

## Briefings

edited by CONSTANCE HOLDEN

### Academy Refund to Government

Federal accountants found something extra on their plates this Thanksgiving. The day before, the National Academy of Sciences (NAS) dished out a \$168,723 refund to the government after an internally commissioned audit covering the past 6 years revealed that the academy had improperly billed a number of items to indirect costs. According to an NAS statement, the refund covered "errors and voluntary adjustments" involving a hotel apartment used by the NAS's vice president (also see "clarification," p. 1567), first-class airfares, parking tickets, lapel pins, table flowers, and award scrolls. There may be more rebates, since NAS officials say that the audit is only 10% complete. But they stress that the areas they have already looked at are those

most likely to have accounting problems.

Like universities around the country, the NAS began scrubbing its books shortly after Representative John Dingell (D-MI) began his highly publicized campaign to scrutinize overhead charges at research institutions receiving federal funds. The academy's internal audit, begun last March, preceeded by 8 months recent inquiries by Dingell's staff (see *Science*, 22 November, p. 1103) into NAS financing. Members of that staff say that the congressman plans another round of indirect cost hearings—expected to cover nearly 100 research institutions—early next year, but, after meeting with NAS accountants, Dingell's people haven't decided whether academy officials will be asked to testify. Meanwhile, the academy was quick to point out in its statement that its overhead rate is far below the university rates that have made headlines in the past year. Overall, the academy charged the government \$31.5 million in indirect costs in Fiscal 1991. Its indi-

rect cost rate, says its statement, was 67.5%, but the NAS is governed by different federal budgetary guidelines than is academia. Calculated as, say, Stanford would have done it, NAS accountants figure the academy's indirect cost rate would be 47%. Stanford had been charging a rate of 78% before the Dingell investigation began.

### Name Your Planet—Enter Now!

Does the planet we live on have a real name? And what about that big silvery satellite in our sky? Doesn't it deserve something better than "the moon"? *The Old Farmer's Almanac* thinks so and wants your help coming up with proper names.

Writing in the almanac's 200th edition, Dennis Mammana argues that our home planet has been shortchanged. All the others are named after gods; ours is named after dirt. And then there's its satellite. While astronomers have given hordes of moons neat names like

Atlas, Titan, Callisto, Ophelia, Charon, and Phobos, Earth's moon isn't even capitalized. We can do better, says Mammana.

To get you thinking, he points out that one obvious possibility would be to call our planet Terra, making us Terrans. But that doesn't fit the rule of naming planets after gods, notes Mammana. Perhaps Tellus, he suggests, the Roman goddess of the earth, would work. That may not sound as good as Gaia, Greek goddess of the earth—but the tradition is to draw on Roman mythology (with the exception of Uranus, son of Gaia). As for our moon, Mammana's front-runner, unsurprisingly, is Luna, for the Roman goddess of the moon.

Surely you can come up with more imaginative suggestions. Send them along with a one-sentence justification to: Name the Earth and the Moon, *The Old Farmer's Almanac*, Dublin, NH 03444. The deadline is 1 February. The results will be forwarded to the International Astronomical Union, the official body in charge of naming

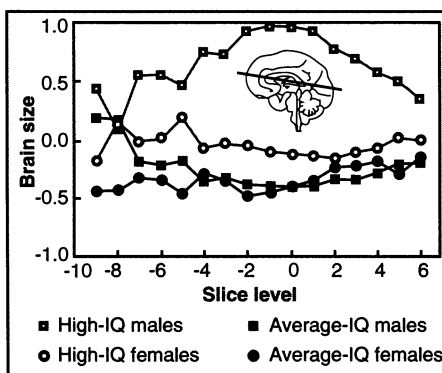
### Brains: Is Bigger Better?

Is there an association between intelligence and brain size in humans? Most people think that idea went out with phrenology. But according to a study using magnetic resonance imaging (MRI)—the first to address the issue by examining the brains of normal, living subjects—the answer may be yes.

Scientists have long been intrigued with what has been "a classic question for over 140 years," says psychologist Lee Willerman of the University of Texas at Austin. Answers from past research have been ambiguous because scientists have either measured head size—which is not a very good surrogate for brain size—or they have done postmortem studies of brains, which are confounded by the fact that brains shrink with age.

Willerman and his colleagues avoided these pitfalls by using 40 healthy white college freshmen, equally divided by sex. Half had IQs of 130 or over, and half had IQs a little below normal. Subjects took four subtests from the Scholastic Aptitude Test and an IQ test. They were then put in the MRI machine. Brain measurements were adjusted for body size (women, for example, are smaller and have smaller brains than men). And the results?

Overall, the researchers found a positive correlation of 0.51 between IQ and brain size—meaning that brain size predicts 26% of the variance



**The right stuff.** High-IQ college students have bigger brains—with high-IQ males having the largest of all. The most striking correlations are found at the midventricular level (slice 0 on the chart—corresponding to horizontal line through brain), where language and visualization abilities are concentrated.

in the subjects' IQs. The greatest size difference was found in levels of the cortex involved in higher mental processes such as language, association, and visual-spatial abilities. The correlations are unusually high because of the "extreme" IQ difference between the two groups, the researchers reported in the spring 1991 issue of *Intelligence*. Extrapolating the findings to the general population yields a correlation of 0.35.

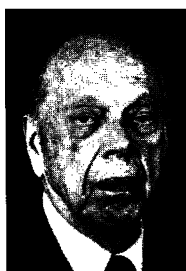
Willerman says "a bigger brain probably means more neurons in the cortex." It also probably means that neuronal axons have more myelin sheathing, he says. Research by his colleague, psychologist Robert Schultz, now at Yale University, has demonstrated that brighter subjects show more clearly delineated areas of white matter, indicating better myelination—which is believed to be associated with more efficient neural conduction.

Willerman believes such investigations have important implications for research on aging, which involves progressive deterioration of myelin. "Our lower-IQ 20-year-olds have brains that tend to look like those of older people," he says. What about an ethicist's nightmare: that children might be typed according to brain size? "Brain size is no surrogate for intelligence tests, which are far more accurate predictors of performance," says Willerman.

planetary bodies that has so far totally ignored this pressing problem. When they get it straightened out, they can tackle the next obvious gap in heavenly nomenclature: the source of all life can do better than to be called "the sun."

## Academy Honors Abelson

Philip Hauge Abelson, former editor of *Science* and now deputy editor for engineering and applied science, has been named recipient of the 1992 Public Welfare Medal, the National Academy of Science's highest honor.



Abelson

Abelson, a physicist and geochemist, won the National Medal of Science in 1985, and is one of the few scientists to be simultaneously a member of the NAS and the Institute of Medicine. He was cited for building up the magazine during his editorship, which extended from 1962 until his retirement in 1985. Said NAS president Frank Press: "He has helped weave the scientific disciplines back together again."

## New Lease for Landsat

The White House has finally stepped in to end more than 2 years of dithering over which government agency should pay for the next edition of the Landsat Earth scanning satellite. Under pressure to rescue what had become an orphan program, the White House Space Council acted on 25 November, promising that the President will include funding for a new satellite, Landsat 7, in the next budget. And, according to congressional aides involved in the negotiations, the program will get a new bureaucratic home. In the future, budget and administrative authority will be split between the

Defense Department and the National Aeronautics and Space Administration. NASA will oversee civilian use of the data.

Until now, the Landsat program has been funded through the Department of Commerce and managed by a private corporation. But while Commerce paid the bills, the most enthusiastic data users were university scientists and Pentagon researchers. This meant that those responsible for Landsat's budget were not its strongest advocates, and the program suffered as a result. Now, according to Representative George Brown (D-CA), an ardent Landsat fan, the "cloud of uncertainty" that has stigmatized the program for many years may be lifting.

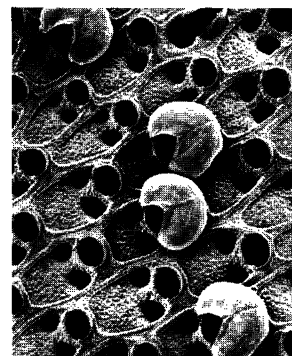
## Radioactive Waste Plan Stalled

No public policy is proving tougher to carry out than the government's plan for safe storage of radioactive waste—as the Department of Energy's recent encounter with the courts has shown once again. The department was getting ready to bury about 8000 drums of long-lived military waste when U.S. District Court Judge John Garrett Penn stopped everything on 26 November. DOE officials were stunned. They were planning to bury the waste in salt deposits near Carlsbad, New Mexico, at a site called the Waste Isolation Pilot Project (WIPP).

A footnote in judge Penn's decision suggests why he ruled against DOE. He had taken into account the following history: In preparation for putting deposits in WIPP, DOE had "temporarily" withdrawn the land from public use—for R&D studies. Then, in a subtle move earlier this year, it had modified this temporary plan to include the "experimental" burial of 1% of the total volume of waste to be interred at WIPP. But the state of New Mexico, among others, objected on two grounds. First, it argued, the land had been withdrawn illegally; and second, the state claimed DOE was in

## Micro winners.

The "world's greatest photomicrographer"—that's how the Polaroid Corp. describes Michael Davidson, a researcher at the National High Magnetic Field Laboratory at Florida State University, who took this color picture revealing the structure of a lanthanum aluminate wafer. It won him the grand prize in the company's annual photomicrography competition for the second time in 4 years. In the contest's life-sciences category, zoologist Julie Brock of the University of Hawaii won first prize for her electron micrograph (right) of the brood chambers of a colony of marine invertebrates called *Thalamoporella stapifera*. Each group of three holes houses an animal; the lima-bean shapes contain developing larvae.



reality planning a permanent move, because it had no way of knowing that it could ever retrieve the waste after burial.

This is where the judge's footnote comes in. He noted that experts agreed it might be difficult to retrieve waste from the fluid salt beds after 18 months. And he added: "WIPP has very recently experienced roof collapses." On 20 October, "70 tons of rock fell in a proposed test room," an event which DOE anticipated by only a few weeks. So a skeptical Judge Penn ordered an immediate halt of all DOE work at the site pending litigation of the issues. A spokesman says DOE is debating whether to seek a rehearing using new information or to appeal the decision.

## Musical Chairs

The cast is changing at PCAST—the President's Council of Advisors on Science and Technology—following the resignations of Bernadine Healy (now director of the National Institutes of Health) and Walter Massey (now director of the National Science Foundation). Thomas J. Murrin, former deputy commerce secretary, has

assumed one of the vacant seats. And last month, Mary L. Good of Allied Signal resigned as chairman of the National Science Board to join PCAST.

The one (relatively) new face in the current round of musical chairs belongs to James J. Duderstadt, president of the University of Michigan, who is taking over Good's unexpired term at the National Science Board. Duderstadt, a nuclear engineer, has been on the board since 1985. His term as chairman will end next May, when he can run for a normal 2-year term.

## Feminizing Medicine

Women may not be flocking into science, but they seem to like medicine: This year, they constituted 41% of medical school applicants—the highest percentage yet, according to the Association of American Medical Colleges. That's 13,700, compared with 11,785 last year. And almost 40% of students admitted this fall are women. On another front, Asian Americans contributed to the hefty 14% increase in medical school applications this year. Asian applications jumped by 26%, to 5487, reports the AAMC.