boston College Psychology Department, where he has served as Department Chair, Undergraduate Program Director, Graduate Program Director, and has taught a wide variety of psychology courses. He is the author of an introductory psychology textbook (published by Worth) and articles in physiological, developmental, and educational psychology.

Obituaries

“Good-bye Teacher...” Fred S. Keller (1899-1996)

Frederick Simpson Keller was born in upstate New York and grew up there and in Florida. After serving in Europe with the US Army in WWI, Keller prepared for college at the Goddard Seminary in Vermont on an athletic scholarship. He attended Tufts College in 1921 majoring in English literature, but never graduated. He began selling books in 1924 and in an attempt to improve his salesmanship, he read John Watson's *Psychology from the Standpoint of a Behaviorist*. The book did not improve his selling, but it got him back into school and on to graduate training at Harvard University.



While a student at Harvard, Keller taught comparative Psychology at Tufts, using Margaret Washburn's text *The Animal Mind*, and he used Watson's *Behavior* to teach introductory psychology. Watson's emphasis on nonhuman learning and research contributed to Keller's rejection of subjective internal hypotheses such as “symbolic processes,” and the “mind,” and therefore to his development as a behaviorist.

By the time B.F. Skinner came to Harvard in 1928, Keller was the local authority on behaviorism. The two of them became known as “the lions in debate,” according to Professor Henry Murray. Skinner said that he would say something outrageous in class and then, when he got in trouble he would turn to Keller to rescue with his quiet but compelling arguments. Both had received their PhD in 1931.

When Keller left Harvard to teach at Colgate College, a correspondence began between the two Freds that lasted for 60 years. Keller wrote to Skinner about his double alternation mazes, but when Skinner sent him an operant chamber with a lever, Keller switched apparatus and methods.

The operant chamber appeared to Keller as a microcosm of the classroom, and all of the pieces he had been mulling over merged into a student-centered teaching system. Keller's interest in “learning” as an applied problem evolved from his successful Morse code training program as well as his animal research. Keller had developed a system for teaching Morse code called the “code voice” method. His self-proclaimed history as a failure as a student may also have contributed to his orientation and work. (Contrary to this assessment, in the late 1950s he taught himself Portuguese in order to accept an invitation to teach in Brazil). His success with the “code voice” method led him to design the first personalized student rat-lab at Columbia University, which was the forerunner of the Personalized System of Instruction (PSI) developed later.

Keller taught at Colgate for seven years. He accepted a

professorship at Columbia University in 1938, the year that Skinner's *Behavior of Organisms* was published. Skinner's book and Keller's own experiences led him to see clearly how behavior theory and pedagogy came together. He was soon on his way to becoming a great educational innovator.

Fred wrote powerfully, and few could equal his oratory and engaging humor—he captured listeners and readers alike. The good-natured exchanges and theatrics between Skinner and Keller at the annual banquets of the Association for Behavior Analysis were highlights of that organization's meetings for several years. Nonetheless, Keller led the way in discounting the entertaining lecture as an adequate form of instruction. He knew that learning, like research, should be driven by the actions of the student—the student, not the teacher, is the performer. The professor arranges the contingencies so that the student responds and moves at his own pace by encouragement and corrective prompts until mastery occurs. If the student does not learn, it is up to the teacher to fix it! The Keller Plan, or PSI, acquired a research base that has become a cornerstone to many instructional strategies based on a science of behavior.

Fred was a catalyst for others, just as his system was for learners. By design, students and others who came in contact with him simply received more from him than he allowed them to return. He was teacher, mentor, and a friend who arranged the contingencies for others to shine.

Fred was not Fred alone, however, he was part of a team—Fred and Frances! Frances, his beloved wife, stood with him at Columbia University, the University of Brasília (where he and his colleagues developed a university-wide application of PSI), George Washington University (which housed the Center for Personalized System of Instruction), Arizona State University, and at Colgate College in the early days.

Fred stood for a science of the behavior of the individual organism and he stood for his students—each one as an individual. In 1986, a preschool devoted to the thoroughgoing application of the science to education and the student as individual was founded as a tribute to him, as an embodiment of his and Skinner's ideas (The Fred S. Keller School in Yonkers New York). Numerous graduate students from Columbia University Teachers College also learn to provide learner-driven instruction and research at the Fred S. Keller School in the manner Fred advocated. He visited the school in June of 1994 and met with the children, parents, and graduate students. He believed that the work that was going on there provided an exemplary approach to education—an approach that placed the student at the center of a comprehensive behavioral approach to education.

Fred left us many leaders in the field, legions of better prepared students, thousands of happy learners, and a shining example of what we need to do to be effective teachers. Good-bye beloved teacher, but we shall never say good-bye to what

CONTINUED ON NEXT PAGE

Psychoacoustics Pioneer Lois Lawrence Elliott (1931-1995)

The American Psychological Society has lost a supportive and productive member. Lois Elliott succumbed to a stroke in her home in Wilmette, Illinois, and died subsequently on October 1. Born in Cincinnati, she attended Bryn Mawr College, and then completed a PhD degree in experimental psychology at Cornell University in 1956.



As a research psychologist at Lackland Air Force Base she continued her research on visual perception, and then at the School of Aviation Medicine at Brooks Air Force Base she undertook work on deafness and psychoacoustics, leading toward her early publications on forward and backward masking.

In 1963, she joined the Research Department at Central Institute for the Deaf (CID), where she was also Associate Professor of Psychology at Washington University. Her psychoacoustic work continued on temporal aspects of masking and frequency discrimination. In addition, as Coordinator of School-Clinic studies, she carried out important work on memory, information processing, language, and achievement tests in deaf children. A novel contribution was her organizing a computer-based record-keeping system for CID's School and Clinics, one of the first of its kind in 1966. This valuable longitudinal database is still in existence and contains 30 years of clinical data on adults and children with communication disorders.

In 1970 she moved to Washington, DC, first as Chief of the

Project Centers Branch of the Bureau for the Education for the Handicapped, and then as Head of Directed Research in Communication Disorders in the National Institute of Neurological and Communicative Disorders and Stroke (now known as the National Institute on Neurological Disorders and Stroke).

In 1976 she joined the faculty at Northwestern University as Professor of Audiology in the School of Speech and as Professor of Otolaryngology in the Medical School. She was for a time Head of the Program in Audiology and Hearing Impairment. In addition to her continuing research on hearing and language comprehension, in recent years she organized and administered a very popular Human Communications Sciences Program, which has recently been accepted as part of an undergraduate honors program in medical education. Her interest in children, which began at CID, continued at Northwestern with a focus on auditory processing by children with language and learning disabilities. Her tireless mentorship of students at both the graduate and undergraduate levels spawned numerous productive careers in communications sciences and disorders.

Lois had been an active participant in the Psychonomic Society and in the Acoustical Society of America (ASA), where she was elected to the Executive Council to serve from 1974 to 1977. She has been a member of the Technical Committee on Psychological and Physiological Acoustics and Chair of the Medals and Awards Committee of the ASA.

Lois's adventurous spirit and love of animals led her to enjoy photographic nature tours throughout the world, including safaris in Africa, India, and the Galapagos Islands. Her particular affinity for felines in the wild was matched only by her devotion to the domesticated species, particularly her Himalayan cats. Most recently a new occupation had been her painting, which had grown to the extent that some of her work is shown in local galleries. Lois Elliott will be sorely missed.

IRA J. HIRSH AND ANN E. GEERS
CENTRAL INSTITUTE FOR THE DEAF

FROM PREVIOUS PAGE

you left us. His presence as friend and teacher is greatly appreciated and he will be missed.

He is survived by his wife Frances Scholl Keller; a daughter, Anne S. Klein, of Kalamazoo, Michigan; a son, John V., of Charlotte North Carolina, two children, five grandchildren, a great-grandchild, his science, PSI, and those to whom he gave so much of himself.

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Professors, Teachers ... at your request

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HALL FROM PAGE 2

together our understanding at various levels of organization. The idea that we can now make a defined genetic alteration in a mouse and examine the consequences of that alteration in terms of function at the molecular, cellular, systems, and behavioral levels is truly exciting. Because studies of biology and behavior have often evolved along separate pathways and belonged to separate traditions, special effort must be made to train future researchers who will be expert in both fields.

The advances in basic neuroscience hold tremendous promise for the treatment of neurological disease. With a few exceptions, such as Parkinson's disease and epilepsy, neurology has had few treatments to offer those suffering from neurological disorders. That bleak prospect is rapidly changing. Within the last few years, the first effective treatments for amyotrophic lateral sclerosis (ALS or Lou Gehrig's disease) and multiple sclerosis have been approved, and this year NINDS scientists announced the results of a large-scale, multi-center trial showing that treatment of stroke with a clot-buster within three hours of the first symptoms dramatically improved the chances of complete recovery. We expect that with future advances, more and more drugs will be available for the treatment of neurological disease.

Priorities

As a new Director, I have set several priorities for the next few years. The first goal is to revitalize our intramural research program. The NINDS intramural research must take advantage of the talent and the resources within the NIH and constantly strive to set the pace for developing new knowledge about the brain and applying that knowledge to disease. Under the direction of our new Scientific Director, Story Landis, we are beginning to recruit young scientists to NINDS. For those who wish to do full-time research, NINDS is indeed an attractive place, as research support is guaranteed, administrative and

teaching responsibilities are few, and NIH offers a rich research environment for basic and clinical science.

A second goal is to improve the quality of NINDS support of the extramural research community through our grants and training programs. We are currently reviewing both the organization and policies of our extramural programs to determine how we can best serve our grantees. We are particularly concerned with the training and development of young scientists because the future of our field will depend on their quality. One of our priorities is to improve training at the interface of basic and

clinical science. In January 1996 we invited a group of neuroscientists concerned with basic and clinical training to a workshop, chaired by John Hildebrand of the University of Arizona and Don Price of Johns Hopkins University, to evaluate our training policies and to make suggestions for the future.

A third goal is to work cooperatively with other Institutes in support of brain research. Many NIH Institutes now have a substantial research program related to neuroscience and diseases of the brain. NINDS is actively working with these Institutes to make our policies and programs fit together better, and to promote brain research. As part of Brain Awareness Week, May 12-18, for example, NINDS, along with ten other NIH Institutes is sponsoring a symposium at NIH, titled "The Science of Brain Disease."

Finally, as Director of the NINDS, I wish to improve communication with the extramural research community. I hope the Institute can make clear to extramural researchers what our problems and policies are; conversely, we seek their advice and guidance. To further that process, our NINDS Advisory Council has begun a series of discussions about policy matters within the Institute. So far, at individual meetings we have discussed training, clinical trials, and multicomponent grants.

As the accompanying article [see page 1] makes clear, we support a broad range of research by behavioral science researchers, and we at NINDS look forward to working with you to advance our understanding of the brain and its diseases. ♦

We are in the midst of an especially exciting time in research on the brain, in which progress in understanding how the brain works has been rapid, almost breathtaking. Although there is still much that we do not know, we have powerful tools at our disposal.

ZACH HALL
NINDS

Your Search Ends Here!

The *APS Observer* Index is now online!!!

Can't remember when the NIMH behavioral science research report relating to mental health was released?

Or when the obituary on Roger Sperry appeared?

How about when you were featured in the *Observer's* People section?

The *APS World Wide Web* page now features an Index in which *Observer* issues are broken down by subject, title, and date of publication. The index dates back through March 1990 and will be updated annually.



Random Samplings

How would you have responded to the question posed in the last issue of the *Observer*:
"What are the three most significant discoveries in behavioral science?"

Read below to see how your APS colleagues responded to this informal *Observer* poll. Check out next issue's challenging question in the box below and send your reply in now!

The three most significant discoveries in behavioral science? First, the discovery of color blindness. Granted, that discovery occurred before an organized discipline of psychology. But many of the great discoveries of physics were made by the Greeks, long before the advent of physics departments. The possibility of color blindness indicated that perception is not just the faithful replication of objective reality; it's a process within the perceiver. Second discovery: REM sleep—a most unanticipated discovery that led to much new understanding of sleep, dreams, and sleep disorders. For a third "discovery," I nominate the distinction among different types of memory, such as declarative vs. procedural, or reference memory vs. working memory. Admittedly, that discovery has not yet stood the test of time, and researchers still argue about the best way to draw the distinction. Still, it profoundly changes our understanding of memory and of human experience.



JAMES KALAT
NORTH CAROLINA STATE UNIV.

What are the three most significant discoveries in behavioral science? This is a bit like the question about when one stopped beating one's spouse; any answer is sure to be wrong.

What is a "discovery": An empirical finding? A research methodology? A theory? What should be the criteria for significance: Application? Basic scientific contribution? Public interest?

In the end, I've chosen to think of "discoveries" in a fairly broad sense and to let my answers reflect my own interests and biases, not to mention the availability heuristic! 1) Conditioning. Classical, instrumental, take your pick. It's an extraordinarily primitive mechanism with profound implications that has been applied in contexts ranging from "brainwashing" to bait shyness. 2) The role of unconscious processes in perception and cognition. There are now a variety of behavioral techniques for demonstrating and assessing unconscious processes in basic intellectual function. They include measures of the impact of perceptual events that are not overtly registered and demonstrations of learning without awareness. The concept of the unconscious has increasingly penetrated theories of attention, perception, and cognition, helping us to understand such things as expertise and automaticity, modular memory deficits and false



memory attributions, and the contribution of knowledge to perception. 3) Applicability of behavioral science to other fields. Today there are a number of hybrid fields that rely on the contributions of behavioral science. Consider neural-net learning algorithms, artificial intelligence, and functional imaging of the brain, for example.

ROBERTA KLATZKY
CARNEGIE MELLON UNIV.

In the context of promoting industrial-organizational psychology, here are some nominations:

- ◆ Pervasive predictive power of psychological testing, especially cognitive and integrity tests, for selecting new employees;
- ◆ Pervasive effectiveness of goal-setting in enhancing motivation and performance on the job;
- ◆ Dynamic interplay of personal attributes and situational factors in shaping job behaviors, career choice, and career development.



ED LEVINE
UNIV. OF SOUTH FLORIDA

The three most significant discoveries in my opinion are: the emphasis on active learning in schools as elucidated in Piagetian theory; understanding the placebo effect and its role in health and consumer gullibility and; understanding and treatment of responses of disaster relief workers—firefighters, EMT personnel, police, etc.—following events such as the Oklahoma City bombing.



DAVID THOMAS
OKLAHOMA STATE UNIV.

Do psychology PhD programs adequately prepare students for today's job market?

Got an opinion? Participate in the next RANDOM SAMPLINGS informal poll. Your response may appear in an upcoming *Observer*! Send your reply (150 words max.) to Editor Lee Herring via email (lherring@info.cren.net) or via fax (202-783-2083).

The Student Notebook — Susan Perry - Editor

What's Doin' in San Fran' . . .

What to do in San Francisco: The Student's Guide to fun in the city

Karen Philbrick, the APSSC mentorship chair, ventured to San Francisco recently and poked around to uncover interesting things for students to do and see while in the "City on the Bay" during the APS convention there this summer. Here is her advice, in hopes of making your 1996 APS convention experience even more enjoyable.

The "Hot Spots"

The San Francisco Treat! The eighth annual convention of APS is being held in an exhilarating city, famous for its diversity, culture, sports, and sightseeing. After discussing cutting-edge research for the day take time to enjoy the city's vivacious spirit.

Transportation

Among the many distinct attractions of the city are beautiful architecture, landscapes, and views. You can enjoy all of these by using taxis and public transportation, including BART (Bay Area Rapid Transit subway system), buses, and cable cars. Cable car and BART routes are limited, so a combination of transportation services may be needed to reach some destinations.

Many of the attractions are within walking distance to each other. But be prepared to conquer the hills of San Francisco, and bring comfortable shoes!

Sightseeing

Some of the most well-known sights of the city include: Pier 39, Alcatraz,

Fisherman's Wharf, and Ghirardelli Square. These attractions are located very close to one another and can be seen during an afternoon adventure. On Embarcadero Street, Pier 39 has many quaint bayside shops, restaurants, and street entertainers. A short distance away is the infamous island of Alcatraz, the former maximum security federal penitentiary. A ferry ride will take you to the prison that was once home to such notorious criminals as Al Capone and Machine Gun Kelly. The cost of this excursion is approximately \$10 and includes the ferry ride and a tour of the former prison. Advance purchase of tickets is recommended. More information can be obtained by calling 415-546-2700.

At nearby Fisherman's Wharf, you can indulge in fresh seafood and local cuisine. For dessert I suggest you walk to chocolate lovers' paradise, Ghirardelli Square. Here you will find the city's best chocolates as well as an array of many fine shops. Stroll further along the Embarcadero where an assortment of small museums and shops are located.

If you prefer more of a scientific adventure, visit the San Francisco Exploratorium. This building, located off Marina Boulevard, is filled with more than 600 interactive scientific exhibits. Enlist all of your senses while exploring such fields as animal behavior and human perception, among others. The Exploratorium is only for fun and is designed for visitors of all ages. Cost is approximately \$8 (discount available with student ID), for more information call 415-561-0360.

Looking for a perfect setting in which to sit and ponder the symposia of the day? Golden Gate Park is the place to be. This park is a beautiful oasis of trees and lakes bordered by the ocean on the west end.

Golden Gate Park extends three miles into the city and contains many recreational activities, foot trails, and attractions. After relaxing and contemplating scientific issues you may want to visit the California Academy of Science (located within the park). The Academy houses the Morrison Planetarium, the Steinhart Aquarium, and the Natural History Museum.

There are a number of other fine museums in the city, the newest being the San Francisco Museum of Modern Art, open daily from 11AM-6PM. A must see for modern art connoisseurs!

Looking for a breathtaking view of the city? You will find it at Coit Memorial Tower, on top of Telegraph Hill. Here you will also be able to view Lombard Street, known as the crookedest street in the world. This famous curvy expanse often appears in movies.

For a "blast to the past," visit Haight-Ashbury, home to the hippies of the 1960s and 1990s. Here you will find shops filled with rare and unusual psychedelic goods, books, records, and clothing. Likewise, the most diverse group of people in the city will be found on these streets. Finally, you should visit perhaps the most well-known ethnic neighborhood of San Francisco, Chinatown. Chinatown is home to more Chinese Americans than any other place in the nation. In this small "city within a city" you will encounter a variety of tearooms, specialty shops (featuring jade and ivory), and many fine restaurants.

The preceding sights are just a few of San Francisco's most famous attractions. The concierge at your hotel can be of further assistance in directing you to other points of interest. I hope your trip to the City on the Bay is both exciting and rewarding!

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 Advisory Committee. For information on APSSC school chapter applications, contact:

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Chapter founders should provide information on the institution, department, and students, and designate a faculty sponsor.

Reimbursement for the eighth annual APS convention registration fee is available to students in exchange for students working three hours at the registration desk during the conference. For more information, contact Nikki Scarberry, Dept. of Psychology, Texas Christian Univ., Box 32878, Fort Worth, TX 76129; Email: NCSCARBERRY@DELTA.IS.TCU.EDU.

How to Host an APSSC Conference

Research conferences are a good way to further the professional development psychology students. In addition to learning and networking opportunities, they are a good forum for gaining experience in presenting research. To encourage student involvement in these conferences, the APS Student Caucus (APSSC) provides this guide on how to develop a research conference.

While conferences can be limited to only one department, local conferences are generally more successful if they are held in collaboration with nearby colleges. In addition, consider inviting students from related fields such as philosophy, business, and computer science. It is surprising how much overlap there is among research topics.

This guide is intended to provide the information needed to start a conference. Faculty should be willing to assist in certain aspects of the planning, so do not hesitate to seek out their advice.

What follows are items to consider when planning a conference. In addition, we have tried to include samples to assist planning.

Setting the Date

Conferences can be held during any time of the year, but to ensure active involvement, it is best if they are held in the summer. If a summer conference is decided upon, set the date by the end of the spring term and reserve rooms as soon as possible. Solicit input from other students to determine the most convenient date. One other point to consider is that Fridays are usually better than weekends for faculty attendance.

Funding the Conference

A college or university department or graduate student organization should be willing to fund some aspect of the conference (either lunch and/or a picnic afterwards). Before requesting funds, demonstrate a firm hold on the organization of the conference. To effectively do this, it is good to have a list of potential presenters and other details on hand.

Organizing the Details

Do not try to do everything singlehandedly. The conference will run much smoother if assistance is provided by other students on tasks such as getting speakers, writing and distributing programs, chairing sessions, and organizing meals.

Inviting Presenters

Once the date is set, it is a good idea to send out an official call for presenters. This should be a professionally drafted flyer explaining the purpose of the conference, along with the date and time (see side box). In addition to sending this to all eligible students, send a letter to faculty urging them to ensure that students participate. What follows is an example sample text for a letter to faculty:

Dear Dr. Jones,

The 1st Annual State University Conference on Psychology will be held on June 17 in the Adamson Wing at the Student Union. I would like to ask you to mark your calendar and to be sure to attend. The conference is a great opportunity for graduate students to present their work to the campus community and it provides valuable practice in professional presentation. As such, your presence as faculty is an integral part of the conference. Further, all graduate students in Psychology have been invited to give talks. But I would also like to ask you to encourage your students to present, either in a talk or a poster. Thank you, and I hope to see you in June!

Sincerely,

Chris Smith,

Conference Organizer

Encouraging Faculty Involvement

Consider having opening and closing comments made by faculty members. In this way, faculty can provide valuable insights into the research that gets presented and can add professional wisdom and experience to the day's events.

Building Attendance

One way to ensure good attendance is to have a party at the end of the conference.

APSSC Officers ♦ 1995-1996

Each Executive Council member (see below) welcomes students and others to contact them about any concerns relevant to the member's respective office.

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STUDENT NOTEBOOK CONTINUED

STUDENT NOTEBOOK CONTINUED

A picnic or party is a nice reward for those presenting and attending, and can end the day on a memorable note.

Designing the Program

It is important to put together a professional looking conference program. While decisions on layout are individual to the planner, keep the organization simple and easy to follow.

Preparing Presenters

To ensure that your presenters have a clear idea about what is expected of them, provide speakers with the time of their talk and the expected length of their talk. What follows is sample information you can provide speakers:

Thank you for volunteering to speak at this year's conference. Here is a draft program along with some other information I thought you might find helpful. Please review the program and contact me if there are any typographical errors. I have allocated 15 minutes for each talk, followed by five minutes for questions. You should prepare your talk to run 11-12 minutes.

An overhead and a pointer will be pro-

SAMPLE CALL FOR PRESENTERS

1st Annual
State University Conference on Psychology
June 17, 1996

All graduate students at State University are invited to give talks at the 1st Annual State University Conference on Psychology. This is a great opportunity to present your research to the campus community and it provides valuable practice in professional presentation. The conference sessions will be held in the Adamson Wing at the Student Union. Talks should be about 15 minutes long with five minutes for questions and will be arranged into sessions with other talks on related topics. We will also be holding a poster session. Students may present posters created for other conferences or they may create a poster for this occasion, using the guidelines for any major conference. If you would like to give a talk or present a poster on your research at this year's conference, please detach and fill out the attached form and return it by May 31, 1997, to Conference Organizer: Chris Smith, 601 Psychology Building. Contact Chris at 555-1212.

Web Notes . . .

The web site of the Applied Psychometric Society, a student organization at Fordham University, orients students to the field of psychometrics as well as goals and activities of the society. Other professionals are invited to use and contribute to the site.

<http://www.fordham.edu/aps/index.html>

If you know of a world-wide web site that would be of interest to APS student affiliates, send the address and a brief description to Susan Perry at: SPERRY1@PHOENIX.KENT.EDU.

vided. There will also be ice water and glasses at the podium. If there is anything else you would like for your presentation, please contact me as soon as possible.

Send a letter to thank poster presenters for contributing to the conference and give them information they will need, such as the location and time of the poster session, responsibilities of the presenter, and when the presenter can set up his or her poster.

Sending Invitations

Once a list of presenters is established and the conference is only a few weeks away, send formal invitations to all students and faculty in the department. This will produce a great deal of positive public relations with the campus community and should increase participation markedly.

The Day of the Conference

Other than a few commonsense precautions, the hard work should be over. Some things to plan for on the day of the conference include:

- ◆ Take the usual precautions such as checking on the A/V equipment, getting

extra light-bulbs for the overheads, and push-pins for the posters.

- ◆ Recruit session leaders to announce presenters and to keep speaker sessions on time.
- ◆ During any introductory or closing remarks, be sure to thank all those who helped organize the conference.

After the Conference

Do not forget to thank any faculty that helped. Send thank you notes to faculty presenters and to those responsible for allocating any departmental funds for the conference.

Conclusion

Successful conferences are a fantastic way for students to gain professional presentation skills and should provide all participants with a rewarding experience.

Jennifer Wiley and Stephen Fiore of the Univ. of Pittsburgh produced this guide. It is based on the "Pitt-CMU Annual Conference on Cognition" which was initiated at the suggestion of APS Charter Fellow Gordon Bower.

SAMPLE SUGGESTIONS FOR POSTER PRESENTERS

- ◆ Each poster should include: title, author(s), affiliation(s), an abstract, and brief statements of introduction to the problem, method, procedure, results and conclusions.
- ◆ Minimize detail and focus on one main finding/conclusion.
- ◆ Remember that pictures, tables, and figures are worth 1,000 words. Color-coding usually enhances understanding of graphs and tables.
- ◆ Make sure that lettering is at least 3/8" high (about 25 or 30 point).
- ◆ Provide clear labels for each section.
- ◆ Consider using a flow-chart or some other method of guiding the viewer through your display. If the poster has been presented previously, affix a by-line to the poster (beneath the title), including author and affiliation information.

* Attention Student Affiliates *

For those of you who will be attending the APS convention in San Francisco, be sure to check out the special breakfast workshop, NIMH Grant Support for Junior Investigators! See page 33 for details.

Organizational Profile

The American College of Neuropsychopharmacology

Origins and Purpose

The principal function of the American College of Neuropsychopharmacology (ACNP) is to further research and education in neuro-psychopharmacology by: promoting the interaction of a broad range of scientific disciplines of brain and behavior in order to advance the prevention and treatment of neuropsychiatric disorders, including behavioral and addictive; encouraging scientists to enter research careers in neuro-psychopharmacology; and ensuring the dissemination of advances toward the understanding and treatment of all neuropsychiatric disorders.

Membership

Membership is kept small by limiting the number of members admitted each year. Selection of new members is made by a credentials committee which reviews and evaluates the individuals nominated for membership by existing members. Retention of membership requires the payment of annual dues and regular attendance at the annual scientific meeting.

The "Organizational Profile," a regular feature of the *APS Observer*, informs the research community about organizations devoted 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

<i>President</i>	Benjamin S. Bunney <i>Yale University School of Medicine</i>								
<i>President-Elect</i>	Charles B. Nemeroff <i>Emory University School of Medicine</i>								
<i>Executive Secretary</i>	Oakley Ray <i>Vanderbilt University</i>								
<i>Treasurer</i>	Irwin J. Kopin <i>Nat'l Inst. of Neurological Disorders & Stroke</i>								
<i>Council</i>	<table> <tbody> <tr> <td>Steven M. Paul <i>Eli Lilly & Co.</i></td> <td>A. John Rush <i>Univ. of Texas-Dallas</i></td> </tr> <tr> <td>J. Christian Gillin <i>Univ. of Calif.-San Diego</i></td> <td>Alan F. Schatzberg <i>Stanford Univ. Sch. of Med.</i></td> </tr> <tr> <td>Alan Frazer <i>Univ. of Texas-San Antonio</i></td> <td>Daniel R. Weinberger <i>NIMH Neuroscience Ctr</i></td> </tr> <tr> <td>Thomas Detre <i>Univ. of Pittsburgh</i></td> <td>David J. Kupfer <i>Univ. of Pittsburgh</i></td> </tr> </tbody> </table>	Steven M. Paul <i>Eli Lilly & Co.</i>	A. John Rush <i>Univ. of Texas-Dallas</i>	J. Christian Gillin <i>Univ. of Calif.-San Diego</i>	Alan F. Schatzberg <i>Stanford Univ. Sch. of Med.</i>	Alan Frazer <i>Univ. of Texas-San Antonio</i>	Daniel R. Weinberger <i>NIMH Neuroscience Ctr</i>	Thomas Detre <i>Univ. of Pittsburgh</i>	David J. Kupfer <i>Univ. of Pittsburgh</i>
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BACKGROUND

The American College of Neuropsychopharmacology (ACNP), founded in 1961, is a professional organization of some 600 leading scientists. Members are selected primarily on the basis of their original research contributions to the field of neuropsychopharmacology, which involves the evaluation of the effects of natural and synthetic compounds upon the brain, mind, and human behavior. The membership of the College is drawn from scientists in multiple fields including behavioral pharmacology, brain imaging, chronobiology, clinical psychopharmacology, epidemiology, genetics, molecular biology, neurochemistry, neuroendocrinology, neuroimmunology, neurology, neurophysiology, pharmacology, psychiatry, and psychology.

The principal functions of the College are research and education. Our goals in research are to afford investigators an opportunity for cross-disciplinary communication by means of annual scientific meetings and to promote the application of a broad range of scientific disciplines to the study of the effects of drugs on brain and behavior with application to mental illness, and alcohol and drug abuse. Our educational goals are to encourage scientists to enter research careers in neuro-psychopharmacology and to develop and provide accurate information about behavioral disorders and their pharmacological treatment.

The annual meeting of the ACNP is kept small by opening attendance only to those participants from around the world who have made major and significant research or clinical contributions in our area of special interest and expertise. Because of our intense concern with, and involvement in, the education and training of tomorrow's research and clinical scientists, the College selects, through a national process open to all beginning researchers, a small number of young scientists to be invited to the annual meeting. This meeting program, a cornucopia of the best brain and behavior state-of-the-art research in the world, is designed to encourage dialogue, discussion, and debate by those in attendance.

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