RANDOM SAMPLES

edited by CONSTANCE HOLDEN

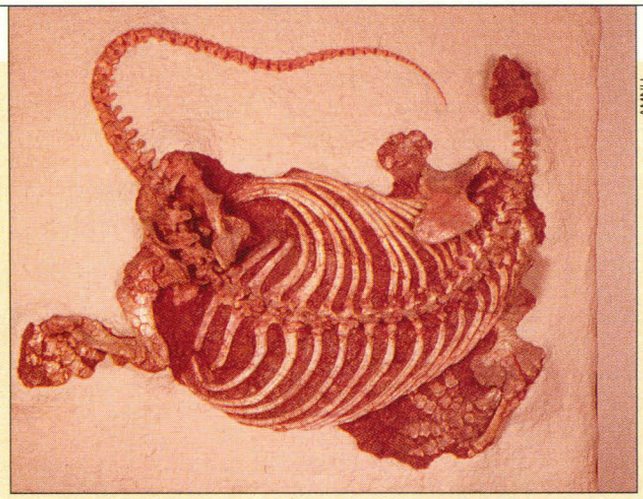
Teen Sex Survey Back On Track

The teen sex survey—a cause of great tribulation at the National Institutes of Health (NIH) under the Bush Administration—is back again, in a healthier form.

The original survey was quashed in 1991 by Louis Sullivan, then secretary of Health and Human Services (HHS), who said it was "sensitive" and had not been vetted by top HHS officials before it was funded. Many observers, though, saw the cancellation as an attempt to appease the Administration's right-wing critics.

Congress in 1993 explicitly banned such a study in NIH authorizing legislation. But there was a loophole: The bill also called for a national survey of teenage health. Last week the National Institute of Child Health and Human Development unveiled plans for this survey. Lo and behold, it included a sex component. The 5-year, $21.5 million study will be carried out by the same principal investigator who proposed the original study—Richard Udry of the University of North Carolina Population Center. This time the research will cover a variety of health behaviors including diet and smoking. Udry says the study will question a sample of 160,000 kids at 160 schools on everything but sex. Questions about sexual behavior will be administered to a separate group of 19,000 teens who will be visited at home and who will record their responses on a laptop computer. Their identities will be encoded and held by a data center that is independent of the research staff.

That doesn't make this study any more palatable now than it was in 1991 to the Family Research Council of Arlington, Virginia. Robert Knight of the council says such surveys "scandalize children" and "legitimize" undesirable sexual behavior by talking about it. He says the group may seek to ban such surveys from public schools.



AMNH

Out of time. This 280-million-year-old *Cotylorhynchus* ordinarily would be exhibited with other Paleozoic creatures at the American Museum of Natural History. But as a mammalian ancestor, it is being grouped with more modern mammals in new exhibit halls.

Natural History in New York

At a time when most natural history museums are suffering from shrinking scientific staffs and have to settle for plaster casts rather than new fossils, New York's American Museum of Natural History—the largest in the Western Hemisphere—is flourishing.

As part of a $44 million renovation project, fossils that haven't been seen for years, such as the 25,000-year-old mummified head of a baby mammoth from the Alaskan tundra, are being pulled out of storage. Exhibits in the six new halls for vertebrate evolution will be arranged to highlight the evolutionary relationships of the animals, rather than showing creatures in simple chronological progression, as the older exhibits did. Ceilings are being restored to their original heights, and new exhibit space is being created by moving the museum's library to a new building in the courtyard. The first two halls, containing many of the museum's unrivaled collection of mammalian fossils, will open in May, coinciding with the museum's 125th anniversary. They will be in a wing named for the late Lila Acheson Wallace, whose husband was co-founder of the *Reader's Digest* and who established a fund for the museum in 1980. The renovation will take another 2 years to complete.

The New York museum is still steaming along with abundant funds from corporate, private, and government sources, says Michael Novacek, vice president and dean of sciences. "We haven't made any compromises in the scientific area and indeed we're expanding," he says.

Breaking the Glass Ceiling for $900,000

After 7 years of litigation and negotiations, Heidi Weissmann, a specialist in nuclear medicine, has won a $900,000 settlement in a sex discrimination case against Yeshiva University's Albert Einstein College of Medicine and Montefiore Medical Center. In a 17 March press conference announcing the settlement, Eleanor Smeal, president of the Feminist Majority Foundation, which contributed to Weissmann's legal fund, called it "a historical case for breaking the glass ceiling" in medicine.

Weissmann, now 43, has been involved in two lawsuits. One stemmed from glass ceiling-style treatment on the job—including alleged gender discrimination when it came to salary, promotion, and the terms of a sabbatical. The other was a copyright infringement suit filed against her boss, nuclear medicine department vice chairman Leonard Freeman. She claimed that Freeman had submitted a book chapter—on gall bladder imaging—she had authored for publication under his own name in a nuclear medicine coursebook. In 1989 she won the copyright case, and the university offered her a $150,000 settlement on the sex discrimination suit. She declined the offer, since it would have forbidden her to discuss the case publicly.

Under the terms of the current settlement, Weissmann can't work either for Albert Einstein or for any of its 29 affiliated medical centers in New York. Weissmann, who has been unemployed since she was locked out of her office in August 1987, plans to establish a "network and resource center" for women and whistleblowers.

Democracy Bad for Scientific Literacy?

Former East Germany may be one of the most economically depressed regions of the European Union (EU), but when it comes to scientific literacy, its citizens are the tops. In a scientific quiz containing 12 questions, eastern Germans averaged 7.55 correct answers—the best of all the EU nations. Denmark was a close second, followed by the United Kingdom. Western Germans scored 6.87. Bringing up the rear was Portugal with an average score of 5.10.

The figures are from a 1992 survey commissioned by EU science officials, published in January. Researchers sampled more than 13,000 adults from the 12 EU member states, considering eastern and western Germany separately. People were asked to respond "true" or "false" to statements such as "the center of the earth is very hot." A respectable 86% of the respondents got that one right (it's true, if you were wondering), but people didn't fare as well on some others. Only 65% agreed that human beings devel-

oped from earlier animal species, and only 49% knew that the father determines the sex of a baby.

Why did eastern Germany do so well on the test? Karlheinz Lüdtke, a sociologist of science at the Friedrich Schiller University in Jena, credits its education system, which stressed natural science over languages and the humanities. But that system, he notes, is now "completely destroyed" as it has been reorganized along western lines.

New HIV Group Baffles French Test

One of the biggest headaches facing AIDS researchers is the extraordinary genetic variability of the virus that causes the disease: HIV. And this month French health officials acknowledged the virus has outfoxed them again. On 14 March, the national drug agency pulled an HIV antibody test off the market because it failed to detect a recently identified group of HIV-1 viruses known as group O. The test is made by Clonatec, a French company. At the same time, French health authorities ordered an "urgent reevaluation" of all other AIDS tests used in the country, some of which have shown only weak responses to the O group.

So far, 11 cases of infection with this viral group have been identified in France. Almost all involve patients from Cameroon, a former French colony. "We don't yet know the public health consequences"—that is, how rapidly the new viruses are likely to spread—says François Simon, a medical virologist at Paris's Bichat Claude Bernard Hospital. "But it's the first time we've had this problem since the identification of HIV-2." All tests now on the market are supposed to be able to identify both HIV-1 and HIV-2.

The recall coincides with the publication this month of two papers in the *Journal of Virology* that describe the genomes of two group O viruses. Although considered part of the HIV-1 family, they are genetically in its "outer fringes," says Gerald Myers, director of the HIV Sequence Database and Analysis Project at Los Alamos, New Mexico. The group appears to occupy an evolutionary spot midway between other HIV-1 types and a simian virus recently identified in chimpanzees. "This new group may tell us a lot about the origin of AIDS," says Myers, because a leading theory is that the human disease developed from a simian virus.

It also makes the battle against AIDS even trickier. "We have always been concerned that an HIV-3 would come along," says Myers. "This isn't it, but it's the closest thing to it."

Feminizing the Brain Bank

Women make up less than 5% of the membership of the National Academy of Sciences (NAS), but maybe someday there'll be more. On 13 April NAS plans what it calls "the first in a series of annual events honoring women's contributions to science and engineering." A half-dozen aspiring female scientists from schools and colleges in the Washington, D.C., area will be feted at a lunch, and in the afternoon the public is invited to a speech and discussion featuring astronomer Vera C. Rubin of the Carnegie Institution in Washington.

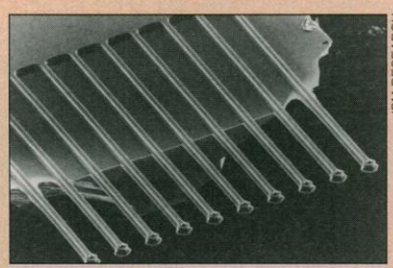
This is actually a big change in direction for the NAS. Several years ago, some female staffers at the National Research Council (NRC) proposed a similar plan to Frank Press, then the NAS president, but nothing ever came of it, says Sheila David, senior program officer for water science and technology at NRC.

But new president Bruce Alberts is different. Staffers hit him up with the idea last spring, and next month's festivities are the result. David says there are other changes in the works too —such as an emphasis on getting more women on academy committees.

A Silicon Sniffer

Smell may not seem like the most sophisticated of human senses, but microelectronics wizards have been slow to simulate it. Now comes a tiny chemical sensor that could serve as a component of an electronic nose. Multiplied by the thousands, it could enable a computer to sniff out pollutants or toxins in its environment.

The device, which James Gimzewski and his colleagues at IBM's Zurich Research Laboratory described in the 28 January *Chemical Physics Letters*, picks up trace chemicals by detecting heat. It consists of a micromachined silicon lever less than half a millimeter long, coated with aluminum. Silicon and aluminum expand or contract by different amounts when the temperature changes, so the lever warps when it is heated. A laser beam aimed at the lever monitors the deflection.



IBM RESEARCH

Silicon gets nosy. Half-millimeter levers could sniff an array of chemicals.

Gimzewski and his colleagues found that this microcalorimeter, as they call it, could respond to as little as a trillionth of a joule of heat—1000 times less than earlier calorimeters. That sensitivity, the IBM researchers realized, might enable the device to detect the tiny amounts of heat given off when trace chemicals reacted on the lever's surface.

To test the possibility, the group coated the lever with a film of platinum, a catalyst that encourages hydrogen and oxygen to react and form water. When they exposed the sensor to those gases, the lever twitched. The stronger the "smell"—the higher the gases' concentration—the greater the deflection of the lever. With standard micromachining techniques, the Zurich workers say they could build chips bristling with thousands of levers, each coated with a different catalyst or reactant. The result would be a "nose" that could sniff out thousands of different chemicals, putting its flesh-and-blood model—which generally has a limit of a few hundred different odors—to shame.

Size of Jovian Impacts In Doubt Again

Comet Shoemaker-Levy 9 has gotten coy again. Astronomers were hoping for a spectacular show when the comet, which broke up when passing Jupiter in July 1992, collides with that planet in July. But new observations by the repaired Hubble Space Telescope reveal that dust is obscuring the sizes of Shoemaker-Levy's 21-plus pieces.

Uncertainty over the size of the fragments opens up the possibility that the pieces may be too small to make much of a dent in Jupiter when they hit. "We can't say anything more definite than that the upper limit is 4 kilometers," says Hubble team leader Harold Weaver of the Space Telescope Science Institute. Last year, astronomers thought the comet pieces were at least 2.3 kilometers in diameter, based on some pictures taken with a still-myopic Hubble (*Science*, 22 October 1993, p. 505). That's plenty big enough to make a good splash.

But with Hubble's sharper view, scientists can see that "this comet is a very complex beast," says Weaver. Its breakup, which seems to be continuing, strewed dust unevenly about the fragments, throwing off the size estimates. So astronomers will just have to wait and hope the show will go on.