licenses for nuclear reactors, fuel facilities, and the fuel itself. Anders' personal view is that the United States has been a bit too generous in spreading around its nuclear know-how, but his concern seems related more to protecting the industry's competitive position than to problems of weapons proliferation.

In spite of his expressed concern for the nuclear industry's economic health, Anders quite firmly maintains that, as a regulator, he does not exclude from the realm of possibility drastic restraints on the development of nuclear power if such restraints should prove necessary. Asked whether he saw his mission as one of ensuring that nuclear technology was developed as safely and cleanly as possible, he said he did not. "Nuclear power will have to meet the requirements of public health, and that's it. There's a distinction there."

As if to demonstrate that it could be tough, the NRC, in its first such action, issued shutdown and inspection orders to 23 boiling-water reactor plants in late January after five hairline cracks were found in two pipes of one plant. The cracks, in one of two emergency core cooling systems of a Commonwealth Edison plant near Chicago, seemed to pose no immediate danger. But, on the chance that they might indicate a larger generic problem, the NRC ordered all similar plants to look for cracks. (Fourteen of the 23 plants were actually running at the time, producing 7000 megawatts or about 1.4 percent of the nation's electricity.)

"When an issue is not clear," Anders explained to the congressional Joint Committee on Atomic Energy last month, "our approach will be one of prudence."

(Inspection at 21 of the plants thus far have found no cracking, but a sixth crack has turned up in the Commonwealth Edison plant, Dresden II. Significantly, the identical problem has been found in a General Electric boiling-water reactor in Japan, a discovery that makes the shutdown order seem all the more prudent in retrospect.)

Although the NRC has a quasi-judicial function, Anders seems inclined not to remain above the fray, but to establish communications with both sides in the nuclear debate.

"If people from the industry want to see me, talk about what's bugging them, that's okay [although with NRC counsel and a stenographer present]. Critics, too. I'll talk with anyone, their place or mine, as long as the argument is on the issues, not personalities, and as long as it's rational. If I find they're twisting things out of context, they'll have to go somewhere else.

"There are some tough questions to be addressed that would give pause to anyone with a social conscience," Anders concludes, "and we can't regulate in a vacuum."—ROBERT GILLETTE

Fetal Research (III): The Impact of a Massachusetts Law

Boston, Massachusetts. The relatively new statute regulating experimentation on human fetuses in this state has had a powerful and, its sponsors insist, unintended effect on fetal research. Representative William Delahunt says that the statute was meant to be a "moderate and enlightened" law. But as far as the scientific community is concerned, the law amounts to a virtual ban on fetal studies.

The impact of the statute, which became law on 26 June, 1974, was the subject of a recent hearing before a newly formed state commission* created to advise the legislature about actions affecting science. After a day of testimony it was clear that scientists do not understand the law, that they are deeply afraid of it, and that even research which is perfectly legal is being stopped because of that fear. There was a lot of talk about the "chilling effect" three events in Boston have had on research. There was the passage of the law, a criminal statute. There was the manslaughter conviction of Boston City Hospital (BCH) physician Kenneth C. Edelin (*Science*, 7 March). And there is the upcoming trial of four other BCH scientists who have been indicted for grave-robbing in connection with their fetal research (*Science*, 1 November 1974). When Neil Chayet, one of the attorneys for the defense in the grave-robbing case, testified in an angry voice that it is no wonder research is being stopped, because "Boston this year is not a normal environment," no one on the commission took issue with him.

In light of the fact that several states have recently adopted laws regulating fetal research, *Science* decided to closely follow the developments of one of them—the Massachusetts statute. Articles in the 24 January and 7 February issues traced the social and political origins of the law and the path it took from its inception to passage in its present form.

The words of several speakers revealed the scope of the confusion that exists about the law. Jane DesForges, a physician at Tufts Medical School–New England Medical Center, inquired about genetic counseling. She said it was not clear to her whether it would be legal to perform amniocentesis on a woman who might decide to have an abortion if she learned the baby she was carrying was genetically defective. She was assured by commission chairman James Smith, a Boston College law professor who drafted the statute, that amniocentesis is allowed under the circumstances she described because it is a "diagnostic," not "experimental," procedure, but there is little doubt that the research community would like that position put in writing in a revised law.

Perhaps the most ironic example of the effect of confusion about the law lies in the fact that the two Harvard researchers who fought hardest (and thought they partially succeeded) to get the legislature to pass a scientifically acceptable bill have themselves been seriously hurt by it.

David G. Nathan and Frederic D.

* The commission includes researchers, practicing physicians, and lawyers, chosen in part because they represent both sides of the "right-to-life" issue.

Frigoletto were fearful that the law as originally drafted by Delahunt and Smith would preclude their work in prenatal diagnosis of genetic blood diseases, particularly sickle cell anemia and thalassemia. Prenatal diagnosis, in these cases, is possible only if the physicians can obtain samples of fetal blood. To do so, they need to use an amnioscope, a long cannula with a tiny lens that, when inserted directly into the uterus, allows them to literally see the fetus and, presumably, draw blood without harming it. But amnioscopes, as they presently exist, are imperfect instruments, too rigid, affording too limited a view of fetus inside the womb.

Delahunt and Smith understood the problem Nathan and Frigoletto had. They thought they had written a bill that would let their work proceed. But not everyone reads the bill the same way, and confusion had now gotten in the way. Nathan and Frigoletto submitted a research protocol for developing a flexible amnioscope to the human experimentation committee at Harvard-affiliated Boston Hospital for Women. They were turned down.

According to Frigoletto, the committee thought the situation too risky with respect to the law. Among the members of the committee is a judge; even he, apparently, thought the law sufficiently unclear to be sure that the two researchers could conduct their study in certainty of not being prosecuted. And, at the moment, none of them is willing to risk prosecution, even as a test case with the full support of his institution. As Nathan put it, "A hospital can't keep a doctor from going to jail."

A third example of the effect of the law was put before the state commission by Harvard Law School professor Charles Fried, who had come to say that he thinks it is a bad statute. When asked by Delahunt whether he knew of any research that had been stopped because of the law, Fried replied that an investigator (unnamed) working in bowel cancer research had put aside a study that involved use of dead fetal tissue.

Delahunt and Smith were both upset to hear that research that is unquestionably allowed was being stopped. They were upset because no one had intended to preclude research on or with dead fetal tissue. And they were upset because Fried seemed to be reporting that at least some scientists couldn't read. "Have they read the law?" Delahunt asked. "Aren't there people in your research institutions to whom you can go for advice about this sort of thing? I find it very annoying that what is allowed is being stopped." Said Fried, who testified against having any law governing fetal research and who particularly opposes this one because it is a criminal, not civil, law, "Research is being stopped because of fear."

It is likely that the fetal research law will be modified—to make its language more clear to the medical scientists who must be able to understand it, if for nothing else—but there is really no way of knowing whether it will be more congenial to the scientists' point of view. Whatever happens, it seems certain that it will do little to relieve the "chill" felt by Boston's research community. That is going to get worse, not better, when the grave-robbing trial starts.—BARBARA J. CULLITON

Maharishi International University: "Science of Creative Intelligence"

Out on the plains in Fairfield, Iowa, lies the campus of the ill-fated Parsons College, an experiment in all-tuition supported higher education that, during the student glut of the 1960's, came to be known as "flunk-out U."

Perhaps modest Fairfield is the weathercock of national trends in education. For Parsons, which lost its accreditation and folded a few years ago, is now reborn as Maharishi International University (MIU). The campus has been purchased at the bargain price of $2.5 million by the followers of Maharishi Mahesh Yogi. Maharishi, remembered by some for his stint as the Beatles' guru, is the Indian sage who brought Transcendental Meditation (TM), a practice now engaged in by some half million Americans, to these shores. The university represents an attempt to incorporate the enlightenment supposedly gained through TM into the process of higher learning.

The Fairfield operation is only a part of a global network Maharishi and thousands of devoted adherents are in the process of building. The keystone of the structure is TM. The philosophical framework is something Maharishi himself put together, combining ancient Indian Vedic wisdom with universal principles and truths culled from philosophy, religion, science, psychology, and common sense. It is called the "science of creative intelligence," or SCI. The avowed purpose of the movement is the achievement of world peace.

Few people have any quarrel with the value of transcendental meditation. TM is a method for achieving a deep kind of mental and physical relaxation, different from that experienced during sleep. TM has been introduced into prisons and rehabilitation centers and has been useful in helping people overcome drug addiction, alcoholism, and emotional problems. Many average citizens have found it calms them and enhances their ability to cope creatively with everyday life.

TM is also a method for utilizing the discovery (new to the West, old hat to Yogis) that people can learn voluntary control of their autonomic nervous systems. A number of biomedical researchers say it holds promise for relief of hypertension, migraine headaches, epilepsy, asthma, and numerous other nervous and cardiovascular problems.

But to Maharishi and his adherents TM holds much grander potential. As his following increased, Maharishi in 1972 unveiled a World Plan for peace to be implemented by a highly structured (at least on paper) global network of centers. Overseeing it all is the World Plan Executive Council, a body that was formally established last year. The headquarters for the movement is the World Plan Administrative Center, located in Seelisberg, Switzerland. This is where Maharishi sits surrounded by flowers when not engaged in his Kissinger-like travels, lecturing and or-