

Briefings

edited by DAVID P. HAMILTON

FDA Panel Splits Decision on Drugs

Last week was a busy one for an advisory committee of the Food and Drug Administration, which returned a split decision on whether two much touted biotechnology drugs should be approved for marketing.

The panel turned thumbs down on interleukin-2 (IL-2), a drug that developer Cetus Corporation has promoted as an effective cancer treatment. The panel said Cetus needed to perform further studies with the drug before it could be considered for approval. Studies have shown that IL-2 shrinks tumors in 10 to 20% of kidney cancer patients, at the risk of severe and occasionally life-threatening side effects such as fluid retention.

Interferon alpha fared better. The FDA committee recommended approving the use of the naturally occurring substance for suppressing chronic non-A, non-B hepatitis. The Schering-Plough Corporation has been seeking FDA approval for interferon treatment of hepatitis since it developed a

method of producing the drug in genetically altered bacteria. Last year, nearly half of more than 200 patients treated with interferon alpha in two studies reported that the drug suppressed the liver infections caused by the hepatitis virus, although another half of those successfully treated later suffered relapses. Interferon treatment has also been known to enhance fatigue, cause mild to moderate hair loss, and lower white cell counts.

PNAS Bars Papers from UC Geneticist

Theodore Friedmann, a prominent geneticist at the University of California at San Diego, has been barred from publishing in the *Proceedings of the National Academy of Sciences* for 3 years because he violated the publication's rules.

As first reported in the *San Diego Union*, the rare sanction was issued against Friedmann, a pediatrics researcher, because he published an article in *PNAS* in 1987 that described the same research as a paper he published shortly afterward in *Somatic Cell and Molecular Genetics*. The articles described a technique for inserting genes into rat liver cells that has since be-

come widely used.

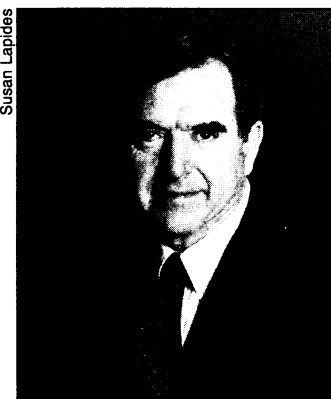
The primary problem, officials from both the university and the *PNAS* say, is that neither article contained any reference to the other. Furthermore, Friedmann's six coauthors were unaware that he had submitted the article to the second journal and did not learn of it until after publication. Frances R. Zwanzig, managing editor of *PNAS*, told the newspaper that the double publication was, in a manner of speaking, scientific misconduct.

Friedmann, 54, was reported to have acknowledged "errors in judgment." The *Union* reported that he admitted that he made a mistake in "lack of citation" and acknowledged that "the principle of consulting with coauthors was certainly violated." But, he told the newspaper, "it should be clear these errors were without ulterior motive. I had nothing to gain."

After learning of the problem earlier this year, Paul J. Friedman, dean of UCSD's School of Medicine, conducted an internal inquiry and determined that no action by the university was necessary. In fact, Friedman said, "we thought the journal punishment was fairly strong."

Theodore Friedmann is a member of the congressional Biomedical Ethics Advisory Committee.

on topics such as "patient dumping," a now outlawed practice in which hospitals refused to treat uninsured patients; the consequences of for-profit and investor-owned health care services; and the right to die.



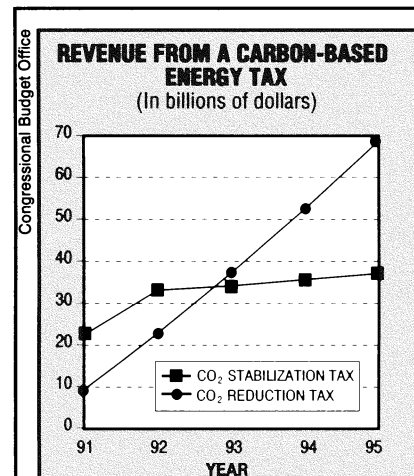
Arnold Relman. Stepping down after 14 years at *NEJM*.

Relman has already accepted a position at the Harvard Medical School, where he says he'll devote his time to teaching and writing about health care issues. "By the end of the decade, you'll see extreme changes in the way health care is provided and the way medicine is practiced. I want a chance to work hard and get involved in the national debate."

House Prunes Genome Budget

In today's tight fiscal climate, congressmen are apparently thinking twice about funding the Human Genome Initiative at the pace originally planned (*Science*, 29 June, p. 1600). On 19 July, the House Appropriations Committee voted to give the project \$71 million—\$42 million less than the \$108 million the administration had requested.

But the project could get some of that money back—if and only if President Bush gets around to appointing a director for the National Institutes of Health. The appropriations committee set aside \$18 million of a \$38 million discretionary fund for the genome project which can be used if the director decides the



Note: Estimates are net of reduced income and payroll tax revenues. The effective date for this proposal is 1 January 1991.

Treasury over the next 5 years. An even more drastic "CO₂ Reduction Tax" of \$113 per ton of carbon content would reduce emissions by 10 to 20% by 2000 while raising \$190 billion.

Taxes on black stuff could be green. Economists have long known that taxes reduce consumer preferences for the taxed goods. So why not tax air pollutants? The Congressional Budget Office has determined that a tax on fossil fuels of only \$28 per ton of carbon content would not only discourage future increases in carbon dioxide emissions, but could go a long way toward reducing the federal budget deficit. Such a "CO₂ Stabilization Tax" might raise \$163 billion for the U.S.

Relman Hands Over the Reins at *NEJM*

"It's a good idea to leave when things are going well," says Arnold Relman, who, after nearly 14 years as editor of the *New England Journal of Medicine*, will step down on 1 July 1991. A search committee is expected to begin looking for Relman's successor within the month.

It has been an eventful decade and a half for Relman and the *NEJM*, which many consider to be the premier medical journal in the world today. Under Relman's guidance, *NEJM* broadened its focus into public health policy, stirring considerable public debate with articles

project is in NIH's best interest. So under the House plan, the genome project could actually receive as much as \$89 million.

The entire messy package goes to the Senate in mid-September, which is rumored to be more favorably disposed toward the genome project. Even so, the project's future can't be charted with certainty, since the currently stalled budget summit between the White House and Congress could end up throwing a monkeywrench into the entire NIH appropriation.

Oxford Physicists Undergo Fusion

Physicists at Oxford University have apparently heeded the British government's message that, in higher education, big-gest is generally best. The government has been telling the universities that big departments will be favored in the distribution of funds, and Oxford has responded by merging five independent physics units into the single biggest department in Britain, and possibly the Western world. It will house 550 undergraduates, 220 graduates, and 80 teaching staff, organized in six sub-departments: astrophysics; atmospheric, oceanic and planetary physics; atomic and laser physics; condensed matter physics; particle and nuclear physics; and theoretical physics.

Chris Llewellyn Smith, the theoretical physicist who will chair the new behemoth, said a key motivator was to get "better value for money by sharing our resources." He also argues that the change will make for more flexibility in research and teaching. "If you are divided into five separate departments, the balance of support tends to get frozen into a historical pattern," he says. "So while one area of work might get more exciting, the university's response is relatively slow."

As of next year there will also be a broader menu of offerings for freshmen physicists "to let students dabble their toes in a number of subjects at the start

A Dust Buster for Space

On Earth, dust rarely amounts to more than a nuisance. But in space, where particles can reach orbital speeds of 10 to 20 kilometers a second, even a paint chip can be lethal. If it's massive enough, a speck of material no wider than 0.1 centimeter can crack an astronaut's helmet or penetrate a space suit. Anything larger, and serious damage can be done to expensive scientific instruments or—if it ever gets built—to the space station.

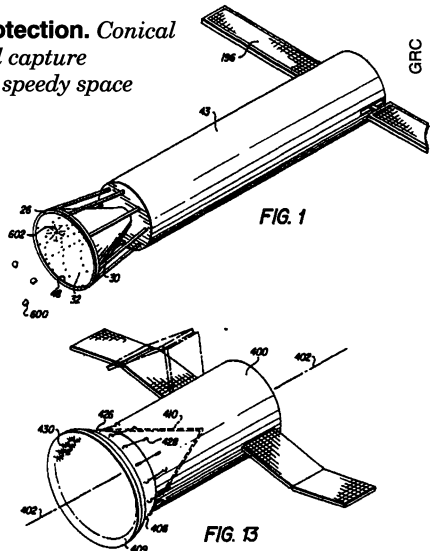
The traditional way to protect against micro-meteoroids and (at lower altitudes) man-made debris is to build a "bumper shield." NASA's space station design employs a double-layered aluminum shield for just this purpose. But Cyrus Butner, an engineer at the General Research Corporation of Virginia, says there's a problem with this approach: when particles hit the aluminum at high speed, the impact will create "collision debris"—more high-speed particles that can inflict further damage.

Butner and his colleague Charles Gartrell have therefore come up with an alternative—a kind of "dust buster" that absorbs particles instead of merely blocking their way. The contraption is a cone-shaped device lined on the inside with either water or fibers ("like a shag rug," says Butner) intended to capture small, fast moving particles by absorbing their energy.

Although no one has actually tested the idea, Butner thinks a blanket of these devices arranged in a honeycomb structure could provide a splatter-free shield for the space station. He also envisions using a wall of cones to make a space sweeper which could be deployed to clear debris from an area before construction activities or space walks.

The two inventors have received a patent for their concept, formally known as a "Method and Apparatus for Orbital Debris Mitigation." But the new device may be ahead of its time: Butner says that neither NASA nor the private sector has shown much interest so far.

Payload protection. Conical device would capture dangerously speedy space particles.



of the course," says Llewellyn Smith. Undergraduates will be able to choose five subjects from a list of 21, instead of specializing very early on as they had to when the departments were separate.

Science Conduct: Do the Right Thing

After a decade of studies and countless workshops by various academic societies on scientific misconduct (*Science*, 20 July, p. 240), the National Academy of Sciences still doesn't have the answers it wants on how the pressures of modern science lead to fraud and bad manners in the laboratory. So the Academy has become the latest organization to plunge into the murky world where scientific misbehavior borders on scientific fraud.

While the NAS may be a late-comer to the fraud circuit, it

plans to impress with the eminence of its 17-member panel. The chairman: Edward E. David, Jr., former White House Science Adviser, former president of Exxon Research and Engineering, and past chair of two well-regarded NAS reports on mathematics education.

How will the NAS study differ from those of the Association of American Universities, the Association of American Medical Colleges, the American Association for the Advancement of Science, the Institute of Medicine, and the National Institutes of Health? It's more ambitious. The panel plans to broadly examine scientific culture in order to figure out what factors promote good and bad behavior and how these have changed in recent decades. "Our study is designed to take a hard look at the research environment and to see how to foster integrity," says Rosemary Chalk, study director for the

panel. "We want to figure out how to encourage people to do the right thing." The panel hopes to have its answers sometime in 1991.

Former Gallo Aide Faces Felony Charges

On 24 July, the U.S. Attorney's office in Baltimore filed two felony charges against Syed Zaki Salahuddin, a former laboratory assistant to controversial AIDS researcher Robert Gallo, for an illegal conflict of interest and receiving an illegal gratuity. Court papers allege that Salahuddin improperly used his official position at the National Cancer Institute to order goods and services through a blanket purchasing agreement from a biotechnology firm his wife helped found in 1984, and that he received a gratuity when the company paid \$3000 in 1987 to have his house painted.