After seeing the McKinley Park Station Hotel thronged with tour groups of elderly visitors, including even a woman in a wheel chair, Andrus observed: "This is the rebuttal to those who say Alaska is only for the young and the rich."

Underlying all of the secretary's thinking about Alaska is a conviction that Alaska, given its enormous size and extraordinary resources, is an exceptional part of the American patrimony and should be treated as such. The 104-million-acre land grant made to the state of Alaska under the Statehood Act was, he says, vastly larger than any land grant ever made to any other state. Similarly, the settlement of native land claims was, he feels, not ungenerous. Now, Andrus says, it is time to set aside for the nation as a whole "the crown jewels of the Alaskan wilds."—LUTHER J. CARTER

China's "Four Modernizations" Lead to Closer Sino–U.S. Science Ties

The United States' already flourishing ties with China were further strengthened last month when presidential science adviser Frank Press journeyed to Peking with a delegation of the Administration's top-ranking scientists. It was the first such government-to-government exchange between this country and the People's Republic of China and marks what Press calls a major step toward "building a relationship with China similar to those we have with other countries."

Press and his party,* which he says "represented the whole of civilian science and technology in the U.S. government," held preliminary talks that are expected to lead to substantive scientific exchanges which previously have been impossible because of the Chinese position that full normalization of political ties must come first. However, within the past year or so China's policy has changed in a number of respects, and it is now hoped that scientific exchanges may, in fact, ease the path to normalization. The Press mission was initiated in the White House, though there was every indication from China that the moment was propitious.

Ever since the overthrow of the "Gang of Four" and the denunciation of the tenets of the "cultural revolution" which kept China in a scientific and technological backwater, the new government in Peking has been framing a policy that will enable the Chinese to catch up. Thus, China is committed to the "four modernizations": modern science and technology as the foundation for modern agriculture, industry, and national defense.

Frank Press is greeted by Vice Premier Teng Hsiao-ping at the Great Hall of the People in Peking.

Last March, the Chinese held a national science conference, unprecedented in recent times, at which "pragmatic" leaders spelled out what they envision. "The entire nation is embarking with tremendous enthusiasm on the march towards the modernization of science and technology. Splendid prospects lie before us," declared Vice-Premier Teng Hsiao-ping, who is actively engaged in expanding China's contacts with foreign nations. On the theory that "Backwardness must be perceived before it can be changed," Teng spoke bluntly about China's state of affairs and her new determination to catch up with and even surpass the rest of the world, adhering "to the policy of independence and self-reliance." Then Teng went on to say, "But independence does not mean shutting the door on the world, nor does self-reliance mean blind opposition to everything foreign."

Already China has established strong ties in science and technology with a number of foreign nations, notably France, Germany, and Japan—all countries with which it has diplomatic relations. According to Western observers, the Chinese have sensibly decided to buy the best in science and technology and are interested in acquiring from America certain items it cannot get from other nations—off-shore oil rigs and drilling equipment are often cited as an example.

Although Press was unwilling to speak in detail about specific areas for future exchanges with the Chinese—he said it would be "premature"—he talked in general terms about what is anticipated and emphasized among other things a "growing commercial exchange." It should be noted that at present it is precisely in the business arena that the most substantive activity is taking place. The Chinese have purchased chemical ferti-

*Robert A. Frosch, National Aeronautics and Space Administration; Richard C. Atkinson, National Science Foundation; M. Rupert Cutler, Department of Agriculture; Jordan A. Baruch, Department of Commerce; John M. Deutch, Department of Energy; Donald S. Fredrickson, National Institutes of Health; William H. Menard, U.S. Geological Survey; Roger W. Sullivan, Department of State; Benjamin Huberman, National Security Council; Anne Keatley, Office of Science and Technology Policy; Michel Oksenberg, National Security Council; Scott Halford, Department of State.

0036-8075/78/0811-0512$00.50/0

lizer plants, for example, and invited American scientists and engineers to China to help set them up. Dealings with the Boeing Company have included the training of Chinese scientists sent to Seattle. The Chinese are negotiating with American steel companies and American oil companies are in China to help with the exploration for oil reserves.

But in the area of more academic scientific exchanges, the relations between the two countries have been less substantial. Press points out that, although there has been a lot of travel to and from the People's Republic, delegations mainly have had only survey tours of the other's country—a day or two here and there, but no long-term stays and no follow-up.

However, there are plenty of indications that things are changing rapidly. In a recent report, the Committee on Scholarly Communications with the People's Republic of China (CSCPRC) observes that "Until about six months ago, most letters from American scientists to their Chinese counterparts either went unanswered, or were answered in the most formal manner." Now, quite suddenly, Chinese researchers have begun substantive correspondence with some American scientists, including an exchange of papers, data, charts, and the like.

The CSCPRC also reports that this year exchanges are planned in a large number of fields: cancer, electrical and hydraulic metallurgy, computer sciences, engineering, agricultural sciences, oceanography, light construction, and nuclear and plasma physics. In addition, the Chinese Academy of Sciences has sent a team of physicists to Fermi Lab for 2 months; others are expected to visit at Fermi for 6 months or longer. And a delegation of scientists recently spent a week at the Gordon Conference on Nuclear Chemistry in New Hampshire, where they participated actively in scientific discussion. Press expects that one of the first tangible results of his recent trip will be the arrival of Chinese students at American universities, with the Chinese self-reliantly paying their own way.

In light of the range of activity that is under way between China and the United States in the wake of the new Chinese commitment to modernization in science and technology, some observers who diplomatically prefer not to be quoted see the Press trip to Peking as "mainly symbolic," and "more a product of Chinese self-interest than U.S. accomplishment." Nevertheless, in a realm in which symbols count for a lot, the government-to-government exchange could well mark a turning point in Sino–U.S. relations.—BARBARA J. CULLITON

Encounters with the Third World Seen in Allocating Frequencies

WARC, which stands for World Administrative Radio Conference, is hardly a household acronym. However, WARC is likely to achieve a higher recognition quotient because it deals with one of those subjects which were formerly regarded as essentially technical, but have taken on serious international economic and political implications.

At issue is the electromagnetic spectrum, or at least that portion of it used for telecommunications. WARC is a function of the International Telecommunication Union (ITU); a major conference is held every 20 years, the principal purpose of which is to allocate frequencies. The next one is set for September of next year in Geneva.

In the past, even at the last big conference in 1959, the industrial nations, with the United States taking the lead by virtue of its technical supremacy, got pretty much what they wanted at WARC. In the past two decades, however, the explosion of electronics and space technology, particularly the development of satellite communications, vastly increased civil and military uses of the spectrum and sharpened competition for access to frequencies. At least as important, less developed countries (LDC's) recognized the value of a place in the spectrum and began to organize to assert their claims.

The LCD's arguments for a more equal footing in telecommunications directly parallels those they make in demanding acceptance of a so-called New World Economic Order. The LDC's have used the United Nations as a principal venue for pushing their case for greater access to technology, capital, and resources which they see as unfairly monopolized by industrial nations, particularly by the former colonial Western countries. The parallel in the communications sphere is made explicit by the LDC's calling for a "New World Information Order." The LDC's will have considerable leverage at WARC because of the ITU's one-nation, one-vote formula for decisions. They constitute a sizable majority in the ITU where membership has grown from less than 100 nations in the time of the 1959 meeting to 154 today.

Under the prevailing rules, ITU lays out sectors of the spectrum for various uses—radio and television broadcasting, satellite communications, maritime radionavigation, for example. The frequencies have then been utilized on a first-come, first-served basis. The advantage, therefore, has been with the nations which were technically most sophisticated and quickest off the mark. The LDC's have made it clear that they want to modify the system. Their first concern is thought to be to gain more scope for their own domestic broadcasting, but there are indications that at least some of the LDC's want to share the higher frequencies used for more sophisticated communications, and, if they can't use them immediately, to gain what, in effect, are "parking" rights.

Unquestionably, the American stake in WARC is very substantial. The potential effects of changes seriously unfavorable to the United States are indicated in a 1977 Senate Foreign Relations Committee staff report which takes a broad look at communications problems in the perspective of international politics.* As part of their conclusions, the report's authors suggest what, "At its worst," the New World Information Order could mean for the United States. In the national security sphere this country could lose access to frequencies now relied on for military communications, radar, and missile operations. The present wide use of satellites for both military and civilian purposes—weather, crop, and naviga-

**The New World Information Order*, a report by George Kroloff and Scott Cohen to the Senate Committee on Foreign Relations.

0036-8075/78/0811-0513$00.50/0