great concern about vulnerability, says that "to a certain extent, we have shot ourselves in the foot. We have inflicted these problems on ourselves by the way we have advertised them." The consequences of Soviet capabilities—not the capabilities themselves—have been exaggerated, he says.

The decision to build the MX missile and to spend billions of dollars to hide it from a surprise Soviet attack is perhaps the most visible and costly consequence of the narrow interpretation of the consequences of Soviet missile accuracy.

—R. JEFFREY SMITH

Court Upholds Privacy of Unpublished Data

University of Wisconsin successfully fights off attempt by Dow Chemical to review raw data of controversial study

The U.S. Court of Appeals for the Seventh Circuit has taken a strong stance in support of academic freedom by ruling in February that the Dow Chemical Company cannot have access to the files of a former University of Wisconsin (UW) researcher. Only a few such cases have reached the appellate court level, and the decision, according to both sides in the litigation, sets something of a precedent.

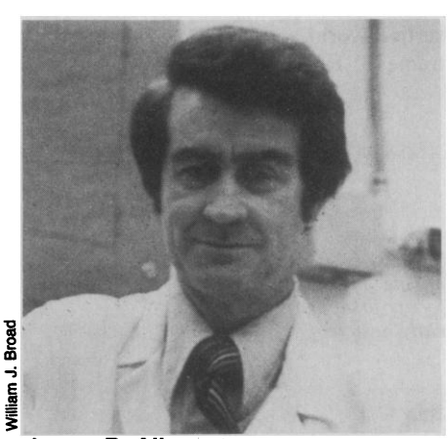
"Our view," says UW attorney Michael A. Liethen, "is that a scientist has to be free to take his inquiries where they lead him, and that a scientist should not be forced to disclose his research data until he has results he is willing to stand behind."

The ruling involved a UW researcher who entered a complex battle between Dow and the Environmental Protection Agency (EPA) over the proposed cancellation of two herbicides, 2,4,5-T and silvex—both manufactured at least in part by Dow. The herbicides have been used extensively for years to control weeds and brush in forests, rangelands, and along highways. In the 1970's they were found to contain traces of a highly toxic contaminant known as TCDD (2,3,7,8-tetrachlorodibenzo-*p*-dioxin). In 1979 EPA halted most uses of the herbicides, citing a significant increase in the number of miscarriages among women in an area of Oregon where large quantities of 2,4,5-T had been sprayed by helicopters in order to increase the productivity of commercial forests.

At the subsequent EPA cancellation hearing, James R. Allen, a UW pathologist, was to present evidence linking TCDD to some of the deleterious effects, especially an increased risk of miscarriages in rhesus monkeys. A key EPA witness, Allen was an ambitious worker who had gained an international reputation on the effects of the toxic substance. Part of his renown came because of the poison's ubiquity. TCDD is also a contaminant of the Agent Orange defoliant used in Vietnam and the chemical cloud that descended in 1976 on Seveso, Italy. When the cancellation hearings began in 1979, Allen had published several studies in which a 500 ppt (parts per trillion) diet of TCDD had been fed to monkeys. He had also published an abstract concerning a 50 ppt study and was working on 25 and 5 ppt studies. His work showed that even extremely low doses of TCDD caused abortions, stillbirths, and decreased fertility.

Dow in 1979 asked for access to all of Allen's raw data—for work both published and unpublished. The admitted aim of the company was to discredit Allen's research.

This task was soon helped along by Allen himself, who in late 1979 pleaded guilty to lifting $900 from a federal grant to pay for some ski trips (*Science*, 15 February 1980, p. 743). "There are compelling reasons to require full scrutiny of Dr. Allen's work," said attorneys for Dow at the EPA hearing. "Toxic PCB's have been found in tissue from test animals in Dr. Allen's 500 ppt monkey study, raising serious questions about the reliability of any of Dr. Allen's work. In addition, Dr. Allen's general credibility is impugned by his recent admission of guilt involving the theft of government funds." For the purpose of attacking the credibility of a witness, the *Federal Rules of Evidence* allow a lawyer to cite for up to 10 years a conviction involving dishonesty or false statement.



William J. Broad

James R. Allen

Unpublished data cannot be subpoenaed.

Amid the controversy in 1980 over the grant money, Allen resigned from UW but still planned to present evidence at the hearing. At Dow's request, the EPA administrative law judge for the cancellation hearing early in 1980 issued a subpoena for all of Allen's raw data, notes, files, and other laboratory records relating to the TCDD studies. At first Allen resisted, but soon he voluntarily produced documents for the 500 and 50 ppt studies—in other words, for the ones that had already resulted in publication either of papers or abstracts. He did not come forward with the lower-level studies, however, and the squabble soon ended up in federal court.

In June 1980, the district court in Wisconsin found Allen had been correct in resisting further incursions by Dow. The judge ruled not that academic freedom was at stake but that the subpoenas would be onerous for Allen and his assistants. "It would be a substantial burden on respondents," wrote the judge, "to force them to produce the information requested from the 5 ppt and 25 ppt studies which are nowhere near completion and which have not been subjected to peer review."

In arriving at the opinion, the judge noted that Allen no longer planned to testify at the cancellation hearings and that the EPA no longer "apparently" intended to introduce the Allen studies for which Dow wanted raw data.

Downplaying this development, Dow pressed for access to the raw data by appealing the court's ruling. "We pursued the issue," says Dow attorney Edward W. Warren, of the Washington firm of Kirkland & Ellis, "because we didn't know if the promises that Allen was not going to appear as a witness were going to materialize, and we didn't know

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how long the hearings would last."

The U.S. Court of Appeals on 22 February upheld the lower court's ruling and, in a 30-page opinion (No. 80-2013), added some very strong language on academic rights—a point the state of Wisconsin had raised in court. "It is probably fair," wrote the three-judge panel, "to say that the character and extent of intervention would be such that, regardless of its purpose, it would 'inevitably tend to check the ardor and fearlessness of scholars, qualities at once so fragile and so indispensable for fruitful academic labor.' * In addition, the researchers could reasonably fear that additional demands for disclosure would be made in the future. If a private corporation can subpoena the entire work product of months of study, what is to say further down the line the company will not seek other subpoenas to determine how the research is coming along? . . .

"We conclude there is little to justify an intrusion into university life which would risk substantially chilling the exercise of academic freedom."

Far from considering the rulings a total defeat, attorneys for Dow point to some caveats expressed by the courts. "I take some comfort," says Warren, "that both opinions seem to be saying that if Allen were to testify in future proceedings, we could reopen the issue of performing discovery on the studies in question."

Warren says the whole issue for the moment is moot, since Allen is not testifying and in any event the cancellation hearings are now in limbo. In March 1981, with the arrival of the Reagan Administration, Dow, EPA, and other interested parties entered into negotiations to settle the cancellation issues outside the chambers of the EPA administrative law judge.

It is therefore somewhat ironic that the federal appellate court went ahead and handed down its opinion on the issue of access to unpublished data. The Allen case had been argued before the appellate court in January 1981, and, after the settlement negotiations began 2 months later, Dow attorneys wrote to the court saying a decision was no longer necessary. The three judges continued to deliberate on the case, however, and eventually issued their strongly worded statement on academic freedom. Perhaps they felt the overall issue still needs to be addressed even though the point for the case in question had ceased to be germane.—WILLIAM J. BROAD

*Quoted by the Appellate Court is an opinion written by Chief Justice Earl Warren, given in Sweezy *v.* New Hampshire, 354 U.S. 262 (1957).

Tide of Creationism Stemmed for the Nonce

When creationist bills were passed last year in Arkansas and Louisiana, the 1982 legislative session seemed to promise a bumper crop of similar measures. But, with legislative sessions nearing an end in many states throughout the country, the creationists have yet to score another victory. Paul Ellwanger, author of the Arkansas bill, attributes the lack of current success to "the repercussions of Judge Overton's decision in Arkansas."

Meanwhile, the creationists are looking to encouragement from the trial pending over the Louisiana law. With two cases filed concerning this law, thus making its resolution exceedingly complicated, recent developments seem to be favoring the law's supporters.

So far in the rest of the country, only one state, Mississippi, has a creationist bill that has made it out of committee to the legislature. The Senate passed the measure by a large majority the day the Arkansas decision was due, but the bill became tied up in the House education committee and so the initiative died.

In six states—Georgia, Iowa, Kansas, Maryland, Missouri, and West Virginia—bills progressed no further than committee consideration. And in four more—Arizona, Florida, South Carolina, and South Dakota—bills were withdrawn before they reached committee stage.

In all these instances Overton's strongly worded judgment on the unconstitutionality of the Arkansas law has apparently had a chastening effect. "What we are looking to now," says Ellwanger, "is the case coming up on the Louisiana law. If we win there, and I expect we will, then a lot of states will move ahead on new bills." Ellwanger already has an improved draft bill virtually complete in anticipation of a creationist triumph in Louisiana.

Late last year creationist lawyers Wendell Bird and John Whitehead teamed up with Louisiana's attorney general and filed suit in Baton Rouge asking for judgment on the law's constitutionality. A second suit was immediately filed by the American Civil Liberties Union (ACLU) challenging the law's constitutionality, very much along the lines of the Arkansas case. On 18 March the judge in New Orleans, where the ACLU's suit was filed, stayed that suit pending the outcome of the first case. The creationists are delighted with this development because, in the absence of ACLU involvement, their chances of success are clearly improved. The ACLU has yet to decide on its next move.—***Roger Lewin***

Bill Assigns NIOSH to Health Institutes

Members of the biomedical research community are sighing with relief that the authorization bill for the National Institutes of Health (NIH), recently introduced by Representative Henry Waxman (D–Calif.), does not include spending ceilings. Rumors had circulated that Waxman, chairman of the health and environment subcommittee of the Committee on Energy and Commerce, would again try to impose a cap on authorizations for NIH as he did 2 years ago. The provision caused an uproar among biomedical researchers and the provision was eventually defeated.

The bill does contain at least one provision that could stir a good fight. The legislation would transfer the National Institutes of Occupational Safety and Health from the Centers for Disease Control to NIH. The location of the occupational health research institute has been the subject of controversy during the past year because the Administration wants the agency's headquarters moved to Atlanta, where the Centers for Disease Control are located. Congress blocked the move after former agency officials testified that it should remain in the Washington, D.C., area and suggested also that NIH may be its most suitable home. Some officials in the biomedical community say, however, that they are uncomfortable with the idea. The agency is usually surrounded by so much political wrangling between industry and labor that NIH may want to keep its distance.

Waxman's bill also requires NIH to help researchers from small businesses apply for grants and contracts

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