



OBSERVER

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NIMH Report Boosts Basic Behavioral Research

The report will signal a major step forward for behavioral science at the mental health institute

WASHINGTON, DC—The National Institute of Mental Health (NIMH) is about to issue its most comprehensive report ever on basic behavioral science research relating to mental health, a significant and long-awaited development. The report's official release will signal a major step forward for behavioral science at the Institute. [The 160-page report is the focus of John Kihlstrom's guest Presidential column on page 2 of this *Observer*. See ordering information at the end of this article on page 11.] The report should be the basis for NIMH initiatives to expand research on "behavioral and social factors that promote mental health or contribute to mental disorders," similar to NIMH's already released plans in the areas of neuroscience, services research, schizophrenia, and mental disorders in childhood and adolescence.

SEE NIMH ON PAGE 9

NIH Behavioral Office Director To Be Named

It's not official yet, but it looks like **Norman Anderson**, a psychologist from Duke University Medical Center (and an APS member) will be selected to head the long-awaited Office of Behavioral and Social Science Research at the National Institutes of Health. Anderson's area of research is behavioral medicine, specifically psychosocial and psychophysiological aspects of hypertension. Watch for details on this important appointment in upcoming issues of the *Observer*...

Science Literacy Is National Concern

Psychology is key in development of K-12 national science education standards; NAS report demands evolutionary transformation of science education

WASHINGTON, DC—Science achievement standings of US students have been falling relative to those of other countries, raising concerns here about the effects of science literacy on future economic and social prospects for the nation.

In fact, mounting concern in science, education, and public policy communities crested by 1992 to the point of inspiring a study of the matter by the National Academy of Sciences (NAS). The nearly 400-page report, *National Science Education Standards*,

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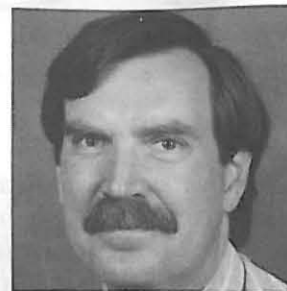
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Basic Behavioral Science Enhances Nation's Mental Health

John F. Kihlstrom
Yale University
Guest Contributor



Soon the National Institute of Mental Health (NIMH) will officially issue a new report, *Basic Behavioral Science Research for Mental Health: A National Investment*. [See story on page 1.] This document, the culmination of a two-year effort—co-chaired by APS Past-President Gordon Bower (Stanford University) and myself—highlights the recent accomplishments of basic researchers in psychology and related behavioral, cognitive, and social sciences.

The NIMH Behavioral Science Task Force, which prepared the report, included a subcommittee of behavioral scientists from the National Advisory Mental Health Council, the Director and Chiefs of the Neuroscience and Behavioral Science Branch of NIMH, and a distinguished panel of 46 researchers in fields ranging from ethology to cultural anthropology. In the final analysis, however, the focus was on psychology in all its aspects.

Break With the Past

NIMH has examined the behavioral sciences before—most recently in a 1989 report prepared by a committee chaired by APS Fellow Anne C. Petersen, now Deputy Director of the National Science Foundation. Like that report, and in contrast to other recent NIMH reports, this new report deals with the psychological and social factors affecting the normal behavior of the whole person. The report reminds us of the important contributions already made by basic behavioral science research to clinical practice, including the whole range of interventions collectively known as behavior therapy, new experimental paradigms for testing the effects of psychotropic drugs, and innovative techniques for marriage and family counseling.

The report also includes a strong defense of animal research, for what it can tell us about such things as learning and motivation, social influences on biological processes, effects of experience on biological structure and function, origins of intelligence, and diversity of behavioral adaptations to the environment.

The bulk of the report is devoted to a selective review of the last 30 years' advances in understanding behavioral processes, with separate chapters devoted to emotion and motivation; vulnerability and resilience; perception, attention, learning, and memory; thought and communication; social influence and social cognition; family processes and social networks; and sociocultural and environmental processes.

Themes

Woven throughout the report is a number of themes: (1) various aspects of mind and behavior develop at different rates, in response to both biological and environmental changes; (2) behavioral comparisons across species and cultures inform us about both the evolutionary origins of health-relevant behaviors and the diversity of behavioral solutions to the problems posed by the environment; and (3) individual variation is as important as variation across groups.

Perhaps most important, the report underscores the primacy of reciprocal influence, or bidirectionality of causation—between biology and culture, between the individual and society, and between emotion and cognition.

Taken together, these advances in our understanding clarify the meaning of normal psychosocial functioning and provide new insights into the roots of major social problems, like poverty and violence, that have major mental health implications.

SEE KIHLMSTROM ON PAGE 27

Kraut Elected President of Coalition for Health Funding

WASHINGTON, DC—APS Executive Director Alan G. Kraut has been elected President of the Coalition for Health Funding (CHF), a Washington-based alliance of 40 national voluntary and professional associations with a combined membership of 40 million people. He previously served as Secretary-Treasurer of the coalition and has been a member of the Board of Directors for several years.

Founded in 1970, CHF advocates in Congress on behalf of funding for what are known as discretionary health programs (as opposed to entitlements such as Medicaid and Medicare) within the US Public Health Service (PHS). The PHS encompasses an array of agencies, including the National Institutes of Health (NIH), the Centers for Disease Control and Prevention (CDC), the Health Resources and Services Administration (HRSA), the Substance Abuse and Mental Health Services Administration (SAMHSA), plus a variety of other programs and block grants for state and community health services for low-income families and individuals.

In addition to APS and other groups focused on research, the Coalition includes health professionals, lay volunteers, and consumer organizations. The groups that comprise the Coalition span an enormous range of concerns: AIDS, aging, dental health, developmental disabilities, heart and lung disease, public health, nursing, medical specialties, family planning, and higher education. [The full list of CHF members appears in the box at right.]

APS Testimony Cites Momentum, Need

WASHINGTON, DC—Citing the increasing presence of behavioral science in the federal establishment, APS Executive Director Alan G. Kraut testified before Congress on the status of behavioral research in the (fiscal year) FY96 budget for the National Institutes of Health (NIH).

Among other things, Kraut recounted the recent history of the NIH Office of Behavioral and Social Science Research (OBSSR) and asked that Congress help ensure that psychology's research is supported at NIH generally and at individual institutes.

Kraut delivered his statement before the House of Representatives subcommittee with jurisdiction over the NIH budget. Although the leadership of the appropriations committee has changed as a result of the Republican "takeover" last fall, NIH traditionally has received strong bi-partisan support from

Diversity and Access

Because of its broad-based membership, the coalition has an unusual degree of access to Washington insiders who are knowledgeable about health agencies and about the workings of Congress. "Collectively, we're able to get to speak to those who are on the cutting edge of issues in Washington," said Michael

SEE COALITION ON PAGE 13

Coalition For Health Funding

AIDS Action Council
 Alliance for Aging Research
 American Academy of Pediatrics
 American Association of Colleges of Pharmacy
 American Association for Dental Research
 American Association of Dental Schools
 American Association of University Affiliated Programs for
 Persons with Developmental Disabilities
 American College of Cardiology
 American College of Preventive Medicine
 American Foundation for AIDS Research
 American Heart Association
 American Lung Association
 American Nurses Association
 American Optometric Association
 American Psychiatric Association
 American Psychological Association
 American Psychological Society
 American Public Health Association
 American Society for Microbiology
 Association of American Medical Colleges
 Association of American Universities
 Association of Chiropractic Colleges
 Association of Maternal and Child Health Programs
 Association of Physician Assistant Program
 Association of Schools of Public Health
 Association of State and Territorial Health Officials
 Association of Teachers of Preventive Medicine
 Association of University Programs in Health Administration
 Citizens for Public Action on Blood Pressure and Cholesterol
 Cystic Fibrosis Foundation
 March of Dimes Birth Defects Foundation
 National Association of Children's Hospitals and Related
 Institutions
 National Association of Community Health Centers
 National Association of State Universities and Land Grant
 Colleges
 National Council of Community Hospitals
 National Family Planning and Reproductive Health
 Association
 National League for Nursing
 Planned Parenthood Federation of America
 Society for Neuroscience

SEE TESTIMONY ON PAGE 12

Are Indirect Costs In For a Direct Hit?

As \$1.6 billion in federal cuts are sought, will there be a "contract" put out on the American research enterprise? APS members and policymakers discuss implications for direct costs.

"Indirect costs" may be one of many areas where the Clinton Administration and the Republican "Contract With America" appear headed for collision. But there are few issues more central for the academic research establishment. University researchers and administrators alike have reason to be concerned as Republicans reach for a reported \$1.6 billion "savings" over the next five years in federally sponsored research.

To put this in context, the total federal government R&D expenditure is about \$72 billion annually, with some \$14 billion being spent on basic research. University-based research accounts for nearly \$12 billion of the total federal R&D budget, and indirect costs account for about \$3 billion. To achieve the \$1.6 billion cuts will require about \$335 million in cuts per year over the five-year period.

Looming Threat, Defensibility

House Republicans have included in their "Contract With America" a looming threat of major slashes in federal payments in order to offset the major tax reductions the Contract promises and to reach lower spending levels needed to balance the budget by the year 2002.

Meanwhile, on February 6, 1995, the Office of Management and Budget (OMB) published in the *Federal Register* the Administration's proposal to revise the complex set of rules in *Circular A-21* that govern reimbursements for university overhead costs. The Administration recognizes that such costs are an essential part of the nation's research enterprise, and OMB believes that better management may help squelch congressional forays into indirect cost territory. In six triple-spaced pages, the OMB called for comments on eight proposed revisions that could become effective this year and on five areas where future revisions are

planned.

Circular A-21 (Cost Principles for Educational Institutions) was last modified in 1991 and 1993, respectively, to exclude and limit certain indirect costs and to clarify and standardize cost determination procedures. The deadline for public comment on the proposed revisions is in late April of 1995.

Clarity, Consistency

The proposed rules seek greater consistency in what can be counted as overhead expenses and in how reimbursement rates are set in negotiations with individual universities.

The Administration proposes in the regulations to substitute the term "project costs" for what hitherto were called "direct costs," and would do away altogether with the term "indirect costs," which in the future would be identified separately as "administrative costs" and "facilities costs."

Among other changes designed to reduce costs, the OMB proposal would prohibit, for example, the use of "special studies" that research institutions have used in determining utility, library, and other costs associated with sponsored research. The proposals also would disallow, for example, dependent tuition benefits in calculating reimbursements. At the same time, the OMB proposals do not appear to herald major reductions in federal reimbursements for direct research costs.

Paths to a Contract With America

Whether the new regulations can resist the onslaught of Contract With America legislation is subject to debate among Washington observers. The \$1.6 billion in cuts widely foreseen as the Republicans' five-year goal is based on Republican "counter-budget" figures presented in (fiscal year) FY93 and FY94. The much

more real and threatening counter-budget for FY95 will not be out for months. To achieve \$1.6 billion in reductions on federal research expenditures, Congress could cut overall research allocations by \$300 million to \$400 million a year. Or, it could cut the university indirect costs by about 10 percent. Alternatively, it could cap the "facilities" part of indirect costs at 45 or 50 percent, without taking into account the cost differences between private and public universities and cost differences between types of research. All three paths are uninviting to most members of the educational and scientific community.

Some psychologists are speaking up to tell legislators and the public what may happen to what they consider the world's greatest research system if deep cuts are made.

Charles Kiesler, Chancellor of the University of Missouri-Columbia and APS's first president, is asking Missouri's congressional representatives—many of them new—to resist the drive against indirect cost recovery.

"Universities have been squeezed and squeezed on science costs,"

Kiesler told the *Observer*. "And in a sense this is just another unfunded mandate, because the costs are real, calculable and continuing. We have to pay them whether or not the federal government reimburses us. So if they decide to save money which their own formula says they should pay, they do it at our expense. They save but we pay for their savings. I've been doing a review of unfunded mandates on campus here and it is well over \$30 million across the last decade."

Not Concerned?

APS President Marilyn Brewer has a message for researchers who are not concerned about cuts in indirect cost recovery: "Even though I do understand and appreciate some researchers' concerns that the same pot of money is being used



Kiesler

CONTINUED ON NEXT PAGE

FROM PREVIOUS PAGE

here for both direct and indirect costs, I think that's an oversimplified perspective.



Brewer

"I don't think it's exactly a single pot. I think that indirect costs reflect a long-standing implicit agreement between the American government and

the universities dating from the 1950s and based on the idea that indirect costs are a form of investment in the research infrastructure of the country as a whole. They are an investment in the future, not just a reimbursement for past research-related expenses ... and they are an extremely important factor in the efficiency and success of research in this country. We conduct research in the context of our universities and actually do it at less total expense than under other institutional arrangements."

Brewer agrees that the current system for negotiating specific indirect cost rates at individual universities needs some overhaul to reduce some of the variability. She said the rates should take into account the circumstances, costs, and types of work done in different universities, and that the same kinds of expenses should be treated the same way.

"This should be done only for the sake of rationalizing the system, not for the sake of cutting costs *per se*, because a cost-cutting effort of the type we are hearing about will undermine the whole principle of research support that the indirect cost system is designed to protect.

"The idea of an across-the-board cap is dangerous," Brewer added, "because it doesn't recognize honest and legitimate variability, and because it sets a precedent that could carry much further. I do not think that capping indirect costs would in any way enhance the availability of *direct* costs to research. It's not the kind of trade-off in which lowering one aspect will guarantee an ability to increase the other aspect. Instead, I think we just endanger the whole enterprise that supports the infrastructure for research."

Brewer voiced reservations about one OMB proposal for developing models for charging space to direct costs of research grants. She said this might have major impact on psychological research, where laboratory space is generally multipurpose.

From Both Sides

APS President-Elect Richard Thompson views the indirect costs issue from two perspectives. Wearing the hat of a *researcher* with grant support and the hat of an *administrator* who directs the neuroscience program at the University of Southern California (USC). "A fundamental problem that a lot of people don't see has to do with private universities," said Thompson. There is an enormous difference in the cost of doing research at private versus state universities, in terms of the infrastructure support." He said states provide a great deal of the infrastructure support for their



Thompson

universities, which therefore get indirect support rates typically in the 40 percent range. USC, a private school, has a rate of about 63 percent and Harvard is higher than that, he noted.

Asked what he says to researchers who claim they should be getting larger shares of the total direct and indirect costs, Thompson responded, "I would challenge them to sever their ties with the university and see if they can find as good facilities at as low a cost."

Anne C. Petersen, deputy director of the National Science Foundation and an APS Fellow, said that "if Congress cuts money for indirect costs, it's folly to think that that money is going to return to the individual researcher. I think it would be misguided for people to believe that if they lose money from indirect costs they are going to gain it on the research side. To the extent that indirect costs are real, and I believe they are, cuts in indirect costs will mean *that* much less money available to universities to support faculty research."

But emphasizing the importance of the Administration's proposed rule changes, Petersen said, "it keeps the funding in the researchers' domain, permitting the research community itself to decide necessary trade-offs. It's a much better way to manage the cost of doing research."

Petersen believes the OMB proposal is very constructive, in part because it was arrived at by the various research-related constituencies in an "impressively organized manner."

Petersen likes the idea of eliminating the term "indirect costs," and instead identifying project, administrative, and facilities costs. "That's really what the rates contain, and this way people have a clearer idea of what the money is going for."

Real Costs

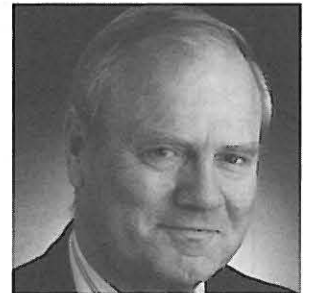
Not all institutions simply absorb the total indirect costs they receive. APS Fellow William Prokasy, Vice President for

Academic Affairs at the University of Georgia, personally oversees the return of 20 percent of indirect cost recoveries back to the department that originated the funded research proposals at his university. The department heads then use those funds as they think best, Prokasy said.

Prokasy said that if there is significant reduction in overhead cost payments, there will also be significant reductions in the extent to which the University of Georgia can provide for research internally. "There will be fewer dollars available for equipment, start-up funds for new faculty, investments in new instructional technologies, individual faculty grants—that would be the impact of reduction in the indirect



Petersen



Prokasy

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FROM PREVIOUS PAGE

cost dollars," he said.

APS Charter Fellow Emanuel Donchin of the University of Illinois-Champaign (currently on sabbatical at Technion University in Haifa, Israel) suggested that the current capping system, "that nobody understands," allows the government to deny payment for amounts of money already agreed upon and that universities

have already spent, according to Donchin.

"The government should be honest and say it is not going to pay its full share," Donchin said. "Then, either the universities do research without being reimbursed, or, the research base of this country is going to hell. That is the choice Congress should make. But to present indirect costs as some sort of boondoggle that Congress is now taking away is very deceptive."

Donchin added that if government really

wants to reduce research costs, the "first, simplest, and fairest approach would consider cost factors within the competition."

For several years the federal study sections that evaluate grant applications have been forbidden to consider the comparative costs of doing research at different places, said Donchin. The result is that "an agency may put so much money in the first grant to a very expensive place that they zero out the others."

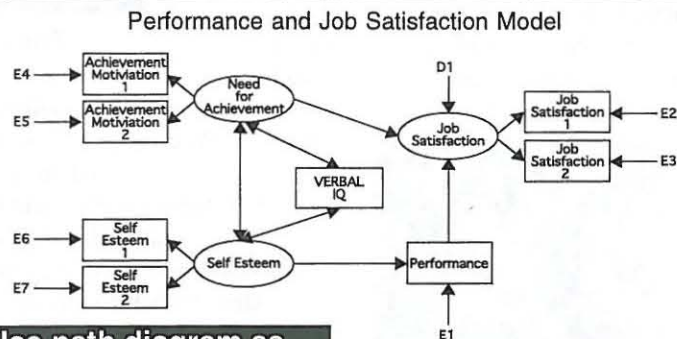
If such competitive pressures were in operation, "a university would think twice about whether it wants to build seven fancy laboratories, because that would increase the cost of doing research on that campus. Or graduates will think twice before they unionize and push for high salaries, because the campus will lose grants if they do," explained Donchin.



Donchin

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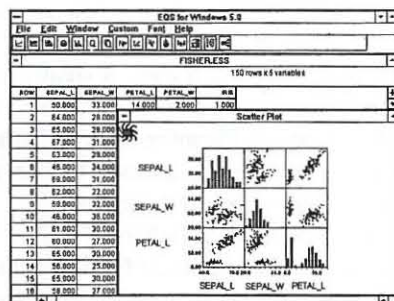
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Consequences of Cuts

Regarding potential congressionally mandated cuts, Margaret Intons-Petersen, chair of the psychology department at Indiana University, said, "There will be a distinct diminution in research, if more cuts come now—that's inevitable at this time, when universities are responding to the simultaneous call for more education. Here at Indiana if we have an increased teaching load, it would certainly cut into our research productivity."

She said that when Indiana University reduced teaching loads some years ago, research productivity showed a marked increase. "Now if we have a dampening in the other direction, we would see a deplorable reduction in research."

Charter Fellow Edward Katkin, dean of social and behavioral sciences at the State University of New York-Stony Brook, said, "Some think that indirect costs money is simply icing on the cake or some kind of welfare gift to the universities. When you add up the total cost of running a modern research university, the indirect



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New Clinical and I/O Liability Insurance Available Through APS

Faculty with part-time practices, I/O psychologists, and students are eligible

For APS members only: APS now offers an occurrence-based professional liability insurance program. Those eligible for the new program include faculty with a part-time practice and full- or part-time I/O psychologists. Students are covered as well, if they are enrolled in a graduate psychology program.

The insurance is carried by National Professional Group Risk Management Services, Inc., (NPG) of Chicago, Illinois, and is underwritten by CIGNA Property & Casualty. The coverage was designed to provide the most reliable and economical professional liability insurance program as possible. It also provides one of the broadest forms of liability coverage available today.

APS is pleased to be able to bring this new service to its members. Some of the policy's highlights are listed below.

Occurrence Policy

This is an "occurrence form" of policy, which means that under this plan, you are protected for life for events that occurred during the policy period. Even if you change jobs or locations, retire, or the policy lapses, the protective coverage continues.

Most professional insurance policies provide coverage on a "claims-made" basis. Under "claims-made," any claim made after the policy lapses is not covered unless Extended Reporting Coverage is purchased for an additional premium. (The cost for such may be as high as 200% of the premium paid for the in-force policy.)

The advantage of an occurrence policy is that malpractice suits usually are not filed immediately, even when a patient is dissatisfied with a service. Filing a malpractice suit may occur years after a specific incident and may even be filed by a relative after the patient is deceased.

If you have been covered in the past by a claims-made policy and want to switch to this occurrence-based coverage, there is

an option in this new APS program to purchase "Prior Acts" coverage on a selected basis. Separate premium information is available from National Professional Group on this. Legal fees and court costs involving claims or incidents covered by this policy will be paid on the insured's behalf at no additional cost.

Rates

Administered by NPG, rates for coverage have been kept at a very competitive level. Professional APS members have three levels (options) of coverage, and students have two levels of coverage available. See the table below.

Policy Highlights: What's Covered?

As an insured, you would be covered for damages of up to \$1 million for each incident and \$3 million aggregate. Your own court-related **defense costs** are covered under this plan at no additional cost. **Defendant's reimbursements** are covered at up to \$250 per day to a total of \$5,000. There also is coverage for **premises liability, premises medical payments, first aid given to others as a result of a covered injury, and damage to the property** of others in your care.

What's Not

The policy specifically excludes full-

time clinical psychologist practitioners, those working more than 16 hours per week in private practice. The coverage is offered exclusively to APS members and students in good standing.

Who Is Covering?

NPG, the insurance administrator, is a subsidiary of Near North National Group. NPG specializes in providing custom-designed professional liability and group accident, health, and life programs for professional society members. Near North National Group is a diverse worldwide organization providing insurance products and comprehensive risk management solutions. It is headquartered in Chicago, with offices in New York, Los Angeles, Dallas, Tampa, and Washington, DC.

For More Information

Application forms and more information can be obtained from: NPG, 875 North Michigan Ave., 19th Floor, Chicago, IL 60611. Toll free: 800-253-5486 (Ask for APS Program Administrator.)

APS also offers a *non-clinical* (i.e., educator) program for faculty and students. Call Lauren Butler at APS for more information: 202-783-2077.

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Category II: Student	<input type="checkbox"/> \$57	<input type="checkbox"/> n/a	<input type="checkbox"/> \$60

*Clinical Psychologists working full-time in private practice are ineligible for this coverage

Call for APS Fellow Nominations

Fellow Status Criteria

(effective 12/94)

The basic criterion considered for Fellow status in the American Psychological Society is that of sustained outstanding contributions to the science of psychology in the areas of research, teaching and/or application. Candidates will generally be considered after ten years of postdoctoral contribution, though exceptional cases of candidates with fewer years will be considered. The nominee must be a member of APS.

NOMINATIONS

Individual APS members may make nominations any time during the year. Nominators must supply the following documents to the APS Membership Committee.

- (1) A letter of nomination specifying why the candidate is judged to have made sustained outstanding contributions.
- (2) The candidate's current curriculum vita.
- (3) Letters of support from three outstanding contributors to the field of scientific psychology familiar with the nominee's work, one of whom **must** be an APS Fellow.

REVIEW AND APPROVAL OF NOMINATIONS

The APS Membership Committee has appointed a Fellows Subcommittee consisting of a Chair and other APS Fellows (representing diverse specialty areas) to consider the nominees for whom letters and vitae have been received. The Subcommittee's voting on Fellow status may be made during a meeting at an annual convention, on a conference call, or by mail ballot. The Chair of the Membership Committee will coordinate all evaluations, recommendations, and voting. The APS Board of Directors will be notified of nominees approved for Fellow status.

FELLOWSHIP NOMINATION

I would like to nominate _____ (please print or type) for APS Fellow status. In support of this nomination I have enclosed the following documents:

- ◆ Letter of nomination
- ◆ Curriculum vita of nominee
- ◆ Supporting letters from three colleagues, at least one of whom is an APS Fellow

I hope that the APS Fellow Subcommittee looks favorably upon my nomination of this worthy colleague.

_____ (your signature)

_____ (printed name)

_____ (address)

_____ (telephone)

Return to:

APS Membership Committee
American Psychological Society
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Attn: Maria Cuzzocrea

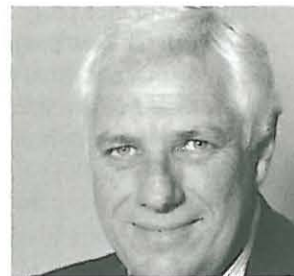


AMERICAN
PSYCHOLOGICAL
SOCIETY

INDIRECT FROM PAGE 6

costs don't cover the real costs of supporting the scientists. If the government abandoned the research university structure that evolved through World War II and if it tried to fund all this research independently without the universities' contributions, it would cost a hell of a lot more than it does now."

Katkin is a researcher himself and a self-described "political realist" who thinks it is extremely naive for researchers to believe the government



Katkin

would convert indirect costs money into direct costs to researchers. "That money is never going to be seen by the scientists," he said. "A serious analysis would reveal that the university researcher wouldn't be able to function were it not for the environment that is paid for by the indirect costs," he asserted.

"The environment is everything, including the building in which they work, the laboratories, the reduced teaching load they get in a research university as compared with a liberal arts college, the heating, lighting, safety, and security. All of that has to be accounted for somewhere. But when you add it up, the current rate doesn't cover all the costs. Now if caps go into effect, ultimately the research universities are going to have to scale back on the support they provide to researchers," Katkin said. **D.K.**

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

NIMH FROM PAGE 1

The report, *Basic Behavioral Science Research for Mental Health: A National Investment*, was written by a task force of some of the nation's most prominent figures in psychology. The task force was led by a Steering Committee co-chaired by Gordon Bower of Stanford University, and John Kihlstrom of Yale University. Bower was president of APS and also was a senior advisor to NIMH when the process was initiated in the fall of 1992. Kihlstrom is editor of the APS journal *Psychological Science*.

Other members of the Steering Committee were APS Past-President James L. McGaugh, University of California-Irvine; James Jackson, University of Michigan-Ann Arbor; Jeanne C. Fox, University of Virginia; and Joseph L. Matarazzo, Oregon Health Sciences University. All are members of the NIMH advisory council under whose auspices the plan was developed. This Steering Committee oversaw teams of experts who examined the state of behavioral research in several areas. The full list of participants appears in the box on page 10.

Recommended Reading

"The job of the Task Force was to consider the accomplishments and prospects of basic psychosocial research," says Kihlstrom. "Neuroscience and clinical research don't get much play in the report because that wasn't our goal; they're dealt with at length in other recent reports."

Kihlstrom feels strongly that the report should be widely publicized. "Psychologists should promote awareness of the report itself," he says. "It summarizes many of the most salient accomplishments of behavioral science, what we've learned about how organisms interact with the environment, how the mind works, and how people relate to each other. It's a record of which we can be very proud, and frankly, I think we ought to flaunt it a little," says Kihlstrom.

In fact, the report is a must-have item for every research psychologist, Kihlstrom believes. Instructors should use the report in introductory courses "to underscore the contributions of basic psychological research to practical application in mental health," suggests Kihlstrom, and "every psychologist should keep it on his/her desk. At the very least, there should be copies in department offices where students and the public can leaf through it and learn about our science, what we know, and its relevance to mental health."

How It Happened

According to Alan I. Leshner, then-deputy director of NIMH who had charged the Committee with developing the report, the concept of the behavioral science task force began to form with early conversations he had with APS Executive Director Alan Kraut. Leshner, now Director of the National Institute on Drug Abuse, recalls that they were "conversations about what techniques could be used to advance the behavioral science agenda across the government."

"The idea," according to Leshner, "was to articulate the accomplishments and opportunities in behavioral science in ways

that could be tied to an agency's agenda. One form was the Human Capital Initiative [HCI, a broad national behavioral science research agenda], which APS was instrumental in developing. The NIMH task force was another, more specific, form."

The scope of the report does not reflect the full range of behavioral research at NIMH. It focuses primarily on research within the jurisdiction of NIMH's Division of Neuroscience and Behavioral Science. According to Division Director Stephen H. Koslow, charged with overall responsibility for implementing the report, this is the first such report on NIMH's activities in this area. He characterizes the report as an assessment of "the impact basic behavioral science has had on the core mission of the NIMH and research opportunities for the future which would benefit our mission."

"I am very excited and pleased with the final version of the report, which started out as an analysis of our basic behavioral science portfolio and has now been elevated to a report to the 104th Congress," he adds.

Essentially, the task force report is a compilation of what is known in such areas as emotion and motivation, vulnerability, perception and memory, communication, social cognition, and family and cultural processes. The report suggests future research directions in these and other topics, and even provides short bibliographies for "further reading." It is written for non-science audiences, making it especially valuable in public education efforts about basic behavioral science.

"Although the report is on basic research," says Bower, "it touches on some applied behavioral science programs designed to help special subpopulations—the mentally ill, the retarded, the brain-injured, and substance-abusers. The report also describes research on some causes and psychological consequences of low socio-economic status, of dysfunctional families, homelessness, and dysfunctional neighborhoods," he says, "plus it mentions several behavioral programs to improve the resilience of people who find themselves in such circumstances."

Funding Increases Urged

In addition to documenting the past contributions of basic behavioral science to addressing issues of mental health, the recommendations for increased funding were adopted by the NIMH Advisory Council and presented to the NIMH Acting Director. They will be conveyed to Congress as well. (A more detailed version of the draft recommendations was published in the September 1994 *Observer*.) Following are the recommendations:



Koslow



Bower

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1. Increase support for investigator-initiated research.
2. Increase support for research training.
3. Preserve expert review of basic behavioral science.
4. Encourage basic-clinical research collaborations.
5. Preserve and expand facilities for research on behavioral and social processes in animals.
6. Strengthen the methodologies of basic behavioral science.
7. Establish multi-media database archives for basic behavioral science.
8. Facilitate the support and conduct of longitudinal research.

"This is largely an appeal for expanded funding for basic research in behavioral science," according to Bower, based on "its contributions to our understanding of mental health and its contribution to the prevention and treatment of mental disorders."

Peer Review Merger

The basic behavioral science report comes at a time when NIMH's resilience is being tested by a series of prolonged high-level personnel vacancies and the pending merger of its peer review system with that of the National Institutes of Health (NIH). The Institute has been without a permanent director since Frederick Goodwin resigned in the spring of 1994. A lengthy national search to replace him was nearing a conclusion when the leading candidate died and the search for director was reopened. Longtime NIMH intramural scientist Rex William Cowdry is serving as acting director.

"The behavioral sciences are vital to understanding the etiology, treatment and prevention of mental illnesses," Cowdry tells the *Observer*. "The NIMH Council report describes the remarkable advances made in the behavioral sciences and captures the excitement of this growing field. In preparing the report, the 52 members of the NIMH Behavioral Science Task Force did a superb job of framing both the opportunities and the challenges in behavioral research for the future."

The peer review merger is scheduled to happen over the next year. NIMH joined NIH in 1992 but was given a grace period of four years before its peer review system would be incorporated into that of NIH. The report expresses the concern that the merger with NIMH will dilute the review of behavioral research proposals because "as currently structured, [NIH review] committees cover a broad range of biomedical science and are not well specialized in behavioral science." In other words, right now proposals are reviewed by NIMH committees whose entire membership is in behavioral science. The fear is that under the NIH system, behavioral science proposals will be reviewed by biomedical scientists who do not understand or who may even be negatively disposed toward behavioral and social science research.



Cowdry

NIMH BASIC BEHAVIORAL SCIENCE TASK FORCE

Task Force Steering Committee

Co-Chairs

Gordon H. Bower, Stanford Univ.
John F. Kihlstrom, Yale Univ.

Council Members

Jeanne C. Fox, Univ. of Virginia
James S. Jackson, Univ. of Michigan
Joseph D. Matarazzo, Oregon Health Sciences Univ.
James L. McGaugh, Univ. of California - Irvine

Task Force Sub-Committee Co-Chairs

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Patricia Carpenter, Carnegie Mellon Univ.
Rand Conger, Iowa State Univ.
Charles R. Gallistel, UCLA
H. Hill Goldsmith, Univ. of Wisconsin - Madison
James House, Univ. of Michigan
James M. Jones, Univ. of Delaware
Daniel Kahneman, Princeton Univ.
Robert W. Levenson, Univ. of California - Berkeley
Carolyn Rovee-Collier, Rutgers Univ.
Diane Ruble, New York Univ.
Charles Snowdon, Univ. of Wisconsin - Madison

Task Force Sub-Committee Members

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Ana Marie Cauce, Univ. of Washington
Margaret Clark, Carnegie Mellon Univ.
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Frans deWaal, Emory Univ.
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Robert Sternberg, Yale Univ.
Stephen Suomi, Natl. Inst. of Child Health and Human Dev.
Esther Thelen, Indiana Univ.
Anne Treisman, Princeton Univ.

CONTINUED ON NEXT PAGE

Congress Praises NIMH Behavioral Science Report

From the beginning, the NIMH behavioral science task force captured the interest of those who hold the purse strings over NIMH's annual budget in both houses of Congress. (APS first brought the task force to their attention in the fall of 1992 and continued to keep them apprised of the task force's progress.)

In 1993, the Senate Appropriations Committee expressed strong support for behavioral research at NIMH. The Committee, under the leadership of Sen. Tom Harkin (D-IA), commended NIMH for undertaking the review of basic behavioral research, told the Institute to develop a plan similar to its plans in other fields, (e.g., schizophrenia, neuroscience) and asked not only to receive the task force report but also an implementation plan based on the report. Here are the Committee's instructions to NIMH:

Behavioral science task force.—*The Committee understands that the NIMH National Advisory Council is in the midst of a major effort to develop a behavioral science research agenda. It has convened a distinguished behavioral science task force of outside experts and they are now conducting a comprehensive assessment of the basic behavioral and psychosocial research. The result should be a national plan for behavioral science research similar to other NIMH reports that have shaped the Institute's programs in schizophrenia, child and adolescent mental disorders, and neuroscience. The Committee applauds this effort and is looking forward to receiving the task force report when it is presented to the NIMH National Advisory Council. Further, the Committee requests NIMH to report back to Congress within 60 days of the final task force report with plans for implementing the recommendations of the task force.* [S. Rpt. 103-143, pp. 114-5, September 7, 1993]

In 1994, both the Senate and House Appropriations Committees expressed support for behavioral research, took special notice of the task force report and asked for a response from NIMH. The House Committee said:

Behavioral research.—*The Committee commends the NIMH national advisory council for its report on basic behavioral science research. The Committee supports an increased emphasis on basic behavioral science and believes the plan represented by the report is an appropriate blueprint. The Committee would like to receive prior to the 1996 appropriation hearings a report on how the Institute is responding to these recommendations.* [H. Rpt. 103-553, p. 63, June 21, 1994]

After reviewing the report, the Senate committee reiterated its strong support for behavioral research at NIMH and urged the Institute to move quickly to implement the report's recommendations, with the following language:

Behavioral science research plan.—*The Committee has received the NIMH National Advisory Council's report on "Basic Behavioral Science Research for Mental Health" that was requested in last year's appropriations. The Committee commends the NIMH Council on its comprehensive analysis of the broad range of basic behavioral research so critical to understanding mental health and mental illness. The Committee has long supported an increased emphasis at NIMH on basic behavioral science and believes the report should serve as a blueprint for achieving such an increase. The Committee views the report in the same mold as NIMH's other national plans for schizophrenia and neuroscience research. Therefore, the Committee strongly encourages NIMH to implement the report's recommendations as summarized both in the executive summary and that section dealing with infrastructure issues. The Committee would like to receive by February 1, 1995, a plan from NIMH on how the Institute is achieving these recommendations, with a particular eye toward how the Institute is increasing its individual investigator (RO1) grants in the behavioral sciences.* [S. Rpt. 103-318, pp. 104-105, July 20, 1994]

FROM PREVIOUS PAGE

More Needs to Happen

"The completion of this report is a big achievement," notes Kraut, "but keep in mind that some other things need to happen before we start seeing increased funding for behavioral science at NIMH." The next big step is for NIMH to develop an implementation plan. The task force report currently is wending its way through the bureaucratic channels of NIH and its parent agency, the Department of Health and Human Services. Then it will be sent to Congress, which became interested in the report after APS brought the task force's activities to the attention of the Senate committee that oversees NIMH's annual budget. Both the Senate committee and its counterpart in the House of Representatives have asked for the Institute's plan for implementing the report's recommendations.

Mary Ellen Oliveri, chief of NIMH's behavioral, cognitive and social science research branch, expresses the hope that the report will expand NIMH's behavioral science portfolio "in three ways: In established areas whose value for mental health is documented, such as cognition, personality, and social relationships; in areas that have received less NIMH attention in recent years, such as basic research in macro-social and cultural processes; and in cutting-edge areas critical to both mental and physical health, such as the interaction of biological and behavioral processes."



Oliveri

When asked whether there is anything the behavioral science community can do to ensure the success of the report, Oliveri replied that "it is particularly critical that the scientific community stay in the fight and continue to submit the highest quality applications."

"We cannot be effective in garnering increased support without a strong line-up of proposals that represent the very best of behavioral science," she added.

This is echoed in comments by Kihlstrom: "When things get tight financially, there is a tendency to think of basic research as a luxury. We want to make the case that basic research undergirds advances in practical application, and thus is a necessity we can't afford to be without. There are more good basic researchers, doing more good basic research in the service of the nation's mental health, than ever before, and we want people to know that." **S.B.**

Ordering Information

Once the report (*Basic Behavioral Science for Mental Health: A National Investment*) is released, readers will be able to obtain it from the NIMH Office of Public Information and Publications (Tel.: 301-443-4513; 8:30AM to 4:30PM, Monday through Friday).

TESTIMONY FROM PAGE 3

Congress. Most observers are predicting that NIH's budget will be treated relatively well in FY96, but the budget-cutting rhetoric that currently dominates discussions in Congress could translate "treated relatively well" into modest cuts before this is all over.

The first step in the FY96 budget process occurred in early February when President Clinton proposed a 4% increase overall for NIH and a 7.6% increase in the research and related activities of the National Science Foundation. (Within the NSF budget, the directorate housing behavioral and social science research received an 8% increase.) How the new Congress will treat these proposals remains to be seen.

Momentum in Federal Support

There is a momentum occurring in federal support for behavioral science research that should not be disrupted, Kraut told the lawmakers. He cited as evidence recent developments such as the Human Capital Initiative, a national behavioral science research agenda that has been used by several federal research agencies; the OBSSR; the basic behavioral science report of the National Institute of Mental Health (see this *Observer* page 2 and related story on page 1); an expansion of the behavioral science portfolio of the National Institute on Drug Abuse; and the recommendations of the National Academy of Sciences (NAS) that NIH training should be increased in the behavioral sciences while training in biomedical disciplines should be held level (see July/August 1994 *Observer* article on National Research Service Awards).

Behavioral research is critical in addressing the health needs of the nation, said Kraut. He asked the congressional panel to support an expansion of NIH's behavioral science portfolio in keeping with the prominent role of behavioral factors in the areas that are of greatest concern to the nation. Many federal and NAS reports over the past decade have documented the role of behavior in the leading causes of death in this country, including heart and lung disease, accidents, suicide, violence, and AIDS.

Overall, Kraut asked Congress to preserve behavioral research from cuts in the FY96 NIH budget. His specific recommendations included the following:

- ◆ Provide \$5 million for the Office of Behavioral and Social Science Research in FY96, which will be its first year of operation.
- ◆ Provide \$2.5 million for the NIMH "B/START" (Behavioral science Track Award for Rapid Transition) program, designed to assist young behavioral science investigators and which APS helped establish (see January 1995 *Observer*). The program has been deluged by proposals but could only fund a small portion in FY94 and FY95. This request would double the existing B/START budget.
- ◆ Support the efforts of the National Institute on Drug Abuse to bring the full power of science to bear on drug abuse and addiction by appropriating funds for an expanded behavioral science portfolio at NIDA.

- ◆ Direct NIH to implement the NAS recommendations to increase the annual number of National Research Service Awards for research training in the behavioral sciences from 1,069 to 1,450.

Excerpts

Following are excerpts from the APS statement to Congress on the FY96 budget for the National Institutes of Health:

What Psychologists Do.

The American Psychological Society was established only six years ago to represent the science of psychology. Our 15,000-plus members are scientists in areas ranging from basic brain processes, to applied research in disease prevention, to the study of organizational issues related to health. They include members of the National Academy of Sciences, Nobel Prize winners, and distinguished researchers from leading universities working in an array of specialties. Psychobiologists and behavioral neuroscientists study the relationships between the brain and behavior. Health psychologists study the interactions between health and behavior. Developmental psychologists study physical, emotional, and cognitive development, with emphasis on the beginning and end of the lifespan. Social psychologists look at behavior in individuals and groups. You will find psychologists conducting research on hearing and vision, learning and remembering, decision making, heart disease, stroke, mental illness, disease prevention, and AIDS, just to name a few. The common thread is behavior, whether at the level of a single organ, an individual, or the behavior of groups and organizations.

Why Behavioral Research is Needed.

Let me describe just one example of the need for behavioral research: The CDC has just reported that AIDS is the number-one killer of people between the ages of 25 and 44 in this country. This increase in AIDS deaths happened at the same time that Congress has in good faith made an enormous annual investment in NIH AIDS research, which is overwhelmingly biomedical. Clearly, this current approach isn't working fast enough. It's not a matter of stopping biological research on AIDS. But until a vaccine is developed—and even the most optimistic estimates indicate that won't happen for many years—we could be doing a great deal more to address the transmission of AIDS, which fundamentally is a behavioral issue.

NIH Office of Behavioral and Social Science Research.

This is the third appropriations cycle in which I have appeared before this Committee and your counterpart [Committee] in the Senate to request your support for the Office of Behavioral and Social Science Research (OBSSR). The Office was authorized in order to expand NIH's portfolio of research on some of the nation's most serious public health problems which have behavior at their core: violence; teen pregnancy; heart and lung diseases; injuries and accidents due to alcohol and drug abuse; the transmission of disease through risky sexual behaviors; even more common issues such as getting patients to take prescribed

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medicine, or convincing parents to bring their children in for vaccinations, or convincing women to come in for mammograms. Virtually every National Institute has a behavioral science component. The NIH Behavioral Science Office would link those programs in ways that would minimize unnecessary duplication and would identify promising areas of behavioral research that should be pursued....

This year, I bring some good news. As I mentioned earlier, a director for the [OBSSR] Office will be chosen soon, and he or she will be able to begin fulfilling the mission of the Office, which will be to first assess the current levels of behavioral science at NIH, and then identify promising areas of research that should receive increased support.

An Expansion at NIDA.

Contrary to the prevalent view that drug abuse and addiction are social or moral conditions, drug abuse is a health problem; in the words of the director of the National Institute on Drug Abuse (NIDA), it is "a treatable chronic and relapsing disease" as well as a "preventable behavior." NIDA is in the process of expanding its support of behavioral science, particularly in the area of research on craving. There needs to be significantly more research on the underlying behavioral and biological mechanisms of craving as well as research on the role of peer pressure, family and environmental factors, and other issues in order to understand why and how substance abuse begins.

Increase NIH Behavioral Science Training.

In explaining its recommendation, the National Academy of Sciences (NAS) said "there is now increasing recognition that many of the worst problems facing this country are primarily behavioral in character and that these sciences possess important information to address those problems." The report also noted that training funds have been disproportionately directed to research on the biological bases of behavior, resulting in "less attention to research training in the behavioral and social dimensions of physical and mental health than might be desired. It is the hope of the [NAS] committee that expanded NASA support in the behavioral sciences in the coming years will result in significant growth in the number of awards made for research training in the solution of social problems related to the health and well-being of all Americans." [emphasis added] **S.B.**

Get your bearings On the Internet . . .

Check out the new *Observer* department on page 14: The APS Internet Connection.

COALITION FROM PAGE 3

Gemmell, Executive Director of the Association of Schools of Public Health and the "elder statesman" of the group in terms of length of membership.

This is echoed by CHF Past President Katherine McCarter, Associate Executive Director of the American Public Health Association, who sees the coalition as "an increasingly effective force in advocating appropriate levels of funding for the Public Health Service."

"It combines the whole spectrum of interests—research, services, training, and prevention," she said, "and the strength of the coalition is in bringing together all of these views in a single voice." In fact, the diversity of the membership base, according to McCarter, has allowed the opportunity to meet with White House officials and others at the highest levels of the federal government and Congress.

Current funding for the PHS is approximately \$22 billion, \$11.9 billion of which is for the NIH. At a time when the new Republican majority has vowed that "everything is on the table," as they look for places to cut the federal budget, PHS programs are thought to be especially vulnerable, with the exception of NIH, which is generally seen as more secure because of the strong support it generally receives from Congress.

The Have-Nots

On January 23, Kraut testified on behalf of the Coalition before the subcommittee in the US House of Representatives that has lead responsibility for the annual appropriations for the PHS. He urged the subcommittee to recognize that PHS programs serve the nation's "have-nots" whom the federal government must continue to protect and that prevention programs are a way to avoid more costly direct-care services.

"We very much appreciate the budget constraints facing this subcommittee," Kraut told the panel, chaired by Rep. John Edward Porter (R-IL). "We know our recommendations may outstrip your resources. But we are also aware that reducing funding for our nation's public health service will result ultimately in more costs to taxpayers, not less. And so we ask respectfully that you recognize explicitly what we know you already appreciate: that even in this time of looking at every option for cuts in federal spending, there are those in the federal safety net who need and deserve our support and protection."

NIH and Public Health

The Coalition membership directory states that "One of the most important principles that unites the Coalition membership is that the public health needs of the nation's population must be addressed by adequately supporting a continuum of biomedical, behavioral, and health services research; targeted health care delivery; health professions training; and prevention activities. No single link in the health care continuum can succeed in its vital contribution without adequate support from each of the other elements."

"Some people are surprised to hear that NIH is part of the Public Health Service," noted Kraut. "It should remind us all that the mission of NIH is public health, not just research." **S.B.**

The APS Internet Connection

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

In this first article, we focus on using the customizable electronic publication, *Personal Searcher*, available by subscription (see below) only to APS members through the Philadelphia-based Institute for Scientific Information (ISI). Developed cooperatively by APS and ISI, producer of *Current Contents*, a *Personal Searcher* **delivers to your desktop today's scientific psychology literature today!** No service has as timely nor as extensive a universe of literature as that compiled by ISI—approximately 16,000 scholarly journals, books, and conference proceedings. *Personal Searcher* **avoids the narrow scope of literature coverage** artificially imposed and inherent in **older and more traditional bibliographic databases** familiar to many readers. Such databases cannot provide the necessary disciplinary "boundary jumping" required in scientific discovery. The modern psychologist is not confined by traditional artificial disciplinary boundaries, and, to survive, needs an intelligent searcher designed to "cut the edge of the scientific envelope!"

The fast pace of scientific information flow can easily flood even the most organized scientist's lab. The APS-ISI *Personal Searcher* publication is effectively a "personal life-saver," designed to intelligently pluck the thin signal of personally relevant published research from the overwhelming din of science information flow. The unique compilation of science citations provides **an informational dimension not available in databases founded on outmoded simple linear dataprocessing** models of information retrieval. Without a *Personal Searcher*, the modern scientist is lost in a universe of literature, unable to scope out the relevant and stellar material!

Your Personally Tailored Intelligent "Search Agent" To Exploit the Universe of Science Literature . . .

The newly available APS-ISI electronic publication Personal Searcher can deliver today's information today from the largest science literature database available. Here's how to make the search agent work for you . . .

APS continues to work with the Institute for Scientific Information (ISI) to provide the APS membership with *Personal Searcher*, an artificial intelligence-based alerting service that delivers current bibliographic information via the Internet to your desktop computer. This service provides APS members with customized access to one of the world's largest multi-disciplinary databases of science literature, and it includes author abstracts and full-text rapid ordering/delivery capability.

With the assistance of an experienced information specialist, *Personal Searcher* subscribers design a search profile that specifically defines a subject area of particular personal interest, allowing them to find the current information they need, when they need it. *Personal Searcher* is not a typical literature searching service, so we explain here its unique capabilities and

how to utilize its power to keep up to date on the latest developments in your specialty area.

Original Approach

Personal Searcher takes information supplied by you that "defines" your area of interest (e.g., a combination of keywords, phrases, journal titles, and the names of key researchers or citations) to create a search strategy. A unique aspect of *Personal Searcher* is its dynamic reliance on references from citation lists (i.e., the articles' bibliographies) to retrieve current articles based upon items referenced in the citations to published papers. This is done by tracking both your work and the work of colleagues in the same research area. This approach is called "cited searching," and it is one of the many options available with *Personal Searcher*.

Three Ways to Track Science

In simpler times, a bibliographic reference might have been considered an isolated document, but modern computer hardware and artificial intelligence allow treating it as a sophisticated element in a family of references. One article inspires other articles, just as that article had been inspired by previous articles and research. Bibliographies represent the past, present and future research on a given project, discipline, or topic.

Thus, cited searching allows you to track your work and that of your colleagues to see what new research has developed from it. By tracking a "cited author," you will learn who is incorporating that cited author's work into his/her own research. For example, if your field is Geriatric Psychology, you may wish to follow not just G.S. Alexopoulos' work, but also *the work of whomever is*

SEE SEARCH ON PAGE 38

Third NIMH Behavioral Research Center Established

APS-stimulated NIMH program spawns an emotion and attention center at University of Florida

Basic behavioral research on emotion got a third major boost as the National Institute of Mental Health (NIMH) selected the University of Florida as the site of its latest new Center for Behavioral Science Research.

The NIMH program was mandated three years ago by Congress, after much prodding and urging by APS, and NIMH made grants to the first two centers in (fiscal year) FY93. (See January 1994 *Observer*.) Until then, behavioral research was at best a junior partner at NIMH research centers, most of which are built around biomedical research.

Now the newest NIMH center grant, to the University of Florida's Center for the Study of Emotion and Attention (CSea), will provide total funding of more \$3 million over the next five years. APS Charter Member Peter Lang, Principal Investigator (PI) and Director of the Center, says its main purpose is to define the fundamental roots of emotional stimulus processing and the interaction of emotion and attention. The Center will draw on national and international scientific talent.

Roots of Emotion

Lang believes the Center's research could eventually deliver important findings on the societal effects of violent or erotic images, even though he emphasizes, "We are not now looking directly at the cultural setting of violence. We must first understand basic phenomena of stimulus processing—how affective events are perceived and organized by the brain, and what are the mechanisms through which emotion changes cognition and behavior."

Emotion is also the focus of the first two NIMH Centers for Behavioral Science Research established toward the end of 1993. The center at University of Wisconsin-Madison studies functional neuroanatomy and emotion, and the center at

the University of North Carolina-Chapel Hill focuses on social and biological substrates of affective style.

A fourth center may yet be selected from among the 10 remaining applications under the FY94 competition, according to Lynne C. Huffman, NIMH liaison officer for the program. But the Request for Applications has not been reissued for FY95, she said. The first competition (for the 1994 center grants) brought in 12 complete applications in spite of a rather short lead time.

A major focus of the Florida Center's work is emotional reactivity to sensory input—visual events, text, sounds, and smells—and how the sensory input that the individual receives from communications media generates affect.

Standard Response

With the new funding, Lang and his colleagues are expanding and developing sets of stimulus material with standard rating instruments and psychosocial analysis that have been tested in four or five countries abroad and will be available to emotion researchers worldwide.

Already in use is their International Affective Picture System or IAPS, a collection of about 400 photographic slides that are rated on the dimensions of pleasure, arousal, and dominance. Standardization trials have been run in England, France, Germany, and Italy to develop a culture-free rating system.

This picture system now will be digitized and transferred to CD-ROM to permit its use on television monitors in other laboratories. The system also serves as a model for a wider range of affective



Staff of the University of Florida Center for the Study of Emotion and Attention (left to right): Margaret Bradley, Bruce Cuthbert, Peter J. Lang, and postdoc Dave Drobos.

material, for example a collection of sound stimuli, from distress cries to sounds of sexual encounters. Lang and his colleagues are also developing other standardized sets of affective cues using films, words, and narrative scripts that reliably induce emotions, and they expect to run a virtual reality project in the Center.

Media stimuli research at the Center will study variables of gender and race as well as more psychological factors such as stress, human development, personality, temperament, and psychopathology.

Lang holds that the study of emotion in human beings requires analysis of what he terms the three output systems—actions, language, and physiology. Giving attention only to verbal report or actions, for example, distorts the understanding of affect, he says.

Startling Findings

He and his colleagues currently are running a major series of studies that measure how the startle reflex is modulated in human subjects when they are looking at emotional pictures or recalling emotional memories. Reaction to a startle probe—a brief, sharp noise that causes the subject's face to contract—can tell much

SEE CENTER ON PAGE 36

Is Virtual Reality Technology Only Virtually Here?

Latest Academy of Science report examines potential of "synthetic environment" technology for computer-generated "worlds"

Scenes From the Future?

The medical student palpates the exposed area of skin, hefts the scalpel, and cuts. As she watches the incision appear in the wake of the knife, Jennifer thinks, "Whoops! Should have been a little straighter and to the left." On the next try, she gets it right.

Upstairs, Jennifer's daughter Samantha is shopping for a dress. She struts and poses thoughtfully. "Lower the hem a centimeter," she instructs. Then she repeats her moves, grins, and says to the computer, "Send me this one!"

Jennifer's husband Henry is out jogging. His irritability, lack of motivation and sense of detachment from his body have lessened concurrent with the program of outdoor activities his therapist prescribed. Henry wonders whether too much time spent in computer-generated environments will take the same toll on his wife and daughter that it has on him. He reassures himself that soon his wife will begin her real surgical training, and next week his daughter will be wearing her new dress at a real party, dancing with real boys.

Meanwhile, 16-year-old son Peter investigates, in his bedroom SE station, non-Euclidean geometries through a virtual world created by geometric axioms which define atypical space properties.

Computers and peripherals are becoming powerful enough to generate multi-modal images that include visual, auditory, and even tactile sensations that create the illusion of surroundings that aren't actually there, and experiences that aren't actually happening. They are also enabling one to interact with that environment in real time—to move through it and manipulate it at will, leading to the subjective experience of entering into that environment, an experience known as "presence" or "telepresence."

Synthetic environments (SE), a general term used to cover telepresence and the entire realm of so-called virtual reality (VR) technology, is rapidly creating a new frontier for humankind. ("Synthetic environments," though, has not captured the popular imagination as much as the ubiquitous and instantly recognized term "virtual reality," hence the use of the latter in the book's title.)

Perhaps even a bit in front of the ranks of other current-day frontiers (e.g., deep-sea trench exploration, tropical forest canopy forays, earth orbiting "shuttling," and unmanned interplanetary space exploration), SE could fundamentally transform human society and human

understanding of experience and environment. Its applicability could more immediately influence everyone's daily experience—in many tangible ways—than other "envelope-pushing" frontiers.

Hype 'r Sensitive to Reality

But a late-1994 report (*Virtual Reality: Scientific and Technological Challenges**) by the National Academy of Sciences—and from which our opening "future" scenario was adapted—pares away the popular press "hype" surrounding virtual reality, analyzes virtual reality's potential value in a variety of applications, lists what research and development is most crucial for fulfilling that potential, and addresses some of the associated dangers and pitfalls. Edited by Nathaniel I. Durlach (chair of the Department of Electrical Engineering and Computer Science, Research Lab of Electronics at MIT) and Anne S. Mavor (study director at the National Research Council), the report is a product of the Committee on Virtual Reality Research and Development under the stewardship of the Commission on Behavioral and Social Sciences and Education as well as the Commission on Physical Sciences, Mathematics, and Applications.



Nathaniel J. Durlach chaired the National Research Council's Committee on Virtual Reality Research and Development.

A Diversity of Scientists, Technologists in One Environment

"This study brought together cultures that haven't talked to each other very much: VR types, who are mainly computer and graphics people, mechanical engineers, and psychologists," says Durlach, chair of the National Research Council (NRC) panel that drafted the report. The report was commissioned in

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EDUCATION FROM PAGE 1

will be released in final form in late 1995. After more than two years of debate, development, and delay, the draft report just completed its final rite of passage in February through a round of public comment from those with an interest in American science literacy (e.g., scientists, engineers, teachers, administrators, parents, legislators, and public officials).

Evolving Science Education

To combat national science achievement decline, the draft report—the product of a national committee of teachers, scientists, and science educators—aims to restructure science education among students nationally and emphasize fundamental principles of scientific method. “Learning science is something students do, not something that is done to them,” according to the draft report. This will require an evolution from the current pedagogy emphasizing *teacher* presentation of information, to a more modern approach in which *students* learn “science through active involvement,” the report states.

The National Science Foundation (NSF) coordinated the development of the standards, enlisting the input of both individuals and organizations. This \$6.5-million three-year “science education standards project” also was supported by the National Institutes of Health, National Aeronautics and Space Administration, and the US Department of Education. It was developed by the National Research Council’s National Committee on Science Education Standards and Assessment.

At the time of this writing, the draft was slated to be reviewed by the end of February 1995 by thousands of individuals in more than 200 focus groups at local, state, and national levels before it becomes a final document. The focus groups will consist of parents, teachers, school administrators, scientists, science educators, and others.

Goals In a Nutshell

When the final standards are released, science will become the third subject, after math and history, that will have national guidelines. In a nutshell, the draft standards recommend that: (1) students should be exposed to science at earlier ages than has been traditional, (2) teachers should receive better training in science education, and (3) curricula should offer more exposure to real-world applications of science.

It is expected that, among other goals, the report will serve as a stage for continued reform, a call for better assessment of teaching as well as achievement, and a forum for sowing closer relations among those with an interest in the nation’s science literacy. And, unlike the “space race”-inspired science education push of the early 1960s, the current initiative is aimed at all students, not just those in science and math fields.

In addition, NSF’s aim is to use the draft to build a national

consensus about what is important in science education, according to Richard D. Klausner, chair of the science education standards project and chief of the Cell Biology and Metabolism Branch at the National Institute of Child Health and Human Development.

Students need to participate in learning actively rather than being passive recipients of authoritative knowledge.

JAMES GREENO
STANFORD UNIVERSITY

Why Standards?

Americans need to keep up with fast-moving changes and rapid advances in science and technology, and demands for scientific literacy are ever increasing. The economic competitiveness of the United States also has raised awareness about the importance of science and mathematics education. Students need the intellectual tools—scientific information and ways of thinking—necessary for making informed decisions.

The goals for school science underlying the National Science Education Standards are to educate students to: use specific principles and processes appropri-

ately in making personal decisions; experience the richness and excitement of knowing about and understanding the natural world; increase their economic productivity; and engage intelligently in public discourse and debate about matters of scientific and technological concern.

Guide for Science Content

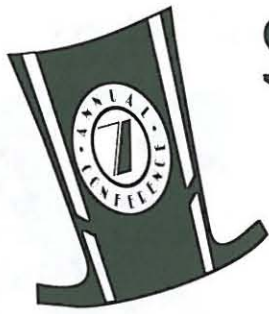
The science content standards in the report are consistent with the major goals of science education, but they are presented as guides, not as science lessons, classes, courses of study, or school science programs. The standards outline what students should know, understand, and be able to do in natural science at specific points (i.e., at the end of fourth, eighth, and twelfth grade) and in eight areas: scientific inquiry; physical science; life science; earth and space science; science and technology; science in personal and social perspectives; history and nature of science; and unifying concepts. While not a curriculum, the standards can be used as a guide to develop effective science education programs.

The draft also contains teaching and assessment standards, and standards for science education and school systems in general. “By placing science in the context of the entire school system, these science education standards will allow everyone to move in the same direction,” Klausner said. “However, it is decisions made at the local level that will drive the process of change.”

Teaching and Testing Standards

The most local changes will take place with the teachers, students, and classrooms. The Science Teaching Standards provide criteria to be used in making judgments about the quality of classroom science teaching.

Envisioned is a different type of learning environment than what currently exists in most schools. “Students need to participate in learning actively rather than being passive recipients of



Science Takes Center Stage

at 1995 APS Convention

Well, it's time to get in line for tickets to the latest Broadway hit. That's right—the 7TH APS ANNUAL CONVENTION and the 2ND APS ANNUAL INSTITUTE ON THE TEACHING OF PSYCHOLOGY promise to be sell-outs, so don't delay! The next few pages preview selections from the invited portions of the two spectacular shows booked at the Sheraton New York Hotel and Towers (see your recent November and January issues for already

published details), and the insert contains your registration form, hotel reservation form, and travel discount information. **Advance registration and hotel deadlines are June 10, 1995.**

They say there's a broken heart for every light on Broadway. Don't let yours be one of them! Send in your registration form today to reserve your seat for these blockbuster performances.

CONTINUED ON NEXT PAGE

Looking Beyond The Bell Curve

At each annual convention, the PRESIDENTIAL SYMPOSIUM spotlights a topic of particular interest to the current APS president, and the upcoming symposium organized by **Marilynn B. Brewer** of Ohio State University promises to be the most exciting and provocative yet. Titled *Beyond The Bell Curve: Genes, Intelligence, and Achievement in Perspective*, this session features some of the world's leading authorities on the interplay between genetics and the environment.

Brewer explains her reasons for selecting this topic as follows: "Amidst the political controversy that has been generated in response to the publication of Herrnstein and Murray's *The Bell Curve*, it has been difficult to find a scientific forum in which the research base on which the book is premised can be examined and debated. The science behind *The Bell Curve* is a complex story of the interrelationships between heredity and environment, assessed intelligence, and educational achievement and other social outcomes—a story that encompasses the full gamut of psychological research from the microbiological to the social structural. The participants in this year's Presidential Symposium are each major contributors to this arena of scientific inquiry. And each has a fascinating piece of the story to tell." The roster of distinguished presenters below and the titles of their remarks certainly attest to the quality and breadth of the session. The Presidential Symposium is scheduled for 3PM on Friday, June 30, at the Sheraton New York Hotel and Towers.



Marilynn B. Brewer
APS President

Robert Plomin

Pennsylvania State University

*Underneath the Bell Curve:
Genetic Variation and
Unshared Environments*



Craig T. Ramey

University of Alabama-Birmingham

*Biology and Experience
Codetermine Intellectual
Development: Beyond Additive*

Sandra Scarr

University of Virginia

*In Addition to the Bell Curve:
Heredity and Environment as
Developmental Processes*



Robert J. Sternberg

Yale University

*The Bell Curve Tolls for You:
Beyond the Standard View of
Intelligence*

Cast of Invited Speakers

- Nancy Cantor**, Princeton Univ.
Neil Charness, Florida State Univ.
Fergus I.M. Craik, Univ. of Toronto
Phoebe Ellsworth, Univ. of Michigan
Louise Fitzgerald, Univ. of Illinois-Champaign
Michela Gallagher, Univ. of North Carolina
Stephen Glickman, Univ. of California-Berkeley (BRING-THE-FAMILY ADDRESS, 6/30, 8PM)
Robert Hogan, Univ. of Tulsa
John Kihlstrom, Yale Univ. (KEYNOTE ADDRESS, 6/29, 5PM)
David Lubinski, Iowa State Univ.
Walter Michel, Columbia Univ.
Katherine Nelson, City Univ. of New York
Daniel Schacter, Harvard Univ.
Dale Sengelaub, Indiana Univ.-Bloomington
Barry Stein, Wake Forest Univ.
Carole Wade, Dominican College of San Rafael

Roster of Invited Symposia

- Alcohol: The Brain and Behavior**—Ellen Witt, National Institute on Alcohol Abuse and Alcoholism, organizer
Beyond the Bell Curve: Genes, Intelligence, and Achievement in Perspective—Marilynn B. Brewer, Ohio State Univ., organizer (PRESIDENTIAL SYMPOSIUM, 6/30, 3PM)
Biological Substrates of Psychopathology—Academy of Clinical Science (see box on page 21)
Concepts of Inhibition Across Psychological Domains—Morton Ann Gernsbacher, Univ. of Wisconsin-Madison
Convergences of Social and Organizational Psychology—J. Richard Hackman, Harvard Univ., organizer
Developmental Psychopathology—Academy of Clinical Science (see box on page 21)
Everyday Cognition and Aging: Maintaining Driving; Acquisition of Computer Skills—Denise Park, Univ. of Georgia, organizer
Marriage and Families—Academy of Clinical Science (see box on page 21)
Mental Construal in Social Judgment—Norbert Schwarz, Univ. of Michigan-Ann Arbor, organizer
Realities and Myths of the Repressed Memory Controversy—Elizabeth Loftus, Univ. of Washington, organizer
Stories of How We Begin to Remember: Developments in Event Memory and Representation—Patricia J. Bauer, Univ. of Minnesota, organizer

Appearing in an Invited Address

Neil Charness
Florida State University

Expert Performance: Its Nature and Nurture

Any successful theory about expert performance must deal with several difficult challenges: how to measure expertise; how to use non-experimental sources, such as historical records, to address "talent" versus "deliberate practice" explanations; how to incorporate rare cases such as prodigies and idiot-savants; how to describe and explain life-span trends. I will discuss these issues, present new data on chess skill, and provide a theoretical framework.



Phoebe C. Ellsworth
University of Michigan

Symbolic Politics and Americans' Attitudes Toward the Death Penalty

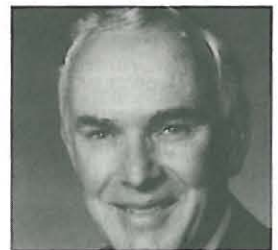
Research over the last two decades supports the hypothesis that most people's death penalty attitudes are based on emotion rather than information or rational argument. Changes in Americans' support for the death penalty over the last 35 years are described, and emotional, racial, and political factors are suggested.



Robert Hogan
University of Tulsa

When Good Goes Bad

People who attain significant positions of institutional leadership are invariably described as outgoing, energetic, and visionary. Nonetheless, over half these people fail as managers or leaders. How can this be? One answer seems to be that good social skills coexist with and even mask a variety of unattractive qualities ranging from imperceptiveness to psychopathy.



David Lubinski
Iowa State University

Intellectual Abilities, Interests, and Personality: Their Role as Determinants of What We Experience and How We Choose to Develop

Intellectual abilities, vocational interests, and personal traits are relatively stable behavioral dispositions useful for understanding personal growth. Longitudinal analyses of Project TALENT and the Study of Mathematically Precocious Youth will be used to illustrate how these attributes function as constellations that channel educational and vocational choices (and experience) along dispositionally congruent developmental paths, as predicted by the Theory of Work Adjustment.



Katherine Nelson

City University of New York

Language in Cognitive Development

What does language do for cognition? In this talk the case will be made that mastery of complex language is a catalyst for the emergence of a uniquely human level of cognition in childhood as well as in the evolution of the species.



Conceptions of Inhibition Across Psychological Domains

Morton Ann Gernsbacher, organizer
University of Wisconsin-Madison

The concept of inhibition plays a prominent theoretical and empirical role in numerous psychological domains. The participants in this symposium will describe conceptions of inhibition in the domains of temperament, personality, and psychopathology; early social and moral development; self-regulation of behavior; social stereotyping; and memory and language comprehension. (*Other participants:* Richard J. Davidson, H. Hill Goldsmith, Joseph P. Newman, Patricia G. Devine and Arthur M. Glenberg, Univ. of Wisconsin-Madison)



Appearing in an Invited Symposium

Alcohol: The Brain and Behavior

Ellen D. Witt, organizer

National Institute on Alcohol Abuse and Alcoholism (NIAAA)

This symposium will present exciting brain and behavioral research being conducted in the alcohol field. Topics include 1) the latest animal studies on neuropharmacological mechanisms underlying the subjective effects of alcohol; 2) the latest research in genetics of vulnerability to alcohol in humans and animals, including QTL analysis of behavior; 3) a summary of new research on pharmacological challenge studies using PET imaging techniques in high risk groups; and 4) new pharmacological challenge tests that impact on reflective memory functions in alcoholics. (*Other participants:* Enoch Gordis, NIAAA; Kathleen A. Grant, Wake Forest University; John Crabbe, Oregon Health Sciences University and VAMC; Nora Volkow, Brookhaven National Laboratory and State University of New York-Stony Brook; Herbert Weingartner, NIAAA)



Everyday Cognition and Aging: Maintaining Driving; Acquisition of Computer Skills

Denise C. Park, organizer

University of Georgia

The symposium focuses on the contributions of basic research in cognitive aging to practical applications. Research will be presented that examines attentional training techniques which appear to improve driving abilities in older adults. The next two presentations will focus on acquisition of computer skills in the elderly, taking into account the impact of age-related declines in cognitive functions. (*Other participants:* Karlene Ball, Western Kentucky University; Roger W. Morrell, University of Georgia; and Sara Czaja, University of Miami)



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New Focus on Clinical Science at APS Convention

The American Psychological Society has joined forces with the Academy of Clinical Science, a new organization of university programs that train clinical researchers, to showcase recent clinical science research at the upcoming New York meeting. **Robert W. Levenson** (University of California-Berkeley) is a member of both the APS Program Committee and the Academy's Steering Committee, and he has spearheaded the organization of three special invited symposia.

Within the broad range of clinical science research, Levenson identified three areas of particular vitality and selected "blue ribbon" panels of experts in each area. The first symposium, **DEVELOPMENTAL PSYCHOPATHOLOGY**, will feature the expertise of **Stephen Hinshaw** (University of California-Berkeley), **Ian Gotlib** (Northwestern University), **John Weisz** (University of California), **Kenneth Dodge** (Vanderbilt University), and **John Coie** (Duke University). **MARRIAGE AND FAMILIES** will boast the participation of **John Gottman** (University of Washington), **Cliff Notarius** (Catholic University of America), **Neil Jacobson** (University of Washington), **Andrew Christensen** (University of California-Los Angeles), **Howard Markman** (University of Denver), and **Francis D. Fincham** (University of Illinois). And, lastly, **BIOLOGICAL SUBSTRATES OF PSYCHOPATHOLOGY** will bring together **William Iacono** (University of Minnesota), **Richard Davidson** (University of Wisconsin), **Joseph Newman** (University of Wisconsin), and **Michael Dawson** (University of Southern California).

These invited symposia are just one way in which APS is underscoring its commitment to scientific clinical psychology.

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Mental Construal in Social Judgment

Norbert Schwarz, organizer

University of Michigan-Ann Arbor

Recent research in social cognition has emphasized the constructive nature of social judgment. This symposium focuses on how individuals use accessible information in forming mental representations of targets and standards, how they attempt to correct for perceived biases, and how these processes account for a variety of different phenomena in social judgment. (*Other participants:* E. Tory Higgins, Columbia University; Richard Petty, Ohio State University; Duane Wegener, Yale University; Fritz Strack, Universitat Trier; and Arie Kruglanski, University of Maryland)



Realities and Myths of the Repressed Memory Controversy

Elizabeth Loftus, organizer

University of Washington

Repression is one of the most haunting concepts in the history of psychology. But today, the controversy surrounding repressed memories has been called "The greatest scandal of the century in American psychiatry" and repressed memory therapy "the thalidomide of the mental health industry." While no one denies that many children are horribly abused, the devastating labels refer to the concern that too many false memories of childhood trauma are being created in the minds of vulnerable people. False memories have been aroused, the allegation is, by merchants of mental chaos who have recklessly used techniques such as hypnosis, age regression, drugs, dream interpretation, and unguided imagery. What should we make of these new-found memories? Are they true memories that were successfully "de-repressed" in therapy? Are they false memories? Are they symbolic expressions—historically false but representing some deep underlying truth? Insights from psychological science can hopefully bring some objectivity to the controversy. (*Other participants:* Neil S. Jacobson, University of Washington; Martin E.P. Seligman, University of Pennsylvania; Stuart Zola-Morgan, VAMC, University of California-San Diego; and Stephen Ceci, Cornell University)



Need a Roommate at the APS Convention?

If so, you're in luck! APSSCnet, the electronic mail bulletin board run by the APS Student Caucus, has generously offered to accept roommate requests for the upcoming New York meeting. To advertise for a roommate, simply send a message with your full name, email address, telephone number, hotel arrival and departure dates, and any other pertinent information (e.g., gender, smoking preference) to the APSSCnet. Then, keep checking your e-mail for similar messages from potential roommates. You can follow up on these possibilities by communicating with your fellow roommate seekers via email or telephone.

To send your roommate request to the APSSC net, you must first subscribe to the net by sending a subscribe command to the listserver:

LISTSERV@GIBBS.OIT.UNC.EDU

In the first line of the body of the message, type:

SUB APSSCNET YourFirstName YourLastName

Once you become part of the net, you will receive information about the system and how to use it. If you are not successful, send an email message to Kimberly Delemos (KIMDELE@GIBB.OIT.UNC.EDU) who currently manages the list.

And, if you don't have access to email, just fax your announcement to Anne Kwiatkowski at the APS Office at 202-783-2083. We will post your announcement on the APSSCnet for you (don't forget your telephone number, though!), and send you a printout of all roommate announcements on May 15.

Advance Registration & Hotel Reservation Deadlines = June 10

Convention Job Bank Applications June 10 Advance Registration Deadline

APS will operate its official Job Bank during the 7th APS Annual Convention, June 29-July 2, 1995, at the Sheraton New York Hotel and Towers in midtown Manhattan. Employers and job seekers alike are encouraged to take advantage of this service. There is a minimal processing fee of \$25 per job opening for employers and \$5 for each job seeker. Prospective employers are not required to be present at the convention, although a room will be set aside for interviews. Specific job openings posted at the Job Bank will be available only during the meeting.

Application forms and/or additional information may be obtained by calling Anne Kwiatkowski at the APS Office at 202-783-2077. Completed application forms and appropriate payments may be sent to the APS Office in advance of the meeting (they must be received by June 10, 1995) or employers and job seekers may register on-site at the meeting.

Teaching Institute Expects Record Crowd in Big Apple

On June 29, APS will hold its 2ND ANNUAL INSTITUTE ON THE TEACHING OF PSYCHOLOGY at the Sheraton New York Hotel and Towers in midtown Manhattan. Scheduled in conjunction with the 7th Annual Convention (June 29-July 2), this exciting one-day preconference is open to teachers of psychology at two- and four-year colleges and universities, graduate students, and others with an interest in teaching. Last year's inaugural Teaching Institute attracted almost 450 of your teaching colleagues, and an even larger and more diverse audience is expected this year. (See insert for registration, hotel and travel information.)

The APS Teaching Institute offers a special blend of cutting-edge psychological research and proven teaching techniques. In plenary and breakout sessions, leaders in psychological science will keep you abreast of the latest research and developments in their fields with presentations *specifically aimed at teachers!* Poster presentations and participant idea exchanges allow you to interact informally with peers and swap information on innovative and successful teaching strategies, classroom demonstrations, course organizations, and more. This exciting combination gives you both substantive scientific research and the tools with which to share this information more effectively with your students.

This year's invited speakers represent the best and the brightest in scientific psychology today (see below). If you are a teacher, you will not want to miss this opportunity to interact with these leading scientific psychologists and your many colleagues from all across the country. Register early, though, since enrollment is limited.



OPENING PLENARY

Robert J. Sternberg

Yale University

Applying Contemporary Theories of Intelligence to the Teaching of Psychology: Theory, Practice, Data

I will show how contemporary theories of intelligence can be applied to improve instruction and assessment in the teaching of psychology. I will describe the results of a 5-year experiment in which almost 300 students were placed in course sections that either matched or did not match their patterns of analytic, creative, and practical abilities. Specific methods of instruction and assessment, and their empirical outcomes, will be described and discussed.



MORNING CONCURRENT SESSIONS

Deborah A. Boehm-Davis

George Mason University

Human Factors/Ergonomics: Bringing Psychology to Design

Human factors/ergonomics is rarely described in introductory psychology textbooks. However, it is an exciting field which applies psychological principles and models to the design of everyday objects (e.g., toothbrushes, cars, VCRs). This presentation will describe research and applications in this field, with particular emphasis on transportation and computer systems.

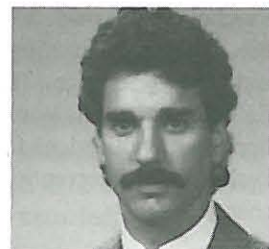


John T. Cacioppo

Ohio State University

Nothing Could Be More Obvious (or Wrong) than that We Are the Center of the Universe: Unraveling Some of the Mysteries of "Self-Evident" Social Psychological Truths

Theory and research throughout social psychology are based on the self-evident bipolarity of pleasantness and unpleasantness. Recent developments, however, suggest that this bipolar dimension may be at least partially illusory and is insufficient to portray comprehensively the positive and negative evaluative processes underlying social phenomena ranging from attitudes and friendships to politics and conflict.



Douglas T. Kenrick

Arizona State University

Evolutionary Cognitive Psychology: An Emerging Integrative Paradigm for Our Field

Evolutionary psychology and cognitive science are converging on a comprehensive paradigm for psychology. Cross-cultural universals and findings from neuroscience argue against the radical environmentalism that waylaid psychology from its original evolution-inspired course. Evolutionary psychologists have generated findings which, because of the central concern with sex and gender, tend to grab students' interest. Although many findings from evolutionary psychology deal with macrocosmic social behaviors, an evolutionary



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perspective is relevant, indeed necessary, to fully understand ongoing thought processes. The talk will cover some basic assumptions of evolutionary cognitive psychology, consider how an evolutionary approach differs from traditional approaches to studying cognition, and summarize several lines of research in the area. The emerging paradigm has implications for bridging the separate subdisciplines of psychology with one another and with other social and life sciences. Such an integrated paradigm can provide a more intellectually satisfying approach to teaching students about behavior.

AFTERNOON CONCURRENT SESSIONS

Martin Fishbein

University of Illinois-Champaign

Developing Effective Behavior Change Interventions: Some Lessons Learned from Behavioral Research



Psychology has made a major contribution to the understanding of behavior and behavior change. This talk will summarize some key findings, or lessons learned, from behavioral research that have important implications for the design, implementation and evaluation of interventions directed at producing behavior change.

Evelyn Satinoff

University of Delaware

Keeping the Beat: Biological Rhythms in Biopsychology



Many behaviors are unstable throughout the day; they exhibit rhythmic variations. Studying these "circadian" influences has transformed our understanding of sleep/wakefulness, alertness, and cognitive performance. Great advances are being made in determining the brain areas and neurochemicals involved and how to treat problems such as jet lag and insomnia.

Martin E.P. Seligman

University of Pennsylvania

The Optimistic Child

Pessimism, the habit of seeing bad events as stable and global, puts children at risk for depression and poor achievement. Techniques of cognitive therapy applied preventatively to children can be used to prevent depression.



CLOSING PLENARY

Carol S. Dweck

Columbia University

Implicit Theories of Intelligence

This talk will describe research on how students' theories about their intelligence affect their learning.



The American Psychological Society expresses its sincere thanks to the following companies for their generous support of the 2nd APS Institute on the Teaching of Psychology

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authoritative knowledge," said APS Fellow James G. Greeno, a professor of education at Stanford University and member of the project's working group on Science Assessment Standards. "There are implications [in the draft] for ways teachers and students can interact," he explained.

Bruce M. Alberts, President of the National Academy of Sciences and chair of the National Research Council said, "Memorizing a few scientific terms and definitions is not particularly interesting or exciting to students and does not make a person scientifically literate. By engaging students in hands-on, intellectually stimulating activities and encouraging them to ask questions and think critically, learning science can become enjoyable and exciting."



Greeno

The process of learning is something that educational psychologists focus on and study a lot, said Greeno. "We need an active research agenda for understanding the kinds of learning the reform of science education brings." He says we [educators] will need more understanding of what students are learning when they are working in groups, for example.

Science teaching must involve students in inquiry-oriented investigations in which they: interact with peers and with the teacher; gain experience in accessing the scientific knowledge found in a variety of sources; apply science content to new problems; engage in problem-solving, planning, decision-making, and group discussions; and are assessed in ways that are consistent with the active approach to learning, according to the report.

The draft emphasizes that students should have the opportunity to attain an understanding of science. Understanding is demonstrated by the ability to use knowledge and experience to solve problems, to explain phenomena in the natural world, and to be able to evaluate alternative explanations and solutions. The standards, Greeno said, suggest that, "Science education also needs to be better connected to experiences children have outside school."

The science education standards project *defines* the scientific understandings and abilities that all students should develop. Parents, teachers, schools, and communities will have the responsibility to see that students meet these goals, states the report.

Program and System Standards

The Science Education Program Standards section of the report provides criteria for judging the quality of and conditions for school science programs. The program standards focus on issues at the school and district level that relate to opportunities for students to learn and opportunities for teachers to teach science as described in the Standards.

These program standards are directed at individuals and groups responsible for the design, development, selection, and adaptation of science programs.

The Science Education System Standards section provides

criteria for judging the performance of the components of the science education system responsible for providing the schools with the resources necessary to achieve the science education vision.

These systems standards address issues related to the vision, support, and integration of the teaching, content, and assessment standards from the national, state, and community levels.

Assessment

As science education is changing, so must its measurement. This is reflected in the assessment standards, another section of the draft.

APS Fellow Robert Glaser said psychologists are interested in the whole gamut of performance and achievement assessment. They are continually looking for and providing innovative and authentic measures of the opportunity to learn, he said. "Psychologists are concerned with the nature of assessment," said Glaser, a member of the National Committee on Science Education Standards and Assessment that drafted the report. Glaser, Director of the Learning Research and Development Center, University of Pittsburgh, is well-known for his research on the academic learning process and has published seminal papers on the topic of teaching students how to think systematically and critically.

"Psychologists have identified many of the ways children learn," Glaser explained, "so the role of this psychological knowledge will be central to the continuing development of these [national science education] assessment standards." According to Glaser, the standards development will need to be anchored to our "scientific accounts in learning theory and knowledge of the development of learning with age."

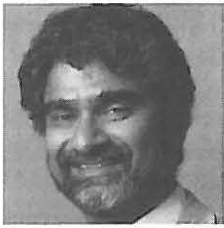
Conclusion

Achieving the science education changes will take more than a few years to accomplish. Political administrations, and politicians come and go, but many promoting the standards are hopeful that "by placing science in the context of the entire school system, these ... standards will allow everyone to move in the same direction," Klausner said. But it is the decisions at the "local level that will drive the process of change," he emphasized.

Sufficient time is needed to incorporate all the changes at all the levels; and for the changes in educational practice to affect student learning; and for student learning to affect the scientific literacy of the general public, and so on.... **M.T.**

To order a copy of the National Science Education Standards contact: National Academy of Sciences, National Science Education Standards Project, Room HA-486, 2101 Constitution Ave., NW, Washington, DC 20418; Tel.: 202-334-1399; Fax: 202-334-1294.

University in St. Louis. He is a consultant for the Carnegie Foundation, the College Board, the Graduate Management Admission Council, and numerous other organizations.



Raja Parasuraman, an APS Fellow and Director of the Cognitive Science Laboratory at the Catholic University of America in Washington, DC, was elected a Fellow by the American Association for the Advancement of Science (AAAS) this year. He was honored for his “theoretical, empirical, and applied

research on sustained attention and cognitive neuroscience.” His AAAS election closely follows being honored in 1994 with Fellow status in the Human Factors and Ergonomics Society. Parasuraman also received, jointly with Peter Hancock and Wende Dewing, the Society’s Best Paper Award for 1993 for an article published in *Design*. Since 1982 he has conducted research on aging and Alzheimer’s disease, automation, vigilance, attention, and functional brain imaging.

Charter Fellow **Harold P. Van Cott** received the 1994 Jack A. Kraft Award that recognizes outstanding contributions that extend or diversify the application of human factors principles and methods to new areas of endeavor. During the 1950s and 1960s Van Cott performed pioneering work for IBM in the area of human-computer interaction and was an early proponent of the possibilities of natural language communications. In 1975-81, while working for the National Bureau of Standards, he led an effort to extend human factors concerns to consumer products. He also co-managed the development of the first official guidelines for the human factors design of nuclear power plant control rooms, and was the first to design a control room using these guidelines. As study director of the National Research Council’s Committee on Human Factors he has encouraged a series of projects to include areas involving productivity, team performance in crisis, and virtual reality. Van Cott is the latest in a long line of notables to have received the annual award since its establishment in 1971.



APS member **Elke U. Weber**, associate Professor of Behavior Science in the Center for Decision Research at the University of Chicago, received the 1994 Outstanding Young Investigator Award from the Society for Medical Decision Making. She received the award for her research on the origins of initial diagnostic hypotheses generated by physicians. The cited paper,

“Determinants of diagnostic hypothesis generation: Effects of information, base rates, and experience,” was co-authored by Ulf Böckenholt (University of Illinois-Urbana-Champaign), Denis J. Hilton (ESSEC), and Brian Wallace (University of Wales), and it appeared in the 1993 issue of the *Journal of Experimental Psychology: Learning, Memory, and Cognition*.

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Future Research

The report also looks to the future of behavioral research. It contains many suggestions for future research in various areas of behavioral science, but most important, it presents a series of recommendations for strengthening basic behavioral science research.

These recommendations include, first and foremost, increased support for investigator-initiated research, and for research training—and it reminds policymakers that within living memory, funding rates on such proposals were at least double what they are today. As NIMH moves back under the umbrella of the National Institutes of Health (NIH), it argues vigorously that the range and depth of behavioral-science peer review arrangements be maintained, strengthened, and proliferated throughout the NIH system. It encourages collaborations between basic and clinical investigators, so that each component of the research enterprise will be enriched and strengthened by the other.

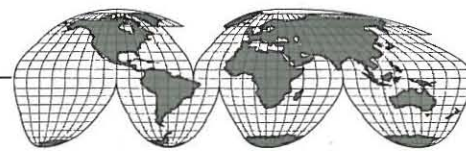
The report argues for continued, and increased, NIMH support for research on behavioral and social processes in nonhuman animals, in both laboratory and naturalistic environments. It calls on NIMH to support the development of improved research methodologies, including statistical and computational techniques for analyzing complex behavioral systems, and to support and maintain multimedia archives of research data generated by NIMH-sponsored projects. Finally, it envisions new funding arrangements that would make long-term and lifespan developmental studies possible.

National Plan for Behavioral Research

In comparison to what we knew, or thought we knew, only a few decades ago, the current knowledge base in the behavioral, cognitive, and social sciences is almost unrecognizable. The report is a record of remarkable achievement, something for us all to celebrate. But there is still much to be learned, and NIMH support is critical to that effort. Shortly after the Task Force report is released, the NIMH will begin to formulate a national plan for behavioral science research, similar to plans already in place for research on schizophrenia, mental disorders in childhood and adolescence, the homeless mentally ill, and neuroscience. This plan will be presented to Congress and be part of the federal budget-planning process.

From its founding in 1948, NIMH has understood that psychology is the basic science for mental health, and it has acted on that understanding by supporting a vigorous program of basic research in behavioral, cognitive, emotional, motivational, and sociocultural processes. This commitment has not been reduced by some politicians’ questioning of the virtues of behavioral and social science, calls to shift resources from basic to applied research, or by highly visible advances at the frontiers of neuroscience. In fact, there have been many congressional calls for greater support for behavioral research (see nearly any past issue of the *Observer* for evidence of this support). But if NIMH is to succeed in maintaining and strengthening its portfolio of basic behavioral research, it needs help from us. I urge all APS members to read the report, and to seize the opportunity afforded by its publication to redouble our own efforts to promote basic behavioral research: with our elected representatives, with the students in our classes, with local media, and with the public at large. ♦

International Psychology



This is the first article in a three-part series in which *APS Observer* reporter Don Kent explores Russian psychology in depth. Working from a palette of interviews with a seven American psychologists, this article paints a broad picture of Russia's contributions to American and world psychology today.

Discussed too are many Russian scientific perspectives that could benefit American views. A list of suggested readings—to learn more about Russian psychology—accompanies this article. Finally, the article asks how psychologists can be assisted in Russia's bleak economic and social context.

The second of this three-part series will appear in the May 1995 *Observer* and will focus on Russian psychologists doing research in US psychology departments. It will inform readers of funding for such scientist exchange programs that permit Russian scientists to work here. Part III of the series will focus on Russian scientists in Russia.

Russian Psychology - I

"The current situation of Russian psychologists is desperate," APS Fellow Michael Cole said on his return to the University of California-San Diego this January. (Cole is a central figure in fostering interaction between American and Russian scientists.) "It's very difficult for [Russians] to earn the money they need simply to stay alive. The people I have interviewed at the Moscow Institute of Psychology have average pay of \$50 or \$60 a month, *if* they get paid, and last month they didn't get paid. Many of them have little time to think of scholarly matters at all," says Cole.

But Cole's overall views of Russian psychology's long-term prospects were by no means entirely bleak and despairing. And Russian melancholy rarely reared its head in conversations with six other psychologists with diverse interests and experience with Russian psychology: James Wertsch, Alex Kozulin, Robert Solso, David Bishop, Lloyd Strickland, Lois Holzman, and Herbert Pick.

Each was asked: What are Russia's contributions to American and world psychology today? Should American scientists try to help Russian psychologists survive their current "time of troubles?" If so, what should/can we do?

Strengths of Russian Psychology: Science in Context

Speaking of Russian psychology's strengths and contributions, APS Fellow Herbert Pick of the University of Minnesota's Institute of Child Development touched a theme common to most of the other six respondents. Pick cited the "emphasis on the role of history, culture, and society in psychology that is extraordinarily important in the work of Lev Vygotsky and some other Russians. We're just beginning to realize the impact of these factors and I'm not even sure that either the Russians or we realize the true subtlety of the effects." But Pick believes Russian psychologists have had a better appreciation for the influence of these factors on scientific psychology, and he is hopeful there can be a better analysis of these factors and collaborative investigations into their scientific implications.

Pick also noted that among American psychologists "there is presently a huge interest in perception, and many are referring to the ideas of Nikolai Bernstein," a brilliant anti-Pavlovian who rejected the idea "that you could explain complex natural behavior ... on the basis of stringing together conditioned reflexes."

Pick first went to the Soviet Union in 1959-60 as a graduate student and worked in Alexei Leontiev's laboratory, was a

Fulbright professor at Moscow University for six months in 1978 and was last there two years ago.

Complementary Sciences

James Wertsch of Clark University agrees that Vygotsky's influence in America is increasing significantly. He says that Vygotsky's ideas "are often transformed or distorted as we incorporate them, but one of the things that survives nicely is the notion that scientists must give analytic primacy to social process and view the individual as growing from this."

What can American psychology gain from Russian psychology? Wertsch suggests that American psychology needs to find ways to take social processes more fully into account "as a corrective to our methodological individualism." Russian psychology—that looks at the individual as culturally situated first and foremost—responds to that need, he said. "This is an aspect on which Russian and American traditions are complementary," Wertsch asserted.

Another reason for being concerned with and about Russian psychology is that many Russians "are much more skilled at ignoring disciplinary boundaries," Wertsch states. A classic example is Alexander Luria. His breakthroughs in

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aphasia after World War II were made possible by his having borrowed insights from linguistics, drawing heavily from neurology, and expressing his theories in terms of his philosophical commitments to Vygotsky. He thereby became a founding father of neuropsychology, Wertsch said.

Moscow Institute of Psychology

Robert Solso of the University of Nevada characterized as modest and disappointing the contributions of the Moscow Institute of Psychology of the Russian Academy of Sciences in an article in the September 1991 issue of *Psychological Science*. But since then he has revised somewhat upward his outlook for Russian psychology—in or outside the Institute.

In any event, Solso strongly advocates exchanges with Russian psychologists,



Solso

saying, "People isolated from the mainstream of intellectual thought are denying all of us some ideas and some perspectives on the human condition that would benefit us all; that's the crux of why we

should establish ties and continue to be interested in Russian psychology," he said.

Literary Tradition

Still alive today, Solso says, is Russian psychology's profound perspective on the human condition, rooted in work of great Russian writers of the last century—Dostoevski, Tolstoy, Turgenev, Chekhov, and others. It is deeply concerned with emotion and motivation, and this is "an enriching tradition that psychologists all over the world could benefit from today."

What can Russian psychology deliver today? The humanistic literary tradition in Russian psychology was buried under layers of Marxist social science and Pavlovian reflexology for decades. Only recently has this humanistic tradition been well acknowledged or appreciated, even in

Russia, says Alex Kozulin, an APS member who received his doctorate from the Moscow Institute of Psychology in 1978 and is perhaps best known for his 1984 volume *Psychology in Utopia* (see suggested readings).

But now, Kozulin proposes, there are highly promising new perspectives in Russian work derived from Vygotsky and Russian philosopher Mikhail Bakhtin. Their humanistic concepts of "life as

authoring" and the approach of their contemporary follower, Fyodor Vasilyuk, sometimes called "life as experiencing" perspectives point the way to a truly significant contribution to world psychology, Kozulin argues. Kozulin taught for a decade at Boston University, and since 1990 he has been in Jerusalem at the International Center for the Enhancement

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of Learning Potential. The center has a special department that works with immigrant children from Russia and Ethiopia. More than 75 Russian psychologists are among the half million Russians who have immigrated to Israel in the last decade, Kozulin said.

Building Connections

Kozulin has three suggestions for ways to foster mutually beneficial ties with Russian psychologists. The first is that American psychologists help Russians prepare what he calls "reader friendly translations of their papers" so they can become better known in the West and more accessible for collaborative projects.

Second, Kozulin recommends Americans and others give seminars in Russia on technical matters like how to prepare Western-type research proposals. (This is precisely what Michael Cole was doing in Russia in January.)

Finally, Kozulin suggests establishing joint research projects with specific divisions of labor, giving the Russian side more freedom in presenting ideas but with the American side firmly in charge of organization, focusing on how to formulate projects, test methods, and present results in a form familiar and acceptable to Western psychological audiences.

Russian Psychology-Inspired Anti-Violence Program in New York

Vygotsky may be revered nowhere more highly than in Barbara Taylor School, a small experimental elementary school in the Prospect Park area of Brooklyn, New York, directed by Lois Holzman. She received her PhD in developmental psychology at Columbia University in 1977, is now on



Holzman

the faculty of Empire State College, State University of New York, and works as a psychotherapist as well. Her group's largest undertaking, she notes, is an "All

Stars" anti-violence program for 30,000 inner-city children, the largest such program in the United States. Several "All Stars" children accompanied Holzman to Moscow last September and performed in a musical production at the international Vygotsky conference there. It was one of three trips she made to Russia in 1994.

Holzman recounts that for almost two decades she has been following in Vygotsky's footsteps: "My colleagues and I started in 1978 to build a new psychology, a therapy that would help people, and a method of teaching that didn't stifle the sense of discovery and creativity that young people have. Over the years we have expanded greatly and have trained about 75 people in the method."

Holzman and her colleagues at the East Side Institute for Short Term Psychotherapy employ a Vygotsky-inspired method of group therapy that emphasizes "performance" in the sense of playing new roles. The sessions are designed to teach people to "stop the scene" that involves their presenting problem and to learn how to perform and direct performances so that they can create new "performatory" environments in daily life situations with family members, co-workers and friends—rather than get rid of the symptom first, as in some other types of therapy.

Important Context

For Lloyd Strickland, a social psychologist at Carleton University in Ottawa, relations with Russian psychologists provided an ultimate proof "that social psychology is kind of senseless outside of its own social context." Strickland recounts the notion that "a fish wouldn't make much sense if I described it and showed you pictures, unless you knew that it was surrounded by water ... and you can say the same thing about people in their social context."

Strickland said that in pre-perestroika days he was doubtful about the validity of some of the Soviet psychologists' findings, but now he says that "their sense of the importance of the group and collective was alive and well while our own social psychologists here were groping around with lanterns to find out what had happened to the 'group'."

Strickland's main focus of interest now is the anti-Pavlovian "collective reflexologist" Vladimir Bekhterev.

Strickland published a book on Bekhterev in 1994 (see below). In the 1970s and 1980s he coordinated an exchange program with Soviet social psychologists and edited and published several books on their research. In those Cold War years his Canadian university was one of the few that maintained such exchanges.



Strickland

Scientist Exchange Programs

For more reasons why psychologists would be interested in Russian psychologists today, Michael Cole suggested the following points while unloading brief cases from his latest trip:

"First of all, there are terrifically interesting Russian scientists working on fascinating topics, for example, Yevgeni Sokholov's work in color vision and its relation to higher psychological function [published in the July 1991 issue of *Psychological Science*].

"Then, there has been a broad interest in the last few years in what Russians call ethnographic psychology, what we might call cross-cultural. It focuses on the various peoples of the former USSR and examines ethnic conflict. The work is relevant to anyone who thinks that issues of ethnic interaction are important in the United States," Cole said.

"Finally, there are lots of new kinds of work in clinical and community psychology that many Americans would find interesting. This includes research on issues of economic crisis and conflict that make Russia a natural laboratory; and some very sharp people are doing quantitative work. Some are developing sophisticated multivariate, multidimensional techniques and have their computer programs for sale at prices that are relatively cheap."

Cole first went to the Soviet Union in

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1962, worked with Alexander Luria for years, then in 1969 began editing the *Journal of Soviet Psychology* which is now renamed the *Journal of Russian and Eastern European Psychology*.

Internet Links

Since 1985, one of Cole's major concerns has been an email-based system he started from scratch at that time with the Vega Laboratory at the Russian Institute of Psychology. It now links American scientists and scholars worldwide—in a wide range of intellectual disciplines—with their Russian counterparts through 76 different computer nodes throughout Russia.

Connecting with Russians through this network was the first suggestion on the lips of many of the interviewees for this article when they were asked what could be done to support psychological research in Russia.

How to Connect

"This is a ripe time for lots and lots of partnerships," Cole says. "First, find someone whose work interests you, through books or the *Journal of Russian and East European Psychology*, for example." Contact is then initiated, says

Email Connects You To Russian Researchers

You can make contact with psychologists in Russia and other states of the former Soviet Union through a public access Email node operated by the VEGA Laboratory at the Institute of Psychology, Russian Academy of Sciences. The address is comm-pub@comlab.vega.msk.su. Through the list COMM-PUB, you may contact a specific individual or inquire about possible contacts in an area of research that interests you. There is also an informational bulletin board, xfsu@ucsd.edu, which you can join by sending a SUBSCRIBE command to that address. (Contact Michael Cole by email (MCole@UCSD) or by telephone for more information: 619-534-4006.)

Cole, by an email message sent to COMM-PUB indicating your interest in contacting that person [see instructions in box].

Once contact is established, "you start to interact about what you are doing, and you arrange to visit with the person either in the United States or in Russia. And if it's interesting, you start to develop a joint project. It's not mysterious, all the resources are there." But Cole warns that such collaboration never goes entirely smoothly. "It will be long and difficult," Cole emphasizes.

An Exchange

David Bishop, an APS member at Luther College in Decorah, Iowa, has been shepherding a Russian American collaborative exchange program with the Russian Institute of Psychology since 1991. That year an 11-person delegation from Russia came to Luther College campus for a program of about two weeks, involving faculty of the University of Iowa and the Mayo Clinic. A return delegation of Americans went to Moscow six months later.

During spring break this year Bishop will lead a group of eight students to Russia for lectures, seminars, and laboratory tours showing some of the main work that goes on at the Institute. It will be the fourth student tour conducted through the program. Bishop said that his students gain valuable insights into Western as well as Russian psychology by seeing "people who practice a different brand of psychology, using some different assumptions, different premises, different methods, and maybe different working models."

Conflict: Theory and Applications

APS Fellow Stephen Porges has been involving Russians in his research at the University of Maryland Institute for Child Development for about two years. He finds that the Russians' love of theory and focus on methodology make for a strong contribution. But he also finds significant potential in addition to real problems in the collaborative relationships.

"American psychology has been driven toward very applied projects. It is very mission-oriented," Porges notes. "Subjugated to mission, it tends to lose its integration with the knowledge base for understanding behavior or linking physiolog-

ogy to behavior in a general way."

In funding Russian researchers, Porges has found himself caught between two sets of regulations, those of NIH and those of the University of Maryland. NIH may allow a \$20,000 add-on for colleagues from the former Soviet Union and Eastern Bloc countries, but that money cannot be used for salaries, only for travel and equipment. At the same time, the University doesn't pay the new researchers but requires the inviting party to pay salaries over \$20,000 a year and adds charges for its own overhead costs for supporting them.

Porges has also found that Russians may have major problems making the transfer when they come to America and face the issue of how much their science has to be modified to be incorporated into American science.

No matter how much Americans may be able to learn from Russian psychologists, "the real issue in my view," Porges concludes, "is that we are not going to learn anything from them if they don't survive. And they have a lot to learn from us to survive. It's a dialectic." If there is a final answer, it is not yet in. ♦

Suggested Reading on Russian Psychology

Vygotsky, L.S. (1978). *Mind in Society: the Development of Higher Psychological Processes*, Michael Cole (Ed.), Harvard University Press, Cambridge.

Kozulin, A. (1984). *Psychology in Utopia: Toward a Social History of Soviet Psychology*, MIT Press, Cambridge.

Holzman, L., Newman, F., and Vygotsky, L. (1993). *Revolutionary Scientist*, Routledge Press, New York.

Solso, R. (1991). "The Institute of Psychology, USSR: A 20-Year Retrospective," in *Psychological Science*, Vol. 2, No. 5, 312-320.

Strickland, L.H. (Ed.) (1994). *V.M. Bekhterev's Collective Reflexology: Part I*, (E. Lockwood, trans.), Nova Science Publishers, New York.

Teaching Tips

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Finding the Right Introductory Psychology Textbook

Russell A. Dewey
Georgia Southern University

Suppose you were preparing to teach introductory psychology for the first time in many years, or for the first time ever, or that it was just time to change textbooks and start afresh. You might stack all the current year's offerings on your desk ... and the desk might break. Since the early 1970s, there have been in excess of 100 introductory psychology textbooks in print at a given time. Realistically, only a small number of those are "major contenders," but even if you confine your attention to a dozen or so, choosing a text can be a difficult decision. The purpose of this column is to present some criteria and procedures to aid you in choosing the one text that will best serve you and your students.

Difficulty Level

Textbook sales representatives cheerfully parse the field into three mutually exclusive categories: "low-

level, mid-level, high-level." This scheme is like the three-part classification pediatric nurses use for newborn babies: "easy, medium, or difficult" and probably succeeds about as well in capturing the essential aspects of individuality. For example, a simple text, characterized by short sentence length and simple vocabulary, is not necessarily a clear or an enjoyable text. Sometimes such a "dumbed down" textbook is actually harder to understand—not to mention boring to read—because it is so general and superficial that there is nothing to sink your teeth into. On the other hand, a textbook with some depth can be fun to read, if it captures your interest.

From Your Own Experience, Does the Text "Draw You In"?

The single most important characteristic of a textbook is its flow of ideas. This sounds obvious, but how many of us actually sit down and read a chapter, in silence, in the manner we expect of students? This simple act could prevent a lot of disappointment and disillusionment.

The shameful truth is that most of us probably skim a book to decide if we like it. We know what happens when students skim instead of "really reading," and the same thing can happen to us. Skimming is appropriate during the first pass through that stack of 100 competing textbooks—to rule out those which are clearly unsuitable. But when you have narrowed your choice to a few, there is no substitute for a close reading.

Can You Skim?

Perhaps the most revealing experience of all occurs when skimming proves impossible! Sometimes a book is so well-written that you try to skim but find yourself drawn into the text. That is a very good sign! I ran into a report of such an experience in a review by Rogoff and Morelli (1990) of Cole and Cole's *The Development of Children* (1989):

The book is masterfully written, with a flow among topics that allows the reader to apprehend the points with little effort. The writing

is so good that although we tried to skim sections of the book in preparation for this review, we were drawn into reading them through because the material was presented so well.

And there is more!

One reason for the clarity and effectiveness of the writing is the sensitive use of examples and illustrations, which instruct rather than simply decorate the book. In addition, they convey the reality of children and their lives in a compelling fashion, and draw the reader into ideas that might otherwise be difficult to grasp. (Rogoff and Morelli, 1990, p. 44)

Wow! Get me that book!

These passages suggest an alternative to the impractical strategy of giving every book an in-depth reading. Instead, when faced with a huge pile of introductory textbooks, skim a few chapters and see what happens. See which ones "draw you in." Then read these slowly.

The Prime Directive: Clarity of Explanation

We may also, of course, demand thoroughness of coverage, accuracy, current references, and clarity of explanation. The latter may be the hardest to find, although some people seem to have a gift for clear explanation. This dimension of individual difference between psychologists is apparent in lectures, presentations, and also in textbooks. If a book has nothing else, it must have the ability to explain. The question is, can the author write so students can assimilate something new and unfamiliar without pre-existing expert knowledge?

Don't be fooled by an appealing table of contents or clear-looking chapter outlines. Most tables of contents look sensible and appealing. Editors know that committees or individuals faced with a daunting pile of competing introductory textbooks will eliminate many based on a glance at the table of contents and chapter outlines, so a lot of effort goes into making those sketchy summaries look well organized. The worst book I ever used had beautiful

macrostructure. The microstructure was the problem. The book failed at the level of individual sentences and paragraphs. Students often could not "catch" the concepts, so I, the instructor, was left with the job of cleaning up afterwards. By contrast, I have fond memories for the second edition of McConnell's introductory text. While not the best organized book I have ever used, the students loved it. The writing had life and fascination, and explanations were beautifully clear.

Looking back, I could have detected the problems in the "bad" text I once used (to remain unnamed) if I had merely forced myself to read individual paragraphs, with great concentration, at 5 or 10 different locations in the book. Then I would have realized it was abstract and wordy; its ability to explain was poor.

Compare Test Items, Chapters, and Summaries

There are students whose keen interest motivates deep, independent inquiry beyond what is assigned—and they are to be celebrated and encouraged. However, most students more greatly resemble the rat in an operant lab whose responses deteriorate to the absolute minimum needed to obtain the reinforcer, the desired grade in a course. The natural tendency of students to economize effort means that testing procedures are absolutely critical in determining what students will *actually do* for a course. That means that the test item file which comes with a book can be surprisingly important. If students discover they can answer the test items without reading the text, or by attending only to the chapter summaries, that is exactly what many of them will do.

To get a realistic idea of how students will behave in your course, you must make systematic comparisons between: (1) test items, (2) the body of the chapter, and (3) the chapter summaries. If all the information needed to answer the test items is in the summary, the student (being a rational creature) will confine attention to the summaries. If you want students to read the text, a quiz or test must require its reading and comprehension. This makes test construction central, not peripheral, to the quality of a course

and the selection of a text.

If the book's test item file does not accomplish this, you may find yourself writing all your own questions (which takes a lot of time). Or you may realize you do not have time to rewrite the test item file. Either way, you may end up kicking yourself for not having taken a long, hard look at the test item file while it was still possible to pick a different book.

Though test items may be the most important part of a textbook "package" after the book itself, the typical modern book comes with many other enticements. Ancillaries such as study guides, instructor manuals, video disks, and computer simulations may be seductive ... but think twice about whether you will really use them. If you plan on using a study guide or instructor's manual, be aware that these are often written hastily, at the last minute, by graduate students or instructors whose main qualification is that they teach large classes at a school which is a good "catch" for the publishing company. Top notch instructor's manuals are a pleasant exception to the rule and are typical of the best, most established textbooks.

Other's Wisdom

Colleagues at your institution who have taught introductory psychology may be in a unique position to recommend textbooks which work well with your type of students. They may have a good "pick" that you were not even considering, or they may know of problems with the text you favor. A good source of recommendations about all aspects of teaching, from textbooks to in-class demonstrations and techniques, is the TIPS (Teaching In Psychology) discussion list moderated by Bill Southerly (Internet: E2PYSOU@FRE.FSU.UMD.EDU, or Bitnet: E2PYSOU@FRE.TOWSON.EDU).

Contemporary Psychology is a source for introductory textbook reviews. The table of contents is clearly divided into sections, and every few months there is an "Introductory Psychology" section.

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Mark R. Rosekind, NASA, *The Washington Post*, Dec. 26, 1994: Role of pilot fatigue in aircraft accidents

Paul Rozin, Univ. of Pennsylvania, *The New York Times*, Feb. 1, 1995: Short-term sacrifices, long-term goals

Sandra Scarr, Univ. of Virginia, *Scientific American*, Jan. 1995: Intelligence and environment

Eric Schopler, Univ. of North Carolina, *The Washington Post*, Jan. 17, 1995: Treating autistic children with facilitated communication

Bennett Shaywitz, Yale Univ., *The New York Times*, Feb. 16, 1995; *The Washington Post*, Feb. 16, 1995: Functional differences in brain activity in men and women, as detected by MRI during linguistic tasks

Devendra Singh, Univ. of Texas-Austin, *The Independent*, Oct. 4, 1994; *Daily Mail*, Oct. 7, 1994: Waist-hip ratio

David Stewart, Univ. of Southern California, *The Washington Post*, Jan. 31, 1995: Occasionally indulging in forbidden foods

Leslie Ungerleider, NIMH, *Science*, Dec. 2, 1994: Skill-learning and the human motor cortex

John Wanous, Ohio State Univ., *The Washington Post*, Dec. 19, 1994: Cynical workers are made not born

Gary Wells, Iowa State Univ., *The New York Times*, Jan. 17, 1995: Risk of eyewitnesses false identification of criminal suspects

Richard Weinberg, Univ. of Michigan, *Scientific American*, Jan. 1995: Intelligence and environment

Thanks to this clear organization, you can browse through a year's worth of issues and identify introductory psychology textbooks in about 45 seconds. Reviews in *Contemporary Psychology* are generally of high quality, with useful information and strong opinions in the space of two to three pages. Of course, only a fraction of the available textbooks can be reviewed each year. In the first nine months of 1994, the section on Introductory Psychology occurred twice and reviewed a total of 10 books.

Teaching of Psychology also features reviews of introductory books, and while it reviews only three or four in a year, the reviews have a unique format. The reviewer gives a detailed description of the whole package (not just the book), and the author gives an inside look at the design philosophy and rationale of the book. Again, the reviews are easily found in the Table of Contents in a section titled "Book Reviews in Duplicate."

Textbook salespeople often provide valuable information by indicating consistent top sellers in your area, which of the company's books are doing well, and alleged problems with competitors' books. Salesmen are particularly good at exposing their own book's "angle" or special features, which they assume is the best way of getting you to adopt it.

In the End, Remember Your Students

What most of this advice has in common is the requirement that we put ourselves in the place of our students. When we evaluate text content to see if it matches our interests, we use our own preferences as a reference point. Taking the point of view of our students is harder, yet that is the most valuable thing we can do. We must try to select a book—for Introductory Psychology, or any course for that matter—which we anticipate will

engage student interest, make difficult concepts clear, and motivate serious study. And, the book must leave students satisfied and happy—and maybe even wanting to keep the book and take more psychology courses.

References and Recommended Readings

- Cole, M., & Cole, S.R. (1993). *The development of children* (2nd edition). New York: W.H. Freeman & Co.
- Kintsch, W. (1994). Text comprehension, memory, and learning. *American Psychologist*, 49, 294-303.
- Nallan, G.B. (1994). Introductory psychology textbooks: Suitable for one semester, or two? *Contemporary Psychology*, 39, 143-144.
- Picture Perfect? (1994). *Teaching of Psychology*, 21, 117-120.
- Pittenger, D.J. (1994). Trying to re-aim psychology's canon. *Contemporary Psychology*, 39, 499-500.
- Rogoff, B., & Morelli, G.A. (1990). An advance in understanding development, for students and scholars. *Psychological Science*, 1, 42, 44-45.

Russ Dewey took his undergraduate and doctoral degrees in psychology (cognition and instruction) at the University of Michigan, where he coordinated Psychology as a Natural Science and won an Outstanding Teaching Fellow award. In 1981 he was elected Professor of the Year at Georgia Southern University. He is a specialist in teaching large introductory psychology classes and is presently working on his own textbook for West Publishing Company.

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about interactions between attentional focus and emotional state, Lang says. The research shows, for example, that pictures evoking a pleasant feeling tend to inhibit reflexes to a blink probe but an unpleasant "foreground" feeling augments the startle response. The phenomenon is important because it appears to be a simple model of how an emotion alters an organism's other behaviors. Thus it may have implications for understanding the effects of mood, transfer of excitement, interaction among various affects, and even how emotions are fundamentally organized.

Using EEG and functional Magnetic Resonance Imaging (MRI), scientists at the Center are locating the brain sites where emotion—modulated by attention—is processed in humans. This work follows upon laboratory work with fear-conditioned rats by Michael Davis at Yale University. Davis is a new PI at CSea. He and other investigators have provided a detailed animal model of the neural circuitry of emotion that guides the Center's studies of the brain, Lang says.

Though presenting pictures and sounds during functional MRI is a challenge, it is a good method for psychological work because it is non-invasive and does not require the longer time frames of PET scans, Lang notes.

Special Projects

Five psychologists from the University of Florida and three from other sites have been designated as PIs for special projects within the Center. PI Ira Fischler is studying cortical potentials that vary with attention and emotion in reading. APS member Margaret Bradley is PI for a project exploring the temporal development of emotion from the instant of stimulus exposure to the point of full affective expression. Dawn Bowers, an APS member, is PI for a research project on odor affectivity. And PI Bruce Cuthbert's project will compare emotional responses to symbolic stimuli such as pictures or imagery with real-life stimuli in natural settings.

Christopher Patrick of Florida State University is PI for a project investigating how emotional expression in anti-social subjects may be modulated by temperament and interpersonal interactions. John

Cacioppo, a PI from Ohio State University, is studying electrocortical correlates of social evaluation and persuasion.

A large group of international scientists collaborating with CSea includes researchers from the Centre National de la Recherche Scientifique in France and universities in Germany and Italy. The Center is rapidly becoming a magnet, Lang says, for people interested in emotion and who come from many backgrounds (e.g., behavioral medicine and health psychology, psychopathology, and journalism and mass communications).

Practical Applications

Lang sees many potential practical applications of the Center's research in psychopathology and mental health areas. Once researchers have a basic understanding of what physical changes occur during an emotional response, as well as what stimulates specific responses, they may be able to pinpoint causes of emotional disorders and treat the disorders more effectively, Lang points out.

"If an emotional response is inappropriate or troubling to the individual in panic attacks or phobic disorders, for example, therapists may want to help the patient change the reaction. But to design effective treatments, we need to understand the psychological and physiological basis of those feelings. Gaining this basic knowledge is what the new Center is all about," Lang said.

The new Center builds on the work conducted by the University of Florida's Center for Research in Psychophysiology which was established in 1986, under Lang's direction, to work primarily on emotions, fear, and anxiety.

"I think we competed well in the NIMH grant process," Lang says, "because we had a structure already in place with first-rate people involved."

He hopes and predicts that CSea, in cooperation with the two other behavioral research centers formed in 1994, will have a strong effect on the field of emotion studies, encouraging collaboration between cognitive and physiologically oriented investigators, focusing emotion studies on quantitative, three-systems measurement, facilitating a sharing of experimental stimuli and paradigms, and priming development of a common theoretical focus. **D.K.**

If an emotional response is inappropriate or troubling to the individual in panic attacks or phobic disorders, for example, therapists may want to help the patient change the reaction. But to design effective treatments, we need to understand the psychological and physiological basis of those feelings.

PETER J. LANG
CENTER FOR THE STUDY
OF EMOTION AND ATTENTION

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PETER J. LANG
CENTER FOR THE STUDY
OF EMOTION AND ATTENTION

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response to a request for guidance from a consortium of government agencies including research labs of the Departments of Defense and Energy, National Aeronautics and Space Administration, and the National Science Foundation, and the National Security Agency.

The report discusses *teleoperation* or *telerobotics* (remote manipulation of the real world) and *augmented reality* (superimposition of additional data on the operator's view of the real world), as well as 'virtual environment,' (in which one's entire experience is computer-generated). The term synthetic environments is used to encompass all of these possibilities.

Telerobots are used, for example, in handling hazardous materials at a safe distance. Augmented reality could allow a surgeon, while examining a patient, to don goggles that would present an image of the patient's tumor, derived separately from magnetic resonance imaging, to appear projected inside the patient's body. Synthetic environments include architectural walkthroughs, virtual prototypes, and (the next generation of) flight simulators. Much of what is happening in SE derives from traditional flight simulators, the difference being that while simulators are mock-ups of the cockpits of specific airplanes, the SE concept is to replace all that hardware with a computerized system that can be reconfigured to simulate various aircraft.

Elements of the System

An SE system must track the motion of the operator, so the computer can calculate what he/she should be seeing, hearing, and touching at any moment. The operator usually wears earphones, and 3-D visuals are usually provided by a separate video screen for each eye. (One version of these goggles is called "eyephones.") Control handles that provide realistic force feedback in two degrees of freedom (joysticks) are commonly found in SE labs, and tool handle interfaces with more degrees of freedom (like a virtual scalpel) are well along in development.

More elaborate devices at the interface between the computer and its operator include a glove or framework for the arm with force feedback (little motors in its joints) that stops the hand when one

reaches out to a particular location, giving the impression of touching a solid object (or an elastic object, like human skin). Devices that synthesize the experience of touching and grasping virtual objects, referred to as haptic interfaces, are still primitive, compared with visual and auditory interfaces.

All the stimuli presented to the operator have to be updated many times per second, with no perceptible time lag, in order to maintain the seamless illusion

of reality. Phenomenal computer muscle is required to do this well.

Psychology of Perception

Naturally, SE requires some consideration of how much detail we can perceive, and how much we need. "On the one hand," says Durlach, "in order to develop useful systems, you have to study human performance, perception, and sensorimotor

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adaptation. On the other hand, once you have a system, you have an ideal facility for experimental psychology. It is flexible, it senses all kinds of responses, and it can present all kinds of stimuli in multiple modalities." APS Fellow Richard Pew (Bolt, Beranek and Newman, Inc.), also on the NRC panel, agrees that SE has stimulated a lot of research into psychophysics and the limits of perception, "But," he remarks, "not as much as we wish. There's a lot more funding for computer science in this area than there is for behavioral science."

Presence

While verisimilitude is one of the most hyped aspects of SE, the extent to which a system simulates a real experience varies with the task at hand. APS member Cynthia Null, of NASA-Ames Research Center, works on telerobots for space exploration, and claims, for example that "Our idea is not to build an all-purpose SE system, but to put together a sufficient solution to a problem that might be solved using a virtual interface. While a detailed task like a geological exploration might require better visuals—with touch feedback—navigation might demand a wider field of view, and demand less clear detail," she explained.

For a virtual mirror, as in our opening "future" scenario, which shows the user an image of herself in a virtual dress, how much detail would be necessary? Desirable? The report emphasizes the need for cognitive models to help determine the optimal levels of detail and presence to be attained for applications in areas such as education, training, and information visualization.

Nausea and Other Adverse Effects

Motion sickness is familiar to many; traditional flight simulators can be brutal for those susceptible to motion sickness, because of the dissonance between the illusion of motion and the contradictory input from the vestibular system. There is a highly variable and unpredictable group of symptoms, including nausea, lethargy, lack of motivation and long-term mood disturbances, that can be caused by too much SE. The condition is called sopite syndrome, and research has yet to reveal a

way of predicting who will be affected or the environments that will cause it.

While the sopite syndrome includes some psychological effects, it is mostly manifested in physical symptomology. The report also speculates about other personal and social effects of SE. Study director Mavor says, "We need to take a closer look at the potential psychological impact on people of spending long times in SEs." Then, too, referring to the opportunities for playing games, wasting time, and even for committing "virtual crimes," Mavor remarks, "We had no one on the panel who could address the issue of the potential influence [of SE] on productivity or societal values." We asked Richard Pew about the potential social effects of sex and violence in SEs. "It will be a long time," he answered, "before we've got such a realistic simulation that we'd have to worry about it being more influential than television."

SE has potential in curing illness, too. Virtual environments could be useful in training surgeons, telerobotics could allow diagnosis and even surgery to be performed at a distance, and, according to Durlach, "Preliminary results suggest that VR may be useful for treating phobias, such as fear of heights."

It's Real, It's Useful

The NAS report refers to a high "excitement-to-accomplishment" ratio in SE, which is to say that we've heard a lot but seen only a little. But it looks like we'll be seeing a lot in the future. The field is not primarily composed of entertainment and novelties but will be producing useful technologies in manufacturing, design, medicine, hazardous operations, and training. Expect it to affect your everyday life, and to have a significant impact on psychology, both research and clinical. **Paul M. Rowe**

* *Virtual Reality: Scientific and Technological Challenges* is available from the National Academy Press, 2101 Constitution Ave., NW, Washington, DC 20418; \$59.95 + \$4 shipping; Tel.: 202-334-3313 or order by phone toll free 1-800-624-6242 from outside the Washington, DC, area.

Paul M. Rowe is a freelance science writer based in Washington, DC.

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citing him. To track an author more specifically, use the "cited reference" option instead. This allows you to follow *the work of whomever is citing one particular paper* of G.S. Alexopoulos, rather than just any of his papers.

Finally, if you want to broaden your search to include any authors who might be writing in your field, use the "cited journal" option. You will be able to follow *the work of whomever is citing an article in that journal*, no matter who has authored that article. The "cited journal" option works well with a more narrowly scoped journal (such as *The International Journal of Geriatric Psychiatry*) rather than with a more broadly scoped journal (such as *American Journal of Psychology*). By using these three "cited searching" tools, you can uncover research that you may not have found through traditional search methods.

Your Search Options

A Personal Searcher profile is generally made up from the various types of information listed below which you provide to ISI.

Search Topic

Provide a brief description of your search topic. Be specific. You might want to give an example of a paper that would be representative of the references you expect to receive.

Example:

I am interested in substance abuse in the elderly, specifically alcoholism. I am interested in the social/cultural issues, not the medical or biochemical aspects of the topic. Also, I am not interested in seeing any meeting abstracts.

Key Terms and Phrases

List words, phrases and terminology that describe, depict, or are related to your topic. Indicate a slash (/) after a term to indicate you want to search for variations of the word.

CONTINUED ON NEXT PAGE

FROM PREVIOUS PAGE

Examples:

Alcohol searches only for alcohol
Alcohol/ searches for alcohol, alco-
holic, alcoholism

Important Source Journals

List journals in which most of the articles are particularly relevant to your topics. You will be provided with references to all articles published in these journals. Give the full journal name.

Example:

Psychological Science
not Psych Sci

Source Authors

List the principal authors currently publishing articles relevant to your topic. You will be provided with information on the articles for which they are primary or co-author. Indicate all author name variations.

Examples:

Smith, A retrieves any author who publishes under A Smith
Smith, AB retrieves any author who publishes under AB Smith

Cited Authors

List key authors within your topic whose work is being cited. You will receive information on the papers that cite this author whenever he/she is the primary author. Include a bibliography of your own work if you want to include yourself as a cited author to track papers that reference your work. (NOTE: If a researcher is not listed as first author on a particular paper, use the "Cited Reference" option to track that paper.)

Example:

MB King
Retrieves: Carlen, PL. "Alcohol-Related Dementia In The Institutionalized Elderly." Alcoholism-Clinical and Experimental Research, v. 18, no. 6, pp. 1330-1334, (Dec. 1994).

Because: MB King is cited in the bibliography of PL Carlen's paper.

References

Unlike the "Cited Author" option, the "Cited Reference" option tracks a specific paper, not a specific author, that you consider exemplary or hot in your topic, including any by cited authors who are not listed as first authors. Make sure to include all variations of the author's name and initials, the journal title, volume, issue, year and starting page number.

Example:

PL Brennan in Psychology and Aging, v. 5, p. 491, 1990

Retrieves: Welte, JW, "Drinking, Problem Drinking and Life Stressors in the Elderly General Population," Journal of Studies on Alcohol, v. 56, no. 1, pp. 67-73, (Jan. 1995).

Because: The article by PL Brennan is cited in the bibliography of JW Welte's paper.

Important Cited Journals

List journals that are important to your work and that currently publishing authors are likely to cite in their bibliographies. Any time an article is published you are alerted to that article because any one or any combination of these journals are cited in its bibliography.

Example:

Journal of Geriatric Psychiatry
Retrieves: Moritz, DJ, "Cognitive Functioning and the Incidence of Limitations in Activities of Daily Living in an Elderly Community Sample," American Journal of Epidemiology, v. 141, no. 1, pp. 41-49, (Jan. 1995).

Because: The Journal of Geriatric Psychiatry is cited in the bibliography of DJ Moritz's paper.

By providing this key information up front and then working with an ISI information specialist to refine your information requirements, you will be provided with the most current bibliographic information being published—brought directly to your work station via the Internet. Thus, the APS-ISI product overcomes the lack of currency and

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The Student Notebook

Deanne Heinisch - Editor

APSSC Travel Award Update...

The APSSC (APS Student Caucus) travel award program is designed to financially assist those students who are attending the Annual APS Convention. Awards are granted to students who express financial need and who are presenting research at the convention.

This year, awards will consist of \$125 that may be spent in any way to defray the cost of attending the conference. In return, APSSC asks that award recipients donate seven hours during the convention to work at the registration desk, job bank, or combined book exhibit. If you are interested in applying for a travel award, please see the article in the January 1995 issue of the *APS Observer* or contact Chris Ratcliff at 817-921-7414 or by email at RATCLIFF@GAMMA.IS.TCU.EDU.

Ethnic Minority Agency Information

The Ethnic Minority Concerns Committee (EMCC) has compiled a list of psychological agencies advancing the interest of ethnic minorities. Inquiries about this list should be directed to the EMCC, c/o Leila Ford, Howard Univ., Box 381, Howard Univ. Post Office, Washington, DC 20001; Email: G055231@HUMAIN.BITNIC.

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:

Matt Montei
Department of Psychology
Sloan Hall
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M.MONTEI@CMICH.EDU

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

"Chapter of the Year" Competition

Every year, the Executive Council of the APSSC requires all local chapters to submit an end-of-the-year report summarizing the chapter's activities for the year. This report provides a way for APSSC to keep current records on the annual events of each chapter.

To reward exceptional chapters and encourage activity and growth, the APSSC awards a "Chapter of the Year" award to the local chapter that has demonstrated the highest achievement and student participation. The chapter that wins the award will receive a \$200 cash award and recognition in the *Observer*. The award will be presented formally to a representative of the winning chapter at the 1995 APS Convention in New York.

This year, local chapters are asked to include specific information in their reports (see below). This information will allow the Executive Council to get a better understanding of what local chapters are doing, standardize the reports, and allow for the aggregation of chapter information. In addition, this information will provide a basis for comparison of chapters for this year's "Chapter of the Year" award and will also provide a frame of reference for comparing the overall progress of APSSC in the years to come. Hopefully, this will also serve as a guideline for new chapters who may not be familiar with the nature of the annual report.

Remember, this report is mandatory for all APSSC local chapters and is due by May 22, 1995. Mail your chapter report to Matt Montei, Chapter Coordinator, Dept. of Psychology, Sloan Hall, Central Michigan Univ., Mt. Pleasant, MI 48859. If you have any questions about the report, contact Matt at 517-774-7422 or by email at M.MONTEI@CMICH.EDU.

What to Include in the End-of-the-Year Report

At a minimum, each report should include:

- A list of all officers.
- A list of all active members.
- The number of meetings held. Meetings should be categorized according to those who attended and the purpose of each meeting. For example, you may have e-board meetings, business meetings, research meetings, fundraiser meetings, social meetings.
- A list of members' research efforts either accepted for publication or presented at a conference.

You may also want to include the following:

- A brief description of the topics discussed at each meeting. Include names and topics of guest speakers or describe social activities or events.
- Fundraising activities.
- Recruitment and/or promotional activities.
- Any other activities sponsored or organized by your chapter.

APSSC Officers ♦ 1994-1995

All of the members of the Executive Council welcome students and others who wish to contact them about concerns particular to their own offices.

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APSSC Offers Matching Funds

In attempts to provide local chapters the opportunity to enhance their education by sponsoring guest speakers at their university, the APSSC has established a matching funds program through support of the governing body of the American Psychological Society (APS). This financial program provides opportunities for contact between students and recognized psychologists in the field by paying a portion of the costs associated with sponsoring a guest speaker.

APSSC may award a chapter up to \$500 to match similar funds the local chapter has set aside for the guest speaker. Application for these funds is to be in the form of a letter mailed to the APSSC Chapter Coordinator, Matt Monte, Dept. of Psychology, Sloan Hall, Central Michigan Univ., Mt. Pleasant, MI 48859.

If you wish to apply for matching funds, please include the following information in your letter:

- The letter must be signed by your local APSSC chapter president and faculty sponsor.
- The amount of funds requested (not to exceed \$500).
- The amount in your local APSSC chapter treasury committed to the speaker. This is likely to be the same amount as requested above (Hence the name, "matching" funds).
- The name of the speaker and the topic to be presented.
- The full amount of the speaker's fee.
- The date the speaker is scheduled to present.
- The date by which the chapter would need the APSSC funds. This date should be no later than three weeks after the letter requesting the funds.

After your application has been received by the APSSC Chapter Coordinator, you will be notified of approval or disapproval of your request. In addition, a brief summary report is required from the local chapter president and faculty sponsor following the event and should be mailed to Matt Monte no later than two weeks after the speaker presents.

Funding for Student Research

Students who are in the process of developing research projects are urged to apply for the Small Grant Award offered by the APSSC. Up to four graduate students are eligible to receive cash awards of \$250 each and up to five undergraduates are eligible to receive cash awards of \$100 each. The grant money is intended to assist students in their research endeavors. If you are interested in applying, see the January 1995 issue of the *Observer* or contact Rachel Pallen at RJPALLEN@COMP.UARK.EDU.

Call for Nominations For Reviewers

The APSSC is currently seeking nominations for graduate students or post-doctoral individuals to review manuscripts for the Small Grant Award. To be considered a qualified reviewer, you must be a student affiliate of the American Psychological Society (APS) and demonstrate expertise in a specific area of psychology.

If you are interested in becoming a reviewer, send a vita and letter of recommendation by a faculty member to Deanne Heinisch, Dept. of Psychology, Sloan Hall, Central Michigan Univ., Mt. Pleasant, MI 48859. In addition, please indicate somewhere on your vita your area of expertise (select from the following): industrial/organizational, educational or school, social, clinical, physiological, developmental, or cognitive psychology. Nominations must be received by April 20, 1995.

Obituaries

Synthesizer of Social, Cognitive, Quantitative Psychology Thomas Marshall Ostrom (1936-1994)

On May 7, 1994, and only days from losing his battle with cancer, Tom Ostrom received special recognition from his colleagues and friends for a remarkable scientific and personal career. They had gathered to celebrate an unprecedented "Tom Ostrom Symposium" at the conclusion of the annual Midwestern Psychological Association (MPA) meeting in Chicago.



Included too were many of Tom's current and former students. Although unable to leave his home in Hilliard, Ohio, Tom nevertheless attended by means of a videophone link. Tom was able to enjoy this occasion that provided the opportunity for all to celebrate their career and personal associations with an outstanding colleague, mentor, and friend.

Born in Mishawaka, Indiana, on March 1, 1936, Thomas Marshall Ostrom received his AB degree in 1958 at Wabash College. He completed his PhD, at the University of North Carolina-Chapel Hill, in 1964, with specializations in social and quantitative psychology. Joining the Ohio State University Psychology Department that year, Ostrom remained there until his retirement as Emeritus Professor in May 1994. But he took several opportunities for mutually stimulating extended academic visits. Ostrom held visiting professorships at the Institute of Psychology in Norway's University of Bergen (1973-74), at the Center for Decision Making in Germany's University of Mannheim (1981), at the Center for Surveys, Methods, and Analyses (ZUMA) at Mannheim (1985 and 1989), at Carnegie-Mellon University's Department of Psychology (1985-86), and at the Departments of Psychology of the University of North Carolina and Duke University (1993).

Ostrom's first major intellectual venture at Ohio State pursued the focal topic of his dissertation and presaged his career-long dedication to synthesizing social, cognitive, and quantitative approaches. The work appeared most prominently in the 1968 chapter, "Psychological perspective and attitude change," co-authored by his North Carolina mentor, Harry Upshaw. Their work interrelated the cognitive content of an observation ("Charles's transcript shows a 3.7 grade-point average"), the perspective anchors in relation to which that content was judged ("Grade point averages at Charles's college range from about 2.0 to 4.0"), and the expression given to the opinion in a rating response ("I give Charles a 4 on the 5-point rating scale of academic performance for applicants to our graduate program").

The resulting Ostrom-Upshaw variable perspective model spells out how fixed content can yield a widely different rating response when perspective anchors shift ("Grade point averages at Charles's college range from 3.4 to 4.0"). This model alerted attitude researchers to the limitations of measures obtained primarily in terms of content-ambiguous rating scales, which were then being used increasingly in preference to content-based scales constructed with more painstaking methods, such as those of Thurstone. Ostrom's model was also an influential precursor to subsequent work on the role of standards in social cognition.

Work on the perspective model may have inspired Ostrom to pursue his influential investigation of the content and structure of attitudes, reported in the 1969 article, "The relationship between the affective, behavioral and cognitive components of attitude." In that work, Ostrom examined the three components of the widely used "tripartite" attitude model, by developing and intercorrelating multiple content-based (not rating-based) measures of each component. The illustration, in this research, of procedures for unconfounding measurement technique and attitude content—building on the Campbell and Fiske multitrait/multimethod analysis—has been emulated in all of several subsequent major investigations of attitude structure.

In the study of how people form impressions of other persons, Ostrom tackled the problem of parameter estimation in the then-prevailing mathematical model of Information Integration. Ostrom's approach overcame the limitations of existing approaches (i.e., only a subset of parameters could be estimated; also, cumbersome and approximate iterative procedures required a large number of experimental conditions). Ostrom discovered a derivative of the model and a matching empirical design that allowed direct estimates to be made for any domain of application (1978 article, "An integration theory analysis of juror's presumptions of guilt or innocence"). His technique was used to provide the first empirical demonstration that jurors can presume innocence when evaluating trial evidence. A second important paper (1977) in this area resolved a theoretical controversy that contrasted a mathematical approach with a gestalt (configurational) approach in the interpretation of context effects on component ratings. Ostrom demonstrated the inherent uselessness of the theoretical conflict that was ongoing at that time, and this led subsequent investigators to reframe their approach to the problem in much more fruitful directions.

Ostrom is regarded as a pioneer in the modern era of social cognition. His work integrated theoretical and methodological advances in cognitive psychology with classic research problems in social psychology. In one key paper (1981), "The organization of social information," he attacked a previously unquestioned assumption that we routinely organize person-related information into person-centered categories. A simple counter-illustration is that being reminded of X's work on conformity may more readily

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remind us of Y's work on conformity than of X's work on impression formation. Ostrom's theoretical and empirical analysis explained how conditions of receiving social information could increase or reduce the likelihood of the perceiver's organizing that information by person (rather than, say, by ethnic group, social role, personality trait, or performance domain). Followup papers, including several written collaboratively with students, extended this path-breaking formulation to perceptions of outgroup homogeneity, group stereotypes, and effects of anticipated interaction or prior familiarity with group members.

What may be Ostrom's most widely known contribution to the intellectual enterprise of social cognition was his lead-off chapter, titled "The sovereignty of social cognition," for the 1984 three-volume *Handbook of Social Cognition*. Ostrom's passionate advocacy of the crucial importance of social cognition to the entire field of social psychology, as well as its centrality to cognitive science more generally, alienated some scholars and delighted others. Perhaps for both of those consequences, it has become standard reading in courses on the topic. And, once again, Ostrom's proposals were visionary in their emphasis on grounding social cognition in the pragmatics, the everyday context, of information processing.

At the time that illness began to disrupt his intellectual work, Ostrom was engaged in two newer directions of research in cognitive science. He had started the development of a theory of the communication of subjective beliefs and feelings in language. In contrast to past research that focused on the formation and change of subjective affect and belief, Ostrom's new work dealt with how these subjective qualities, once formed, are conveyed in natural language. Armed with the methods of cognitive science, Ostrom was returning to the same general domain of his early perspective work with Upshaw. And, following an influence of Alan Newell that led Ostrom to help establish the Cognitive Science Center at Ohio State University on returning from the 1985-86 sabbatical visit to Carnegie-Mellon, Ostrom was investigating the use of computer simulation to build and evaluate theories, and to generate predictions from complex interdependent premises.

Ostrom's research sophistication and contributions were recognized in his appointment to important leadership positions. Most significant of these was his service, from 1980 to 1987, as editor of *Journal of Experimental Social Psychology*, one of social psychology's internationally most respected journals. In 1990 Ostrom received the Distinguished Alumnus award from the Department of Psychology at the University of North Carolina-Chapel Hill. A year later he received the University Distinguished Scholar Award from The Ohio State University.

These individual scholarly contributions and recognitions notwithstanding, Tom Ostrom's overriding source of pride was always the advancement of persons who were fortunate enough to intersect life paths with him in his various roles as husband, father, teacher, advisor, mentor, editor, center director, invisible college founder, and master of ceremonies and adventures.

His doctoral and postdoctoral students (e.g., Deborah Davis, Claude Steele, Michael Saks, Patricia Devine, Constantine Sedikides, John Pryor) exemplify the successful training enterprise that stirred Tom Ostrom's pride as much as anything. Ostrom touched the lives of all of the many students who passed through Ohio State University's social psychology program in the last 30 years. Even students who changed career directions and did not complete a degree benefited from Tom's ability to make all feel included in the scope of his caring; where the well-being of a student was concerned, Tom Ostrom never cut losses.

Ostrom's great personal warmth and genial intellectual leadership led to strikingly successful organizational developments. A co-founder of the modern social psychology program at Ohio State, Ostrom recruited Anthony Greenwald, Bibb Latané, Gifford Weary, Jon Krosnick, Richard Petty, Robert Arkin, John Cacioppo, Jon Krosnick, Robert Arkin, Bill von Hippel, and Marilyn Brewer. The 1990 Silver Anniversary celebration of the Ohio State Social Psychology program was for Tom a particularly gratifying event.

No field of social psychology has had a richer recent development than social cognition, in which Tom was centrally involved as an intellectual leader and organizer. Many trace the beginning of social cognition as a distinguishable force within modern social psychology to a meeting co-organized by Ostrom in 1977 in Columbus, Ohio. A handful of researchers (from Harvard, University of Illinois, University of California-San Diego, and University of California-Santa Barbara) who individually were beginning to explore the interface between social and cognitive psychology, met there under Ostrom's auspices (and according to reports of the participants, using the floor of his home as "hotel" spaces). This group evolved to become the core set of researchers whose work defined the new field. In conjunction with this invisible college, which now includes more than one hundred investigators, Ostrom created and coordinated an annual meeting of scholars, the Person Memory Interest Group, and he coedited the first volume to appear on the topic (with Reid Hastie, David Hamilton, Ebbe Ebbesen, Robert Wyer, and Donal Carlston).

There are three things that inevitably struck others as the essential Tom Ostrom: His passion for things, all things—social psychology, eating, playing hearts, skiing, boating, fun; his sense of inclusiveness—everyone belonged and everyone was equal; and his great delight in the accomplishments of others, especially his friends and students. These personal qualities enabled Tom Ostrom to cultivate the social cognition movement and to maintain cohesion among Ohio State faculty colleagues who could otherwise easily have been led off in individual directions by the ordinary difficulties of discovering shared goals and cooperating in achieving them. With Tom Ostrom's death, the social psychology program at Ohio State has suffered a loss so great that it may never be repaired even by active efforts to identify and replace the numerous critical and charismatic roles that he played. It is hard to accept that the central figure at picnics and parties for all occasions (colloquia, Halloween, repeal-of-prohibition, rafting and ski trip planning, "Greek

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