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"International collaborations … can provide exciting opportunities for North American scientists to broaden their horizons in some of the best neuroscience labs … the world has to offer."

—Carol Barnes, SfN President

IN THIS ISSUE

SOCIETY FOR NEUROSCIENCE

Message from the President

International Collaborations Can Strengthen Neuroscience

Early in my career, like many young neuroscientists, I spent several years in non-U.S. labs. During the late 1970s I went to the Institute of Neurophysiology at the University of Oslo to learn in vitro hippocampal slice methods. At the time this was a relatively new technique not widely used in the United States. Then in 1981, I had the opportunity to learn in vivo single cell recording methods with John O'Keefe at University College London.

Both of these experiences aided my career as a neuroscientist. But today, some American scientists think that continuing their training outside of the United States disrupts their career progression. There may also be a perception among some non-U.S. scientists that political differences with the current U.S. administration may be a reason for them to look elsewhere for opportunities. Science and scientists need to get beyond all of this. More than ever, we need to strengthen both collaborations involving U.S. scientists with those in other developed countries and ties among scientists in the developed world with those from developing countries.

Continued on page 2 ...

2005 Funding Levels for NIH, NSF, and VA Do Not Keep Pace With Biomedical Research Inflation

Funding levels for health research included in the final appropriations bill for the National Institutes of Health (NIH), the National Science Foundation (NSF), and the Department of Veterans Affairs (VA) are once again lower than needed to keep up with the rate of biomedical research inflation.

The combined impact of changes enacted in the Omnibus Appropriations Act and signed into law by President Bush will set the actual budget increase for NIH to $612 million, or just over 2 percent. The NSF and VA budgets are also hard hit in the final spending package.

As the biomedical research community knows, funding for health and scientific research has come upon hard times. Although the NIH, for example, went through a period of significant growth from fiscal year (FY) 1998 to FY 2003, with the budget doubling during that period, it has now faced two years of increases less than the recognized rate of biomedical research inflation. The recent history of NIH funding increases is shown in the bar graph on page 5.

The gross numbers shown in the graph hide some of the additional pain that is contained in the budget. Included in the bill is a 0.8 percent across-the-board cut to be taken from virtually all nondefense, non-homeland security spending. Such "domestic discretionary spending" includes funding for biomedical research.

Continued on page 5 ...

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Message from the President

Carol Barnes,
SfN President

As a community of scientists, we also need to press the United States government to eliminate obstacles that are causing many scientists to have problems getting visas to enter the United States, which is having a chilling effect on research. The Society for Neuroscience (SfN) will continue to work on this issue through the Joint Steering Committee for Public Policy and other channels. For more information, please visit www.sfn.org/visainfo and www.jscpp.org.

The benefits of international collaborations are many. For one, they provide exciting opportunities for North American scientists to broaden their horizons in some of the best neuroscience labs and with some of the best minds the world has to offer. (see Q & A with Freund, p.12).

Our young scientists can pursue postdoctoral fellowship opportunities at laboratories abroad that have the potential to push forward some of the most promising frontiers in neuroscience. For example, because of the current federal constraints on stem cell research, U.S. scientists have an enormous opportunity to build bridges with scientists in other countries where this research is ongoing. In a world with much turmoil, this is a real chance to renew and energize global ties in a positive way. The stem cell example suggests a real opportunity for international collaborations that could lead to the development of new and effective treatments for some of the most devastating neurological and psychiatric disorders.

Moreover, scientists studying abroad become exposed to different ways of teaching, approaching problems, and devising solutions. In many ways, international collaborations serve to help make us more complete as neuroscientists because the methods for gaining basic knowledge are so vast. The leadership of SfN continues to believe that increasing global scientific collaboration is a top priority. I urge you to consider the many benefits of this kind of work.

For many years, collaborations between scientists in the developed world have been seen as important. The Fogarty International Center at NIH notes that since the beginning of the National Institutes of Health (NIH), U.S.-European cooperation has been a strong and vital component of NIH's research agenda. This began with the travel of NIH's first director, Joseph Kinyoun (1887-89), to laboratories in France and Germany. Today the NIH enjoys much collaboration with European colleagues.

While a few activities take place under the auspices of bilateral programs, the majority of collaborations are initiated and carried out without the assistance of formal agreements. Thousands of scientists from European universities, hospitals, and research institutes come to the NIH annually as visiting scientists. Furthermore, European scientists were investigators on hundreds of NIH-funded grants and contracts, often in collaboration with U.S. scientists.

A number of other governmental organizations also support biomedical research. The Human Frontier Science Program (HFSP) supports basic research focused on complex mechanisms of living organisms; fields supported range from molecular and cellular approaches to biological functions to systems and cognitive neuroscience. HFSP is very important in fostering Asian, European, and North American scientific interactions.

With the large numbers of SfN members from non-North American countries who will be present in the U.S. capital, this year's SfN annual meeting in Washington provides a wonderful opportunity to showcase and highlight international neuroscience. Our central office staff is in the early stages of exploring opportunities with science attachés at embassies of countries that fund significant neuroscience research to host outreach events coinciding with Neuroscience 2005.

The other great value of international collaborations is that they represent one of the best ways to help our colleagues in developing nations build, foster, and maintain neuroscience institutions of excellence.

All of these initiatives support the first two SfN strategic plan goals to "vigorously promote the continuing dynamic development of the field of neuroscience, the integration of research, and rapid translation of discoveries to improve health" and to "provide effective professional development and neuroscience education activities."

Already, the Society fosters collaboration across North America through the Ricardo Miledi training program in Mexico, and the U.S./Canadian National Regional Committee (IAC-USNC) to the International Brain Research Organization (IBRO) summer programs at Woods Hole, Mass., and Cold Spring Harbor, N.Y. SfN has been working to strengthen alliances with the Federation of European Neuroscience Societies (FENS), the Canadian Association of Neuroscience, and IBRO. A modified version of the SfN annual meeting Neurobiology of Disease Workshop (NDW) has been conducted in South Africa. And a new SfN membership program now provides reduced-price membership for young scientists in underdeveloped countries.

Let me elaborate in more detail the highlights of SfN's recently forged international collaborations that you should know about. Hopefully, you can find ways in which to participate.
At the FENS Forum last summer in Lisbon, SfN and IBRO leaders discussed the latter's Brain Campaign, an initiative to provide educational materials to regions of the world outside North America and Europe. The group discussed ways to produce and disseminate non-English language educational material, particularly for nations in Asia and Africa. Further SfN/IBRO discussions centered on how the two groups could partner in requests to obtain funding for Internet "nodes"— local sites

with hardware, Internet access, and trained resource persons—and experts to further access neuroscience educational resources for underdeveloped countries. SfN representatives noted that licenses are available without charge for non-commercial translations of *Brain Facts*, our primer on the brain and nervous system written for lay audiences. Jennifer Lund, IBRO's secretary general, suggested that the group broker translations by volunteer neuroscientists, and perhaps help identify funds to support the production of translations. SfN's cooperation in this endeavor follows our strategic plan goal to "promote public information and general education about the nature of scientific discovery and the results and implications of the latest neuroscience research."

Also discussed with international colleagues at the FENS meeting was interest in identifying funding to support the presentation of SfN's annual meeting NDW in other countries. In September 2004, Jeff Noebels of Baylor College of Medicine and other NDW faculty, with support from the National Academy of Science (NAS), SfN, IBRO, NIH, and the American Epilepsy Society, presented the 2003 NDW on epilepsy in Grahamstown, South Africa. With support from the NAS, presentations from the 2004 NDW on protein misfolding and neurodegenerative disease are scheduled to be posted on the Web soon. These workshops are aimed at teaching and inspiring students and creating professional ties between North American scientists and their counterparts in developing countries.

I have also been invited to give a plenary lecture at the Society of Neuroscientists in Africa meeting in South Africa in April 2005. In a further effort to help ensure close international collaboration, Marty Saggese, SfN's executive director, participates on the planning committee for the 7th IBRO World Congress in Melbourne, Australia, in 2007.

A 10-day course on brain-environment interactions, funded by SfN, IBRO, and NIH, is planned for this summer in Maracaibo, Venezuela. The course will provide a critical overview of the influence of the environment on brain function with emphasis on contemporary research in molecular mechanisms governing brain development, environmentally induced plasticity in the adult, and neurodegeneration. The lectures are planned to be video teleconferenced to 14 other institutions in the Caribbean.

IAC-USNC/IBRO also organizes programs for highly qualified and motivated research trainees from resource-limited countries at the Marine Biological Laboratory and, for the first time this year, Cold Spring Harbor Laboratory. The programs include summer neuroscience courses at the laboratories, and substantial financial support is available.

Other programs include the SfN-IBRO international travel fellowships that support a limited number of travel fellowships for promising young neuroscientists from less developed and less-well funded countries to attend the SfN annual meeting. SfN chapters, along with the Burroughs Wellcome Fund and Eli Lilly, have provided travel awards to the SfN annual meeting for postdoctoral trainees and graduate students. Funded by the Grass Foundation, the SfN Ricardo Miledi Neuroscience Training Program annually organizes a four-week course for 15 Latin American neuroscience fellows in Mexico. Trainees are also supported to attend the SfN annual meeting. Descriptions of these opportunities are available at www.sfn.org/awards.

SfN also facilitates new membership from neuroscientists who live in underdeveloped nations. Last fall, Council approved the creation of a volunteer panel from the membership committee to act as sponsors for applicants without the required sponsorship in underrepresented countries. The committee will receive applications at pre-set intervals prior to abstract submission and annual meeting registration deadlines, and will review eligibility before sponsoring. In addition, the Society offers reduced membership dues to members in more than 100 developing countries. For a list of eligible countries and fees, visit www.sfn.org/worldaid.

Also at the recent SfN annual meeting in San Diego, Council approved funds to adapt and translate into French our *Guide to Public Advocacy* for use in Canada. Council also approved funding to contribute to the Canadian Association of Neuroscience to support the hiring of an Ottawa-based lobbyist to assist a coalition of Canadian neuroscience organizations in advocacy efforts for further health-care and biomedical research funding. Council is committed to support advocacy efforts in North America, and is interested in sharing ideas with scientists from other nations about the best ways to advocate for the support of science.

These initiatives are in direct alignment with SfN's strategic goal to "inform legislators and other policy makers about new scientific knowledge and recent developments in neuroscience research and their implications for public policy, societal benefit, and continued scientific progress."

All of these initiatives bring to mind Bruce Albert's 2004 president's address last April at the NAS. In that talk, he eloquently emphasized the need to "strengthen the U.S. scientific enterprise in the national interest" and "spread science and its values vigorously throughout our nation and the world."

One of the challenges Alberts outlined was to "work to bring many more of our scientists and our students into close contact with the potential ways in which their expertise can make a difference for the 85 percent of the world's people who live in developing nations."

But it's more than this. It's enriching neuroscience everywhere through exchanges that broaden the field and at the same time benefit developed and underdeveloped nations. We can all benefit from and participate in that enrichment process. ■

Expert on Stem Cells Outlines Implications of California's Passage of Stem Cell Initiative

Larry Goldstein

Larry Goldstein is with the Howard Hughes Medical Institute Department of Cellular and Molecular Medicine at the University of San Diego in La Jolla, CA.

***NQ:* California recently passed a 10-year, $3 billion ballot initiative for embryonic stem cell research. How will California's program work?**

Goldstein: An Independent Citizens Oversight Committee (ICOC) has been appointed, primarily by state elected officials. The ICOC is composed of outstanding and accomplished people from universities, business, research institutes, and patient advocacy groups. The ICOC will develop and oversee the grant-making process and appoint review groups composed primarily of expert scientists who will review proposals competitively for scientific and medical merit. On the basis of scientific and medical review, the ICOC will make final funding decisions.

***NQ:* What types of research will be funded, and at what levels?**

Goldstein: My opinion is that most research funding, at least initially, will go to stem cell research of substantial scientific and medical value that is not being adequately funded by the federal government for political or ideological reasons. Thus, my expectation is that initially, most, but not all, funding will be for human embryonic stem cell research.

***NQ:* This program will offer substantially more than the $24 million issued in federal grants thus far. What effect will this have on federal grants?**

Goldstein: I expect none.

***NQ:* Proposition 71 will cost $3 billion up front, yet a study by the Analysis Group research firm found that Proposition 71 could translate into a savings of $13 billion for California by 2029. Why is this so?**

Goldstein: Historically, advances in biomedical research have led to improvements in disease treatment and reductions in direct and indirect costs of disease. In addition, new scientific breakthroughs often lead to new products and businesses that generate substantial economic activity and new revenues.

***NQ:* Will passage of Proposition 71 help stem the exodus of American scientists to countries more friendly to human embryonic stem cell research? Do you expect a migration of stem cell scientists to California?**

Goldstein: Yes and yes.

***NQ:* How will Proposition 71 affect the biomedical industry?**

Goldstein: Positively, I hope.

***NQ:* Some have argued that passage of California's $3 billion ballot initiative for embryonic stem cell studies may result in actually slowing research on the national level. Could California's devoting such a substantial amount of money to stem cell research contribute to defusing the argument for federal funding?**

Goldstein: I hope not, and my colleagues and I intend to work hard to educate the public that this should not be allowed to happen. Remember that the $300 million per year that California will spend is a tiny fraction of the almost $30 billion-per-year NIH budget. To argue that because one state spends one percent of the total NIH funding is therefore grounds for decreasing NIH efforts in this or related areas is, in my opinion, an illogical argument. Besides, there are great researchers in other states who wish to work in this area—and should, for maximal progress on understanding and treating human disease.

> *"My expectation is that initially, most, but not all, funding will be for human embryonic stem cell research."*
>
> —Larry Goldstein

***NQ:* What effect do you believe passage of Proposition 71 will have on other states' efforts in stem cell research?**

Goldstein: It is hoped that Proposition 71 will stimulate them to try to keep up by passing permissive legislation and by providing funding that the federal government is thus far refusing to provide.

***NQ:* Do you foresee any attempts at hindering this effort from groups opposed to stem cell research?**

Goldstein: No.

***NQ:* Because this initiative represents a departure from current federal policy, do you see any possibility that the federal government might use available compliance or regulatory tools to complicate implementation of the initiative?**

Goldstein: Anything is possible, but I believe that it would be unwise for the federal government to do so. Most Americans favor moving forward with this research, and additional efforts at hindrance by the federal government would be poorly received by most of our citizens. ■

... Funding Levels for 2005, continued from page 1

In addition to the across-the-board spending cuts, NIH is also subject to a "public health evaluation transfer," or tap, of 2.4 percent. Tap funds are used to pay for other Public Health Service activities, such as the Agency for Healthcare Research and Quality, for which Congress does not appropriate funds.

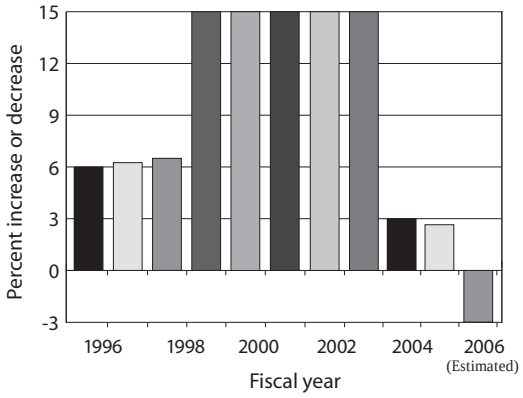
Together, the impact of these changes will reduce the increase for NIH from the $800 million stated in the final spending measure to the approximately 2 percent increase of $612 million. This is enough money to fund only 500 new R01 grants, if it were available to the institutes.

NSF funding is also hard hit in the appropriations bill. The budget for NSF in FY 2005 is set at $5.52 billion. This is a reduction of more than $60 million from last year's funding level and is more than $225 million below the amount President Bush requested for FY 2005. In addition, like NIH, NSF is subject to the 0.8 percent across-the-board cut in domestic discretionary spending.

The total NSF research account was kept at last year's budget level of about $4.3 billion. But again, with the across-the-board cut and inflation, this represents a reduction in the NSF budget in real terms. One small bit of good news in the NSF budget is that the research equipment account has been increased from approximately $155 million to $177 million.

The VA Department's budget for medical and prosthetic research received the funding increase requested by the president — but that was only enough to bring the program back to last year's funding level. The medical and prosthetic research account will be funded at about $405 million, a flat line budget yet again this year. This budget will also be affected by the 0.8 percent across-the-board cut.

Recent history of NIH funding increases



As difficult as this budget year is going to be, the prospects for FY 2006 do not look better. The early word on the president's FY 2006 budget recommendation, which is shown in the graph, is that it may include an actual dollar reduction in NIH funding. Numbers are not yet available for NSF and VA, but there is no reason to expect that they are going to be appreciably better.

Biomedical research funding continues to face many challenges with the passage of this budget. It is now more important than ever to redouble the effort to advocate on behalf of biomedical research as a society and as individual scientists.

SfN will work both independently and in collaboration with other health research-focused groups to advocate for reasonable funding increases in FY 2006 and beyond. Advocacy resources are available for use by the neuroscience community on the Government and Public Affairs page of the SfN Web site: www.sfn.org/legislative. ■

NIH Blueprint for Neuroscience Research Emphasizes Sharing of Resources and Expertise Across Institutes

Several neuroscience institutes at the National Institutes of Health (NIH) recently collaborated to form a blueprint for neuroscience research over the next five years. The blueprint seeks to facilitate sharing of resources and expertise across institutes in order to help advance neuroscience research, said NIH director Elias Zerhouni.

Four institute directors—Story Landis of the National Institute on Neurological Disorders and Stroke (NINDS), Thomas Insel of the National Institute of Mental Health (NIMH), Paul Sieving of the National Eye Institute (NEI), and Nora Volkow of the National Institute on Drug Abuse (NIDA)—announced the creation of the interagency partnership, called the NIH Neuroscience Blueprint, at Neuroscience 2004 in San Diego. The blueprint will help coordinate the work of 14 institutes and centers at NIH.

"The rising public health impact of disorders of the nervous system makes neuroscience one of the most important and dynamic scientific frontiers for biomedical and behavioral research in this century," said Zerhouni. "Greater synergy and cross-fertilization across research disciplines will be needed for progress in our understanding of this complex system and new discoveries of benefit to our patients."

The release of the blueprint for neuroscience research follows the release of the NIH roadmap for biomedical research in 2003. "Both efforts are parallel activities in that they focus on collaborative activities among the institutes," said Landis. "The blueprint builds on the history of collaboration among some neuroscience institutes and takes that collaboration to the next level. By working together, the institutes can achieve things that no one institute can achieve by itself."

The blueprint's principal theme is combining resources and expertise, making collaboration an integral part of the day-to-day activities within NIH. By combining resources across institutes and centers, the blueprint will greatly increase the effectiveness of research programs, said Insel. This collaborative effort will help to serve not only the neuroscience community but all those who suffer from neurological ailments. Under the blueprint, which has been in place since the beginning of federal fiscal year 2005, each institute and center carries out its own course-specific research, while also focusing specifically on challenges best met collectively.

The 14 participants in the blueprint are: the National Center for Complementary and Alternative Medicine, National Center for Research Resources, NEI, National Institute on Aging, National Institute on Alcohol Abuse and Alcoholism, National Institute for Biomedical Imaging and Bioengineering, National Institute of Child Health and Human Development, NIDA, National Institute on Deafness and Other Communication Disorders, National Institute of Dental and Craniofacial Research, National Institute of General Medical Sciences, NIMH, NINDS, and the National Institute of Nursing Research.

The blueprint design was based on three linked processes that underlie the healthy nervous system and nervous system disorders: 1) development through the lifespan—including factors that control cell specialization, signals that guide the formation of connections among nerve cells, and mechanisms by which genes and experience work to sculpt the nervous system and behavior; 2) neurodegeneration—loss of connections or cell death from disease and normal aging; and 3) plasticity—the ability to change and adapt in response to environmental cues, experience, injury, and disease.

Each institute has pledged a small percentage of its budget, totaling $100 million over five years, to a common fund. After consultation with the scientific community each year and consideration of what research currently exists, a consensus will be reached as to what initiatives would benefit most from use of the combined funds. The projects selected for the upcoming fiscal year are primarily expansions of existing projects, focusing on tools, resources, and training.

In addition to specifically funded initiatives, the blueprint also includes procedures to enhance cooperation wherever common interests of scientists might intersect. For example, new working groups can focus on diseases and cross-cutting scientific issues for which such groups do not already exist. Effective practices developed at one institute or center may be implemented more widely, coordination between researchers will begin at the early concept stage, and resources established by one institute or center may be opened to neuroscientists supported by others.

NIH leaders are optimistic about the results that can be achieved through cooperation among institutes. "The NIH is uniquely positioned to lead this effort to spur the pace of discovery for the good of public health," Landis said. "We will be able to accomplish great things by pooling resources."

For more information on upcoming workshops at which institute directors and staff will solicit suggestions from the scientific, clinical, and patient communities on needs and opportunities for cooperative action, see http://neuroscienceblueprint.nih.gov. ■

Your Feedback is Essential!

SfN wants to know how members currently use neuroscience databases and whether the NDG pilot project helps make these databases more accessible. This is your chance to help guide the Society's efforts to improve the collection and dissemination of knowledge to the neuroscience community. Explore the Neuroscience Database Gateway at www.sfn.org/ndg and submit your online survey today!

Scientific Program, Attendance, and Exhibits All a Success at Neuroscience 2004 in San Diego

The Society's 34th Annual Meeting, held October 23–27 in San Diego, was an outstanding success. Attendance broke previous records. Minisymposia made their debut. And a very high caliber of lectures, symposia, poster and slide sessions, workshops, socials, and satellites were held.

The meeting also broke last year's record for number of exhibit booths: 611 companies exhibited in 1019 booths in 2004, compared with 559 companies exhibiting in 916 booths in 2003. The Society featured its own booth in the exhibit hall for the second year at Neuroscience 2004. Placement of the booth in a central location just in front of the exhibit hall doors allowed for greater visibility and accessibility to visitors than in 2003, and additional scientific literature including *Brain Research Success Stories* was made available to attendees.

"This annual meeting, the largest neuroscience meeting ever held, brought together an awe-inspiring 31,500 people to learn from each other through more than 16,000 presentations," said Leslie Tolbert, 2004 chair of the Society's Program Committee. "The scientific program was as broad as ever, with areas of focus ranging from development to aging and from genes and molecules to adaptive behavior. Special lectures and symposia provided anchors, and minisymposia gave a new visibility to diverse young scientists in cutting-edge areas of research."

Highlights of the meeting were a public lecture on Alzheimer's disease, the first ever Peter Gruber lecture and prize, a presidential symposium on neurodegenerative diseases, and a social issues roundtable on suicide and depression.

Rudy Tanzi of Massachusetts General Hospital and Harvard Medical School delivered the public lecture on "Alzheimer's Disease: From Genetic Pathways to Novel Therapeutic Inroads." Tanzi outlined a paradigm whereby the identification of genes and the location of links between those genes and Alzheimer's disease presentation could eventually allow researchers to predict and prevent the disease.

Seymour Benzer of the California Institute of Technology gave the Peter Gruber Lecture. The winner of the Peter Gruber Foundation Prize in Neuroscience, Benzer talked about his life's work with *Drosophila* and the effort to find the genetic basis for behavior and neural function.

As the Gruber Prize recipient, Benzer received a $200,000 unrestricted cash prize and a gold medal, which was presented by Patricia Gruber, president of the Peter Gruber Foundation, and Advisory Board Chair Solomon Snyder of Johns Hopkins University.

The presidential symposium focused on neurodegenerative diseases. Timothy Greenamyre of Emory University; Don Cleveland of the University of California, San Diego; and Elena Cattaneo of the University of Milan formed the panel of experts for the symposium. Greenamyre discussed the future of treating Parkinson's disease. Cleveland talked about the role of neuronal death in amyotrophic lateral sclerosis. Cattaneo talked about the role of the gene huntingtin in Huntington's disease. A video segment showing the human cost of each disorder was shown before each lecture (see sidebar, page 8).

This year's Social Issues Roundtable focused on "suicide and depression: biological and social factors, ethical and policy implications." Speakers included William Bunney of the University of California, Irvine; Victoria Arango of Columbia University; J. John Mann of Columbia University; and Kay Jamison of Johns Hopkins University. Stephanie Bird of the Massachusetts Institute of Technology and chair of the SfN Social Issues Committee served as moderator.

The speakers discussed the prevalence of suicide and depression in the general population, the neurobiology behind suicidal behavior, and the manner in which suicidal depression presents in patients. Jamison concluded by detailing her own personal struggles with extreme depression and suicide attempts. The speakers agreed that suicide and depression merit more funding, research, and efforts to educate the public. They noted that suicide is more prevalent than homicide or many other diseases and disorders, which receive disproportionate amounts of funding relative to their financial and social costs.

Three presidential special lectures were given at Neuroscience 2004. Brenda Bass of the University of Utah spoke on how RNA editing enzymes relate to behavior. Pasko Rakic of Yale University spoke on mechanisms of neuronal migration. Charles Wilson of the University of Texas, San Antonio, spoke about the connectivity of the basal ganglia and their role in procedural learning and movement.

MINISYMPOSIA, LECTURES WELL-RECEIVED

Minisymposia featured prominently at Neuroscience 2004. "The highlight of this year's meeting was the inauguration of the minisymposium format," said Eve Marder of Brandeis University, the new chair of the program committee. "I went to a number of minisymposia and was impressed both by their attendance (rooms were packed) and the high quality of the presentations. It appears that the minisymposium 'experiment' was a success, and we are pleased to have found an exciting and effective way to give a voice to some of the younger scientists doing ground-breaking and exciting work."

Roger Tsien of the University of California, San Diego, and the Howard Hughes Medical Institute, gave the the Albert and Ellen Grass Lecture on "Building and Breeding Molecules to Spy on Cells and Networks."

The SfN Lecture on Neuroethics, titled "Whither Neuroethics? A Developmental Perspective," was given by Stephan Chorover

Continued on page 8 ...

Patient Videos Debut at Neuroscience 2004

At Neuroscience 2004, the Society debuted a series of patient videos that illustrate the human face of neuroscience research. Titled "Searching for Answers: Families and Brain Disorders," the first in the series of DVDs included four segments on the neurodegenerative brain disorders Huntington's disease, amyotrophic lateral sclerosis (ALS), Alzheimer's disease, and Parkinson's disease.

The Alzheimer's segment was shown before the public lecture given by Rudy Tanzi on "Alzheimer's Disease: Paving the Way from Genetic Pathways to Therapeutic Inroads for Intervention." The other three segments were shown before lectures given at the presidential symposium on "Falling into Place: The New Era of Neurodegeneration." The Parkinson's disease segment was shown with Timothy Greenamyre's talk on "Convergent Mechanisms in Parkinson's Disease," the ALS segment in conjunction with Don Cleveland's talk titled "From Charcot to Lou Gehrig: Motor Neuron Growth and Death," and the Huntington's segment with Elena Cattaneo's talk on "The Neuroprotective Function of Huntingtin and its Altered Activity in Huntington's Disease." Each segment is about five minutes long.

The DVD will also be included as part of the Brain Awareness Week kits sent to organizers of the Brain Awareness events to be held across the nation and world in March.

"Showing the videotaped segments before the appropriate lectures set the tone in a powerful way that reminded those in the audience of why we neuroscientists do the work we do," said SfN past president Anne Young. "By including the videos in BAW kits, SfN will spread the word to thousands about the devastating effects of neurological disorders, the hope for treatment, and the need for continued strong support for research." Young conceived the idea of producing videos as a way to illustrate to neuroscientists and others the devastating impact of neurological diseases on patients and families, as well as the prospects for advances in treatments. Young and SfN staff worked with the Chedd-Angier Production Company in Watertown, Mass., to produce the segments on neurodegenerative disorders.

The videotaped segments include a patient, his or her family, and the physician. Each segment conveys what life is like with the disease for the patient and for the family. The segment cuts from time to time to the physician, who summarizes the patient's condition and makes general comments about how close scientists are to understanding the disorder and to making advances that will help patients.

The SfN Council approved production of additional videotaped segments for 2005 and 2006 at its October meeting at Neuroscience 2004. The new segments will be produced and reviewed so they are suitable both for the Society's public education and advocacy efforts.

The videotaped segments were produced by first identifying a patient and his or her family, as well as a physician or researcher to illustrate the disorder. Questions were provided to start patient and family interviews so that each segment follows a similar pattern. Questions included: How did you first realize something was wrong? What did the doctor say? How has this changed your life? What is life like now for you and your family? How do you think of the future with this disorder? Follow-up questions depended on the answers.

Content experts for each segment included the patient's physician or researcher, who is familiar with the disorder and appears in the segment. These individuals, along with other experts, also reviewed scripts for accuracy. ■

... Scientific Program, continued from page 7

of the Massachusetts Institute of Technology. Chorover discussed the history of mechanistic reductionism and biological determinism as concepts and their relationship to ethics. He concluded by urging the audience to always ask themselves the following: "Who are we? What is our place in the world? How do we want to live in the future?" The answers to these questions can provide guidance in ethical dilemmas for neuroscientists, Chorover said.

Wolfram Schultz of the University of Cambridge gave the Pfizer Lecture on "Rewards, Predictions, and Uncertainty." Schultz spoke about the detection of rewards and the use of predictions for reducing subjective uncertainty at the neuronal level.

The annual History of Neuroscience Lecture was given by Peter Marler of the University of California, Davis. Marler discussed the role played by 1950s-era notions about instinctive behavior in delaying useful synergisms between ethology and systems neuroscience. His lecture was titled "Ethology, Birdsong, and the Innateness Controversy."

New this year, the Music Social, held on Tuesday, October 26, drew about 250 attendees to hear the vocal and instrumental performances of fellow musician neuroscientists. The music social met its goal of attracting younger attendees to an SfN-wide social event. ■

American Brain Coalition Sets Bylaws, Legislative Priorities

Members of the Society for Neuroscience (SfN) and more than 10 other professional organizations and patient advocacy groups met in San Diego at Neuroscience 2004 for the American Brain Coalition (ABC) meeting to establish bylaws and legislative activities for the group.

The coalition also discussed the group's ongoing membership drive and the potential for creating a database of statistics to tell the stories of those affected by brain disorders. The database would include items such as the incidence, cost, and prevalence of various diseases and disorders of the brain and nervous system. A committee of volunteers will be called upon at the next membership meeting to begin work on the database project.

ABC's membership recruitment began in full force in August 2004 with targeted e-mails and phone calls to various neurological, psychological, and psychiatric patient advocacy groups.

The coalition, with Francis Kittredge of the American Academy of Neurology (AAN) as its interim chair, hopes to attract additional professional societies, similar to SfN and AAN, as well as patient advocacy groups, to work together to reduce the burden of brain disorders through public advocacy. In light of the recent blows to the budget at the National Institutes of Health (NIH) and other federal research programs, the call for a united voice in support of brain research is timely.

With public advocacy as the main focus of the coalition, a subgroup of volunteers formed the ABC advocacy committee and appointed SfN member Mahlon DeLong of Emory University to serve as chair. The committee established and ABC members approved as legislative priorities for 2005 funding for NIH, mental health parity, chronic care, and the use of animals in research.

To address these legislative priorities, the advocacy committee created one-page issue papers addressing the responsible use of animals in research, mental health parity, patient care legislation, and funding for the NIH. These issue papers will be made available to member organizations for use in their efforts on Capitol Hill.

Katie Sale was hired to organize the coalition's ongoing efforts, as a director of operations. Sale previously served as SfN's senior director of planning and membership and will be based at the ABC headquarters office in St. Paul, Minnesota, beginning in early 2005. Sale will oversee ABC's membership recruitment and interaction with members and leaders.

The next ABC meeting will be on April 13 in Miami Beach, Florida, in conjunction with the AAN annual meeting. At that time, membership applications will be approved and board members will be selected.

ABC is currently accepting applications for 2005 membership. For more information, please contact Kerri Wade at kerri@sfn.org.

Brain Research Success Stories

A NEW SfN SERIES TO FOSTER DISCUSSION AMONG THE PUBLIC AND POLICYMAKERS ABOUT THE NEED FOR INCREASED BIOMEDICAL RESEARCH FUNDING.

The third set of four are now available, covering epilepsy, multiple sclerosis, memory impairment, and Parkinson's disease.

Download the new *Brain Research Success Stories* from the SfN Web site (www.sfn.org/brss) or contact SfN for copies (brss@sfn.org). Also online are success stories for stroke, post-traumatic stress disorder, depression, and schizophrenia.

N E U R O S C I E N C E

SCIENCE/RESEARCH

The premier venue for neuroscientists to meet and exchange their latest discoveries, Neuroscience 2004 featured a record-breaking 15,976 abstracts, covering topics ranging from neurodegenerative diseases to synaptic transmission. Seymour Benzer (left) of the California Institute of Technology delivered the inaugural Peter Gruber Lecture. Rudy Tanzi (far right) of Massachusetts General Hospital gave a compelling public lecture on Alzheimer's disease. Between lectures and symposia, the more than 31,000 attendees took the time to browse the poster floor.

PROFESSIONAL DEVELOPMENT/SOCIALS

SfN's strong commitment to professional development and continuing education was evident at Neuroscience 2004. In addition to offering CME credits to interested participants, the Society offered free to all attendees a career center and job placement service. Two day-long short courses and the Minority Poster Session provided further opportunities for professional development. Neuroscientist-musicians were able to showcase their musical talents at the first-ever Music Social. More than 250 attendees were present to cheer on their fellow researchers.

2004 EVENTS

ADVOCACY

Informing legislators about the importance of scientific progress is an integral part of the Society for Neuroscience. The Public Advocacy Forum highlighted ways that basic researchers can reach out to policymakers and included NIH directors Nora Volkow of the National Institute on Drug Abuse and Thomas Insel of the National Institute of Mental Health (bottom left). The Society is at the forefront in the support of the appropriate and responsible use of animals in research. Miguel Nicolelis of Duke University led a discussion on this important issue at the Animals in Research Panel (bottom right).

EDUCATION

Both students and teachers gained a greater understanding of the brain and nervous system at Neuroscience 2004. The Short Course for High School Students gave budding neuroscientists the chance to hear about the field from established neuroscientists and the opportunity to examine human brains. Teachers tried their hand at fun neuroscience activities in the Hands-On Neuroscience workshop and then learned more about using such activities in their own classrooms in the workshop, "How to Take Neuroscience Into the Schools."

FENS President Discusses Value of International Collaboration to Developed and Underdeveloped Nations

Tamas Freund

Tamas Freund is the director of the Institute of Experimental Medicine at the Hungarian Academy of Sciences in Budapest, Hungary and president of the Federation of European Neuroscience Societies (FENS).

***NQ:* What kind of impact does FENS seek to have within the neuroscience community?**

Freund: FENS now represents more than 18,000 brain researchers from 33 societies in Europe. Like members of SfN, they are largely involved in basic neuroscience, although many have clinical interests. Our organization has to find the most appropriate ways to help this membership in various aspects of their research and educational activities. We do this in several ways. First, FENS has a biannual meeting that attracts a growing number of participants, including more and more North American scientists. Second, FENS also runs several schools and helps to sponsor a journal — the *European Journal of Neuroscience* — that has gained a considerable reputation in the past decade. Third, we are continuously developing and improving our Web site, which serves the membership by providing important information, membership news, and frequently accessed job market pages.

All these activities need to be further developed. Our plan for the coming years is to focus on three major areas: 1) the availability of adequate funding for brain research at national as well as European levels; 2) better integration of European neuroscience in PhD- and master's-level education, in research activities (collaborations preserving and relying on special regional expertise), as well as in training in summer and winter schools; and 3) the improvement of research infrastructure and competitiveness of Eastern European countries, including those that recently joined the European Union (EU). We have begun to establish the necessary programs to deal with these issues.

***NQ:* What are the biggest challenges for FENS in the near future?**

Freund: To implement such programs is indeed a major challenge. As to the first goal, FENS should play a leading role in sustaining the recognition and support of brain research in Europe that it deserves. For this purpose, we joined forces with major European societies representing clinical neuroscience, as well as with representatives of patient organizations, the World Health Organization, and industry, under the umbrella of the European Brain Council (EBC). We believe that, given the importance of brain research to the mental and physical well-being of society, as well as in the development of industry, brain research is very much underfunded. The EBC is compiling evidence to that effect. We hope that any results we can achieve at the European level will filter down to national levels, where the vast majority of research funding is still allocated. Appropriate instruments and priorities set by the next EU Framework Program could stimulate better integration of European research activities, which is already part of our second major aim.

Integration should, however, begin at the level of education: The Network of European Neuroscience Schools (NENS) was established and taken under the FENS umbrella recently. This program serves to achieve better training coordination at the PhD and master's levels throughout Europe. The task of NENS is to 1) decrease the gaps between different European neuroscience curricula and between Europe and the rest of the world, while maintaining regional research priorities and to help introduce common standards, compatibility, and complementarity; 2) alert scientists from the graduate student to the young faculty levels to the research possibilities offered by laboratories in Europe, e.g., publicizing the NENS database together with the International Brain Research Organization's (IBRO) International Registry of Neuroscience Programmes; 3) increase the visibility of European neuroscience educational programs and their role in Europe and internationally; and 4) join forces with IBRO to assist the development of neuroscience outside Europe by providing opportunities in Europe for training promising students who intend to return to their home countries.

The summer and winter school system in Europe has also been fragmented in the past. Together with the IBRO, we just established the Program of European Neuroscience Schools with an annual budget of more than a quarter-million U.S. dollars. This initiative will generate a network of permanent and temporary European schools to increase the quality of neuroscience education, to increase the mixing and collaboration of young European neuroscientists (particularly between East and West), to create a network of alumni and teachers capable of enhancing scientific collaboration and the establishment of international research projects, and to establish a school system and structure with a single pocket for financial support as well as a single coordinating committee for quality control, and to ensure that applications, evaluations, student selection, finances, etc., are simple and transparent.

A major task facing European science in general is to integrate former socialist countries into the European Research Area. If these countries become intellectual deserts (due to brain drain), their traditionally well-respected centers of excellence will lose a critical mass of top researchers who educate young scientists, which today represent a major supply of young postdocs and PhD students for the West. Scientists from the East do not expect any special treatment (they want to be equal EU citizens), but to be able to compete on equal grounds with the more fortunate half of Europe, their research infrastructure has to be considerably improved. FENS

should do its best to help in this process, again via Brussels, e.g., to make structural funds of the EU available for rebuilding research infrastructure in this region.

***NQ:* What advantages are there for Europeans to doing research in America?**

Freund: I believe most young European scientists are aware of the advantages of doing a PhD or postdoc study in America, since the best laboratories in the United States are sufficiently well funded for offering such possibilities to the best students from all over the world, and they provide ideal circumstances for learning new concepts and technologies. In addition, the excellence of American research institutions or programs is widely recognized; therefore, their appearance in a curriculum vitae looks very attractive. However, although we are keen to support such opportunities, it would be better for us if mechanisms existed to help many to return here—bringing their skills and enthusiasm for the subject back to Europe after completing their training.

***NQ:* What would you like to see senior U.S. neuroscientists do to encourage U.S. scientists to do research abroad?**

Freund: Making the exchange of young scientists bidirectional between America and Europe is indeed a more difficult task. Europe should definitely do a lot more to make a European career look more attractive. The American side could also provide some help. The prestige and visibility of top European labs should be enhanced in the United States, e.g., by publishing regular interviews in *Neuroscience Quarterly* with leading American researchers who are proud of the experience and training they obtained in Europe. Reports on top European labs that can offer unique training in some research areas or technologies or that produced major conceptual advancement of a field of neuroscience could also be brought to the attention of SfN members. In addition, young Americans should feel that when returning from Europe and applying for a tenure position in the United States, they are not going to suffer any disadvantages compared with those coming from U.S. labs.

***NQ:* What are some of the biggest challenges facing European scientists interested in doing research in the United States? How can these challenges be met?**

Freund: I can see no such challenges; the brain drain toward the United States is operating smoothly and steadily. We should instead work on reversing the brain drain, helping young European scientists to return to their home countries after they have learned all that they went to the United States to learn. The disinclination of some to return is a problem for us in Europe, and we should definitely learn a lot from our U.S. colleagues about how attractive, independent positions and reliable funding opportunities can be generated for talented young scientists back home.

***NQ:* What suggestions does FENS have that could help reduce obstacles to scientists trying to enter the United States for work, study, or conferences?**

Freund: To my knowledge, there are no serious obstacles for EU member countries, but there are a lot more problems for Eastern European citizens. If SfN could help in any way to facilitate the acceptance of students from Eastern Europe, and help establish programs to return home, it would solve two problems immediately: U.S. labs would continue to obtain motivated and talented young scientists as postdocs or PhD students, whereas facilitating their return should help maintain the critical mass of well-trained scientists in centers of excellence with great traditions in neuroscience back in the Eastern European countries (which is a prerequisite for a continued supply of talented young scientists for the West).

***NQ:* Does FENS have programs to encourage collaborations with scientists from developing countries?**

Freund: FENS has been supporting PhD positions for scientists from developing countries, but only on a limited scale due to financial constraints. The new European schools initiative also secures positions for students from these countries, in accordance with the mission of IBRO.

***NQ:* How can FENS and the Society for Neuroscience work together to bring about more international collaboration among neuroscientists?**

Freund: More attention should be paid to mixing students in various training programs (summer and winter schools) and in PhD- or master's-level training. Collaborations (and friendships) established at a young age are usually long lasting and effective. In addition, there should be more funding available for intercontinental collaborations. At the moment, only the Human Frontier Science Organization has this written on its flag. Perhaps the EU and NIH should come up with a joint foundation for supporting U.S.-European collaborative research. I look forward very much to continuing the exchange of ideas with the SfN leadership, which have already begun in a creative, friendly atmosphere. ■

Neuroscience News Releases

To inform the public about advances in neuroscience, the Society sends news releases about new findings to some 1,000 science writers at general-interest publications and other news outlets. Members who will be published in high-profile journals, including *Science, Nature, Cell, The Journal of Neuroscience, Nature Neuroscience, The Journal of Cognitive Neuroscience, The Proceedings of the National Academy of Sciences,* and *Neuron,* are urged to contact Dawn McCoy (dawn@sfn.org). Members should submit their work four to six weeks prior to the journal's publication to ensure enough time for the review, writing, and distribution process. Releases are done in accordance with the journal's embargo policy.

Council Acts on Education and Advocacy Initiatives, Diversity Guidelines, and More at Neuroscience 2004

At Neuroscience 2004 in San Diego, the Society's Council tackled a diverse array of issues ranging from public education initiatives to advocacy efforts to increasing the number of postdoctoral fellowship awards. These actions all will help position the Society to better meet its strategic plan goals of advancing understanding of the brain and nervous system, providing professional development, promoting public information and education, and informing legislators and policymakers. All approved funding actions are consistent with the Society's fiscal year (FY) 2005 and FY 2006 financial plan.

EDUCATION

Council approved implementation of the Public Education Working Group's proposal to begin development of a Neuroscience Education Portal, a Web-based navigational tool serving as SfN's gateway to neuroscience educational materials. Council also approved participation by six SfN members at the National Forum on Science Learning.

The first phase of the Neuroscience Education Portal, now complete, dealt with identifying content gaps and site navigation problems. User feedback and recent independent analysis of the SfN Web site's content showed that increased usage and broader impact of the site could be achieved by making the content more appealing and accessible. At the Working Group's request, Eric Chudler of the University of Washington assessed the current status of resources found on the SfN Web site and suggested enhancements to SfN's delivery of educational material.

A second phase began in January 2005 and will continue throughout the year. This phase will examine practical needs, such as software tools and resources needed for SfN staff to monitor and maintain the portal. The goal of this phase is to advance a prototype of the Neuroscience Education Portal to demonstrate the potential capabilities of a full-scale version. Phase 2 will also include development efforts to secure a $500,000 two-year grant.

The third phase will involve obtaining the funding necessary to implement the education portal. A plan for adding new material to the portal and for obtaining user feedback will also be part of phase 3.

Council also approved involvement by SfN members in the National Forum on Science Learning, an innovative national program dedicated to improving science learning in the United States. The forum's goals are to expand the pipeline for providing a skilled future workforce and leadership in the areas of science and technology by building a consensus for the need to foster high-quality science learning; to establish a common ground for understanding and a foundation for research-based evidence to promote science teaching and research; to inform corporate leaders, policymakers, practitioners, and the public about the potential return on today's investments in enriched science education; and to involve critical stakeholders in developing both immediate and long-term plans of action.

The Council's Education Committee proposed a "Meet-the-Expert" breakfast as a Saturday activity at the annual meeting. Council approved a trial Meet-the-Expert session at Neuroscience 2005, as well as a survey of members to determine several topics of interest for these expert sessions. Designed to facilitate interaction between graduate students or postdoctoral fellows and junior faculty, the Meet-the-Expert sessions would build bridges within the research community to raise the visibility of promising young investigators. Similar to the breakout sessions held at the Neurobiology of Disease Workshop (NDW) and the short courses, these Meet-the-Expert sessions would probably be limited to 20 to 25 participants to optimize efficiency in the exchange of ideas.

The committee suggested, and Council approved, autism as the topic for the 2005 Neurobiology of Disease Workshop and approved the topics for this year's short courses.

The Council also approved a resolution to the bylaws formally creating the Neuroinformatics Committee, as well as authorizing the creation and subsequent trademarking of a logo for the Neuroscience Database Gateway.

ADVOCACY EFFORTS

As a result of Council action, the Committee on Animals in Research may spend up to $20,000 for collaboration with other societies to develop an animals in research legal strategy, as well as $5,000 for a committee member to serve as a mentor in the International Brain Research Organization's training program that helps educate neuroscientists in South Africa and some Latin American countries about the responsible use of animals in research.

The Society's advocacy efforts will be enhanced in 2005 in response to continued decreases in funding for biomedical research. The Governmental and Public Affairs Committee, working with various Canadian neuroscience organizations, may spend up to $3,000 to adapt and translate the *Guide to Public Advocacy* into French to support advocacy activities in Canada. Council also agreed to commit up to $20,000 to help support a Canadian coalition to secure a lobbyist in Ottawa. Council also approved $10,000 toward educating SfN chapters in how to advocate for increased funding for biomedical research.

The Public Information Committee proposed, and Council approved, plans to continue publishing the *Brain Research Success Stories* series, which describe current successes due to neuroscience research, as well as the potential for future advances, given sufficient funding for biomedical research. The Council also approved the production of four patient videos in 2005 and four in 2006 (see story, page 8).

CHAPTERS ACTIVITIES

The Chapters Committee proposed and Council approved increasing the number of international postdoctoral and

graduate student travel award recipients from 14 to 25. The award amount will be decreased from $1,250 to $1,000. The Chapters Committee also approved the creation of a San Francisco Bay Area chapter. The new chapter will serve the needs of the many SfN members affiliated with the University of California, Berkeley; Stanford; and other local institutions.

HISTORY OF NEUROSCIENCE

Council appointed Larry Squire to a three-year term as editor of the *History of Neuroscience in Autobiography*. The editor is responsible for editorial decision-making for the book as well as for videos in the *History of Neuroscience* series and is at the center of communication with contributing authors, SfN staff, and Council. Council also decided to make the editor an ex officio member of the Committee on the History of Neuroscience. In this position, the editor will work closely with the committee chair to discuss new initiatives for the book and video series while also working closely with the staff liaison to see that current initiatives are being implemented.

Council also approved the filming of three new archival videos on the history of neuroscience in 2005. The video series, initiated and organized by Squire, highlights eminent senior neuroscientists, who reflect upon their lives, dreams, and work and share their insights on what lies ahead in the field of neuroscience. Eric Shooter of Stanford University, Michael Posner of the University of Oregon, and Gerald Fischbach of Columbia University have been invited to participate in interviews with PBS personality Richard Thomas for the series in 2005. Council also gave the committee approval to reschedule filming of Sydney Brenner, who was unable to participate in 2004 because of an illness.

DIVERSITY IN SCIENTIFIC PROGRAMS AND MEMBERSHIP

Council also approved wording for a new set of diversity guidelines to be followed by selection committees for all annual meeting scientific events. The program committee has been working under these guidelines for two years in selecting speakers for special lectures, symposia, and other program committee-sponsored events. The guidelines will now also apply to other scientific events at the SfN annual meeting.

The guidelines strongly urge selection committees for events such as workshops, short courses, the social issues roundtable, and the animals-in-research panel to "appropriately consider the representation of women and underrepresented minorities when selecting lecturers, panelists, and other participants for annual meeting events." The guidelines go on to "discourage the inclusion of speakers who have participated in events over the past two years," and reserve the right of the program committee to make suggestions of speakers for proposals that do not meet the diversity guidelines.

The Council also approved a policy for helping individuals from developing countries become members. Effective for the 2005 membership year, reduced membership dues are available for these individuals. However, the Council recognized that because there are often few active members in developing countries, it can be difficult for individuals wishing to join SfN to find sponsors for their membership applications.

With Council approval, a group of four volunteers from the Membership Committee will now serve as sponsors for those requesting membership assistance in underrepresented countries. The reviewing committee will receive a copy of each applicant's curriculum vitae from the Membership Department at preset intervals prior to abstract submission and annual meeting registration deadlines and review each application for eligibility before sponsoring. In this way, the Membership Committee will act as a bridge between applicants from the developing world and those in developed countries.

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