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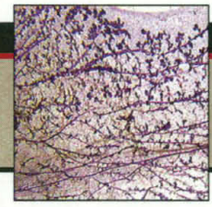
Solid-state quantum device



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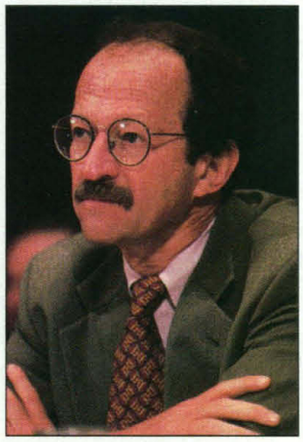
Mouse model for breast cancer

SCIENTIFIC PUBLISHING

Varmus Circulates Proposal for NIH-Backed Online Venture

Low-cost biomedical publishing on the Internet could explode soon, if a plan drafted by the National Institutes of Health (NIH) takes off. Last week, NIH director Harold Varmus and colleagues circulated a proposal that could greatly expand the use of the Internet to distribute original biomedical papers. Although the community has made only "sparing use" of electronic media so far, Varmus and his colleagues write, they anticipate that NIH will launch an online publication service "in the near future." But the community may not be ready for a radical change: The first reaction of a prestigious editorial group at the National Academy of Sciences—briefed on these ideas on 25 April—was less than enthusiastic.



Gazing into the future. Varmus sees an online world.

The proposal, dated 22 April and distributed by e-mail, is the first detailed presentation of ideas outlined by Varmus at a congressional hearing last month (*Science*, 12 March, p. 1610). The draft, written by Varmus "with active assistance" from David Lipman, director of the National Center for Biotechnology Information, and Pat Brown, a geneticist at Stanford University in Palo Alto, asks for "constructive comments from the scientific community." Later, the authors will revise the proposal and publish it in a print journal.

The authors call the proposed venture "E-biomed." It would "in no sense" be ruled by NIH, they claim, but would be financed and maintained by NIH. They suggest that an independent board of governors would make and enforce rules. Its members—representing "readers and authors, editors, computer specialists, and funding agencies"—would set policies, select reviewers, and ensure fair access to the site. The authors do not say much about the board's composition or authority, but they assume that the members would be "assembled" by NIH. And they also offer a plum to prospective authors: E-biomed, unlike existing journals, would allow them to retain copyright claims.

According to this scheme, scientists could approach E-biomed on several tracks. Those choosing the high-prestige route would submit papers to a network of peer reviewers—possibly the same reviewers now used by scientific societies and journals. This route would be "closely aligned with current practice," Varmus writes—selective and ponderous. If rejected, an author might submit the paper to another group or seek publication through a less prestigious reviewed area of the Web site. But authors would also have a simple alternative: a route to publication requiring virtually no review and no editing.

This track would require only that an author obtain prior "validation" of an article from two members of a large panel of scientists. This screening panel of "several thousands," according to the Varmus memo, would be vetted by the governing board. The validation process, the article says, should exclude "extraneous or outrageous material" but remain flexible enough "to permit rapid posting of virtually any legitimate work." Although scientists might hesitate to use this shortcut at first, Varmus observes, they would probably warm to it. It would offer "simplicity, flexibility, and speed," he says, as well as access to a broad audience.

Varmus and his colleagues say that E-biomed could "maximize the dissemination" of new data, delivering information to more readers more rapidly than print journals. They praise the convenience of electronic search engines, which enable readers to mine old papers while keeping up with new ones. In addition, they say E-biomed would handle more complex data displays. They're enthusiastic about the low cost of electronic delivery, the ease of researching hyperlinked footnotes, and the potential for quick feedback from readers.

Despite such promises, however, E-biomed is already taking some criticism. For example, Martin Frank, the outspoken executive director of the American Physiological Society, sees it as superfluous: "Most nonprofit publishers are already working to implement Varmus's vision of a Web-based journal with online submission and review." Frank asks: "Does the federal government really need to insert itself into the scientific publishing arena?" He doesn't think so. David Botstein, chair of genetics at Stanford, gives a mixed review: He likes the concept, but not all the ambitious details of the E-biomed proposal. "The direction is correctly futuristic," Botstein says, "but if it were up to me, I would start with more modest measures."

Nicholas Cozzarelli, editor of the *Proceedings of the National Academy of Sciences*, also reported a mixed review after Brown briefed his editorial board last week. *PNAS*'s leaders were in agreement, Cozzarelli says, that NIH should go ahead with the second part of the current proposal: an experimental preprint server to share unpublished data. This will be a "huge undertaking," Cozzarelli says, and "very good for science." But beyond that step, the *PNAS* group felt that the proposal became complex and that NIH should proceed with caution—or perhaps not at all. **–ELIOT MARSHALL**

BIOTERRORISM

President Revokes Plan To Destroy Smallpox

Since the mid-1990s, the U.S. government has supported an international plan to eradicate every last trace of variola virus, the cause of smallpox. Vaccination all but eliminated this ancient and deadly disease in the 1970s, and no new cases have been reported since 1978. Health officials hoped that it would be the first human pathogen purged from planet Earth: More than 70 nations had tentatively supported a plan to destroy all known stocks of the virus in June 1999. But the U.S. government changed its mind last week. Joining Russia, which has argued that live samples of the virus should be kept for research, President Clinton signed a memo calling for preservation of variola in

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