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 indirect 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

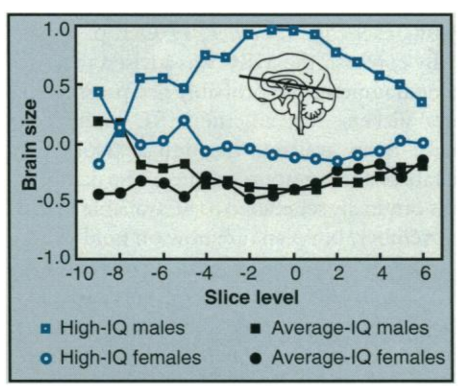
Brains: Is Bigger Better?

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 Aptitute 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 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.



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.*

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.