RANDOM SAMPLES

edited by CONSTANCE HOLDEN

Tepid Endorsement for HIV Vaccine Trial

The largest trial yet of an AIDS vaccine for people infected with HIV is likely to be launched later this year. At the end of a 12-hour meeting 2 weeks ago, an advisory panel to the Food and Drug Administration (FDA) decided that while the vaccine made by San Diego's Immune Response Corporation (IRC) holds limited promise, it is safe enough to use in a 3-year study involving more than 3000 people.

The vaccine, brainchild of polio vaccine developer Jonas Salk, is a whole, killed version of HIV minus its surface protein. Although it has been viewed skeptically by many scientists since IRC began testing it in humans in 1987 (*Science*, 3 June 1994, p. 1402), IRC scientists and independent researchers told the panel how the vaccine had boosted the immune systems and reduced HIV levels of patients in small-scale studies. "We really think we have something," said IRC President Dennis Carlo.

Many panel members, however, were underwhelmed. "My instincts tell me it will not show efficacy," said virologist Stanley Lemon of the University of North Carolina. Nonetheless, because the vaccine does not appear to produce serious side effects, the committee finally gave the trial a thumbs-up. The FDA is now expected to move quickly to final approval of trial designs.

Smithsonian Rethinks Its Science Policy

Badly bruised by criticism of a planned exhibit on the atomic bombing of Japan, the Smithsonian Institution's new secretary, Michael Heyman, is now considering calls for changes in another controversial exhibition: "Science in American Life."

On 30 January Heyman agreed to replace the exhibit featuring the bomber *Enola Gay* after veterans' groups and Congress protested that curators had turned it into an attack on U.S. nuclear weapons policy. But he still has to deal with the science exhibit, which opened last spring at the National Museum of American History. Many scientists feel that the exhibit, sponsored by the American Chemical Society (ACS), was subverted by museum staff to dwell more on science's contribution to pollution and strife than on its achievements.

On 3 February Heyman and museum officials met with five American Physical Society (APS) officials, including past President Burton Richter and President Kumar Patel. "The curators got an earful," says APS spokesperson Robert Park. Richter says "how the Smithsonian does peer review" was also explored at length. Heyman, according to his deputy Robert Hoffman, is now aiming to develop an "institutionwide policy" on vetting exhibits.

Marcel LaFollette of the Center for International Science and Technology Policy at Georgetown University, who was on the advisory committee for the science exhibit, says the content is a result of the considerable influence wielded by a small segment of the community of scholars engaged in the analysis of science and society. She relates in the March issue of *Science Communications* that several advisers "made no secret of their disdain for 'Big Science' " as well as industry. "Eventually," she writes, "the lead curators seemed so fearful of building a 'pro-science' exhibit ... that they wound up creating a largely negative one."

Glue Incriminates Sculptor

OPIFICIO DELLE PIETRE DURE, FLORENCE

Cracked baby. Statue is broken at ankles.

A terra-cotta statue of a cherub, made for a Florentine church by the 15th-century sculptor Donatello, stands as a lasting tribute to the sculptor's artful imagination—and perhaps his carelessness. The base of the figure contains a giant crack that has been repaired with a resin glue. No one knew when the accident happened, but a sensitive dating technique, applied for the first time to the glue from a restored artifact, has shown that the repair is as old as the cherub itself.

Researchers at the Italian Ministry of Cultural Heritage in Florence realized that because the glue is organic, they could enlist radiocarbon dating. They sent a sample to a colleague, physicist Claudio Tuniz at the Australian Nuclear Science and Technology Organization near Sydney. Tuniz burned about 100 milligrams of the glue to obtain carbon dioxide, which was converted into graphite. This was ionized by bombardment with a heavy-metal ion beam, and the carbon-14 and carbon-13 ions were counted by a mass spectrometer. Age is estimated by the ratio of the two types of ions.

"We were able to date the ancient glue with a very high accuracy" to between A.D. 1398 and 1439, says Tuniz, who presented the results to a meeting in Canberra earlier this month. He says the finding "supports the idea that the resin was used in the first two thirds of Donatello's life." Marco Martini of the University of Milan used thermoluminescence to find out when the clay was fired and came up with the same age range.

The breakage and repair, it seems, may therefore have occurred at the time the statue was made. Art historian Maria Grazia Vaccari of the cultural ministry thinks so, theorizing that because the statue was not hollowed out before firing—as the artist's later pieces were—it broke in the kiln. "The statue is 80 centimeters high—too great for cooking in one solid piece," she says.

Last year, the Australian physicists used the same technique to date some chess pieces found in a Roman-era grave in southern Italy (*Science*, 26 August 1994, p. 1168). "It looks like we're getting specialized in the solution of Italian mysteries," says Tuniz.

Conservation Biology Loses in Court

In the latest round of a long-running legal challenge to the U.S. Forest Service, a federal court of appeals has ruled against a group of Wisconsin botanists and environmentalists who claim that the service has been mismanaging two of the state's national forests.

The group first brought suit in 1990, claiming that managers were following old-fashioned conservation practices, focusing on a few selected species rather than taking a whole-system approach as called for by modern conservation biology. A lower court ruled, however (*Science*, 20 May 1994, p. 1078), that the Forest Service's management plans for the Nicolet and Chequamegon forests were adequate. And on 20 January a three-judge panel in Chicago upheld the ruling.

The plaintiffs amassed some heavy scientific artillery, including statements from leading U.S. biologists as well as the Society for Conservation Biology and the American Institute of Biological Sciences. But the appeals court accepted the arguments of the Forest Service, noting that federal regulations "do not dictate that the service analyze diversity in any specific way."

For University of Wisconsin botanist Donald M. Waller, one of the plaintiffs, the court's disregard of principles of conservation biology—such as the importance of maintaining large blocks of undisturbed habitat—is worri-

some. He says the decision means the problem-ridden management plans, which subject the forests to fragmentation by allowing widespread logging, are still in effect.

But the scientists still see grounds for optimism. The 10-year-old management plans are soon up for reassessment. Meanwhile, Waller and eight other conservation biologists have formed a national committee to press for the incorporation of up-to-date science in public land management. They have drawn up a set of scientific guidelines that were presented to Forest Service chief Jack Ward Thomas in Washington early this month, and they plan to approach the Bureau of Land Management and the Fish and Wildlife Service as well.

Japan OKs Gene Therapy Trial

Japan has given its approval to the first clinical use of gene therapy, following 5 months of deliberation and an unprecedented public discussion of the topic.

Yukio Sakiyama will lead a team of physicians at the Hokkaido University School of Medicine in treating a 4-year-old boy suffering from adenosine deaminase (ADA) deficiency who has failed to respond to other treatment. The retroviral vectors and protocols for the procedure are identical to those first used in 1990 by W. French Anderson and Michael Blaese at the U.S. National Institutes of Health.

Two government ministries convened panels to review the proposed therapy, and one—from the Ministry of Health and Welfare—opened its meetings to increase public awareness and, according to press reports, reduce the chances of negative publicity should the therapy fail. In fact, the success rate is low: Although a few hundred patients have received gene therapy, many cases involve the use of genetic markers rather than therapeutic agents; only two of 10 ADA patients have responded positively to gene therapy, according to published studies.

Final approval of the procedure is contingent on providing the child's parents with a clearer explanation of the treatment and revising the consent form.

Captain Queeg in the White House

If a president takes leave of his senses, "who's going to blow the whistle?" asks James F. Toole, head of the stroke center at Bowman Gray School of Medicine at Wake Forest University in Winston-Salem, North Carolina. Toole and his colleagues in a newly formed "Working Group on Disability in U.S. Presidents" hope to come up with an answer.

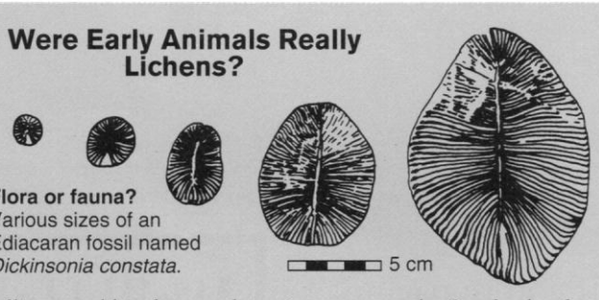
The group, supported by $100,000 from the Charles A. Dana Foundation and made up of doctors, lawyers, and public policy types, plans to propose revisions to the 25th Amendment to the Constitution. That amendment, ratified in 1967, spells out procedures for the transfer of power if a president becomes disabled. But it says nothing about how that disability should be determined.

That's a serious gap, says Toole, who notes that of the 12 presidents elected in this century who are no longer living, seven may have been seriously impaired by the end of their tenure. Woodrow Wilson, for example, was disabled by strokes. Calvin Coolidge fell into a deep depression from which he never emerged after his son died. Toole also notes that John Kennedy was taking steroids as well as amphetamine shots—a combination that could cause both hyperactivity and depression. The travails of Lyndon Johnson and Richard Nixon made them both extremely depressed and paranoid, and Nixon, as impeachment loomed, was drinking heavily.

In such cases, neither a president's Cabinet nor his (or her) spouse can be trusted to sound the alarm. According to Arthur Link, a medical historian at Bowman Gray, the working group, which held its first meeting last month at an Atlanta conference hosted by ex-President Jimmy Carter, has boiled its mission down to five issues: how to strengthen the position of the White House medical staff; identifying medical criteria for disability and impairment; balancing the need for public disclosure against that for patient confidentiality; examining the role of the spouse in determining disability; and weighing the need for standardized contingency plans.

Psychiatrist Jerrold Post of George Washington University, co-author of a book, *When Illness Strikes the Leader*, says he regards the working group as "a major step ahead." He points out that even though every politician's life is an open book these days, "we had a serious concealment episode with Paul Tsongas," who, when running for president in 1992, covered up his treatment for a recurrence of lymphoma.

Were Early Animals Really Lichens?



G.J. RETALLACK

Flora or fauna? Various sizes of an Ediacaran fossil named *Dickinsonia constata*.

Telling a rabbit from a daisy is easy enough. But back when animals were beginning to push beyond microscopic size, the differences weren't so clear. And hundreds of millions of years later, paleontologists are still having trouble seeing them.

Consider the so-called Ediacaran creatures that lived 600 million years ago. Some paleontologists have classified them as squishy, jellyfish- and worm-like animals. Gregory Retallack of the University of Oregon definitely disagrees with the squishy part, and furthermore, in the latest (fall 1994) issue of *Paleobiology*, he argues that they're not animals at all, but lichens.

Lichens are a symbiotic fungus-algae combination that presently inhabit some of the most severe environments on Earth. They don't squish like jellyfish—and neither, Retallack says, do Ediacaran fossils. Comparing their thickness to that of much younger tree-trunk fossils, he concludes that the fossils resisted compaction after burial almost as well as would a fairly sturdy log. That sturdiness, their large size (up to a meter across), lack of obvious means of feeding themselves, and hints from their microscopic structure all suggest to Retallack that Ediacaran fossils were lichens.

This idea has prompted a flurry of discussion on PaleoNet, the paleontological community's Internet list server. But the tone has been cautious. "We've got a superabundance of hypotheses," says one networker, Benjamin Waggoner of the University of California, Berkeley. Paleontologists have suggested the creatures were everything from huge versions of unicellular animals like ocean-dwelling foraminifera to a dead-ended attempt to evolve more sophisticated animals, Waggoner notes, and he believes the biota are too diverse to be lumped into a single category. So invoking a Proterozoic "Age of Lichens" will have to wait.

THE BETTMANN ARCHIVE

Melancholic. Calvin Coolidge. **Medicated.** John Kennedy.