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The Rockefeller University

news & notes

May 3, 1996 Volume 6, Number 27 — The Rockefeller University

School joins city food drive

The Rockefeller University Children's School and Infant-Toddler Center requests donations from the campus community for the second annual Mother's Day-Father's Day Healthy Baby Food Drive, organized by City Harvest.

"In addition to helping to feed thousands of New York's hungriest infants and toddlers, this food drive gives teachers and parents the chance to explain to children what giving can mean," said Marjorie Goldsmith, educational director.

During the week beginning Mon., May 13, bring nonperishable foods to cartons at the entrance of the Infant-Toddler Center, first floor of Sophie Frick, or the Children's School, ground floor of Graduate Students Residence.

Suggested items are: infant formula with iron; baby foods—cereals, vegetables, and fruits; toddler meals; junior foods; 100 percent juice packs; enriched pasta and rice products; and Pedialyte.

City Harvest, an established charity, collects food and distributes it to food pantries and other emergency food programs throughout New York City. Last year's drive yielded more than 25,000 pounds of donations, a total they aim to double.

Topography in 3-D. **Children in the Blue Room have built a model of the campus. All are welcome to view it in Graduate Students Residence any morning.**

Mighty morphing pattern arrangers are topic at Friday lecture

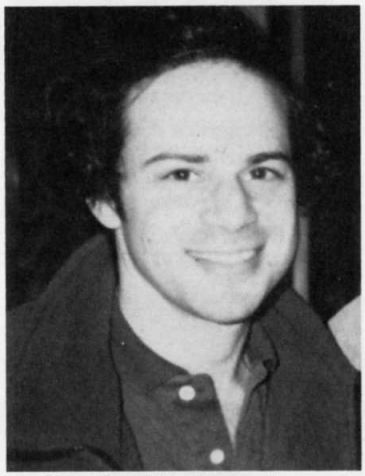
Gary Struhl, professor at Columbia University College of Physicians and Surgeons, discusses "Morphogens and the Control of Limb and Body Pattern in *Drosophila*" at the Friday lecture today (May 3).

Struhl studies morphogens, form-generating substances that are thought to provide cells with information about their relative position within tissues. In principle, a local source of a morphogen may generate a stable gradient. Such a gradient could provide a series of concentration thresholds that determine distinct cellular behaviors at different distances from the source. Struhl and his colleagues focus on identifying such gradients in *Drosophila* and on determining how they arise and act to organize growth and patterning.

In the fruit fly, four distinct morphogens specify the basic body plan. During the early stage of development, called the syncytial period, signaling molecules move from one region to another by diffusing through a common cytoplasm. Work is now under way in Struhl's laboratory to understand the determinant systems that control anteroposterior body pattern in the syncytial period and to identify and analyze the signaling molecules that control patterning in later, cellular stages of development.

Struhl received his doctoral degree from Cambridge University in 1980, studying developmental compartments in the fruit fly in Peter Lawrence's laboratory. He continued his work with Lawrence as a postdoc, then joined Thomas Maniatis' lab for four years as a postdoc. In 1986 Struhl became assistant professor at Columbia University College of Physicians and Surgeons and was promoted to professor in 1994. He is an investigator of the Howard Hughes Medical Institute. Struhl received the McKnight Neuroscience Development Award and the 1990 Harold and Golden Lamport Award for Excellence in Basic Science Research.

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.



Gary Struhl, a Howard Hughes Medical Institute investigator, studies growth and patterning of tissues.

Chemist creates book to catalyze public interest in science

Like a female silkworm moth attracting males by releasing the pheromone bombykol, Professor William Agosta has sought to lure people to science by publishing a general interest book, *Bombardier Beetles and Fever Trees: A Close-up Look at Chemical Warfare and Signals in Animals and Plants.*

As testament to Agosta's tales of fascinating creatures deploying natural chemicals to survive and get ahead, the publication for book buyers *Library Journal* selected his book as 1995's "Best Scientific and Technical Book for General Readers, Biology-General." One reviewer lauded it as a "perfect balance of science, fact, big words, and the all-important 'Cool! Gross!' factor."

Agosta, a chemist at RU since 1963, explains it this way: "Natural chemicals are a good vehicle for

See ***Prose****, page 2*

Daughters meet frogs

Thirty girls ages 8 through 15 visited the campus on Take Our Daughters to Work Day Thurs., Apr. 25. In the lab of Assistant Professor Ali Hemmati-Brivanlou, they got up close and personal with some amphibians.

Beware laptop hustle in airports

Computing Services would like laptop owners on campus to know that according to the Federal Aviation Administration (FAA), laptop theft in airports is increasing nationwide.

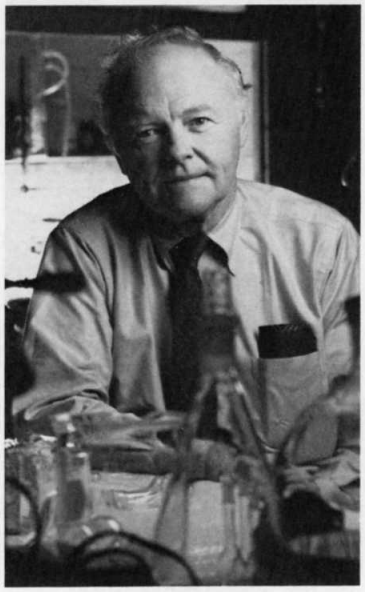
Thefts generally occur at metal detectors. In a typical scenario, two collaborating thieves precede the laptop-carrying passenger through the security clearance gate. One loiters near the conveyor, while the second deliberately sets off the metal-detector alarm by walking through the gate with keys or other such objects in pockets. While this second hustler very, very slowly empties pockets, removes jewelry, etc., the mark, in all innocence, places the laptop and other possessions on the moving conveyor and awaits his or her own turn at passing through clearance. During that wait, the laptop emerges on the far side of the conveyor, and the first thief makes off with it.

The FAA advises these precautions: Avoid long lines when entering a metal detector, delay putting the laptop on the conveyor belt until the person before you has stepped away, and watch items during their passage on the conveyor.

One veteran traveler requests that the security guards inspect her laptop by hand.

Council member brings new group to RU

On Wed., Apr. 24, more than 100 members of The Colony Club attended an evening presentation by Professor Bruce S. McEwen on "Nature or Nurture: What Determines Behavior?" After the program, guests enjoyed a reception at the President's House. *From left:* Rockefeller University Council member Kate Cameron, who proposed the event, is seen with President Torsten Wiesel, Colony Club president Mrs. Robert E. Carroll, and McEwen.



Professor William Agosta recently published a general interest book on natural chemicals. "Writing is too much fun for me to stop now," said Agosta, who hopes to begin a new book soon.

Prose as pheromone

(continued from page 1)

presenting science to the general public. Anyone can ask, 'Why do bees attack you again at the site of a first sting?' It took 350 years for scientists to learn that bee venom left in the skin contains a recruitment pheromone, one that urges fellow bees to join the attack."

In *Bombardier Beetles and Fever Trees*, Agosta surveys natural chemicals through case studies of plants and animals that are virtual factories manufacturing attractant, repellent, phosphorescent, and deceptive chemicals. In describing the flashlight fish and female fig wasps, the stinkhorn fungus and St. John's-wort weed, the beetle, the skunk, and the mighty American elk, Agosta blends chemistry, biology, natural history, and ecology.

Agosta also discusses medical and industrial uses of natural chemicals—both past successes, such as the development of penicillin and the quinine extracted from fever trees to treat malaria, and potential products, such as a waterproof glue based on mussel secretions that could secure dentures. And he argues for preserving biodiversity on the grounds that nature's many secrets can yield uncountable benefits to humanity.

The well-camouflaged organic chemistry in the book differs radically in complexity from the research in Agosta's Laboratory of Organic Chemistry. "As is the case in many areas of research today, the mechanistic chemistry in my lab is very specialized," Agosta said. "Chemists who do not work in this area have difficulty comprehending it."

Agosta was most pleased by the forthcoming review in the *Journal of Chemical Ecology*, which adjudged the book as "useful to introduce chemical ecology and nature's diversity to undergraduate students interested in biology, environmental issues, nature, and conservation."

Attuned to the book's pedagogical aspect, Princeton University's Interdepartmental Committee on Science and Technology invited Agosta to base a course on his material, and this semester he has been a visiting professor there. To facilitate group discussion, he limited enrollment to 17 students and had to turn away 20 more.

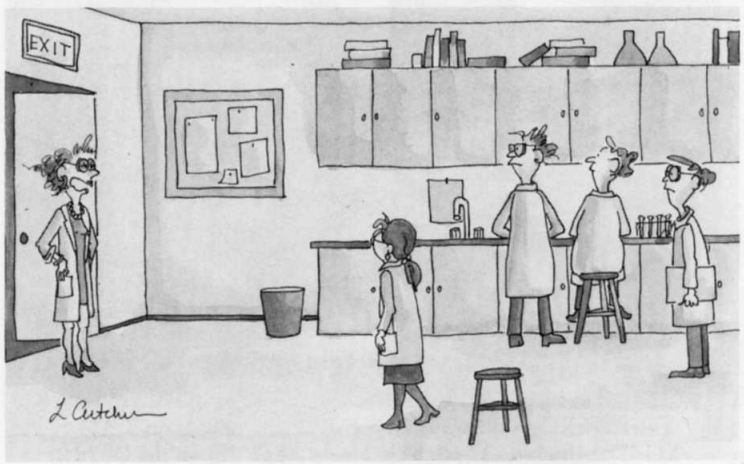
"The course did look appealing to them. But the challenge is to make the science accessible and fun without losing intellectual rigor," said Agosta, who described his foray into the undergraduate classroom as an experiment.

The book represents Agosta's second venture into translating science for the general public, following *Chemical Communication: The Language of Pheromones*, a volume he wrote at the behest of the Scientific American Library. Other RU scientists who contributed to that series include Professor Emeritus Christian de Duve and George Miller, a psycholinguist who is now professor emeritus at Princeton.

What's next? "Writing is too much fun for me to stop now," Agosta said. "I'm trying to come up with a new book idea. I worry about it twice a day in the lab."

Meanwhile, back in the biotech lab . . .

Leslie Aitchison



"Okay people. You have one month to find the hair loss gene, or we reinvest in the snap-on toupee."

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Social scientist analyzes what prizes do and don't do for science

Harriet Zuckerman, vice president of the Andrew W. Mellon Foundation and adjunct at RU, spoke on "The Proliferation of Prizes" at the final Zanvil A. Cohn forum of the academic year Tues., Apr. 23.

News&Notes *presents here a synopsis of her talk.*

Prizes in science, especially those with large honoraria, are proliferating. In North America alone, some 3,000 prizes are available, five times as many as 20 years ago. Like their predecessors, most new prizes honor those who have done significant research, and, as a by-product, those who award them. But, unlike most of their predecessors, a growing number of new prizes are very rich.

More than two dozen bring recipients $100,000 or more. The Japan Prize for Science and the Lemuelson-MIT Prize for Invention are each worth $500,000, the Kyoto Prize for Basic Science bestows $430,000, the Draper award for engineering, $400,000, the Crafoord awards $340,000, and the Bower Prize for Science, $250,000. Other prizes support future research, such as the Louis Jeantet Prize for Medicine, which awards $60,000 outright and $1.6 million for research, and the Donald Bren Fellowships at the University of California, Irvine, which bestow $1 million.

Why have rich prizes multiplied? Have they introduced anything into the reward system of science? What effects will they have?

Prizes go upscale with Alfred Nobel

The French Academy introduced prizes in 1719 with annual competitions to encourage work in navigation and astronomy. In Britain, in 1736, the Royal Society began to honor "men of genius." The French awards, meant as incentives, were substantial. The British awards, for past accomplishment, were more modest.

The scale of awards changed dramatically at the turn of this century, when Alfred Nobel's prizes, first awarded in 1901, amounted to 18 to 20 times the average U.S. professor's salary. Newspapers all over the world covered the awards on their front pages. The Nobels, which remain nearly as lavish today, have come to serve as the gold standard for gauging the prestige, visibility, and affluence of all other prizes. Their standing derives from their high ranking on many attributes—age, wealth, the distinction of the awarding body, and, most of all, the accumulation of eminent winners.

The high stature of the Nobel prizes in conjunction with their limitations have generated the proliferation of prizes. They have done so by inviting comparison and imitation. They have precipitated Nobel complements— nonscience prizes—and Nobel surrogates—prizes within and without the sciences, both designed to fill gaps left by the Nobels' limited numbers and scope.

Imitation via pomp and money

Many awards for accomplishment outside the sciences are self-conscious Nobel complements. The Praemium Imperiale, supervised by the Japan Art Association and honoring lifetime achievement in the arts, is worth a minimum of $100,000. Members of the Japanese Royal Family bestow the award with solemn protocol, echoing the Nobel celebrations and the role played by the King of Sweden.

The Templeton Prize for Progress in Religion, with an honorarium this year of $1,047,000, was established in 1972 by the investment banker John Marks Templeton, who proclaimed his "dissatisfaction with the Nobel prizes" for their disregard of the spiritual. Given annually at Buckingham Palace, the award both imitates the Nobel and, with the amount adjusted yearly to surpass the Swedish award, competes with it.

The Templeton attempts to match the prestige of the Nobels with cash. But prestige also requires a roster of eminent recipients, a convincing awarding body, and few errors in selection. Choosing one of the Iranian mullahs in 1988 was not one of the Templeton's better moments.

Supplementing the Nobels

None of the new awards in the sciences is manifestly intended to outdo the Nobels. Rather, Nobel surrogates honor scientists whose contributions have not or could not win Nobel prizes.

The Nobel is scarce. Uncrowned laureates accumulate every year, the peers of the prizewinners in every sense. Like the immortals not included among the cohorts of 40 in the French Academy, these scientists occupy the "41st chair" in science. In the early years of the Nobel Prizes, they included Dmitri Mendeleev and Willard Gibbs, and somewhat later, Walter Cannon, Oswald Avery, and Maclyn McCarty.

That there are only three Nobel awards in the sciences each year contributes to the scarcity, as does the rule that limits each award to no more than three recipients. This rule arbitrarily deprives deserving co-workers of due credit.

Another rule calls for recognition of recent work or work whose significance has become apparent only recently. This has led to a lengthening queue of candidates, and ultimately, to passing over work no longer recent. Still another rule precludes posthumous awarding of Nobels, and since research initially judged controversial often takes time to become accepted, the scientists who have done such work must be long-lived. Rockefeller's Peyton Rous got his prize at 87, more than half a century after he published the cited work.

But the most important source of Nobel surrogate awards is the exclusion of all sciences other than physics, chemistry, and that biological composite, physiology or medicine.

The most striking examples are the Crafoord prizes. In establishing the Crafoords, the Swedish businessman Holger Crafoord said, "I wanted to help the areas of science not covered by the Nobels," and he arranged to have the awards administered by the Royal Swedish Academy of Sciences, which is responsible for the Nobel prizes in physics and chemistry.

When the U.S. National Academy of Engineering established the Draper Prize, the academy president expressed the hope that it would be "just as well known and respected ... as the Nobel prizes." It is too early to tell whether the substantial honorarium and distinguished auspices will be sufficiently reinforced by a roster of luminary recipients to provide prestige of Nobel magnitude.

Sociologist Harriet Zuckerman, an adjunct in the Lederberg lab, studies science prizes.

Status quo remains intact

The number of rich new awards is absolutely small. Nor do they differ much from the older ones in selection criteria, procedures of choice, and the composition of prize juries. And the rosters of their winners resemble the rosters of older awards.

What effects do the new rich prizes have on scientists and science? Some think that the big-money awards suggest that scientists are primarily motivated by prizes and prize money rather than by the satisfaction of acquiring knowledge. They think that such prizes increase competition and can produce serious departures from scientific mores. The French mathematician Alexandre Grothendieck, for example, declined his share of the Crafoord prize, saying "the practice of granting prizes . . .[is] . . . a . . . development in the scientific world that I see as . . . suicidal . . . ."

Yet many of the newer awards, and for that matter, many of the older ones, are obscure to most scientists. My colleagues surveyed a large sample of physicists and found that all but a small fraction of awards were socially invisible. Prestige cannot accrue from such awards, nor can they incite misbehavior.

Yet prizes *are* apt to reinforce competitiveness among self-defined contenders, heighten disappointment and envy, and encourage excessive claims to credit, but none of this is new. Likewise, no one has ascertained that the awards stimulate discovery or that they impede scientific development. Prizes may divert scientists' energies from difficult, unfashionable problems to those whose solutions will come more readily and attract prize-givers' attention. They may focus collective research attention on a limited range of tractable problems. However, the existing reward system has this same effect.

Rich prizes celebrate scientific excellence and confer on it an aura of social importance and prestige. In this way, their main effect may be, paradoxically, outside science, on its public image.

At this time, the proliferation of prizes seems to have had only modest effects on science and scientists. This conclusion does not mean that I am cynical about prizes or their recipients. I am cynical about the distortions and exaggerations that accompany many prizes, and I am skeptical about the motives of prize donors, especially donors of eponymous prizes, who may be seeking to enhance their own prestige by association with great scientists.

But motives are one thing and consequences another. Such motives need in no way detract from the distinction of the prizes or their recipients.

Potpourri

Clinical Research Seminar

Dorothea Zucker-Franklin, professor at New York University Medical Center, will discuss "Megakaryocytes and Platelets: Structure/Function Relationships" Wed., May 8, at noon, in Nurses Residence 110B.

RU concert

The Guarneri String quartet will end the university concerts season Wed., May 8 at 8:00 P.M. in Caspary Auditorium. The concert, in memory of Margaret Rockefeller, is sold out.

Neuroscience Seminar

Nicole LeDourain, professor, College de France, will give a talk entitled, "Embryonic Chimeras to Study Brain Development in Vertebrates," Thurs., May 9 at 1:15 P.M. in Caspary Auditorium. Coffee and tea precede the lecture at 12:45 P.M. All are welcome.

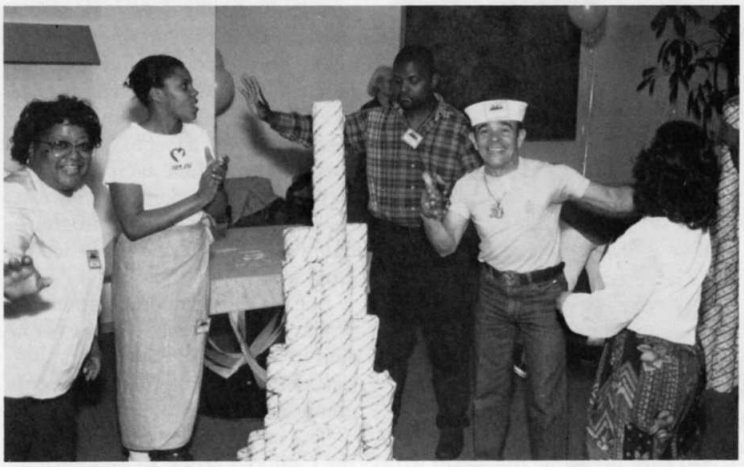
Mother's Day sale

The annual bake and flower sale to benefit the Children's School and Infant Toddler Center will take place Fri., May 10 from 8:30 A.M. to 2:30 P.M. in the Weiss Lobby. Food can be donated throughout the day beginning at 8:30 A.M. To assist in the sale, sign up in the Children's School on the sheet posted by the front door. For more information, contact Heleen Brody-Lang, 559-4294.

Fellowship deadlines

Applications are due Mon., May 13 for the 1996 Charles H. Revson and the Norman and Rosita Winston Fellowships in Biomedical Research; the C.H. Li Memorial Scholarship; and the King of Thailand Biomedical Fellowship. All applications should to be sent to Olivia Buckley, Box 164. For information about the awards, call Buckley, x8697.

Custodial games a towering triumph



At the "Custodial Fun Time" afternoon games last week, 30 competitors joined six teams to play five games challenging their dexterity. Builders of the "Wipe Away Pyramid" celebrate their structure. From left to right: night cleaner Pearlina Marshall, custodian Marnel Herbert, custodian Rawle Williams, porter Alfonso Arias, and cleaner Celia Gonzalez.

Health lecture

Warren Johnson, professor of medicine and clinical public health at Cornell University Medical College, will give a lecture on "Staying Healthy at Home and Abroad" at the Sound Body/Sound Mind Lecture Thurs., May 16 at noon in Nurses Residence 110B. All are welcome.

Summer camp

The Abigail Adams Smith Museum offers a "Neighborhood History Camp" for children aged 9 to 12, to be held at the museum, 421 East 61st Street between First and York Avenues, Mon., July 15 through Fri., July 19 from 8:30 A.M. to 3:00 P.M. The cost is $75 per child ($10 discount for each additional sibling). For more information, call Barbara Hayward, 838-6878.

Distinguished contribution

Frank Field, Camille and Henry Dreyfus Professor Emeritus, will receive the American Society for Mass Spectrometry's (ASMS) Award for a Distinguished Contribution in Mass Spectrometry Thurs., May 16 at the ASMS conference in Portland, Oreg. The award, which Field shares with Burnaby Munson of the University of Delaware, recognizes them for the development of chemical ionization mass spectrometry. Among other honors, Field, a professor at Rockefeller University from 1970 until his retirement in 1989, was recognized in 1983 when the American Chemical Society established the Frank H. Field and Joe L. Franklin Award for Outstanding Achievement in Mass Spectrometry.

Award

Konstantin Severinov, postdoctoral fellow in the Darst lab, received a 1996 Burroughs Wellcome Fund Career Award in the Biomedical Sciences.

Moderator

Professor and President Emeritus Joshua Lederberg was among the faculty for the International Conference on Judaism and Contemporary Medicine, held Sun., Apr. 28 in Manhattan. Lederberg moderated a session entitled "On the Threshold of Creation: Genetic Engineering."

Discount movie tickets

On sale to the university community at the Faculty and Students Club are $4.50 tickets to Cineplex Odeon Group theaters. Almost half the regular price, the tickets, procured by the Personnel Office, may be used seven days a week and are good for one year. They may be purchased at the club Mondays through Thursdays, from 4:00 P.M. until 11:00 P.M., and on Friday between 4:00 P.M. and 5:00 P.M. See Pat Griffin.

Computing Services workshops

Spaces are available in the following Computing Services workshops. Please leave voice mail at x7768 to register. You will be called to confirm registration.

Word for the Mac, Part III:
Tues., May 7, 10:00 A.M. to noon;
Word for Windows, Part III:
Thurs., May 9, 10:00 A.M. to noon;
Eudora For Mac and Windows:
Tues., May 14, 10:00 A.M. to noon;
Eudora For Mac and Windows:
Thurs., May 16, 10:00 A.M. to noon;
Intro to the Mac:
Tues., May 21, 10:00 A.M. to noon;
Intro to Windows:
Thurs., May 23, 10:00 A.M. to noon.

Pauline St. Denis

Lisa Kohler

Lisa Kohler

Ricky Ian Gordon (*left*), composer and pianist, Patricia Schuman, soprano (*center*), and David Pittsinger, bass, will perform at the Tri-Institutional Noon Recital today (May 3). The concert, to be held in Caspary Auditorium at noon, is free. All are welcome.