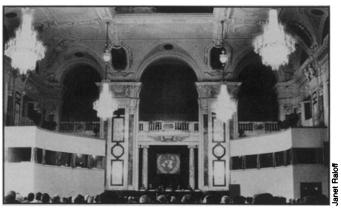
SCIENCE NEWS OF THE WEEK

Financing is Key UNCSTD Issue

UNCSTD opening ceremonies amidst the glitter of Vienna.



How much will it cost to narrow the growing technology gap between developed and developing nations? If developing nations have their way it will cost northern industrial countries plenty. Not surprisingly, financing was one of the central and most hotly debated issues at the 10-day United Nations Conference on Science and Technology for Development (SN: 8/18/79, p. 126).

Fresh from a strategy building session in Bucharest, Romania, the Group of 77 developing nations — which actually numbers 120 countries, or 80 percent of the United Nations' member states—is calling for two politically contentious actions.

First, it wants a \$2 billion superfund established by 1985 to launch research and development programs in developing countries. The fund, which would increase to \$4 billion by 1990, would also help finance whatever else it might take to increase the endogenous scientific and technical capabilities of these nations.

Second, it would change the organizational structure under which the United Nations oversees science- and technology-related programs involving developing countries. While UN members and member agencies are agitated over possible alterations in the control they will have on projects for and in developing countries, funding issues will remain the thorniest problem of individual governments.

Although voluntary contributions would be accepted, the Group of 77 is requesting compulsory, automatic contributions by developed nations. Only if funding is guaranteed, it says, can nations plan on the type of development strategies to implement. Erratic funding could kill some programs midstream, the Group feels.

A mechanism to determine who pays how much is the real hot potato. The Group of 77 suggests that industrial nations be assessed a tax amounting to a fixed but as yet undetermined percentage of their balance-of-trade surplus in trade of manufactured goods with developing nations.

So far, Sweden is the only nation to announce that it would accept even the principle of an automatic payment, but it objects to the balance-of-trade tax as being unfair. According to Lars Anell, deputy of Sweden's UNCSTD delegation, because foreign trade involves a proportionately large share of a small country's economy,

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nations like Japan could end up owing 25 times as much as the Soviet Union.

Nations representing the industrial world are working up a counterproposal that would include establishment of an immediate fund totaling \$250 million to \$300 million over the next two years. It could be increased later.

The developed nations have expressed doubt about whether their less developed cousins could put so large a sum as the Group of 77 proposes to immediate good use. Furthermore, they sense that parliaments and congresses back home would vote thumbs down any request for automatic aid subsidies over which they would have little control. And the Group of 77 has already made it clear that its member nations consider it essential that they determine how the R&D funds that each uses will be spent.

The United States is reported to be willing to offer contributions of \$65 million a year for two years if the smaller fund is established — conditional on a provision that the Organization of Petroleum Exporting Countries contributes a similar amount. OPEC is rumored to be willing.

The idea for the more modest proposal —of a \$250 million fund —was initiated by Bradford Morse, head of the United Nations Development Program, following the final uncstd preparatory meeting in New York last June. While governments debate details of various funding strategies, it is interesting to note that the uncstd meeting and its preparation set the UN and member states back a total of at least \$50 million.

In his address, Father Theodore M. Hesburgh, chairman of the U.S. delegation, lamented that only one percent of the world's research and development budget addresses problems in health, agriculture, housing and industrial technology at a time "when one fourth of this earth's population lives in abject poverty, starving, idle and numbed by ignorance." Harnessing science and technology to turn this situation about is what uncertainty.

So as the back-slapping social amenities that opened UNCSTD draw to a close and more serious conferences get underway, delegates will be addressing a menu of challenging courses that includes: how to remove obstacles that impede the use of

science and technology by developing nations, how science and technology can be incorporated into a developing nation's economic and social planning, how to ensure a free flow of data between the developed and developing world, and how to encourage industrial nations to direct more of their R&D toward problems facing the world's poorest.

Unlike with the funding issue, few delegates expect to see any clear resolution of these problems before they leave Vienna. But UNCSTD's secretary general, Joao Frank da Costa warns delegates that they had better try, because the economic disparity between developed and developing nations "is potentially more explosive than all the questions of war and peace ever put before the United Nations and its predecessor, the League of Nations." He says the world's poor are growing increasingly intolerant of the disparity between their living standards and quality of life and that of the industrial world.

One of our quarks is missing

It might seem that five quarks could be enough. Even if all the subatomic particles except half a dozen or so are built out of quarks, five different kinds give a wide variety of possibilities for combining properties. You should be able to make most things that you want, especially since it takes only two or three of the available quarks to make one particle.

Yet theory says there should be six quarks — or maybe eight. These requests arise from the principles of mathematical symmetry that animate the theory of particle physics these days. Three quarks were once considered sufficient and optimum. When it became clear that there had to be more, six or eight became the next available options.

The rub is that the sixth quark can't be found. This circumstance caused a certain puzzlement at the International Symposium on Lepton and Photon Interactions at High Energies, which was held last week and this week at the Fermi National Accelerator Laboratory near Batavia, Ill. The situation is by no means a crisis. Nobody

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