

China's Turmoil Touches U.S. Science

The crackdown against the movement for democracy is causing U.S. authorities to reconsider scientific links with China and is prompting outrage among Chinese-American scientists

IT IS HARD TO SAY which was more improbable: the appropriation by Chinese communist students of the Statue of Liberty to symbolize their quest for freedom, or the image of a lone astrophysicist, Fang Lizhi, as a harbinger of popular insurrection. But no matter how improbable the iconography, there was nothing symbolic about the bloodbath that swept through Beijing last week and threatened to wash over other Chinese cities, including Shanghai, as *Science* went to press.

The reaction of the United States was uncertain at first but rapidly grew firm as the news of the violence came in, and it involved universities and scientists in many ways. Officially, the Administration decided to impose very limited sanctions on U.S.-Chinese relations, halting visits by U.S. and Chinese military leaders and calling off four arms transactions. About \$600 million worth of business will be affected, the biggest impact in this country possibly falling on the Grumman Company of New York, which had been hired to upgrade the avionics on military fighter planes.

Unofficially, the Administration began to reconsider the terms of a joint scientific exchange with China, an umbrella agreement that affects perhaps as many as 20,000 foreign students now living in the United States. The U.S.-China Science and Technology Exchange agreement, now in its tenth year, is due for renewal this October; neither the White House Office of Science and Technology Policy nor the National Science Foundation (NSF) was ready last week to predict its future.

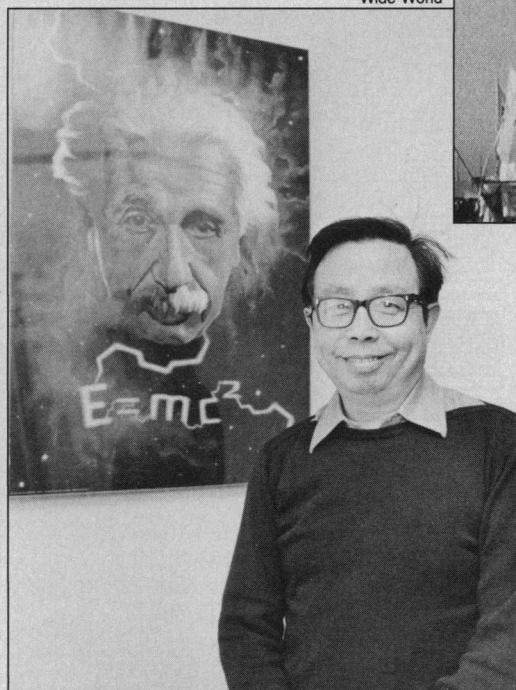
The NSF is preoccupied at the moment with locating and ascertaining the well-being of researchers it has sponsored in China. The agency has temporarily put all trips by its own personnel on hold, "as a matter of prudence, not policy," an official says.

Congress briefly appeared ready to intervene, with an unlikely alliance of Senator Jesse Helms (R-NC) and Representative Stephen Solarz (D-NY) urging the foreign affairs committees on which they sit to take

strong action. Holding forth to a group of Chinese students on the Capitol steps, Helms threatened to introduce wide-ranging legislation that would roll back export controls to a level of 5 years ago, effectively prohibiting the sale of modern U.S. computers to China. Solarz, after an initial burst of harsh rhetoric, backed off to a more tentative, but still critical position last week. Demanding a broad review of U.S.-China relations, Solarz said that if the President failed to take the initiative, "Congress will do it for him."

Seeks refuge. Astrophysicist Fang Lizhi, safe in the U.S. embassy in Beijing; the students' Statue of Liberty, torn down by the troops.

Wide World



Responding to these and other expressions of outrage, President Bush issued a statement on 5 June, calling upon Chinese leaders to "avoid violence and to return to their previous policy of restraint." Bush said: "I don't want to see a total break in this relationship and I will not encourage a total break." In addition to suspending military sales and visits, he offered to grant Chinese students waivers to the terms of their visas,

allowing them to stay in the United States. According to an NSF official, U.S. research labs would benefit in the short run, but over the long term, the flow of talent from China would cease. This could be devastating, because a large number of physics researchers in the United States now are Chinese.

Meanwhile, National Academy of Sciences president Frank Press cabled several scientific institutions in China, including the Chinese Academy of Sciences, to express "shock and dismay" at the government's

action. Press also announced that the Academy was suspending all visits by Americans traveling under its auspices. As a practical matter, only a few delegations were scheduled in the coming months.

At press time about 30 U.S. students and scholars were in China, half of them in Beijing, according to Robert Geyer, head of the Academy's China committee. Apparently all are safe, and some are planning to stay indefinitely. "We are very concerned about the safety of the Americans there, but we can't compel them to leave," Geyer said.

Finally, there were the reactions of individual U.S. citizens—particularly those who had formed direct human links to Chinese citizens. Chief among these were the Chinese-Americans who were born on the mainland but have lived most of their lives in the United States. In science, these include at least four Nobel Prize winners. Some have expressed outrage at what has happened in their ancestral land, many are doing what they can to help via personal contacts, and some are plugging away hoping that science can somehow proceed while the hurricane passes over. Take Nobel-prize-winning physicist T. D. Lee, who is running a science seminar only 20 kilometers from Beijing. When he asked his students if he should suspend the seminar, he was reportedly told to continue. And so he has.

■ MARJORIE SUN AND ELIOT MARSHALL