

Briefings

edited by CONSTANCE HOLDEN

(Male) Chemists in Clover

Unemployment among chemists has hovered close to the 1% mark for 4 years in a row, "the longest such streak of low-level joblessness" since the American Chemical Society started collecting such data in 1971, according to the ACS annual salary survey.* The 9 July issue of *Chemical & Engineering News* reports that salary increases have been averaging 5% a year, keeping pace with inflation. The median salary for a Ph.D. chemist is now \$55,000, with the highest mean salary—\$71,300—reserved for those in the petroleum and natural gas industries.

Women still lag in compensation. Even when salaries are adjusted to reflect the fact that they are likely to have fewer years of experience, they earn 10 to 20% less than their male counterparts. And "the gap...has shown no sign of closing appreciably in recent years."

*Copies of "Salaries 1990" can be obtained for \$170 from the ACS, Room 210, 1155 16th Street, NW, Washington, DC 20036. "Women Chemists 1990," based on survey data, will be available later in the year for \$39.95.

NIH's Top Ten

The National Institutes of Health, despite fears that it is losing its competitiveness with the private sector as an employer, still houses some of the most productive scientists on the globe, reports *The Scientist*. Or at least the National Cancer Institute does.

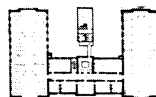
AIDS researcher Robert C. Gallo, chief of the NCI's Laboratory of Tumor Cell Biology, was the most referenced scientist in the world in the 1980s, garnering 23,232 citations according to a list compiled by the Institute for Scientific Information. But he is only one of 10 NIH researchers who rank

Old Museum Seeks New Eminence

Once upon a time there was a museum on the Mall in Washington, D.C., that was so popular it attracted nearly 1 million visitors a year to gaze at horrifying exhibits of nature gone awry, as well as other, less upsetting objects related to health and medicine. But in 1968, the museum was razed to make room for the new Hirshhorn Gallery of the Smithsonian Institution, and its contents were banished to relative obscurity on the campus of Washington's Walter Reed Army Medical Center.

Now the National Museum of Health and Medicine is trying for a comeback. Former Surgeon General C. Everett Koop is chairing a new foundation that will try to raise private money to make the museum the attraction it once was. A search for a new home on the Mall will begin later this summer.

In addition to being the repository of 325,000 historic artifacts, 17,000 anatomic specimens, and 2.2 million documents and photographs, museum director Marc Micozzi says the museum will also have timely exhibits on topics such as AIDS. He adds that human anatomy scientifically presented may be less upsetting to conservative legislators currently railing against "obscene" artistic efforts.



AFIP

"The Old Red Brick." The Army medical library and museum stood on the Mall from 1887 to 1968.

among the world's 100 most cited researchers (almost all of them biomedical researchers) in the period 1981-88. Anthony S. Fauci, director of the National Institute of Allergies and Infectious Diseases, racked up 10,617 citations. The other eight of NIH's Top Ten—all of whom range in age from 49 to 59—are:

- Ira H. Pastan, chief of NCI's Laboratory of Molecular Biology;
- Thomas A. Waldmann, chief of NCI's Metabolism Branch;
- Stuart A. Aaronson, chief of NCI's Laboratory of Molecular Biology;
- Michael B. Sporn, chief of NCI's Laboratory of Chemoprevention;
- William E. Paul, chief of NIAID's Laboratory of Immunology;
- Ronald G. Crystal, chief of the Pulmonary Branch of the National Heart, Lung and Blood Institute;
- John W. Daly, chief of the Laboratory of Bioorganic Chemistry of the National Institute of Diabetes, Digestive and Kidney Diseases;
- Steven A. Rosenberg, chief of surgery at NCI.

The second most cited scientist in the '80s is Stuart F. Schlossman

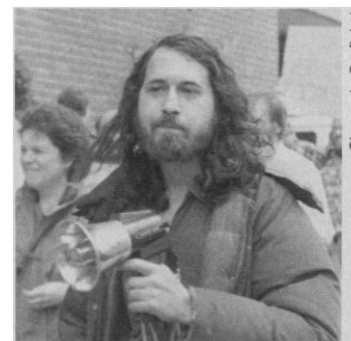
of the Dana-Farber Cancer Institute, with 13,522 references. The single most cited paper of the decade originated in Japan: "The role of protein kinase C in cell surface signal transduction and tumor production," published in *Nature* by Yasutomi Nishizuka of Kobe University.

Free Software "Genius" Honored

Each year, the Chicago-based John D. and Catherine T. MacArthur Foundation surprises around 30 individuals with 5-year "genius" grants of \$150,000 to \$375,000. Most go to recognized talents in science, public policy, and the arts, but the foundation also likes to include the occasional offbeat character.

This year's oddball choice is Richard Stallman, 37, a Cambridge, Massachusetts, programmer best known for writing a flexible and extremely popular text editor known as GNU Emacs—a program he gives away free to anyone who asks.

To Stallman, the success of GNU Emacs is just the first step toward achieving a much larger goal: the elimination of restric-



Simson L. Garfinkel

Richard Stallman. \$240,000 to a radical who thinks software should be free.

tions on the copying and redistribution of computer software. Five years ago, Stallman founded the Free Software Foundation, which is building GNU, a free alternative to the popular UNIX computer-operating system. There's no telling when GNU might be complete, although many pieces of the system are already available.

Up to now, Stallman has been leading a monastic existence, living and working in an office donated by the Massachusetts Institute of Technology Artificial Intelligence Laboratory. "Since I haven't had to spend much time making a living," he says, "I haven't thought much about what I'll do" with the

\$240,000 award. He may do some traveling and learn some "non-computer-related skills"—like cooking and swimming.

This year's other scientist awardees are John C. Bailar III, professor of epidemiology and biostatistics at McGill University; Stanford biologist Paul Ehrlich; Harvard astronomer Margaret J. Geller; Harvard mathematician David Kazhdan; biologist M. A. R. Koehl of the University of California at Berkeley; Boston University mathematician Nancy Kopell; ethnobotanist Gary Paul Nabhan of the Desert Botanical Garden in Phoenix; University of Michigan anthropologist Sherry P. Ortner; and anthropologist Eric Wolf of the City University of New York.

Army Decontaminant Gets Washed Up

Since the early '60s the Army has stockpiled a toxic and highly corrosive chemical, DS2, for decontaminating weapons and equipment exposed to chemical weapons—despite the fact that its own tests have shown it doesn't do the job.

So says a recent report by the U.S. General Accounting Office.* It relates that, for starters, DS2 can cause severe health problems, including chemical burns and damage to the nervous system and internal organs. The Army requires personnel to protect themselves with breathing apparatuses and rubber clothing, but the chemical causes rubber to decompose.

The use of DS2 might still be justified if it did its job well. But according to the report, when the Army tested DS2 on an M1 tank in 1984, it "caused the rubber road wheels and tracks to become soft and decompose." Electronic cables softened, and one began smoking within 30 minutes as the DS2 ate through it. Nonetheless, the Army continues to stockpile the chemical,

*DOD Should Eliminate DS2 From Its Inventory of Decontaminants (U.S. General Accounting Office, GAO/NSIAD-90-10, April 1990).

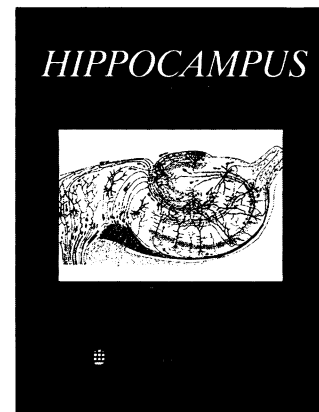
explaining that the obvious alternative—household bleach—is too corrosive.

But other branches of the armed services have managed to find effective substitutes for the expensive (\$14 to \$28 per gallon) DS2. The Navy uses a hypochlorite similar to household bleach. And the advanced technical fix preferred by the Air Force? Hot, soapy water.

New Brain Journal

The number of research papers published on the hippocampus in recent years has been, well, mind-boggling—more than 1000 papers in research journals last year alone. So, David Amaral at the Salk Institute for Biological Studies decided to face the deluge head on: he has started a new quarterly journal dedicated just to the hippocampus and related structures.

The first issue of *Hippocampus*, published by Churchill Livingstone in New York, is due out in January. It will be the first journal dedicated to just one region of the brain—"very few brain regions can sustain a journal," says Amaral proudly. But more may be on the way: a journal called *Cerebral Cortex* is soon to be introduced by researchers at Yale University. Lest we worry that neuroscience is becoming too specialized and fragmented, Amaral says the hippocampus is a



region of unusually wide interest, attracting everyone from brain mappers concerned with its role in forming long-term memories to clinicians who treat epilepsy.

Amaral and his coeditor, Menno Witter of Vrije University in Amsterdam, joke that the journal still needs a slogan. One that has been suggested: All the News That's Fit to Remember.

Updated Gene Tome

Victor McKusick has revised his bible again. The Johns Hopkins University geneticist this month introduced the ninth edition of his book, *The Mendelian Inheritance of Man*, regarded as the bible of human genetics. When first published in 1966, it included the location of about 1000 traits on the human genome. The new edition includes 4937.

At a recent presentation to neuroscientists at Johns Hopkins, McCusick showed color slides of all nine editions, saying, "I'm the only person people ask not what's your next book going to be, but what color?" This time, it's silver with black leather binding—"Silver because the first issue went to press 25 years ago."

Stone to Head JPL

Caltech physicist Edward C. Stone, Jr., best known as the chief scientist and spokesman for the Voyager missions to Jupiter, Saturn, Uranus, and Neptune, is the unanimous choice of a Caltech search committee to be the next director of the Jet Propulsion Laboratory. He will replace Lew Allen, who plans to retire in December. (In the meantime, Allen will continue to head the NASA team investigating the optical defect in the Hubble Space Telescope.)

JPL is operated by Caltech under contract to NASA and is the agency's leading center for planetary exploration.

Stone, who has been involved in space research for close to 30 years, became Voyager project scientist in 1972. He is currently chairman of the board for the California Association for Research in Astronomy, which oversees the soon-to-be-completed Keck Telescope in Hawaii.

Spidery Trompe l'Oeil

Researchers have discovered that spiders that feed on nectar-loving insects entice their prey by decorating their webs with patterns resembling flowers. The wily arachnids accomplish this by using a type of silk that strongly reflects ultraviolet light, a key component of insect vision.

Yale University biologist Catherine Craig and vision specialist Gary D. Bernard of the University of Washington claim to be the first to define the role of ultraviolet (UV) light in insect perception of spider webs. They say the patterns the spiders create—zigzags, bars, or crosses—resemble the UV patterns of many flowers, which have contrasting UV-reflective and nonreflective petals and centers. Experiments showed that significantly more insects were attracted to decorated than undecorated webs.

The UV-reflecting silks also have a second deceitful function, say the researchers, who reported their findings in the April issue of *Ecology*. Because sun and sky are the only natural sources of UV light, the webs also attract bugs that are trying to head for open space.



Sitting pretty. UV light reveals zigzag lines decorating spider's web.

Yale University Office of Information