Briefings

edited by CONSTANCE HOLDEN

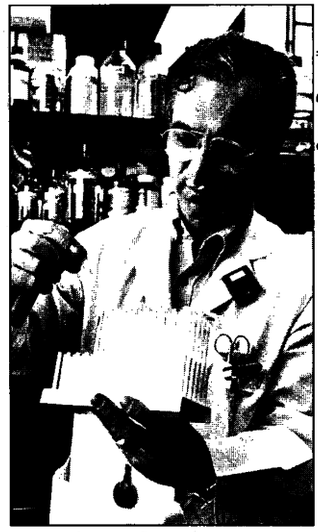
Virology Dead, Says Duesberg

Peter Duesberg is at it again. The University of California virologist first gained notoriety for pooh-poohing the notion that oncogenes play a role in human cancer and later for trumpeting his view that HIV does not cause AIDS. Now he has announced that virology is dead as a clinical science.

In a letter to his division head at U.C. Berkeley, Duesberg declined to teach virology because "there is no significant clinical frontier in viral pathogenesis since the polio epidemic was ended in the '50s, and thus viruses have become mostly an academic issue."

Duesberg acknowledges the role of active viruses in acute diseases such as polio, herpes, and influenza. But the pathology of those diseases is now just medical history, he says. And he bristles at the fact that latent—or inactive—viruses are blamed for a variety of diseases. Cervical cancer, hepatoma, and Burkitt's lymphoma, for example, have been linked respectively to papilloma viruses, hepatitis B virus, and Epstein-Barr virus.

Duesberg insists that in these diseases there is too little virus present to cause illness. He recognizes that their presence is formally compatible with the theory that they have a causal role, but he favors the legal principle of "innocent until proven guilty" over the usual scientific method, in which a hypothesis remains a candidate until it is disproven. Duesberg told *Science* he can't teach about viruses "because I don't believe in them enough." Perhaps this stand will exempt him from teaching any course that relies on the scientific method.



Saxon Donnelly

Peter Duesberg

Hopeful News for CF Pilot Studies

James Watson and the National Center for Human Genome Research at NIH, which he heads, have agreed to take the lead in securing funding for pilot studies on cystic fibrosis screening. This follows a rash of complaints from geneticists that NIH, after endorsing these studies a year ago, has not come up with the money (*Science*, 23 November, p. 1076). They say such studies are desperately needed, as this could be the biggest and most complicated genetic screening program yet in the United States.

So far, the companies that offer the DNA test have heeded pleas to delay widespread testing. "But that grace period is coming to an end," said Nancy Wexler of Columbia University at last week's meeting of the Program Advisory Committee on the Human Genome. David Cox of the American Society of Human Genetics said his colleagues are so exasperated with NIH that they intend to ask companies to fund pilot studies directly. Watson objected, saying it would look like a conflict of interest, and urged the committee to decide whether the genome project should fill the void.

The reason it hasn't stepped in so far is that clinical studies fall outside its purview—and they are likely to cost $500,000 a pop. So genome officials have been approaching NIH institutes and even outside agencies, offering to split the bill, but without much success. Watson argued that in any case, "It makes more sense for one place at NIH to be in charge." Wexler, too, prodded the committee to take the lead, arguing that "part of our mandate is to anticipate major problems. Well, this is it."

Some committee members were still leery that if the genome office takes on this pilot study, it will be saddled with studies for each new genetic test. But in the end, the com-

Cyanide in Them Thar Hills?

The Chiricahua Mountains in southern Arizona are known for their spectacular scenery as well as varied landscapes, from desert to sprucey peaks, that support an unusual diversity of plant and animal life. The area near Cave Creek Canyon, in particular, has been a mecca for field biologists since the late 1950s, when New York's American Museum of Natural History set up its Southwestern Research Station there.

Cave Creek Canyon

Karen Hayes

Now, to the horror of local residents and visiting scientists, this pristine area is being threatened by an open-pit gold mine. Newmont Mining Company, a British and South African-owned concern that is the largest mining company in North America, has staked a claim to 720 acres and has been granted an exploration permit by the U.S. Forest Service.

Citizens of Portal, a tiny town at the base of the mountains, have been mobilizing frantically since they learned of the project 2 months ago, and have formed a Portal Mining Action Coalition to battle Newmont. According to local biologist and writer Noel Snyder, the issue has stirred up concern among hikers and bird-watchers from around the country as well as biologists who have done fieldwork in the Chiricahua area. Among public interest groups that have taken up the cause is the Mineral Policy Center in Washington, D.C., headed by Stewart L. Udall, Arizonan and former interior secretary.

Newmont officials have emphasized their environmental sensitivity and have said that there is only a 1% chance that exploration will reveal minable gold. But that hasn't stopped the local activists from charging that mining in the area would be a scenic, scientific, and environmental disaster, with cyanide from the gold-leaching process threatening groundwater supplies.

Snyder says that after a recent meeting with the coalition, the Forest Service agreed to consider a formal proposal, now being prepared, to withdraw the land from "mineral entry." If that move fails, the citizens' group, which has gained support among members of the Arizona congressional delegation, hopes Congress will move to withdraw the lands from mineral exploration.

NEA Dumps on Science Art

"Filthy pictures" are not the only kind of art that rattles the National Endowment for the Arts (NEA) these days; now, it seems, filthy places are also taboo. NEA Chairman John E. Frohnmayer last month vetoed a $10,000 grant for a project by a conceptual artist whose proposal involved the use of plants to help restore toxic waste sites. Suddenly, it seems, art about the underside of technology has become as controversial as naughty performance art, blasphemous sculpture, and homoerotic photos.

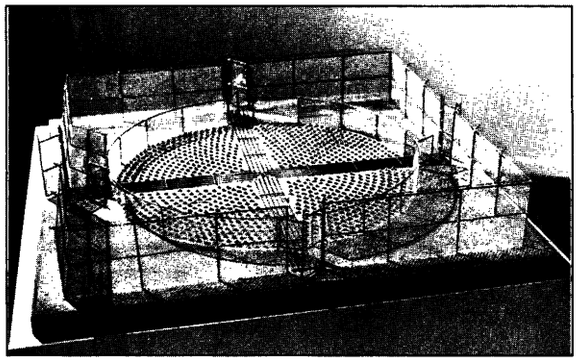
Frohnmayer scotched the project by New York artist Mel Chin after it had been approved both by an NEA panel and by the advisory National Council on the Arts. In a letter to Chin, the NEA said, "The chairman was not persuaded...that the artistic aims...were sufficient to merit" funding. But according to *The Washington Post*, a minority of the council members criticized the project as being "political."

Chin got the idea for his "earth art" work by reading about hyperaccumulators, plants that are good at soaking up heavy metals, in *The Whole Earth Catalog*. In Chin's mind, plantings at toxic waste sites and sewage sludge disposal dumps would "sculpt" the environment by cleansing it and helping restore it to the way nature intended. Chin eventually found his way to Department of Agriculture agronomist Rufus L. Chaney, who added variables—measurements of soil pH and the effects of fertilizer—to make the project scientifically useful.

Chaney says the use of plants to "bioremediate" polluted soils is a promising approach, and one that he proposed to the Environmental Protection Agency (EPA) in 1981 but was unable to get funded because of budget reductions. "It's a low-tech solution to widespread aerosol pollution from zinc, cadmium, nickel, and cobalt," Chaney says. Whereas most plants suffer toxicity with more than 500 parts per million of zinc, hyperaccumulators—unusual herb-like plants that occur naturally at toxic sites—can absorb up to 2500 parts per million of zinc without injury. What's more, the agronomist says, the biomass can be reprocessed to recover the metals, thus offsetting the costs of remediation.

To Chaney, one of the attractions of Chin's unusual art proposal, which was sponsored by the Citizens Environmental Coalition of Houston, was that it would have been a way to get support for an innovative experiment that the government has balked at funding under the name of science. Neither the EPA nor local authorities have been willing to allow bioremediation experiments, says Chaney. "Many of these places don't seek attention to their pollution problems." And the EPA reportedly doesn't want outsiders doing research at its hazardous waste sites.

Chaney, who planned to offer his services (as part of his job) to Chin's project and publish the results, says the project would have been a bargain for the government: the proposal he submitted, which included a field test equivalent to Chin's art piece, would have cost $70,000. But NEA Chairman Frohnmayer clearly saw it as potentially toxic to his embattled arts program.



"Green Remediation." *Artist's mockup of waste site planted with dwarf corn, a cadmium hyperaccumulator; bladder campion, which soaks up zinc and cadmium; and merlin red fescue, a metal-tolerant species, as a control plant. The work is titled "Revival Field."*

mittee agreed that cystic fibrosis screening was too important a precedent to let slip—even though they could get stuck with the tab. Watson and his deputy Elke Jordan will meet with acting NIH director William Raub next week to ask for his help in coordinating efforts at NIH. "I only hope it is not too late," said University of Michigan geneticist Francis Collins.

No Conflict on Conflict of Interest

Potential conflict of interest among recipients of federal funds is one of the hottest topics in science policy these days. So, when the National Institutes of Health called a public hearing for 30 November to discuss the problem as it relates to clinical trials, they reserved the largest auditorium on campus for the whole day. Officials even distributed color-coded badges so that the low-priority guests could be asked to leave if the crowd got too big.

The precautions proved unnecessary: As it turned out, less than half the auditorium was filled, and almost nobody had anything to say. Shortly after the prepared remarks were made, the session chairperson, Michele Applegate of the Alcohol, Drug Abuse, and Mental Health Administration found herself looking over the sparse audience searching desperately for a raised hand. "I'm beginning to think that this issue has been debated so many times that everybody feels they're starting to say the same things over and over," she said. She brought the meeting to a close about two and a half hours after it had opened.

NIH official George Galasso later insisted that the meeting was a success. It meant, he said, that the scientific community is generally supportive of NIH's conflict-of-interest proposals, which, in essence, require investigators to disclose their financial interests and require institutions to be sure that trials aren't compromised by investigators' financial interests. Now that NIH has the community's latest input—such as it was—the next step is to write formal rules, which must be approved by the secretary of Health and Human Services and then published in *The Federal Register* for more public comment.

Paradigm Wars

Moderates and conservatives within the Bush Administration have been at odds over a lot of things lately, but one particularly fertile debate has been over a domestic policy initiative to be unveiled in next month's State of the Union Address. At the urging of White House domestic policy adviser James Pinkerton, President Bush is ready to push the conservatives' concept of "empowering" the poor through such programs as tenant-owned public housing, education vouchers, and low-tax enterprise zones for inner-city businesses. Pinkerton, inspired by (says *The Washington Post*) philosopher of science Thomas Kuhn—who put paradigm shifts on the map with his book *The Structure of Scientific Revolutions*—even coined a grandiose catchphrase for it: the New Paradigm.

Moderates in the executive branch aren't impressed. White House budget chief Richard Darman, one of many who hate the policy, took a stab at it in a recent speech, proposing a new administration slogan: "Brother, Can You Paradigm?"