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short as to obliterate this lesson. Any amendment of this type—no matter how sweetly worded—would probably be rejected by the Russians and must be viewed as a treaty killer. The other type of killer would not change the text but would add a "reservation" or "understanding" at the end, modifying the substance of the text. Amendments of this sort are anticipated, and they will undoubtedly read like reason itself. A third type—an add-on that does not modify the treaty's substance—should be considered benign. Senators Gary Hart (D-Colo.) and John Culver (D-Iowa), both treaty supporters, will offer one of these benign additions, requiring Senate approval of any decision to extend the protocol of SALT II beyond the date of expiration, now set for 1981. The treaty will run until 1985.

Stone wants to lead the FAS into the midst of this brawl, with the idea that he might be able to shape the wording of an amendment, if there is one. At worst, if the treaty seems doomed, he would like to be on hand at the burial so as to mitigate the hawkish overtones of the vote.

This strategy may seem elaborate for someone who has no vote in the Senate. It is designed to counterbalance the rightward drift in the debate, and as such it is partially manufactured for political effect. This is what makes some FAS members uncomfortable, of course. As Garwin put it, "I don't know about vote counting; I have to say what seems right, not speak for effect." But even he agreed that if he thought he could obtain a better treaty by joining in Stone's pressure tactics, he would do it.—ELIOT MARSHALL

UN Meeting in Vienna Unlikely to Be a Waltz

"North" and "South" countries proceeding warily toward UN Conference on Science and Technology for Development

The long and elaborate formal preparatory process for the United Nations Conference on Science and Technology for Development (UNCSTD) to be held in Vienna in August is grinding into its final phase with the agenda still unsettled and prospects for substantive agreement between the less developed countries (LDC's) and the industrialized countries doubtful at best.

All is not necessarily lost, however. With UN conferences, knots have a way of being cut in the last weeks, often in the last days before a conference convenes as government upper echelons finally focus on the difficult problems. Further, there is the question of how success or failure should be measured at such meetings. One reasonable point of view is that what is really important is not the output of harmonious rhetoric, resolutions, and formal accords, but what happens before and especially after the meeting. And there are signs that preparations for UNCSTD have put some potential adversaries on better terms of understanding and, significantly, encouraged the international scientific community to assume a more active interest in problems of development.

It is generally agreed, however, that the enlightened sounding "ascending" process by which individual countries and regional groupings of nations were to generate topics for the conference has not worked very well. A fifth and final preparatory committee—"prep com" meeting for UNCSTD is scheduled for late June when an effort will be made to complete negotiations on a "program of action" for Vienna. On the calendar are chronically controversial topics such as technology transfer.

From the outset, technology transfer, which is assigned top priority by the less developed countries, has been a major sticking point in the so-called North-South dialogue. Pre-UNCSTD discussions on the issue have demonstrated differing general approaches to development by the LDC's and the industrialized countries. LDC's stress access to technology and urge the creation of strong, formal international arrangements to guarantee such access. Industrialized countries, particularly the United States, emphasize the necessity of increasing the LDC's capacity to utilize technology and favor discussion of specific measures to achieve that end.

The LDC's have acted collectively under the aegis of the Group of 77, a bloc of Third World countries formed in the 1960's to achieve common political objectives in the UN and its specialized agencies. The Group of 77 name is retained, although membership has grown to about 120 countries as the UN has expanded. In recent years, the Group of 77 has organized its efforts around the goal of achieving a New International Economic Order, which denotes a restructuring of aid, trade, and financial arrangements between the LDC's and industrial countries to redress inequities between the two groups (Science, 7 October 1977).

The Group of 77 recognizes science and technology as crucial factors in development and has pressed for the holding of UNCSTD as a kind of capstone to a series of UN conferences on global issues held in the 1970's. During the first three preparatory committee meetings, however, the LCD's were unable to develop detailed positions on major issues.

One problem is that many LDC's lack expert staff and adequate funding needed to formulate and adopt policy stands on complex science and technology issues. Prep com meetings, in effect, provided the opportunity for the Group of 77 to caucus and work out unified positions.

During the first two prep com meetings, discussions on a program of action, which will guide the Vienna meeting, were quite diffuse. At the third meeting, the Group of 77 did reduce a longer list of topics that had been put forward by the conference secretariat into three main "target areas." These are as follows:

1) Strengthening of scientific and technological capacity of the developing countries.

2) Restructuring of the conditions for access to scientific know-how and technology as an integral part of the efforts to establish the new International Economic Order.

3) Improved coordination of scientific and technological activities within the United Nations system and an increase in financial resources for those activities.

These are expected to provide a rubric for proceedings at Vienna, but the problem has been to flesh out the agenda sufficiently to indicate to participating countries what they should be prepared to discuss in detail.

At the fourth prep com meeting in early May, the Group of 77 confirmed that they intended to use the UNCSTD meeting to demand the transfer of tech-

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nology on more favorable terms from developed countries and also to press for a code of conduct for multinational companies, whose operations LDC's also regard as a major source of grievances.

Under the heading of improved coordination for scientific and technological cooperation within the UN system, the LDC's are asking for creation of a new, substantially financed fund for development that will assure LDC's of a stable, well-managed source of financing for science and technology projects and a new global scientific information system. Both proposals were put forward only in rough form, but the Group of 77 is expected to provide amplifying detail for the conference to consider.

The reaction of the industrial countries to the demand for action on international codes for technology transfer and for multinationals was generally negative, with the common reply stressing the difficulty of negotiating complex, highly charged questions at a large, relatively brief international meeting like UNCSTD.

The United States position is that the two matters are already under study within the UN organizations and, therefore, should not be given detailed consideration at UNCSTD. A special committee of the long-running United Nations Conference on Trade and Development (UNCTAD) is conducting negotiations on a code for technology transfer, and a session on the subject is on the agenda of an UNCTAD meeting now in progress in Manila. The UN also has a commission on transnational corporations that is working to formulate a global code.

On the matter of reforms of the UN system to improve the handling of science and technology, the industrial countries have also taken the view that the Vienna meeting is not the place to reorganize part of the UN. At any rate, the UN General Assembly alone has the power to make such changes. Most delegations from industrial countries, however, while avoiding the question of increased funding, indicated that their governments were amenable to discussing system changes under the appropriate circumstances.

The Group of 77 has been effective in its practice of coalition politics, but it is hardly monolithic. One group of socalled "middle-tier" countries have made recent rapid progress toward industrialization. These include Brazil, Indonesia, Mexico, and South Korea. Politically, most of these countries continue to identify closely with the Group of 77, but on issues such as technology transfer and regulation of the multi-1 JUNE 1979 nationals, their interests may diverge.

Latin American countries, more than any regional group, have set the rhetorical tone and influenced policy in the Group of 77. The Latin Americans are most vocal about the painful experience their countries have had with the operations of American and European corporations and tend to be most adamant in demanding international controls.

Some African and Asian countries appear to put less emphasis on international rules. In recent years, as they have developed mixed economies, they have gained experience and now seem more pragmatic and confident in dealing with the industrial countries.

The Group of 77 is expected to continue to demonstrate the remarkable solidarity that they have in the past. Within the Group of 77, some individuals wield considerable influence by force of personality. Observers suggest, however, that the views of the regular delegates may differ from those of their superiors in government who will make ultimate decisions on UNCSTD issues and that the Group of 77's negotiating stance, therefore, may become more flexible.

The industrialized countries have similar interests, and in UNCSTD preliminaries their representatives have expressed similar attitudes, but have diplomatically avoided the appearance of coordination.

Socialist countries are found in both main camps, with Rumania and Yugoslavia active members of the Group of 77 and the Soviet Union clearly classified as an industrialized country. The Soviets carefully distance themselves from the capitalist countries, but at the same time clearly expect their country to be regarded as a heavyweight in science and technology.

The United States has made the most extensive effort at preparation for UNCSTD of any country. In late 1977 the State Department responded to charges of insouciance in respect to UNCSTD by naming the Rev. Theodore Hesburgh, president of Notre Dame, to head the U.S. delegation to the conference and appointing Ambassador Jean Wilkowski as U.S. coordinator for UNCSTD. The prescription for bottom-to-top preparation for the meeting was taken seriously, and Wilkowski and her staff have orchestrated an effort to involve a wide range of interested parties from business, labor, academe, and nongovernmental organizations as well as development experts in the process.

The American business community has taken a cautious attitude in approaching UNCSTD and has been particularly chary of the LCD demand for access to technology on more favorable terms. The views common in the executive offices of major American corporations that operate internationally are represented in a report published by the International Management and Development Institute based on a program of round table meetings involving top corporation executives.

Business firmly rejects the assertion by some LDC spokesmen that technology is the "common heritage of mankind" and should, therefore, be freely available. Industry sees technology as intellectual property that merits the protection afforded other forms of property. Noncooperation, however, is not what the report recommends. The view is that the existing machinery for technology transfer is adequate, but that improvements can be made through a variety of means that will enhance LDC capacity to negotiate on technology deals; corporations are willing to help with a number of training and information initiatives which should enable the LDC's to use technology more successfully.

Much more attention during the preparations for UNCSTD has inevitably been centered on political and economic issues than on exploration of ways to apply science and technology to development. The endeavor, however, has had another dimension. A parallel effort has been made to engage individual scientists and nongovernmental organizations in technical work for UNCSTD. American scientists, for example, made a solid contribution to a preparation of a U.S. 'national paper'' for the conference. And a broad effort was made to involve the international scientific community in development questions. This effort, which will be the subject of a second article in Science, may well provide the most important sequel to UNCSTD.

Political and economic problems such as those that bedevil the issue of technology transfer will continue to cause friction internally as well as externally for the developed countries. Technology transfer, for example, translates directly into the question of whether the United States is willing to reduce its comparative advantage in technology and, implicitly, its standard of living to improve that of the LDC's. It is for such reasons that the United States, despite the urging of Congress and the effort for more than a year by the White House to fashion a presidential review memorandum on the subject, has yet to come up with a coherent, comprehensive national policy on science and technology for development.—JOHN WALSH