Stockholm: Politicking, Confusion, but Some Agreements Reached

Stockholm. "This conference is important both in what it does and in what it fails to do," Secretary-General Maurice Strong declared before the U.N. environment conference opened its doors here 2 weeks ago. As it ends, what the conference failed to do is certainly more apparent than what it did —but it would be unfair to deny the positive achievements. Maybe the Brazilians will continue to hack down the Amazon rain forest, the French and Chinese to test their nuclear weapons in the atmosphere, and the Japanese to hunt down the great whales, but at least they will no longer be doing so with tacit international approval.

To take the positive things first: the conference resolved to establish an international convention on marine dumping, the details to be worked out at a London meeting in October this year and the convention to be open for signature by the end of 1972. The conference decided also to set up a global atmospheric monitoring system, to be coordinated by the World Meteorological Organization, with ten "baseline" stations in remote areas to detect long-term trends and 100 stations to measure air pollution—always assuming that nations will allow such stations on their territory. Defeating a wrecking amendment from Japan, the conferenc recommended a 10-year moratorium on whaling, which may at last put some backbone into the International Whaling Commission. But the Japanese and the absent Soviet Union represent between them the majority of the world's whaling industry, so this recommendation may remain no more than a worthy aspiration.

The conference also condemned nuclear weapons tests—a move initiated by New Zealand and directed at atmospheric tests in the Pacific by the French, whose delegate pointedly dissociated his country from the resolution. To the chagrin of the other U.N. agencies, the conference resolved to set up a new environmental organization, a Governing Council for Environmental Programmes (GCEP) designed to coordinate the action plan endorsed by the conference. A host of sites were offered for GCEP, including Kenya, Malta, Austria, Spain, and the United Kingdom, as well as Geneva and New York. A European site is known to be Strong's preference, and both Geneva and London seem leading candidates. The task of GCEP will be to look after a special environmental fund to which the United States has promised up to $40 million, Canada $5 to $7.5 million, Australia, $2.5 million, Sweden $5 million, and Japan 10 percent of the total sum, which is intended to be $100 million, spread over 5 years. Despite the very small size of the fund, the agreement to set it up was hailed by Russell Train, head of the U.S. delegation: "This may well be the high point of the conference . . . [the environmental fund] will give focus to the environment in the U.N. system . . . it may well be the best remembered accomplishment of our two weeks here."

More important to the other U.N. agencies than the size of the fund was the fact that GCEP will be independent of their control. A Food and Agriculture Organization (FAO) source commented bitterly to *Science* that Strong had deliberately kept other agencies in the dark until the last minute and then had ridden roughshod over their objections. "We were completely outmaneuvered," he admitted. At the last moment, Sigvard Eklund, head of the International Atomic Energy Agency, who had spoken out against GCEP in the conference plenary session, attempted to put a stop to it by cabling the American and Swedish governments with a list of amendments that would have made sure the GCEP was subject to existing agencies. The move failed.

The conference referred to the general assembly a proposal from India to set up another fund—for housing settlements in the developing countries. So much importance did India attach to this proposal that Indira Gandhi herself turned up at Stockholm to commend it to the plenary session. Whether this fund will survive as an independent entity or be absorbed into the environment fund is not yet clear.

Among a raft of less significant resolutions, the conference recommended the provision of more technical assistance to developing countries on environmental programs, the setting up of a referral system for environmental information, and a study of river pollution. Governments were urged to consult other countries when contemplating activities that might have an appreciable effect on climate. There were a mass of other minor recommendations, but so confused did the conference become that at times even the delegates themselves were not quite sure what they had approved.

Even if the agreed-on action plan is fully implemented, it will scarcely be enough to satisfy people seriously concerned about environmental deterioration. The conference dodged two crucial issues—population and diminishing natural resources—and got itself into a terrible mess over the proposed Declaration on the Human Environment, a document intended to put on paper a short environmental ethic. Two years' work by an expert group had gone into the preparation of this document, and almost every conceivable view had been incorporated in coming to the declaration's rather anodyne conclusions—every conceivable view but one, that of China, the U.N.'s newest member.

One of China's first acts in the conference was to get through a motion that opened up the declaration for a further round of discussions by a specially convened committee meeting in private. This opened the floodgates to a series of amendments—well over 100, according to the count of the United Kingdom's delegation—and the committee met long into the night, holding 15 meetings in 7 days to try to hammer out a compromise document.

The exact text of China's amendments to the declaration never emerged, but the chairman of the Chinese delegation, speaking in the plenary, gave clear hints as to what he would like to see. His speech, a vitriolic attack on American policy in Vietnam, followed up on the gentler attack by Sweden's Prime Minister Olof Palme at the beginning of the conference. The United States, said Tang Ke, the Chinese vice-minister of fuel and chemical industries, was responsible for "massive killings of

innocent old people, women, and children, as well as unprecedented and serious destruction of the human environment." What Tang said about the environment was, however, less predictable. Over recent years, environmentalists have been arguing that, of all the nations of the world, China is nearest to achieving a reasonable ecological balance and a careful use of natural resources. Their faces fell as Tang expounded the view that the expansion of population was unimportant, that resources were inexhaustible, and that the pollution resulting from industrial expansion could always be cleaned up by more technology. Tang came out for uninhibited development and hang the consequences: "One does not stop eating for fear of choking," he remarked, a thought almost worthy of Chairman Mao himself.

China Overplays Hand

The gap between Chinese rhetoric and practice was interpreted by most delegates as a bid for the leadership of the Third World. If so, it failed. When the exhausted committee members finally emerged with a draft declaration, it contained very few of the demands China had been making. One British delegate suggested that in fact China had overplayed her hand, and that the consensus of the committee, among developed and undeveloped countries alike, had been against putting fierce denunciations of the United States into the declaration.

The final document did, however, differ from the original. It was longer, with four new principles, and the language betrayed the enormous efforts that had to be made to achieve a consensus. The influence of the Third World was visible from the start, with Principle 1 declaring, in part, that "policies promoting or perpetuating *apartheid*, racial segregation, discrimination, colonial and other forms of oppression and foreign domination stand condemned and must be eliminated." At least one delegation—presumably South Africa—expressed reservations about this principle. No agreement could be achieved by the committee on two of the original principles, one of which made an oblique reference to war and the other of which enshrined the "only one earth" principle, declaring that states must provide information to their neighbors whenever contemplating any action that might affect the environment outside their national boundaries. The first of these foundered on Chinese insistence on excluding reference to nuclear testing, and the second on a basic disagreement between Brazil and Argentina. Brazil, which spent most of the conference defending its national sovereignty against all comers, intends to build a dam on the Paraná River near the border with Argentina. The Argentine government fears the possible consequences downstream, which might include a reduction in navigability, the disappearance of fish that go upriver to spawn, and the loss of water supplies for six major Argentinian cities, including Buenos Aires. Hence the impasse, which was resolved—for the present, at any rate —by sending the draft of the principle in contention to the U.N. General Assembly in New York.

It was politics rather than ecology that dominated the Stockholm meeting. The Soviet bloc refused to turn up, in protest of the refusal to seat East Germany on a par with West Germany—and this, in itself, clearly weakened whatever claims the conference might make to representing a world view. A British source, more sanguine than most, said that he believed the Soviet Union would have agreed with most of the recommendations made by the conference and, hence, might be willing to recognize its conclusions. The Chinese reserved their position on the declaration, refusing to accept one clause that would have condemned nuclear testing. "China develops nuclear weapons solely for the purpose of defense" said Tang, "and for breaking the nuclear monopoly and ultimately eliminating nuclear weapons and nuclear war." The Chinese delegation could not accept, he added, people who "pretend to be impartial and oppose all nuclear tests without making any distinction."

The Brazilians also flexed their muscles at Stockholm, although they found little support for their brand of uninhibited development, which makes no concessions to social or environmental considerations. Brazil, like China, seemed to have overplayed her hand. Refusing to attend any of the meetings of the Latin American group, as the Brazilians did, was a senseless alienation of 20 votes that might well have come Brazil's way. Opposing the introduction of a global monitoring system to keep an eye on the world forests was more understandable, but it won Brazil few friends. By the end, other Latin American delegations were saying gleefully that Stockholm had seen the real Brazil, represented as it was by the civil servants responsible for internal security rather than by the polished diplomats of Brazil's foreign service.

The United States sent a large delegation. Willing as they were to do the right thing, they kept running into difficulty. First, Train overreacted to Palme's mild criticisms, and then no reply at all was given to the ferocious denunciations of Tang. More than 48 hours elapsed before Christian Herter, Jr., delivered a limp statement that could perfectly well have been drafted in half an hour. In the more directly environmental aspects of the conference, however, the United States did take a positive line and a lead in promoting the environmental fund.

Disappointing Fringe

The conference fringe was disappointing. There politics so dominated environment that independent discussion ceased to be a possibility. The Environmental Forum, a kind of officially sponsored fringe, was dominated by Marxists not overwilling to give the other side a hearing. Paul Ehrlich tried to get across his heretical views on population, but Barry Commoner's supporters, orchestrated by Commoner himself, managed to put a stop to that. Finally, the Environmental Forum issued an Alternative Declaration on the Human Environment, purportedly drafted by 41 representatives from Third World countries, but bearing the marks of only two of them—Jan Fjellander, a Swedish journalist, and M. Taghi Farvar, an Iranian.

Even less attractive to truth seekers was the People's Forum, which ran discussions even more openly propagandistic than the Environmental Forum. As a final throw, those running the People's Forum issued a statement denouncing all of the other fringe groups as dupes and agents of the Central Intelligence Agency. That gives a fair idea of the level of political sophistication achieved.

Fortunately, most of the delegates had time only for the conference proper, leaving the fringe for the television cameras and bored reporters. At the end, almost all of the delegations could find a good word to say for the conference, a result, perhaps, at least as much of exhaustion as of logical thought. Peter Walker of the British delegation pronounced himself "delighted with the results, and disap-

pointed only that important detailed agreements have been overshadowed by political battles on nonenvironmental issues." Carlos Calero Rodrigues, one of the Brazilian delegates, said, "Yes, we are satisfied with the results. We didn't expect too much, but we approve the recommendations—they are good." Even Commoner admitted that the conference had performed "a valuable, even if limited, service to mankind." With another conference promised, or threatened, for 1977, the caravan seems to be well under way.

—NIGEL HAWKES

National Institute of Education: New Direction for Education R & D

A section creating a National Institute of Education (NIE) evoked only minor notice when the House of Representatives on 8 June passed and sent to the President the controversy-ridden education authorization bill (*Science*, 26 May). But, with a lot of luck and good management, the new NIE could have as beneficial a long-term effect on the quality of American education as anything in the legislation.

The education bill still awaits the President's signature and the level of financing will depend on the outcome of the appropriations process. It seems a good bet, however, that NIE will emerge substantially in the form and with the funding now contemplated, since the bill has the support of the Administration and bipartisan backing in Congress.

It is lucky that this sort of consensus exists, because NIE is meant to give new direction to education R & D which, in retrospect, is perhaps the least inspiring chapter in the annals of federal research.

The models for NIE are the National Science Foundation (NSF) and the National Institutes of Health (NIH), particularly the latter. But the mission of NIE is at this point both broader and less clearly defined than the missions of NSF and NIH. The new NIE is charged with fostering basic and applied research, development, and demonstration projects and with carrying out effective dissemination of useful results. Its charter evidently extends from preschool education through higher education. The breadth of its commission and the variety of tasks set for it are sources of misgivings to some of NIE's partisans.

The NIE idea dates back at least as far as a National Academy of Sciences–National Research Council report in 1958, but the proximate cause of the institute's emergence was its mention in President Nixon's message on education reform on 3 March 1970. Its presence there can be traced directly to Daniel Patrick Moynihan, then adviser on social legislation in the White House. The idea picked up legislative momentum when Representative John Brademas (D–Ind.), chairman of the House Education and Labor Committee's select subcommittee on education, introduced what in effect was an Administration bill. A second bill, H.R. 33, was introduced last January with Education and Labor Committee chairman Carl D. Perkins (D–Ky.) and Representative Albert H. Quie (R–Minn.), the committee's ranking Republican on education matters, joining Brademas as cosponsors. The NIE idea was amplified through a Rand Corporation "preliminary plan" commissioned by the Administration and through hearings before the Brademas subcommittee last winter and spring. The tenor of testimony in the hearings was of support for the idea tempered by references to past and probable future difficulties. The NIE proposal won favorable action in both the House and the Senate and was incorporated into the conglomerate education bill (S. 659) enacted this month.

The restraint on enthusiasm noted in the hearings and among some legislators seems fully justified by the history of federal education R & D. Research on problems connected with education has been going on in a university setting since the end of the last century, but for much of the time the bulk of the work was done in the context of graduate study by people preparing for active careers as teachers and administrators. The results were analogous to what would probably have happened if biomedical research during the same period had been carried out part time by general practitioners and hospital administrators.

The scientific base for education research has until recently been extremely narrow. Psychology was the principal discipline drawn on for education R & D, and education psychology has been far from the most prestigious branch of the discipline.

Federal funds for education R & D did not become available in substantial amounts until after World War II, although some impact was made on education by wartime research, for example, in instruction techniques and materials for the military. The Cooperative Research Act of 1954 authorized the Office of Education (OE) to make contracts and cooperative arrangements with institutions of higher education for studies on educational problems. Some $35 million was to be spent on the program during the next decade, but significantly OE was not permitted to give research grants. As an agency administering research programs, OE displayed some decided shortcomings. Historically, OE had dealt with public schools, elementary and secondary. OE bureaucrats tended to be "school people" without much acuity as research administrators. Furthermore, OE was conditioned to avoid any semblance of "federal intervention," so it was safer simply to react to research applications sent in rather than to set research priorities and to award contracts where those priorities were most likely to be achieved. The pattern was for small projects to be rather evenly distributed—to keep Congress happy—among institutions with which the bureaucrats had ties and which often had lackluster research traditions. The result, for the most part, was trivial research results.

A significant change in the kinds of people engaged in education R & D, broadly defined, occurred in the period after Sputnik. Effort centered on the reform of elementary and secondary school curricula, particularly in mathematics, sciences, and languages. Sponsorship by NSF and private foundations of the curriculum reform efforts provided the R & D model, but the