count on the capitation grants as stable funding. Enrollment increases were made several years ago, and capitation is supporting those students now as they complete their education." Indeed, between 1966 and 1976, 28 new medical schools were started and the annual number of medical graduates rose from 8,148 to 14,969. DuVal noted that in its initial legislative form, capitation *was* an entitlement program—part of general federal aid to medical schools. It was in exchange for an increase in the first yearly authorization that the grants were attached to the social goal of increasing the number of doctors by Representative Paul Rogers (D-Fla.), then chairman of the House subcommittee on health. "To turn this funding back now would be unfair," says DuVal. Indeed, there appears to be no graceful way of phasing out the grants, since schools may not decrease their enrollments during 1979 without losing even the 50 percent of funding that would be retained.

Capitation grants were not the first federal funds to assist medical school expansions, but they have been the most flexible incentive for enrollment increases, and were based on several academic and federal reports suggesting that not enough was being done to boost the number of doctors. The reports, in turn, based their conclusions on estimates of the number of physicians relative to the total population, a figure that most economists today consider to be woefully inadequate as a measure of under- or oversupply. Yet, the same estimate is being cited by the present-day advocates of fewer medical graduates. Califano, for example, relying on extrapolations of present enrollment trends, predicts that, "By the year 1990, we estimate that the supply of physicians in the United States will increase another 57 percent, equivalent to 242 physicians for each 100,000 people in this nation. By virtually all of the accepted yardsticks, this portends a substantial oversupply of physicians on a national basis."

Actually, determining whether 242 is too high, just right, or not high enough is a far less exact science than Califano would suggest. Califano presumes it is too high, because of data in an HEW report issued in August 1978 that uses a complex computer model and present physician utilization rates to estimate the appropriate demand for physicians in 1990. The report concludes that the aggregate national requirement will be 5 to 10 percent less than the supply by then. But the report also places qualifiers on its requirement estimate that Califano has elected to leave off. "Because of the

U.S.–China Exchange Formalized

Negotiations for a formal program of cultural and technological exchange between the United States and China came to fruition on 31 January when President Carter and China's Vice Premier Teng Hsiao-ping signed a series of executive agreements in the White House.

The most detailed parts of the package were those on space, energy, agriculture, and scholarly exchange—all of which had been mapped out in advance during a series of carefully orchestrated talks between U.S. and Chinese officials during the last 6 months. Frank Press, the director of the President's Office of Science and Technology Policy, launched the talks with his visit to China in July 1978. Specifics were nailed down later. In October, the Chinese signed an understanding on scholarly exchange with Richard Atkinson, director of the National Science Foundation. In November, Secretary of Agriculture Robert Bergland and Secretary of Energy James Schlesinger reached agreements while on a trip to China. In December, a Chinese delegation in Washington signed an agreement with Robert Frosch, head of the National Aeronautics and Space Administration (NASA).

Other agreements still waiting to be completed will cover health care, environmental and earth sciences, engineering, and commerce. Joseph Califano, Secretary of Health, Education, and Welfare, and Juanita Kreps, Secretary of Commerce, will be among those who travel to China in coming months to hammer out the details.

The largest pieces of equipment Teng and the vice minister for science and technology, Fang Yi, will take home will come from the Energy Department and NASA. According to those who worked on the deal, "senior American officials" as they called themselves, China will buy a communications satellite system, including ground stations, worth about $500 million. This will be used as a link in the telephone system and as a color television transmitting device, extending the national educational program to remote villages that lack teachers. Indonesia and Japan have bought similar systems, although this new satellite will be designed to fit China's unique specifications. China will also get a $3 million Landsat receiving system, which will be used to provide map makers with photographs from outer space. The Energy Department will help the Chinese build a 50-billion-electron-volt proton-synchrotron accelerator in Peking, costing about $200 million. It will have roughly the same power as the accelerator at Brookhaven National Laboratory in New York, and much less than others now operating in the United States and the Soviet Union. As one of the briefers said, "Research in high-energy physics is a 'natural' for cooperation between us." He mentioned that some major discoveries in this field have been made by Chinese Americans, and that the chief of China's high-energy physics commission, Chang Wen-yu, was a professor at Princeton. The accelerator is expected to produce no military or other practical applications.

In other sections of the document, the two countries pledge to set up a Joint Commission on Scientific and Technological Cooperation, headed by Fang Yi and Frank Press. U.S. consulates will be opened in Canton and Shanghai, and Chinese consulates will be opened in Houston and San Francisco. Tourism will be expanded as soon as the Chinese believe they have enough "Western facilities" to house the expected flood of foreigners. The Chinese Ministry of Culture and the U.S. International Communication Agency (successor to the old USIA) will arrange for exchanges of books, films, theater performances, sports events, and the like. The details are still being worked out.

America's technological and military strength is clearly what interest the Chinese in this partnership. Although they presumably feel they have little to learn from Western cultural and political traditions, they describe themselves openly as our disciples in science. As Fang Yi said in a meeting at the National Academy of Sciences, "China is still rather backward in the field of science and technology on the whole. So . . . we have more to learn from you." It will be interesting to see, as this experiment continues, whether China can absorb our technology without absorbing some of our culture.

—E.M.

0036-8075/79/0216-0631$00.50/0