

STATE OF THE ART

Notes & Briefs

Sex Selection, Chernobyl, Bottled Water, etc.

I n a commencement address at Oklahoma State University on May 6, 2006, President Bush described the wonders of modern technology—how computers are "making all of us more productive," how energy research "will make our air cleaner and our cars more efficient," and how medical breakthroughs hold promise for "extending and improving our lives." He then warned the new graduates that these advances in technology "will present you with profound dilemmas. Science offers the prospect of eventual cures for terrible diseases, and temptations to manipulate life and violate human dignity. With the Internet, you can communicate instantly with someone halfway across the world—and isolate yourself from your family and your neighbors. Your generation will have to resolve these dilemmas. My advice

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is, harness the promise of technology without becoming slaves to technology. My advice is, ensure that science serves the cause of humanity, and not the other way around."

H wang Woo Suk, the South Korean scientific superstar who was disgraced when it was discovered that he lied about successfully creating and destroying cloned embryos for their stem cells, was fired from his position at Seoul National University on March 20, 2006. On May 12, he was indicted on charges of fraud, embezzlement, and bioethics violations, and in a hearing on July 12, he accepted "broad responsibility" for the faked research even while protesting that "not all the responsibility for the fabrications lies with me."

If convicted, Hwang faces a maximum sentence of life in prison. Neither Hwang nor any of his five colleagues, who were indicted on lesser charges, are being detained, and Hwang has reportedly resumed research on embryonic stem cells with the financial support of private donors.

According to press reports, Seoul National University still intends to use Hwang's work as the basis for patent applications to be submitted in Korea, the United States, Japan, China, Australia, Canada, India, New Zealand, Brazil, and the European Union.

Sex selection is unregulated in the United States, and prospective parents from around the world reportedly come to the U.S. to have it done. Typically performed by creating embryos in-vitro, screening their genes, and then implanting only embryos of the desired sex, the procedure is claimed by some practitioners to have a 99.99 percent success rate. Although one could reasonably see sex selection as a step towards "consumer eugenics," proponents of the technique see it simply as freedom of choice. Dr. Jeffery Steinberg, a leading practitioner of and advocate for sex selection, explains it this way: "The Chinese like boys. Canadians like girls. Every country is different."

Many countries perform sex selection the old-fashioned way-ultrasound and abortion. And clearly, the Chinese preference for male children greatly concerns Beijing. Some demographers predict that within a decade, the country will have 40 to 60 million fewer women than men; right now, birth rates are around 120 boys for every 100 girls. Hence the decision of the Chinese government to launch this summer a "Girl Care Project" aimed at ending sex selection by legal enforcement and by providing incentives for having daughters. The project's first major action was in June, when 201 medical clinics were closed and 374 others fined for providing ultrasound screening to identify female fetuses so that they could be aborted.

Similarly, the government of India has recently begun to address that country's sex imbalance for newborns, which in some regions such as Punjab is even worse than in China. Abortion for the sake of sex selection has been illegal in India since 1994, but until

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March 2006 the law had reportedly gone unenforced. Since then, over a dozen doctors and medical personnel have been prosecuted, with suspensions and jail sentences handed down.

NASA's half-ton New Horizons probe was launched in early 2006 at a speed of about 36,000 miles per hour, making it the fastest spacecraft yet launched from Earth. (It reached the distance of the Moon in about nine hours, while the Apollo missions in the 1960s took three days to get that far.) New Horizons will reach its objective, Pluto and its moons, in about 2015.

This year marks the twentieth anniversary of the explosion of a reactor at the Chernobyl nuclear power plant. Just how deadly was Chernobyl? A major international conference in 1996 concluded that only 48 people died because of the incident, all but three of whom were Chernobyl employees or emergency personnel. An authoritative United Nations report released in 2000 found that there had been an increase in the number of patients with thyroid cancer, but that "apart from this increase, there is no evidence of a major public health impact attributable to radiation exposure....There is no scientific evidence of increases in overall cancer incidence or mortality or in non-malignant disorders that could be related to radiation exposure."

More recent mortality estimates are higher. A 2005 U.N. report predicted that between 4,000 and 9,000 people have died or will die from cancer caused by Chernobyl. The anti-nuclear group Greenpeace countered that the U.N. report had grossly underestimated the likely death toll, which it claims will be closer to 90,000.

Meanwhile, the 30-kilometer radius "Zone of Alienation" around Chernobyl, which was emptied of people after the accident, has become home to a flourishing animal population thanks to the reduced human influence. There have even been numerous sightings of animals that had not been seen in the area for decades before the accident.

Speaking of nuclear accidents, a security guard at Three Mile Island—the site of America's worst nuclear accident—was so focused on his handheld video game that during a surprise inspection in May he did not notice an inspector approach him. The nuclear power plant has had six reports of employee negligence in the past two years.

Bottled water has for some time been criticized by the American Dental Association because of its lack of fluoride. Now there is reason to believe that bottled water is bad for the environment, too. According to a recent study by the Earth Policy Institute, more than 1.5 million barrels of crude oil are used to produce plastic bottles for water in the U.S. alone each year—enough oil to fuel perhaps 100,000 cars for a year. The transportation of bottled water, far less efficient than the distribution of tap water, expends even more oil. The

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vast majority of the bottles that hold all the water—almost 7 billion gallons each year in the U.S. alone—turn into garbage. And the concentrated extraction of water near bottling plants has reportedly caused water shortages in some regions, like Texas and the Great Lakes, which can affect farmers and fishers.

The World Meteorological Organization has decided to permanently remove "Katrina" from the rotating list of hurricane names, after the devastation wrought by that 2005 storm. The name is one of five being retired from 2005, the largest number removed in a single season.

C mokey the Bear finds an unex-Opected foe in Sonic the Hedgehog in a weird new study connecting video games to a decline in visitation to U.S. national parks. Ecologists Oliver Pergams and Patricia Zaradic argue in the Journal of Environmental Management that the 22 percent drop in per capita park visits between 1988 and 2003 exhibits high correlation to an increase in the usage of electronic entertainment media. "The average person in the U.S. spent 327 more hours per year on these entertainment media in 2003 than he or she did in 1987, an incredible increase in time," the authors write. (Misreading the study, the Washington Post reported that most "of the drop in park attendance could be attributed" to increased electronic usage-but the authors are careful to note that their analysis only

represents correlation, not causation.) The article also warns of the costs of alienation, citing several studies which link environmentally responsible behavior to direct exposure to nature.

This switch from "biophilia" to "videophilia" is also discussed in journalist Richard Louv's recent book, Last Child in the Woods: Saving Our Children from Nature-Deficit Disorder. Louv links the rise in sedentary electronicbased entertainment to upward trends in childhood obesity, depression, and attention-deficit disorder. He defines "nature" broadly enough to include not just national parks but backyard exploration. "Most scientists today began their careers as children, chasing bugs and snakes," Louv writes-and he worries about the future of science as children increasingly forego youthful exploration of the outdoors.

Video-game addiction has apparently become so common in Europe that there is a sufficient market for the first detox clinic for "gamers." Those with a problem may stay for four to eight weeks while recovering at the newly opened clinic in pleasure-loving Amsterdam.

While no similar program in America is widely advertised, the *New York Times* reported in 2005 that Proctor Hospital in Peoria, Ill., had an inpatient program "which admits patients to recover from obsessive computer use." Less intensive help is widely available for those with similar addictions. Ironically, much of it is available

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online: Blogs and message boards offer support communities for "victims" and their families, and at least one "cyber-psychologist" offers counseling through chatroom sessions as well as by phone or in person.

Howard Stapleton of the Welsh company Compound Security Systems invented in 2005 a sort of non-lethal weapon intended to be used by retailers as an "ultrasonic teenage deterrent." The device, dubbed the "Mosquito," discourages young loiterers by emitting a whine at a frequency that most adults cannot hear but that annoys the more sensitive ears of the young.

More recently, however, this phenomenon has been turned on its head, as the high-pitched whine has become available as a ring tone for mobile phones. An online distributor invites potential customers to "join the thousands of folks who can hear the ring tone that their parents can't!" And major newspapers have reported instances of students around the world who have begun using the Mosquito ring to escape the attention of teachers who have prohibited mobile phones in their classrooms.

Dr. Ronald Cranford, a neurologist who became an outspoken "rightto-die" activist, died in May 2006. Perhaps best known for his involvement in the recent Terri Schiavo case, he also played a role in several other prominent death-by-starvation/dehydration cases, including that of Nancy Cruzan. An obituary written by a friend and colleague of Cranford pointed out that he had "published about sixty articles in the medical literature principally on states of unconsciousness and end-of-life care. In March, his last letter in *The Lancet* condemned the forcefeeding of prisoners at Guantanamo Bay, Cuba."

Meanwhile, another doctor who has earned the appellation "Dr. Death," Jack Kevorkian, told the *Detroit News* in July 2006 that he would not consider assisted suicide for himself. Kevorkian, who has been in prison since 1999 and will be eligible for parole in 2007, also told the paper that after his release from prison he "will not be involved" in assisted suicide except "as a person who will speak out [for] its legalization."

Nontroversy sparked by the discov-∠ery of the fossilized remains of so-called "hobbits" continues to blaze two years after archeologists led by Michael J. Morwood announced they had found a hitherto unknown species of short hominid that had lived as recently as 18,000 years ago. Morwood and his colleagues named their discovery Homo floresiensis, after Flores Island, east of Java, where the fossils were found. Skeptics hold that the hobbits do not represent a separate species; Robert D. Martin of Chicago's Field Museum, for instance, argues that the single skull found among the fossils is half the size that would be appropriate for a hominid of three-foot stature, and suggests that it belonged to a modern human with microcephaly,

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a neurological disorder associated with reduced cranial capacity. Other scientists disagree, pointing to additional differences in the skeletal structure from that of modern humans, and arguing that the fossils belong to a separate species more closely related to *Homo erectus* than *Homo sapiens*. The stone tools found with the skeletons also complicate the issue; some experts argue that they were too sophisticated to have been made by creatures with such small brains.

Walter Haut, who started the rumors about flying saucers in Roswell, New Mexico in 1947, has been taken from us. A U.S. Army lieutenant, Haut issued a press release saying that a flying saucer had been found nearby, only to be silenced a few hours later when the Army retracted the statement, claiming it was merely a weather balloon. Although he himself never saw a UFO, according to the Associated Press "he remained a believer" till his dying day.

I ngenious (and cruel) collegiate basketball fans have found a new hightech way to heckle their opponents. For their last game of the season against archrivals the University of Southern California (USC), student members of the rally committee at the University of California Berkeley (Cal) planned an elaborate prank targeting USC's star guard, Gabe Pruitt. A week before the game, "Victoria," ostensibly a UCLA student, began flirtatiously chatting with Pruitt online; after being sent (fake) pictures, he gave her his phone number and made plans to meet her. Then, during the game, when he went up for his first free throws, the crowd began to chant "VIC-TOR-I-A" and even recited his own phone number at him. A spooked Pruitt played miserably; USC lost not only that game, but a rematch to Cal five days later, ending the team's postseason tournament hopes.

S cott Crossfield, the first man to fly at twice the speed of sound, died at the age of 84 on April 24, 2006. He performed his feat on November 20, 1953, reaching 1,291 miles per hour in a Douglas D558-2 Skyrocket. As Crossfield later recalled it, the U.S. Air Force "was grooming Charlie Yeager to make Mach 2 and have that be the anniversary celebration" to commemorate the Wright Brothers' famous flight fifty years earlier. "I thought it would be kind of interesting to beat him."

Crossfield's death came when his private Cessna 210 plane crashed during a storm in Georgia. Retired Marine General Jack Dailey, the director of the National Air and Space Museum and a friend of Crossfield, told the press "he probably wouldn't have had it any other way."

A British software developer who writes a blog began to suspect earlier this year that his long-time live-in girlfriend was cheating on him. Being a technically-minded fellow, he set up a system to spy on her Internet

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usage—and found proof that she was indeed carrying on behind his back. After they broke up, he posted the unhappy moral of the story on his blog: "If you plan to use technology when cheating it's probably best to understand the technology involved better than the person that you're cheating on."

A fter more than 150 years of use, the telegram died a quiet death earlier this year at the hands of its greatest distributor. "Effective January 27, 2006," read a brief online announcement, "Western Union will discontinue all Telegram and Commercial Messaging services. We regret any inconvenience this may cause you, and we thank you for your loyal patronage." Although the company would not disclose the contents of it final cable, it did reveal that the last ten dispatches included birthday wishes, condolences, and the notification of an emergency.

Margaret Atwood, the novelist, has invented a device called the "LongPen" that will allow her to sign books for fans on the other side of the world. The author can talk with a fan via webcam while using a stylus to control a pen-wielding robotic arm. Atwood's company claims on its website that "it's quite possible that the screen exchange will be more personal than what exists now."

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