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news & notes

December 15, 1995 Volume 6, Number 13

The Rockefeller University

RU hosts series of three public lectures in 1996 on behavior and the brain

Individual differences in behavior reflect the interactions of genes with environment. The unraveling of how genetic factors and individual experiences affect the brain is the focus of many exciting investigations, which show that both nature and nurture influence the structure and function of the nervous system. Aspects of such research will be featured in a free three-part series of public lectures on behavior and the brain that the university will host next year.

The lectures accompany a series of small, intensive workshops at RU entitled "The Environmental and Genetic Determination of Behavior: A New View of the Nature-Nurture Debate." The Arthur Vining Davis Foundations support the lectures and the workshops, which feature experts from more than a dozen universities and research institutions in the United States and abroad.

"The workshops are to educate physicians, students, and scientists about the importance of integrating research on the human nervous system with studies of human behavior," explained Professor Bruce McEwen, who organized the two series with Professor Felton Earls of Harvard School of Public Health and Professor Jack Barchas of Cornell University Medical College.

Rockefeller University, the Rockefeller University Hospital, and the Cornell Department of Psychiatry, which Barchas chairs, host the workshops. About 50 faculty members, fellows, and students

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Professor Bruce McEwen is co-organizer of the lecture and workshop series.

2 Lederberg in Japan

3 Learning from lemurs

4 Coupon for shoppers

Special evening concert will feature Met conductor James Levine and rising tenor

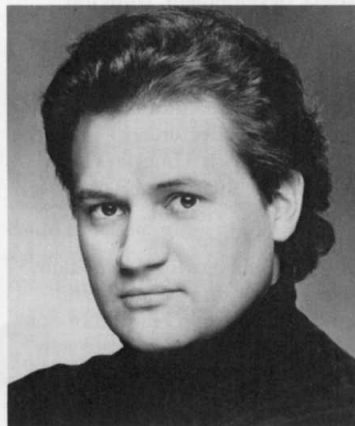
Metropolitan Opera artistic director James Levine will provide piano accompaniment for the much-acclaimed tenor Paul Groves in a special recital for The Rockefeller University Concerts Mon., Mar. 11.

"James Levine needs no introduction to Rockefeller or New York audiences, and Paul Groves is a most exciting young American tenor," said Associate Professor George Reeke. "We are truly pleased that they have agreed to make time in their busy schedules to perform in our series. Proceeds of the concert will benefit the fund used to subsidize reduced-price tickets for students and postdocs, and tickets, of course, make fine

holiday presents."

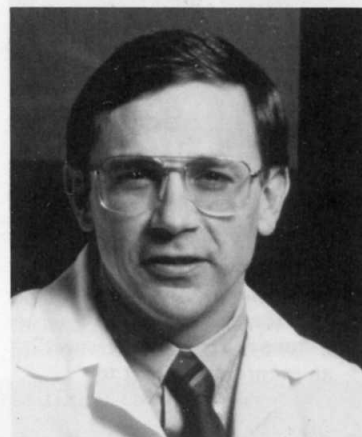
Paul Groves won the Met's National Council Auditions in 1991 as well as the 1995 Richard Tucker Foundation Vocal Competition. Since his 1992 debut as the Steersman in *Der Fliegende Holländer*, he has appeared at the Met in 10 different operas. He has recorded *Rigoletto*, *Parsifal*, *Idomeneo*, *Der Fliegende Holländer*, and *Manon Lescaut*, all conducted by Maestro Levine. He is making debuts this season in some of the world's leading opera houses—La Scala, the Vienna Staatsoper and Volksoper, and the Théâtre Musical de Paris (the Châtelet)—

See *Concert*, page 4



James Levine (left) and Paul Groves will perform at Rockefeller in an evening recital Mon., Mar. 11.

Geneticist discusses cell death today



Stanley J. Korsmeyer became a member of the National Academy of Sciences this year.

Stanley J. Korsmeyer, professor at the Washington University School of Medicine and Howard Hughes Medical Institute (HHMI) investigator, discusses "Bcl-2 Gene Family and the Regulation of Programmed Cell Death" at the Friday lecture today (Dec. 15).

Korsmeyer studies the genetic regulation of apoptosis, or programmed cell death, in mammalian cells. Korsmeyer and his colleagues discovered and cloned the *Bcl-2* gene, a new type of oncogene called a regulator of cell death, which when overexpressed extends the survival of cells normally fated to die. In regulating programmed cell death, Bcl-2 protein interacts with another protein, Bax. In cells in which Bcl-2 dominates, apoptosis is interrupted, but when Bax is in excess, the cells die.

Transgenic mice that overexpress Bcl-2 in their immune systems develop high-grade lymphoma, showing that extended cell survival is carcinogenic. Work in Korsmeyer's laboratory also shows that Bcl-2 protein blocks oxidant-induced cell deaths. In Bcl-2-deficient mice, polycystic kidney disease and kidney failure occur in the developing kidney, and massive death of lymphocytes and disappearance of lymphoid organs is seen in adult mice.

"Stanley Korsmeyer's pioneering

See *Korsmeyer*, page 4

Courtesy of Stanley J. Korsmeyer

Courtesy of the artist

Lederberg talks about global health at conference on safety in the future

Ingrid Guttman



Rockefeller Professor and President Emeritus Joshua Lederberg spoke at "The Future of Hope Conference," an event held in part to commemorate World War II.

Professor Emeritus Joshua Lederberg discussed "Global Pestilence as Harbinger of Hope" at "The Future of Hope Conference," a five-day gathering that brought 50 eminent writers, scientists, and business and political leaders from around the world to Japan from Mon., Dec. 4 through Fri., Dec. 8.

Sponsored by *The Asahi Shimbun*, a Japanese daily newspaper; the United Nations University in Tokyo; and The Elie Wiesel Foundation for Humanity, the conference aimed to "seize this moment at the end of the World War II commemorations to send a message that the world continues to have a moral obligation to safeguard the destiny of future generations," according to the Wiesel foundation. Among many ceremonies and events, Elie Wiesel presented the conference's Future of Hope Award to Czech President Vaclav Havel.

An on-line Internet segment of the conference, held Wednesday, featured an electronic "World Leaders Roundtable" with Israeli Prime Minister Shimon Peres in Jerusalem, former U.S. President Jimmy Carter in Atlanta, and South African President Nelson Mandela in Pretoria. Their discussion was the first audiovisual World Wide Web chat of its kind, conference organizers said, allowing in real time people in far-flung sites to converse on the Internet while observed by anyone with a web browser, regardless of service provider.

On Tuesday, as part of a forum of Nobel laureates entitled, "Our Legacy for the Twenty-First

Century," Lederberg called for global cooperation in scientific and public health issues.

"We cannot wage a war of attrition against a foe which can crowd billions of microbes in a single test tube," he said. "Against their genes, rapidly evolving, we must pit our wits. And that calls for a social intelligence as much as for individual genius. There are nations who, in clear violation of established treaties, would use . . . biological warfare. The most flagrant and exposed example has been Iraq. Perhaps . . . the arousal of world conscientiousness . . . may help assure that no state or group which transgresses these bounds can go unpunished."

Other scientific participants in the Nobel laureates forum were Kenichi Fukui (chemistry), Leon Lederman (physics), and Jean-Marie Lehn (chemistry).

"The conference was an extraordinary meeting of minds and hearts, to see from the ashes of Hiroshima what might emerge as sources of hope for the 21st century," said Lederberg.

Information on the conference is posted on the web at <http://www.ijnet.or.jp/Hiroshima>.

University community bids farewell to Lyons



At a retirement reception for David Lyons (second from left), vice president for business and finance, President Torsten Wiesel (at podium) presented him with a color nightscape of the RU campus and other gifts. Wiesel announced that the Children's School will dedicate its playground to Lyons. "David Lyons has always been a very good friend of the school," Marjorie Goldsmith, educational director of the Children's School and Infant-Toddler Center, told the crowd in Weiss Café Tues., Dec. 12. Tributes to Lyons, who will continue to consult for the university, came also from Professor Attallah Kappas, Paul Rosen, manager of desktop computing and electronics, and President Emeritus Frederick Seitz.

Public lectures will explain brain's influence on behavior, and vice versa

(continued from page 1)

from the tri-institutions will attend each of the invitation-only workshops, which will take place in Nurses Residence.

"The workshops will be interactive, collaborative events, which necessitate a small group of participants. However, the public lectures will afford opportunities for more members of the tri-institutional community and our neighbors to learn of and ask questions about stress, development, thinking, aging, and schizophrenia," said McEwen, who heads the Harold and Margaret Milliken Hatch Laboratory of Neuroendocrinology.

The public lectures, in Caspary at 6:00 P.M. on Thursdays in January, February, and April, are:

• Jan. 18, "Hormones, Stress, and Development"

As a child grows into an adult, experiences alter behavior and emotions. Certain brain hormones released in reaction to stress may be important in this development process. Earls and Mary L. Carlson, associate professor at Harvard Medical School, will discuss results of studies among children and ani-

mals that show the control of fear and other emotions at a young age appears to predict not only later patterns of behavior and response to stress, but of aging, as well.

• Feb. 22, "Stress, Brain, and Behavior"

Does stress affect your brain and the way you behave? New evidence indicates that severe stress causes atrophy of brain cells and shrinks certain brain regions and that stress hormones are involved. Indeed, brain aging may be accelerated by chronic stress. McEwen will discuss these findings as well as new data indicating that post-traumatic stress disorder and depressive illness involve imbalances of stress hormones and that the inclination to abuse drugs may also be linked to abnormalities in the stress hormone response.

• Apr. 18, "Genetics, Environment, and Schizophrenia"

Of the many psychiatric disorders, the schizophrenias show strong evidence of genetic and environmental influences. Scientists knew of the heritable aspects of this disorder for 30 years, but how genes cause this disease

remains poorly understood. Barchas will discuss recent theories about the development of this disorder as well as findings from studies of brain structure and chemistry.

For more information, call the Office of Public Affairs, x8967.

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Unique species forward understanding of basic biology, ecology, and conservation

Alison F. Richard, provost and professor of anthropology and environmental studies at Yale University, spoke on "Lemurs of Madagascar: The Lost, the Living, and Lessons They Offer" in Caspary Auditorium Tues., Nov. 7. The lecture was part of the Wildlife Conservation Society's Centennial Lecture Series, cosponsored by the society, the Conservation Foundation/World Wildlife Fund, and Rockefeller. Here, News&Notes presents a synopsis of her talk.

The lemurs of Madagascar have fascinated me for more than 25 years now. Inherently engaging, they are also unique and diverse: There are 31 species of lemur on Madagascar, and they are endemic to the island. Few islands on the world have as distinct and diversified fauna as Madagascar possesses.

One key to this faunal distinctiveness is the Mozambique Canal, which is deep enough to have constituted a major barrier for land migrations for the last 120 million years. Animals that got there did so by flying, swimming, or rafting across. The process was clearly something of a sweepstakes.

Having got there, some species diversified, in part because Madagascar has a topographic, climatic, and hence ecological variety that is remarkable. It has rainforest and dry forest, plains and mountains. The diversity of habitats gave rise to the diversification of lemurs and other animals that made landfall there.

Lemurs follow their own evolutionary drummer

It could be said that lemurs have not read the right textbooks: They do not behave the way other primates do. This may be because lemurs are filling roles in Madagascar that are usually filled by other animals in other locales. Some lemurs seem rodentlike, for example, cracking and feeding off nuts. Others have the attributes of woodpeckers. Several species of lemurs are now known to feed on the nectar of flowers and may serve as pollinators; most primates simply eat flowers.

From a conservation viewpoint, discovery of the potential role of lemurs as pollinators implies that saving the forests may not be enough to ensure their regeneration. If lemurs are fundamental to forest function, they too must be saved if the forests are to persist. Clearly, one of the first orders of business must be to find out more about the role of these animals in the ecosystem.

Female dominance serves a purpose

Another intriguing aspect of lemur

behavior is female social dominance: You often see a male lemur waiting while females feed. While it is the rule in most lemur species, it is most unusual among primates.

How do we explain this? One hypothesis is that females bear a particular burden in reproduction, and so feeding priority is more important to female lemurs than it is to other female primates. My research over the past decade has attempted to explore this idea more fully.

Since 1984, we've tagged and monitored about 250 animals. Let me present briefly one result of this work. Our records show that males lose weight in February and March, when they are mating, make up the loss in late spring, lose weight again in July and August, and recover in December. July, August, and September are the dry season months, when food is scarce. Females *build up* weight through the wet season and the mating season—January through April—and then show a precipitous drop in weight in August, September, and October, after giving birth in July.

These data can support two contradictory arguments. One is that females are under tremendous stress, losing all this weight in the birth season. Ergo, feeding dominance must be really important in giving females priority of access to food. Alternatively, one can argue that female social dominance is irrelevant because females exhibit much more evidence of seasonal stress than males. The conundrum, of course, is trying to infer causation from a pattern, in this instance a pattern of differential weight loss in males and females.

We are now embarking on studies to see whether we can identify substantive dietary advantages to females through their ability to displace males at will from feeding sites, and we are looking forward to having more biological data to go hand in hand with the behavioral and ecological data.

Ecological history cannot be ignored

In 1975, two colleagues and I embarked upon a grassroots conservation effort. As part of this effort, with the collaboration of local communities, we fenced off 100 hectares of forest. We wanted to exclude cattle and goats because we presumed that their grazing and browsing activities jeopardized the regeneration of the forest. Several years later, vines in this sector began killing trees. The cattle and goats had kept the vine in check. This was a sobering consequence of a conservation action undertaken with great opti-

mism but with no regard to history.

The moral of the story is that cattle and goats are in some measure substitutes for grazing and browsing animals that were, until recently, present on Madagascar. In the past millennium or two, the island has experienced a selective wave of extinction that eliminated the largest animals.

Fifteen genera of large-bodied lemurs have gone extinct in the last 1,500 years, as have a dozen species of giant flightless birds related to ostriches, who are in Africa grazers and browsers. Conservation efforts in Madagascar must factor in the loss of an endemic grazing and browsing community.

While not every land mass has witnessed such extinctions, many have. Often, we are attempting to conserve a disequibrated system, and we need a firm understanding not only of the modern ecology but

risk sliding into hierarchical relationships, where power, authority, and access to resources define who is on top. The culprit is not education per se but rather the differential control of, and access to, resources that it commonly provides. The people whose lives and livelihoods are most at stake need to be in control of their own destiny—and, hence, to have a major voice in decisions affecting the conservation of their resources.

What to do? One starting point is to make sure that we all literally and metaphorically speak each others' languages. Literally, we rarely do. Much happens through interpreters. We also have to learn to understand each others' cultures better.

The realist in me says that since people from the United States and Europe are not likely to immerse themselves in the culture of Madagascar, we need to invest in



Alison Richard served as director of Yale University's Peabody Museum of Natural History from 1991 to 1994.

also the ecological history of such systems if we are to make wise decisions about their conservation.

Partnership is essential to success

If conservation efforts require a fuller understanding of the past, they depend equally on strong partnerships in the present. Conservation should not be brought top down from the first world to the third, like missionaries imposing The Word upon benighted peoples. True partnerships are complex, demanding deep cooperation. In Madagascar, people who cannot read and write are working together with people who have doctorates.

Educational disparities actually cause the least problems, in my experience, because most people recognize that there is a lot of knowledge on every side and they work together with mutual respect. You can walk through a dry forest on Madagascar with a villager and never be hungry or thirsty. In many respects, their expertise far outstrips that of any "educated" visitor.

Nonetheless, most partnerships

Madagascar's leadership, so that, both literally and metaphorically, they can speak the language of the foreign community, without whose fiscal help conservation efforts will not succeed. Until local leadership of this kind is in place—and it's starting to happen now—conservation efforts will slide toward control by foreign organizations.

Such an infrastructure takes years—years to form relationships, identify students, build trust with local communities, and help those communities establish their own leadership.

It has become a truism about conservation efforts in developing countries that such efforts must go on in partnerships, but the task is not easy.

The leadership of the Wildlife Conservation Society on these issues deserves our respect and applause. The society has made a difference with its deep commitment to the study of basic ecology, to the understanding of ecological history, and to plugging away, over the long haul, at true partnership.

Potpourri

Museum holiday events

Candlelight tours of the Abigail Adams Smith Museum, 421 East 61st Street, will be given today (Dec. 15) from 5:30 P.M. to 8:00 P.M. Admission is \$8 for adults, \$6 for seniors and students, and free for children under 13. The museum hosts musicians from Cobblestone Music performing tavern tunes, wassailing songs, and old-fashioned carols Sun., Dec. 17 at 2:00 P.M. The event is free with museum admission (\$3 for adults, \$2 for seniors and students, and free for children under 13). For information and reservations call 838-6878.

Friday film

Belle du Jour (France, 1967), directed by Louis Bunuel, will be shown today (Dec. 15) at 8:00 P.M. in Caspary Auditorium. The film, in French with English subtitles, stars Catherine Deneuve as a woman who leads a secret double life. Admission is free.

Club party

Pumice (the Rock That Floats) performs Fri., Dec. 15 from 9:30 P.M. to 1:00 A.M. at the Holiday

Dan Dohy



The New Millennium Ensemble—comprising winds, strings, piano, and percussion—performs works by Henry Cowell, Beethoven, and Henry Festinger at the Tri-Institutional Noon Recital today (Dec. 15) at noon in Caspary Auditorium. The concert is free. All are welcome.

Eruption Party in the Faculty and Students Club. Admission is free. Contact club manager Pat Griffin, x8078, for more information.

Clinical Research Seminar

Michael Pack, instructor in medi-

cine at Harvard Medical School, discusses "Genetic Approach to Digestive Organ Development Using Zebrafish" at the Clinical Research Seminar Wed., Dec. 20 at noon in Nurses Residence 110B.

Founder's Hall. Group size is limited due to the small display area.

Grant deadlines

All applications due between Mon., Dec. 25 and Mon., Jan. 1 should be brought to the Office of Sponsored Programs Administration by Wed., Dec. 20 at 3:00 P.M. for review and signature. Voice mail messages left at x8054 during the holiday week will be promptly answered.

News&Notes schedule

News&Notes will not be published for three weeks due to the holidays. The next issue will be Fri., Jan. 12.

Korsmeyer

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studies on malignancy and cell death have important implications for the understanding of normal lymphoid development and cancer," said Associate Professor Michel Nussenzweig, who introduces Korsmeyer today.

Korsmeyer received his medical degree from the University of Illinois, Chicago, in 1976. He was an intern and resident at the University of California Hospitals in San Francisco from 1976 to 1979. In 1979, Korsmeyer moved to the National Cancer Institute as a postdoctoral associate, working with Thomas Waldmann and Philip Leder, and became a senior investigator in 1986. He joined the Washington University School of Medicine in St. Louis in 1986 as associate professor, became professor of medicine in 1990, and professor of pathology in 1993. He

began his affiliation with HHMI in 1986, and was named investigator in 1993.

Korsmeyer received the 1993 Pasarow Medical Research Award in Cancer and was elected to the National Academy of Sciences this year. He is a member of Alpha Omega Alpha, the Association of American Physicians, and the American Society for Clinical Investigation, of which he is vice president. He serves on the Board of Scientific Counselors at the National Cancer Institute, the Board of Directors of the American Association for Cancer Research, the board of the Umea Center of Molecular Pathogenesis.

The lecture will be held at 3:45 P.M. in Caspary Auditorium and preceded by tea at 3:15 P.M. in Abby Aldrich Rockefeller Lounge. All are welcome.

President's House exhibit

Nineteenth and twentieth century Chinese paintings from the Mirsky collection and early views of the Peking Medical College are on display in the President's House Wed., Dec. 20 from noon to 2:00 P.M. Members of the university community who wish to visit the exhibit may sign up at the Security desk in

Concert

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and will make his public New York recital debut at Alice Tully Hall shortly after the Rockefeller performance.

Levine, who appeared at Rockefeller several times as accompanist to soprano Kathleen Battle, is best known as artistic director of the Metropolitan Opera. He opened the 1995-96 Met season in October conducting Verdi's *Otello*, his 1,500th performance with the company. Among his accomplishments, he inaugurated the Met's live television performance series, founded its Young Artists Development Program, returned Wagner's complete "Ring" cycle to the repertoire, and reinstated recitals and concerts at the opera house. In addition to his duties at the Met, he appears regularly as guest conductor with opera houses and orchestras throughout the

world, and is a distinguished pianist and active recital collaborator with many notable singers.

The concert begins at 8:00 P.M. in Caspary Auditorium. Reservations are necessary. Preferred patron seating costs \$35 per ticket (\$15 is tax-deductible, and purchasers of patron tickets are guaranteed buffet reservations, if requested when purchasing tickets), regular seating is \$20, and tri-institutional graduate students and postdoctoral fellows may purchase tickets for \$10 each (limited to two per buyer). Reservations for the preconcert buffet supper in Abby Aldrich Rockefeller Hall (\$25 per person, plus tax) are on a first come-first served basis.

Forms for ordering tickets may be obtained from Cathy Rogers, x8971. No phone reservations accepted.

\$2.00

The RU Children's School & Infant-Toddler Center

Sweat Shirt Shop Holiday Hours & Sale

For holiday shoppers, the shop will be open every day next week, Mon., Dec. 18 through Fri., Dec. 22 from 11:30 A.M. until 1:30 P.M.

\$2.00 off any purchase of \$20.00 or more with this coupon

\$2.00

\$2.00