

## LETTERS

The US and, indeed, the nations of the world should support and work to implement Secretary Baker's priority call to stop and counter proliferation. If, or when, it is judged that agreeing to a CTBT is important to "stopping and countering proliferation," in Secretary Baker's words, I think we should agree to such a ban. Meanwhile, our testing program should be designed to advance the possibilities and understanding of enhanced safety and thereby help us prepare for the possibility of a CTBT.

As scientists my fellow panelists and I did our best to present an informed, objective set of technical findings and recommendations on this important subject. As responsible citizens we also expressed our individual conclusions about its political policy implications. I regret that in *PHYSICS TODAY's* reporting on this important technical safety issue, the political dimension was presented inaccurately.

SIDNEY D. DRELL  
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8/91

## Can Sociology Ease Physicists' Malaise?

I have had the opportunity to attend one of Leon Lederman's talks on the state of funding and morale in the scientific community, and would like to make a short comment on it.

It seems to me that even though it is easiest to attribute the low morale among scientists in the US to a lack of adequate funding, it is just as plausible to postulate that the funding situation is a consequence of the low morale. After all, it is only natural that those who give the money—the public, through the funding agencies—are reluctant to fund a sector of society whose "health" (Lederman's word) is poor. Scientists are not isolated from the rest of society, and most "ordinary" people are aware, if only distantly and through the media, of the troubles affecting the scientific community; this awareness will certainly translate into a deterioration of support. The rise of some antitechnocracy movements undoubtedly also fuels this sentiment. I believe that rather than cure one of the symptoms of the malaise (by increasing the supply of money), it would be better first to attempt to identify the roots of the problem. This is of course a very difficult proposition, since it probably involves unquantifiable sociological

factors—anathema to "real" scientists. However, it might be worth exploring issues that may be contributing to the present spiritual state of scientists, such as their training, the competitive atmosphere (hasn't science become another rat race, as fierce and ruthless as what we see in the business world?) and the ethical aspects of science (for example, those relating to military applications). As a young postdoc just starting out on my career, I admittedly do not have all of the answers, but how can these aspects of our profession not have a major effect on the health of our outlook?

As a practical step, I would like to suggest that scientists should try to work more closely with those who study the sociology of science. Why are the sociologists and historians of science so disconnected from the practitioners of science? A little cross-fertilization might help both sides to get over the mutual feelings of derision, and possibly also to solve some of these questions.

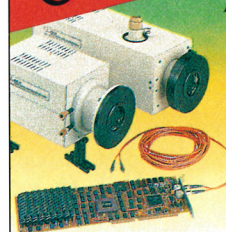
JAN A. TAUBER  
4/91 University of California, Berkeley

**LEDERMAN REPLIES:** Physicists are conditioned by their training to seek unconventional solutions to intractable problems. This is natural. If a conventional solution would do, the problem would already have been solved. The resistance of science policy analysts to the possibility that inadequate funding is the cause of the deteriorating morale of scientists is perhaps understandable, especially when those analysts are Washington based. "You just can't throw money at the problem," they say. (I say, "Try us!")

But if Jan Tauber would talk to his colleagues, he'd quickly learn that *they* overwhelmingly believe that the problem is funding. Perhaps a wise sociologist knows better, but the problem is not that subtle. The issues that Tauber raises—competition, ethics, antiscience fundamentalists (and he could have added regulatory pressure, bureaucracy, lousy high schools and so on)—have always been with us. They wax and wane, and we cope as best as we can. Contact with historians and sociologists is clearly a profitable cultural activity, but it's hard to believe it can help the present circumstances. What really hurts is "My grant was not renewed" or "I can't fund my new idea" or "I can't take on any more graduate students." Is Tauber's historian-sociologist going to respond, "That's not your problem; you only think that's your problem—the root cause of your poor morale is

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your ignorance of how bad it was in 1848"? That's *too* unconventional.

LEON LEDERMAN  
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Chicago, Illinois

9/91

## Chernobyl News Reliability Revisited

Jovan Jovanovich (December 1990, page 91) attacks the credibility of William Sweet's news story "Chernobyl Aftermath to be Assessed by International Expert Team" (July 1990, page 62). There are four specific points that I would like to raise with Jovanovich:

▷ He states: "Thanks to *glasnost*, the Soviet mass (nonprofessional) media abound today with all kinds of information... much of it is highly suspect." Is Jovanovich suggesting that for the past 70 years the professional (KGB controlled) media in the Soviet Union were highly reliable? Surely, it is now obvious to the whole world that the "nonprofessional" reports of concentration camps, genocide and starvation were far more reliable than the official denials of the Bolshevik bureaucracy.

▷ Jovanovich notes that the governments of Byelorussia and the Ukraine have reported that several million inhabitants live in contaminated areas and then suggests that because these republics "have strong independence movements," they "are exaggerating Chernobyl's consequences to further their political aims." He also notices that "it is mainly (only?) Byelorussian and Ukrainian government officials making these statements, while Soviet (federal) officials and professionals are not."

First of all, I agree that the "professionals" in the Moscow bureaucracy have been ignoring and downplaying the consequences of the Chernobyl disaster for the past five years. Any last vestige of credibility of the Soviet nuclear bureaucracy was shattered by the 27 April 1988 death of Valerii Legasov, who, as a leading proponent of nuclear energy, had been the main Soviet spokesperson at the International Atomic Energy Agency meeting in Vienna in August 1986. Realizing that he was fighting a losing battle to bring responsibility and restraint to the Soviet nuclear program, he committed suicide after writing a stinging condemnation of the bureaucracy and of the basic failure of the industry to learn the lessons of Chernobyl.

Second, all 15 republics of the Soviet Union have declared their sovereignty or independence. All fa-

vor a dissolution of the Bolshevik empire as it now exists. And the inept handling of the Chernobyl disaster by the central authorities has been a major impetus to these movements. The people are fully aware that the central authorities never have been and never will be concerned with their welfare.

Finally, let me assure Jovanovich that of the hundreds of visitors from the Ukraine, Byelorussia and the Baltic republics who have passed through Montreal during the past five years, none have expressed approval of the handling of the crisis by the central authorities to me or to others in the Ukrainian community here with whom I am in contact. Many of those visitors have expressed grave concerns: "They tell us nothing" or "We don't believe what they tell us anymore." Their fears may be misplaced or exaggerated, but nonetheless, their fears are real.

▷ Jovanovich is correct in believing that the IAEA report assessing the Chernobyl situation will be received with skepticism throughout the world. For example, the World Health Organization, which is contributing to this report, has recently made the absurd recommendation that an international center for radiation-induced health problems among the victims of the Chernobyl nuclear disaster be located in Obninsk near Moscow, rather than near the region of contamination in the Ukraine and Byelorussia. Such a recommendation can only further compromise the credibility of the IAEA. Radiation victims in Byelorussia and the Ukraine will view it as another cynical attempt by the Moscow bureaucracy to seize control of the situation and prevent them from obtaining the medical treatment they require.

▷ Jovanovich is also correct in suggesting that the physics of the Chernobyl nuclear explosion has not been adequately studied. The initial knee-jerk reaction of the nuclear establishment in the West was to label the RBMK-1000 reactor design unsafe and to claim that such an explosion could not occur in Western-designed reactors. The official Soviet report on the accident at the 25-29 August 1986 IAEA meeting in Vienna clearly blamed the accident on operator error. Thereafter, Western scientists simply accepted the boundary conditions supplied by the Soviets and repeated their calculations indicating that the explosion occurred 4 seconds after the AZ-5 scram button was pushed at 1:26:40 hours on 26 April 1986 in an attempt to shut down the

*continued on page 129*

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