

## *Notes & Briefs*

Nano News, Robot Nurses, Racing Sperm, etc.

The last few months have seen some new beginnings in the world of nanotechnology policy. First, Eric Drexler, the nanotechnologist whose writings established the field in the 1980s, has thoroughly backed away from the “gray goo” scenario that has been associated with nanotechnology

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since he first warned of it in his 1986 book *Engines of Creation*. This scenario, in which some or all of Earth's biosphere is converted into gray goo by runaway self-replicating machines built using an advanced nanotechnology, has been prominently cited and sensationalized over the years by nano-skeptics, science fiction authors, journalists, and worried environmental activists.

Although Drexler has mentioned repeatedly in the last decade that he considers a gray goo event extremely unlikely, he has now clarified and restated that point more forcefully, in a paper co-authored with Chris Phoenix of the Center for Responsible Nanotechnology. In the paper, which appeared in the June 9 edition of the journal *Nanotechnology*, Drexler and Phoenix explain that there is no need to build anything remotely resembling runaway replicators, chiefly because the goals of molecular manufacturing can be achieved better and more easily without them. They describe molecular manufacturing systems that will be "no more mobile than a desktop printer" and just as unlikely as a printer "to go wild, replicate, self-organize intelligent systems, and eat people." By minimizing the gray goo scenario, Drexler and Phoenix hope to shift attention to more serious potential perils of nanotechnology—including weaponization, economic disruption, and political abuse.

Drexler has also established a new website ([www.e-drexler.com](http://www.e-drexler.com)), intended to complement his technical writings.

He has told *The New Atlantis* that he hopes to include on the site an outline of nanotechnology milestones—essentially creating a much-needed roadmap for researchers hoping to work on molecular manufacturing.

Recent months have also marked a new beginning at the NanoBusiness Alliance, the industry organization that represents companies working in mainstream nanotechnology. The founder and president of the organization, F. Mark Modzelewski, resigned in May after months of controversy brought on by his sharp tongue and poison pen. (He mocked "bloggers, Drexlerians, pseudo-pundits, panderers, and other denizens of their mom's basements," and accused his critics of "nutty diatribes" and "delusional fantasies.") According to several sources, Mr. Modzelewski's intemperate public comments irked companies that his organization represented and led to his ouster. He was replaced by Sean Murdock, the former head of an Illinois-based nanotechnology coalition.

Finally, the Foresight Institute, the premiere nanotechnology organization, also has new leadership. Scott Mize, the organization's new president, has told *The New Atlantis* that he hopes to make Foresight "more relevant regarding pressing nanotechnology issues of the current day to leaders in government, business, academia and the non-profit sector, as well as the public at large.... [We] want to articulate much more clearly how nanotechnology can help to address the grand challenges to humanity ... such

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as sustainable development, global warming, sustainable energy production, sufficient clean water supplies, pandemics such as HIV/AIDS, efficient food production and so forth.” Before accepting the position at Foresight, Mr. Mize worked in both the private and nonprofit sectors.

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**T**he British military denied press reports in July that security fears had led it to ban the iPod—the portable music device from Apple—from its facilities. “Certainly it is not the case,” said a spokesman from the Ministry of Defense. This followed similar stories wrongly reported around the world in May that the Pentagon had forbidden the use of digital cameras, camcorders, and cell phones by U.S. troops in Iraq; that story was apparently picked up by Agence France-Presse from a parody website. Though such bans wouldn’t be wholly unheard of: the proliferation of handheld electronics has led to occasional military restrictions, within certain sensitive places, of devices that might pose a security risk.

In related news, employees at U.S. military facilities have been warned about a Coca-Cola contest which involves cans equipped with cell phones and GPS chips. The special cans let Coca-Cola’s prize center know where to deliver prizes. “I wouldn’t worry if one was in my refrigerator, but if you had a sensitive discussion or location, it’s not inconceivable the thing could be used for something it was not designed for,” one Rand ana-

lyst told the Associated Press in July. Security expert Bruce Schneier described the effect at the National Security Agency, where engineers drink “lots and lots of Coke”: They “are already starting to create Coke cans with antennas, circuit boards, and keypads. They are leaving them around snack messes as practical jokes. And where’s Pepsi in all of this? Shouldn’t they be advertising ‘surveillance-free cola’?”

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**T**o better carry out President Bush’s new vision for space exploration, a major reorganization of NASA took effect on August 1, 2004, including clearer lines of accountability and a great deal of streamlining in NASA’s headquarters and bureaucracy. Although some critics have told *The New Atlantis* that the reorganization amounts to nothing more than “moving deck chairs around,” NASA insiders hope that it will help lock into place the logic of the new vision, so the space agency won’t revert to the ethos of aimlessness that characterized its recent history.

But the new vision for space exploration isn’t inevitable: It is likely that a Kerry administration would scrap the new plans for NASA. Although he made a show of support for NASA in July, notoriously touring a space shuttle in an anti-contamination “bunny suit” with astronaut-Senators John Glenn and Bill Nelson, Senator Kerry has loudly criticized the president’s plans. And Kerry’s Senate voting record on space policy, as detailed in the new book

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*New Moon Rising*, shows a “rather blunt rejection of human spaceflight.”

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Jiang Yanyong, the doctor who alerted the world to the truth of China’s SARS epidemic, was arrested along with his wife by the Chinese government on June 1, as he was on his way to apply for an American visa. Dr. Jiang had written a letter to the Chinese Communist Party in February asking for a new assessment of its crackdown on the Tiananmen Square movement. His arrest came two days before the fifteenth anniversary of the Tiananmen massacre, and he wasn’t released until July 20. In August, it was announced that he received the Ramon Magsaysay Award, a Philippines-based prize sometimes called the “Asian Nobel,” for blowing the whistle on Beijing’s bungling of the SARS problem.

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The sun may have more to do with global warming than researchers anticipated, according to a study announced in July. A team of scientists, led by the managing director of the Max Planck Institute for Solar System Research in Germany, Sami Solanki, analyzed sunspot activity over the last 1,150 years. By measuring the concentration of a beryllium isotope in ice cores from Greenland and Antarctica, the researchers were able to construct a record of the sun’s past activity—and they double-checked their work against the records of the last few centuries of written sunspot observations. Dr. Solanki and his colleagues found

that the “sun was never as active as during the last 60 years.” They further found a “reasonable correspondence” between the increased solar activity and the global warming of the last half-century.

This new finding does not refute the connection between greenhouse gases and global warming. In fact, the researchers explicitly point out that our planet’s average temperature continued to rise in the last two decades even though sunspot activity “has remained basically constant” during that time. At the very least, though, the evidence shows that climate researchers should dedicate more attention to investigating non-human factors that might contribute to climate change.

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When it became clear in July that chemotherapy had not affected the tumors on the liver of 32-year-old Todd Krampitz, the Houstonian’s family launched a multimedia campaign to get a new liver donated, purchasing billboards, setting up a toll-free phone number, and launching a website, ToddNeedsALiver.com. In August, not long after the national press first reported his story, Mr. Krampitz received a liver, thereby bypassing more than 17,000 other Americans on liver-donation waiting lists.

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In July, a television production company in the U.K. announced plans for *Make Me a Mum*, a new reality television show that pits 1,000 men against each other in a “sperm race”

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whose prize is the opportunity to impregnate a pre-selected woman. The woman will be allowed to select one candidate herself based on “sex appeal,” and a panel of experts will select another based on the quality of sperm. “The two finalists would then take part in the sperm race in which the insemination process could be filmed using new technology,” reports the London *Telegraph*. Critics of the concept have called it “the sickest ever reality show.”

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A federal appellate court recently ruled that posthumously conceived children, produced by a combination of cryopreservation technology and in vitro fertilization, are eligible for survivor’s benefits. University of Arizona ecologist and anthropologist Robert Netting and his wife, Rhonda, were trying to have a child when Robert was diagnosed with cancer. Knowing that chemotherapy might leave him sterile, Robert had his sperm frozen before treatment and made it clear that his wife could use his sperm to conceive if he died.

Robert died in 1995 and Rhonda did indeed use his sperm to have twins, a boy and a girl. Rhonda applied to the Social Security Administration for survivor’s benefits for the children, but was denied on the grounds that the children were conceived after Robert died. After two lower courts sided with the government, the U.S. Ninth Circuit Court of Appeals overturned the decision, ruling in June that the children were eligible for benefits since “under

Arizona law, Netting would be treated as the natural parent ... and would have a legal obligation to support them if he were alive.”

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In the movie industry, where cosmetic surgery is a bona fide occupational qualification, it is always a surprise to find a few naysayers. Recently, at a London news conference for her new movie *Catwoman*, actress Halle Berry criticized women who go under the knife. “I do think we’ve become obsessed with beauty and the fountain of youth and frankly, personally, I’m really saddened by the way women mutilate their faces today in search of that.” Although a welcome sentiment from an actress and former model, it should be noted that Berry’s own apparent nips and tucks over the years, including her nose job, are featured on the website [awfulplasticsurgery.com](http://awfulplasticsurgery.com).

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*Battlestar Galactica*, a science fiction TV show that has a cult following even though it was cancelled after just one season in the 1970s, has been brought back to life on the SCI FI Channel. A miniseries broadcast in December 2003 was popular enough to lead to a regular new series, premiering in January 2005. The show stars an entirely new cast playing the characters from the original series.

The SCI FI Channel will also be airing a miniseries based on *Farscape*, a show it cancelled in 2002 after four seasons. A massive Internet campaign to save the series—known for its fast pace, bizarre aliens, and intricate

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plots—was successful in bringing the show back for a four-hour miniseries, set to premiere in October 2004.

New life has also been breathed into *Firefly*, the “space Western” made by Joss Whedon (creator of *Buffy the Vampire Slayer*) and cancelled by Fox in mid-season in 2002. After the DVD set of the short-lived series became a best-seller, Universal Studios agreed to make a film based on the show. *Serenity*, written and directed by Whedon, will open in April 2005.

Resurrected after a longer hiatus is *Doctor Who*, the quirky and often campy British science fiction series that began in 1963 and was cancelled in 1989. The show, which has had eight actors play incarnations of the title character, will return to the BBC with a ninth Doctor some time in 2005.

Finally, the latest incarnation of the Star Trek franchise, the prequel show *Enterprise*, was inches from cancellation at the end of its third season, but Paramount agreed to bring it back for a fourth—after producers promised to halve the cost of each episode. There are plans to stoke the waning interest of long-time Trekkers by having actors from previous series appear on *Enterprise*, possibly including William Shatner playing an ancestor of Captain Kirk. A new movie, apparently set after *Enterprise* but before the original series, is also in the earliest stages of planning—despite the dismal failure of the last Trek flick.

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**D**ozens of U.S. hospitals have started using robots to courier med-

ical supplies and drugs from one room to another, according to the Associated Press. These med-bots, with names like RoboCart, TUG, and HelpMate, are essentially carts or cabinets on wheels. Some of them speak polite English and Spanish (such phrases as “please stand aside” and “thank you”). Their computerized brains are programmed with maps of their hospitals, and they are equipped to navigate without bumping into people or other obstacles. These robots were designed to free up nurses and other medical assistants from such mundane tasks as picking up medicines at the pharmacy, retrieving X-rays, and carrying linens. According to the American Hospital Association, 110,000 nursing jobs went unfilled in the U.S. at the start of 2004.

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**T**o celebrate the tercentenary of the 1707 birth of Carl Linnaeus—the Swedish biologist responsible for the system of binomial nomenclature used by taxonomists to name organisms—the London Linnaean Society plans to digitize its entire library by 2007. The Society, the world’s oldest extant biological society, plans to put online pictures of each item in its collection of 40,000 plants, insects, fish, and shells, according to the BBC.

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**B**eginning in 2005, American barcode readers will have to read not just the 12-digit UPC symbols used in the U.S. and Canada, but also the EAN-13 barcode used in Europe. Although the barcode system is an American invention (this June marked

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the thirtieth anniversary of its first use at a grocery store in Ohio), the Europeans added a digit when they started using it in 1977, thinking “they needed extra digital space for more products and identifying countries,” according to the *New York Times*. Now, the barcode system is being unified globally—with the American barcode boss (the Uniform Code Council) and its European counterpart (EAN International) merging into one Brussels-based entity, and the 13-digit European version winning out.

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**T**he U.S. Ninth Circuit Court of Appeals has forbidden one of the high-tech innovations from “America’s

Toughest Sheriff,” Joe Arpaio of Maricopa County, Arizona. Until last year, Arpaio’s office used webcams to broadcast images of detainees over the Internet while they were being booked and held in jail—on the grounds that the cameras serve to warn the public of the consequences of crime, as well as to protect detainees by opening the jail to public scrutiny. In ruling against the sheriff, the court argued that there are less intrusive means of deterrence and public oversight, and that the detainees’ due process rights were being violated as they were turned into “the unwilling objects of the latest reality show.”