RANDOM SAMPLES

edited by CONSTANCE HOLDEN

Mathematicians Talk Tough to New Barbie

"My e-mail has been just hotter than hot on this," laughs Carol Wood, a professor of mathematics at Wesleyan University in Middletown, Connecticut, and president of the Association for Women in Mathematics (AWM). The topic scorching her computer? Barbie dolls.

The Mattel toy company is marketing a new, talking version of the popular doll. Each Teen Talk Barbie has a computer chip programmed with four sayings chosen randomly from a pool of 270 developed from interviews with thousands of young girls. So far so good, but Barbie created big trouble with one of the sayings. In addition to comments such as, "Don't be late for school" and "I'm studying to be a doctor," Barbie offers the observation, "Math class is tough."

The AWM thinks Barbie is way out of line: "This product is promoting exactly the wrong message to young girls," says Wood. "It's linking femininity, which Barbie symbolizes, with an attitude toward mathematics that's negative. The consequences, if her message is heard, are that girls close out career options." The National Council of Teachers of Mathematics is also up in arms. "We don't mind the image that math takes work, but we want children to know that it's possible, and not have an excuse for giving up," says president Mary Lindquist. Marcia Sward, executive director of the Mathematical Association of America, adds that it's all well and good that Barbie's considering a medical career, "but she's never going to become a doctor if she doesn't study mathematics."

The protests have had the desired effect: Mattel told *Science* the company is pulling the offending statement from dolls now in production. It "was never meant in any way to discourage girls from pursuing education in math and science," says a company spokeswoman. She also stressed that "there's a less than 1% chance you're going to get a doll that says math class is tough." When *Science* pointed out the chance is actually greater (close to 1.5%), the spokeswoman fell back on the line that Wood and others fear all too many girls grow up learning: "I was never any good in math."

Ornithologists Feel Beleaguered

Last year, Bowdoin College ornithologist Nathaniel Wheelwright got busted by the U.S. Fish and Wildlife Service (FWS) for minor legal infractions involving the importation of some bird skins (*Science*, 24 January, p. 406). The matter was finally settled after intervention by Wheelwright's congressman. But his case is far from unique. And now, ornithologists' complaints over what they perceive as FWS's excessive enforcement zeal and too harsh penalties have prompted the American Ornithologists Union to appoint a committee on "ornithology and the law." The director is Phillip S. Humphrey of the University of Kansas natural history museum, who says he is gathering information on a variety of complaints covering delays and denials of permits as well as what are seen as unfair regulations and enforcement practices.

The most serious of the cases that have arisen since Wheelwright had his run-in with the FWS is that of bird paleontologist Diana Matthiesen, a Ph.D. candidate at the University of Florida who has been convicted of a misdemeanor, salvaging dead birds without a permit, under the Migratory Bird Treaty Act. Matthiesen, who pled guilty, could face up to 6 months in jail when she is sentenced next month. She has been ordered to destroy a large number of specimens and relinquish others to the university, according to her faculty adviser, Ronald Wolff.

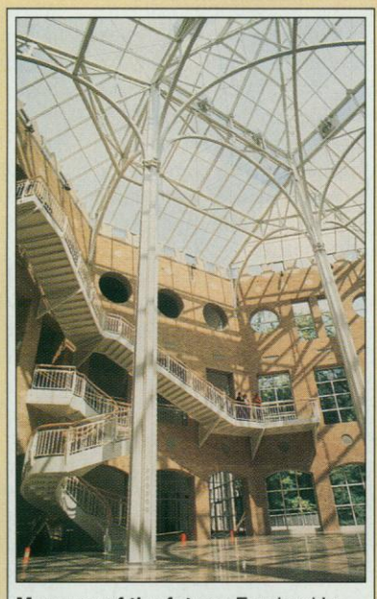
Another type of instance involves Robert Dickerman of the University of New Mexico, who shot several sandhill cranes (from a nonendangered subspecies) in Alaska while acting as an agent for University of Alaska ornithologist Brina Kessell. The FWS has cited him for violating the terms of the permit, since he was doing the work not just for the University of Alaska but for a joint New Mexico-Alaska wildlife management project.

Humphrey, who plans to meet with FWS officials in Washington, D.C. later this month, says he hopes to impress on them the fact that some regulations "are much more complex and restrictive than is in the interest of the FWS." In other words, Humphrey hopes to get the message through that the service is hampering the

Natural History Museum of the Southeast

Only last week, Atlantans couldn't take their kids to see the dinosaurs down at the local natural history museum—in fact, they have never been able to: The Georgia metropolis has been the only major city in the United States without a natural history museum. Until now.

Thanks to years of effort by local community leaders, the Fernbank Museum opened this week, adjacent to the Fernbank Science Center. Built entirely with private funds, the $43 million structure is one of the largest natural history museums to be built since the 1930s. Associate director James Skeen says that unlike most such museums, which start with collections and then build an educational component, this one is all organized around a "storyline" that uses the evolution of the southeastern region as a microcosm of the whole earth's natural history. Future acquisitions will "fit the storyline."



Museum of the future. Fernbank's six-story, glass-covered atrium.

According to a recent article in the *Atlanta Journal-Constitution*, backers of the museum believe "it sets the tone for natural history museums of the future." If so, that's not good news to those concerned with the shrinking scientific base in natural history museums. Although there's a lot of high-tech exhibitry and skillful copies of animals and plants, the museum has very little in the way of collections, and, other than some ecology studies in neighboring Fernwood Forest, there will be little museum-based research. All of which means that the new museum fits the trend decried by people such as Malcolm McKenna, curator of vertebrate paleontology at New York's Museum of Natural History, who notes that even at such venerable institutions as the British Museum, "the exhibition people have taken over." Without a core of science, he says, what you have is a "derivative operation"—not so much the "museum of the future" but the "roadside stand of the future," he says.

Of course, new museums don't have much choice in the matter. As McKenna observes, existing natural history museums "don't have to worry about competition" because "frankly, no one's going to be able to do this again. We've got everything there is to get."

acquisition of information that the FWS itself needs for better wildlife management.

A FWS spokeswoman says the service believes the scientists are raising some "legitimate concerns." She notes that things may improve with proposed changes in permit regulations under the laws governing migratory birds and endangered species.

Teeth of the Evidence

When the body of a teen-age boy was found in upstate New York earlier this year, detectives suspected that the remains were those of a 14-year-old boy who had disappeared 10 months earlier in Albany. But since they didn't have his dental records, they had no way to prove it. As it turned out, however, the boy's teeth supplied all the evidence needed by a team of geneticists in the lab of Mary-Claire King at the University of California, Berkeley. In the October issue of the journal *Nature Genetics*, the team reports the first-ever extraction and sequencing of DNA from a human's teeth. By comparing the DNA from the boy's teeth with DNA from his mother, King and her colleagues were able to identify the remains successfully.

The work gives forensic scientists an important new tool for identifying the remains of humans. Although scientists have used the DNA from hair and bones to identify skeletal remains, many bodies are too decayed to still have hair, and, says King, "Our experience is that we can't get DNA from bone at all reliably." But the DNA locked up in the matrix of the teeth is far better preserved, says King, who has worked with forensic scientists to try to identify the remains of thousands of the "disappeared" found in mass graves in South and Central America.

What's more, says King, the DNA in the teeth of ancient humans may some day provide clues about their ancestry. Anthropologists have drawers full of teeth from long-extinct humans, and some may contain DNA. Which prompted King to joke recently that the way to trace modern human ancestry back to mitochondrial Eve—the theoretical mother of us all—may not be through blood samples, but through teeth. "It will become the search for Eve's tooth," she quipped.

Ig Nobels Become an Annual Tradition

A gorilla in lab coat and safety goggles. The King and Queen of Swedish meatballs. A failed cold fusion experiment involving a peg-legged worker and radioactive material. A line of buckyball clothing. It must be the second annual Ig Nobel prize ceremony.

Sponsored by the MIT Museum and the *Journal of Irreproducible Results*, the prizes honor "men and women whose achievements cannot and should not be reproduced." The awards are the legacy of the mythical Ignatius Nobel, co-inventor of soda pop and supposed relative of Alfred. One true Nobel laureate, physicist

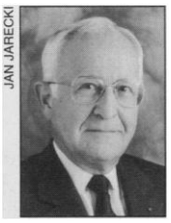
LUKE D'ANCONA/JOURNAL OF IRREPRODUCIBLE RESULTS

Nobel noodling. Physicist Sheldon Glashow and jazz harpist Deborah Henson-Conant perform duet on cymbals.

Sheldon Glashow, helped officiate at the 1 October festivities. Another celebrity, Nobel physicist Jerome Friedman, failed to show but sent a taped message appropriate to the occasion: "I hope all of you are enjoying this as much as I am."

Everywhere there were posters and T-shirts for the night's "sponsor," Kelvin, the first unisex fragrance that makes its wearer "absolutely cool." Some of the winners:

- In medicine: a Japanese research team at the Shisedo Research Center in Yokohama for their paper "Elucidation of Chemical Compounds Responsible for Foot Malodor."
- In biology: Cecil Jacobson, the Virginia-based fertility specialist convicted of using his own sperm on dozens of women. The citation honors his "simple, single-handed method of quality control."
- In physics: David Chorley and Doug Bower, two elderly landscape painters who claim to have made all those mysterious crop circles, honored for "their circular contributions to field theory based on the geometric destruction of English crops."
- In chemistry: Ivette Bassa of Kraft General Foods, leader of a group called "Team Jell-O," for her synthesis of bright blue gelatin.
- In archeology: a French youth group, "fresh-scrubbed removers of grafitti," for erasing ancient cave wall paintings in France.
- In literature: Yuri Struchkov, of the Institute of Organoelemental Compounds in Moscow, who published 948 scientific papers from 1981 to 1990, an average of one every 3.9 days.



JAN JARECKI

New face at AAU. Chemical engineer Cornelius J. Pings, provost and senior vice president for academic affairs of the University of Southern California, is to be the next president of the Association of American Universities (AAU). He succeeds Robert M. Rosenzweig, who built up AAU into a prominent voice in education and science policy circles during his 10-year tenure. Rosenzweig, formerly vice president for public affairs at Stanford University, will be going home to Palo Alto in February.

Congress Passes 'User Fee' Bill

Congress has added a little grease to the drug-approval machinery. Last week, the House and Senate approved identical versions of a bill that should enable the Food and Drug Administration (FDA) to hire about 600 new drug application (NDA) examiners over the next 4 years and reduce the review time for most new drugs to less than a year. Currently there's an estimated 13-year backlog of NDAs—and the situation was only expected to worsen.

The bill, sponsored by Senator Edward M. Kennedy (D–MA) and Representative Henry A. Waxman (D–CA), calls on a company to pay a "user fee" to the FDA when it submits an application. Fees will start at $100,000 for each NDA in 1992 and will rise to $233,000 in 5 years. Small biotech firms get a break: Those seeking their first drug approval will pay half of the standard user fee. The FDA estimates it will net $330 million from user fees in the next 5 years.

Major trade associations are lauding the bill. "This will provide a powerful forward thrust for the industry, enabling us to get products to patients more quickly," said Richard D. Godown, president of the Industrial Biotechnology Association, in a press statement. As *Science* went to press, President Bush was expected to sign the bill.