Will Profits Override Political Protests?

When the Chinese army rolled through Tiananmen Square in Beijing on 4 June 1989, crushing the democracy movement, that bloody event and its aftermath cast a long shadow over U.S.-Chinese scientific relations. Exchanges between the two countries ground to a halt, and the flow of Chinese scientists returning from overseas studies, never great to begin with, was reduced to a trickle, depriving China of many skilled young researchers needed to develop the country's scientific base. There have been recent indications, however, that a U.S.-China agreement covering basic research may soon be renewed, and informal exchanges are again blossoming.

CHIP HIRES/GAMMA LIAISON

June 1989. Scientific links cut after Tiananmen Square massacre are being reestablished.

Human rights groups fear that the fate of jailed prodemocracy activists will be ignored in the rush toward improved relations and economic profiteering. Many scientists were among the thousands of students and activists arrested after the Tiananmen Square massacre. The most prominent were released 3 years ago, but hundreds of others were sentenced to jail terms ranging from 2 to 13 years in a series of trials in 1991. Today, according to the Committee on Human Rights (CHR) of the National Academy of Sciences, about 30 scientists and others in "science-related positions" are being held for the "nonviolent expression of their political beliefs."

In the meantime, U.S.-China scientific relations are on the mend. One major obstacle to restoring official exchanges was recently resolved when Chinese authorities agreed to release social and opinion survey data they had seized in 1990 from University of Michigan researchers. The National Science Foundation (NSF), the U.S. sponsor, had responded to the seizure of the data by allowing a memorandum of agreement on scientific exchanges to expire in December 1990 and turning a cold shoulder to official Chinese requests for scientific missions to the United States (*Science*, 6 August, p. 677). But now that China has relented, NSF officials hope that the U.S.-China scientific memorandum of understanding can be renewed.

As for informal exchanges, U.S. researchers say that links in some areas have returned almost to pre-Tiananmen days. But China watchers like astrophysicist Fang Lizhi do not foresee a return to the wide-open embrace between the two societies that occurred during the early 1980s. Fang, the most famous scientist-critic in the democracy movement, escaped arrest in 1989 and took asylum in the U.S. embassy. Now a professor of physics and astronomy at the University of Arizona in Tucson, Fang doubts China will reap the full benefits of its investment in science until it relaxes its censorship. He sees the Chinese government being tugged in two directions. To "help develop the economy," it wants to lure home the tens of thousands of young people who were educated in the United States in the 1980s. To that end, it has liberalized travel rules. But at the same time, China's leaders are frightened of the "ideas of democracy and freedom" they would bring back, Fang says. Many students cannot go back, according to Fang, without risking arrest.

To protect these exiles, President George Bush issued a special executive order in 1990 permitting Chinese in the United States before April 1990 to apply for and automatically receive a "green card" recognizing them as permanent U.S. residents. Many students began receiving their green cards this summer. Yu Maochun, a historian and director of the Berkeley China Forum, a political discussion group based at the University of California at Berkeley, estimates that as many as 80,000 exiles (counting spouses) may be entitled to U.S. residency.

Ironically, many Chinese exiles are using their green cards as a license to visit China. While some of these people are going to help scientists back home, many others are setting up import-export businesses. Yu is discouraged by the rampant commercialism. "Most people think politics is irrelevant today," he laments, and have been swept up by the "enormous craze" for moneymaking sanctioned by China's leaders. Meanwhile, Yu sees a decline in the status of intellectuals and basic researchers.

Fang doesn't believe shunning China will speed up political reform. Instead, he endorses the low-key tactics of many U.S. scholarly societies—including the National Academy of Sciences—that ask U.S. visitors to China to raise human rights issues whenever possible. Papers at scientific meetings are dedicated to individual prisoners, for example. The CHR encourages scientists who feel they cannot even visit China to make their reasons public. Yu favors the "case-by-case" approach by which Western organizations have supported prisoners of conscience. The drawback: Most prisoners are anonymous.

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reagent factory into a joint venture with a Hong Kong firm. An institute in Chengdu developed a wildly popular antihypertensive drug, which it now produces. It is one of six CAS enterprises earning more $15 million a year. But there are 400 others that are not doing nearly as well. "I don't know if there's room for failure in this country," says Keith Clemenger, director of the Beijing office of the Committee on Scholarly Communication with China, sponsored by three U.S. scholarly societies. "Each research institute is going for broke."

One problem is knowing what price to set for their work. A Chinese shipping company, for example, paid a Fudan University computer science lab only $20,000 to build a sophisticated system that enables it to keep tabs on its worldwide fleet of 20,000 ships. "Companies don't realize the value of our work," remarks Zhang Shiyong, the professor who presided over the project. But the lab went along with the deal, he adds, "because we think we can sell it to other companies."

Boosting basics. Scientists who are sticking with basic research can only cross their fingers. Zhao Xinsheng, a young chemistry professor at Beida, describes his department's plans to create a company that will produce chemicals and machines. "It doesn't benefit us yet," he says, adding with a worried look on his boyish face that "also it may fail." Fifty out of the 250 department faculty are involved, Zhao guesses, but he's not one of them. "I'm hoping the country will value basic science, so I'm concentrating on my research," he says. So far he's made the right choice: He received $350,000 to build a molecular beam lab after returning from doctoral and postdoc stints with Nobel Prize–winning chemist Yuan Lee of the University of California, Berkeley.

Indeed, for capable scientists, funding has never been better, thanks to the emphasis the government is putting on competitive