RANDOM SAMPLES

edited by RICHARD STONE

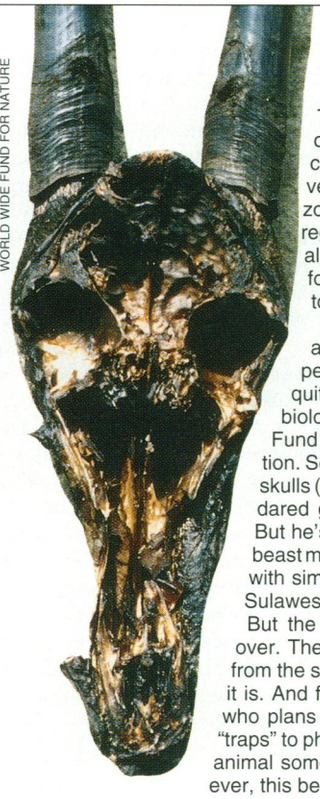
Uganda to Host AIDS Vaccine Therapy Trials

Uganda likely will be the first developing country to test AIDS vaccines in a population at high risk of HIV infection, officials of the World Health Organization (WHO) told *Science*. The initial trial—in a matter of months—will be a therapeutic vaccine, meant to boost the immune response of people who are already infected with AIDS. But Uganda is also first in line for a test of a vaccine designed to prevent HIV infection—WHO's ultimate goal.

WHO, together with several other health organizations, announced last fall that it had identified four sites for efficacy trials of AIDS-prevention vaccines: Uganda, Thailand, Rwanda, and Brazil. These countries have the high HIV-infection rates that are needed to judge a vaccine's efficacy and have shown that they are eager to host trials. Last month, Uganda became the first country to present WHO with its "national plan" for such a trial. Thailand also is expected to offer a plan in the next few weeks. Those countries have overcome "a great hurdle," says Lars Kallings, an adviser to Michael Merson, the director of WHO's Global Program on AIDS. "It means the governments aren't only talking about being interested, they've made a decision to go forward."

In each case, though, WHO has pledged to test therapeutic vaccines first. Although WHO "emphasizes preventive vaccines," as Kallings says, he notes that there is "strong pressure from all countries to start with therapeutic vaccines....In areas where one-third of the people are infected, the population expects something that will have an effect within their lifetime."

A therapeutic vaccine trial in Uganda may start in as little as 8 months, says Jose Esparza, chief of AIDS vaccine development at WHO. Researchers first will test the vaccine in small groups of people to ensure that it's safe, then conduct a wider trial.



WORLD WIDE FUND FOR NATURE

No Ordinary Ungulate

This skull, from a previously unknown species of ungulate (hoofed mammal), was collected by a Vietnamese biological survey team 2 months ago. It's part of the zoological gold they struck in the Zu Quang region near the Vietnam-Laos border, where along with the remains of the ungulate, they found a new species of fish and a new box tortoise.

So far the team has collected three skulls, all trophies of local hunters. "The local people call it a forest goat but its horns are quite unlike any of the other goats," says biologist John McKinnon of the World Wide Fund for Nature, who accompanied the expedition. So what sort of ungulate did the 3-foot-long skulls (including the horns) belong to? "Nobody's dared give me a suggestion," says McKinnon. But he's game to hazard a guess: He thinks the beast might be related to the Anoa, a dwarf buffalo with similar looking horns found on the island of Sulawesi, in Indonesia.

But the taxonomist's nightmare might soon be over. The researchers plan to take DNA samples from the skull in order to find out what kind of beast it is. And further help might come from McKinnon, who plans to set up a series of automatic camera "traps" to photograph the elusive and apparently rare animal sometime in the early winter. For now, however, this beast might as well be Sasquatch.

Physics Organizations to Shack Up Together

Last week, builders broke ground at what promises to be a physicist's mecca: the American Center for Physics in College Park, Maryland. Under one roof will be the Big Three of U.S. physics organizations—the American Institute of Physics (AIP), the American Physical Society (APS), and the American Association of Physics Teachers—which together claim as members more than 150,000 scientists.

The planned five-story building, to be completed in September 1993 on 24 wooded acres near the University of Maryland, will include conference facilities and the Niels Bohr Library of the history of physics. Says AIP executive director and CEO Kenneth W. Ford, the primary reason for the $30 million move is to establish "a common and highly visible home for physics in the United States." Why College Park? To be a stone's throw away from some serious schmoozing—"being located near the nation's capital aids the physics community in its communications with government decision-makers," says APS executive secretary N. Richard Werthamer.

Gear-Jamming in Space

After 6 weeks of grappling with a balky clutch on the Upper Atmosphere Research Satellite (UARS), NASA engineers have passed the aerospace world's version of Driver's Ed. Now, the engineers have learned how to shift gears manually on one of the two units that keep the satellite's solar panel pointed at the sun. According to deputy project manager John Donley of NASA's Goddard Space Flight Center, even if you've lost the clutch, "if you know what you're doing, you can still shift speeds." And that should get the mission back on the road.

NASA engineers weren't always in the driver's seat: When they discovered the problem with the gears that drive the solar panel in June, the UARS mission—to monitor the composition of the atmosphere and the sun's effect on it—seemed to be in serious trouble (*Science*, 26 June, p. 1762). The gears would seize when the engineers tried to reverse the motion of the solar panel to account for changes in the orientation of the satellite. And when the panel drifted away from the sun, the satellite lost power.

Now, though, except for being down to a lone drive unit, UARS is in tip-top shape, Donley says. The engineers spent weeks fiddling with a similar, Earthbound gearbox and finally learned how to shift into reverse without using the clutch on UARS. Their success comes just in time to capture data from some attractive quarries. The veil of stratospheric debris from the eruption of Mount Pinatubo is beginning to lift, so scientists should soon be able to watch chemical changes in the atmosphere unperturbed by Pinatubo. And the Antarctic ozone hole is hovering backstage for its annual appearance in late August, a prime event for UARS' sensors.

A New and Improved HUGO?

Back in 1988, geneticists had high hopes for the nascent Human Genome Organization (HUGO). But 4 years later, government agencies still balk at providing HUGO with the money needed to transform it into a powerful force for coordinating international genome research. Now HUGO's making a bid to get out of its funding funk. For the rest of this year, Tony Vickers, a senior manager of the British genome project, will be working part time on a hard-nosed business plan to sell HUGO to the world's governments and reduce its reliance on charitable funding.

If HUGO's governing council agrees to Vickers' suggestions, the organization may be in for some fundamental changes. Although Vickers declines to discuss his ideas in detail, one option he is considering is to relaunch HUGO as an intergovernmental organization, along the lines of the European Molecular Biology Organization. Governments may be more in-

clined to fund HUGO if there is an international treaty giving them some control over its activities. But whatever HUGO's final shape, says Vickers, the organization needs a more convincing sales pitch. "I don't think the idea of just carrying a begging bowl around... is the way to go about things," he says.

Academy Asks Russian Scientist to Resign

In an unprecedented move, the U.S. National Academy of Sciences has asked a prominent Russian mathematician Igor Shafarevich, to resign his membership because of what academy president Frank Press calls his "anti-Semitic writings" and the "discriminatory" hiring practices at his Russian institute.

Shafarevich is one of the academy's 287 foreign associates and heads the algebra section at the Steklov Institute, a Moscow mathematics research institute. He also wrote *Russophobia*, a 1982 book that argues that Jews are hostile to Russian culture and were responsible for the 1917 Bolshevik Revolution that spawned the Soviet communist government.

Many American mathematicians have long pressed the academy to express its concern about Shafarevich's widely publicized views, and in a 16 July letter to the mathematician, Press and another academy official finally did so. Calling *Russophobia* "deplorable," the officials said that Shafarevich should resign because the book's sentiments violated "the principles of our academy." The officials also questioned the "discriminatory practices" at the Steklov Institute, noting that there are "few, if any" Jewish members. Shafarevich could not be reached for comment.

Introducing HCTV: High Cholesterol Television

For parents debating whether to pull the plug on their children's television habits, here's some food for thought: Cheesy sitcoms might send children's cholesterol levels skyrocketing faster than cheese omelets.

After screening more than 1000 children aged 2 to 20, researchers at Loma Linda Medical Center and the University of California, Irvine, College of Medicine found that a daily dose of 2 hours of television predicted high cholesterol levels more accurately than risk factors such as a poor diet, sedentary lifestyle, or a family history of early heart attacks.

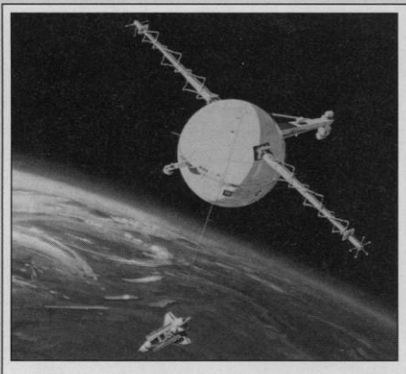
The study, published in the July issue of *Pediatrics*, turned up some disturbing numbers. Children who watched 2 to 4 hours of television a day were twice as likely to have high cholesterol levels than those who watched less than 2 hours. And the incidence of high cholesterol doubled again in children glued to the tube for more than 4 hours. The researchers set "high cholesterol" as a blood level of 200 milligrams or more per deciliter.

Of course, the researchers caution, television viewing seems to go hand-in-hand with poor eating and exercise habits. Indeed, a questionnaire to parents revealed that children watching more than 4 hours of television a day were less likely to eat lean meat or to exercise outside of school. So the researchers are laying more than just high cholesterol on television's doorstep: They argue that TV watching might be a "global marker for identifying children who engage in a generally detrimental lifestyle." Now there's a surprise.

Satellite on a Rope

Astronauts aboard the space shuttle Atlantis were expected at press time to unreel the first tethered satellite—the vanguard of what may be a new breed of space technology. By monitoring the behavior of the Italian-made satellite and its 12-mile-long tether, scientists at NASA and the Italian space agency hope to lay the groundwork for much larger tethered satellites that could perform vital functions on future missions.

In one of the main experiments, scientists hope to turn the tethered satellite into an electrical generator. "Essentially it's the same thing as an alternator," says Brian Gilchrist, an electrical engineer at the University of Michigan who's working on one of the satellite's dozen experiments. As the satellite and tether hurtle through Earth's magnetic field at more than 17,000 miles an hour, the scientists expected that electrons in the ionosphere will flow into the satellite and down to the shuttle via the copper tether, which is one-tenth of an inch in diameter. There, a device similar to the electron gun of a television will spit the electrons back into the ionosphere, thereby completing the electrical circuit. This kind of generator might be used to supply electricity to the space station, Gilchrist says.



Orbiting alternator. The tethered satellite.

Future satellites-on-strings might have another use, according to NASA documents: generating artificial gravity. In this case, a spacecraft and its tethered satellite would be spun like a bola. But first, NASA engineers need to see how closely their simulations of the satellite's behavior match the real thing.

Morning Sickness Good for Baby

For hundreds of thousands of years, women have been nauseated, vomiting, and feeling revolted by certain foods during the first trimester of their pregnancies. Many doctors and scientists have explained the nausea as a side effect of hormonal changes during pregnancy. But now, theoretical biologist Margie Profet of the University of California, Berkeley, says the good doctors are wrong. Women, she says, are getting sick for a sound evolutionary reason: to protect their embryos from naturally occurring plant and bacterial toxins in their diets.

In a chapter in a new book about brain adaptations that underlie human behavior,* Profet says foods that make pregnant women nauseated or repulsed—such as coffee, tea, spices, bitter or pungent-smelling vegetables, and less-than-fresh meat—are loaded with chemicals that have negligible effects on adults but that may cause birth defects or even be lethal to embryos. The primary cues of toxicity are bitter taste and pungent odors. Moreover, she notes that at least five different studies have found that women who suffer vomiting or severe nausea during early pregnancy have lower rates of miscarriage than do women who have only mild pregnancy sickness.

All this has prompted Profet to propose that about 1.5 million years ago, human females, as experimental omnivores, evolved to have a more sensitive sense of smell and taste during early pregnancy so they could detect—and reject—foods with levels of toxins that could threaten developing embryos. For pregnant women that is certainly a more palatable explanation for nausea than one put forth by psychoanalysts at the beginning of this century: that morning sickness was in women's heads—an expression of loathing for one's husband, or a desire to abort the fetus orally.

* *The Adapted Mind*, edited by J. Barkow, L. Cosmides, and J. Tooby, Oxford University Press, 1992.