

THE fifth anniversary of the founding of the United Nations was celebrated under circumstances no more promising for world peace than those of earlier such occasions, yet the event was notable because the UN has lived five full years, and has in the process shown a growing awareness of its responsibilities and its strength. Of the UN's efforts in international relations, two have been of special concern to scientists. One has had to do with the work of the United Nations Atomic Energy Commission, apparently lifeless for the past many months. The other, the work of the United Nations Educational, Scientific, and Cultural Organization, has had more immediate effect in terms of demonstrating the value of science as an instrument for bettering human society. The following pages summarize both the present situation in the UNAEC and the works in progress of Unesco.



rectangular building is the recently occupied site of the United Nations at 42nd Street in New York City. Photo courtesy Ewing Galloway.

The article reviewing atomic energy control negotiations comes from a recent State Department report (*Atomic Energy and Foreign Policy*, General Foreign Policy Series 20) and constitutes an official American attitude. As in other and broader issues of foreign policy, this position, while skeptical, is that the door to a peaceful solution of differences remains open. It will be recalled that the speech made last October 23rd in the Security Council by Andrei Y. Vishinsky appeared to depart from the previous position of the Soviet Union by accepting the point that atomic energy controls must permit veto-free inspection at any time or place to prevent violations. Two days later, President Truman, speaking before the General Assembly of the United Nations, made a perhaps corresponding departure from the previously held American position. A disarmament plan, said the president, "must include all kinds of weapons". He then proposed that a new and consolidated disarmament commission be established to consider both atomic and conventional weapons. It remains to be seen whether this apparently mutual interest in compromise will lead to the resumption on a more hopeful basis of international disarmament talks.

ATOMIC ENERGY AND FOREIGN POLICY

A STATE DEPARTMENT REPORT

Since the fall of 1945, the United States has urged an international agreement which would provide dependable protection against the destructive power of atomic energy. Despite its initial monopoly of this new force, the United States offered to share the discovery with other nations provided a worldwide system could be established whereby the peacetime potential of atomic energy could be safely exploited for the benefit of all mankind. All that the United States asked was the guarantee that no nation could make bombs with impunity after it had given up its own. The United States offered in return to turn over its facilities and know-how to an international agency.

A meeting between the President and the Prime Ministers of the United Kingdom and Canada in November 1945 produced an agreement calling for international action under the UN. A month later, the U. S. Secretary of State met in Moscow with the Foreign Ministers of the United Kingdom and the Soviet Union. They decided to invite Canada, China, and France to join them in sponsoring a resolution in the UN setting up an international Atomic Energy Commission. The resolution was unanimously approved by the General Assembly and the Commission established.

The UN Atomic Energy Commission and its committees have held several hundred meetings since the Commission first met in June 1946. The American sponsored "Baruch Proposals" were worked over, broadened in some respects and modified in others. After thorough and painstaking study, the Commission members arrived at the basic elements of an effective international control system for atomic energy. Only the Soviet Union and its satellites held out against the majority findings. In lieu of agreement, they proposed a paper convention "prohibiting" atomic weapons and wholly lacking in provisions for effective control.

In May 1948 the Commission reported the stalemate to the UN Security Council. A Soviet veto prevented the Council from approving the Commission majority plan. In the fall of that year the Commission plan was taken up in the General Assembly, where it won overwhelming approval. This body then called upon the Commission to resume its studies and directed its permanent members—Canada, China, France, USSR, the UK, and the U. S.—to get together as a special group to determine if a basis for agreement existed and to report

their findings to the next regular session of the Assembly.

The permanent members held several fruitless consultations. In the fall of 1949 the UN General Assembly considered again the problem and reaffirmed its support for the United Nations plan. It requested that the consultations among the permanent members be continued. These consultations were carried on in closed sessions until January 1950 when the Soviet Union began its boycott of UN meetings.

The permanent members of the United Nations Atomic Energy Commission comprise the nations whose agreement is necessary if international control is ever to be established. Their consultations constitute the proper United Nations forum for further discussions of the atomic problem. A renewal of talks waits on the Soviet Union.

Two Technical Facts

Atomic energy can be derived in significant quantities from only two metals, uranium and thorium. From these metals are obtained the explosive substances, uranium 235, plutonium, and uranium 233—the so-called nuclear "fuels."

Nuclear fuels can be put to either peaceful or military use. Whatever the intended use, the production processes are identical and inseparable up to a very advanced stage. Therefore, nuclear fuel available for peaceful purposes is automatically and inescapably available for atomic weapons.

If the two metals—uranium and thorium—are fully controlled, atomic energy itself is controlled. The release of atomic energy from any other substance depends in the first instance on energy derived from these two metals. Therefore, the United Nations plan—which effectively controls atomic weapons—would apply equally well to a hydrogen bomb.

The UN Majority Plan

The United Nations plan proposes the establishment of an international cooperative agency which would run all atomic activities on behalf of the signatory nations. The agency would:

- a. Own all uranium and thorium from the moment they are mined, through their intermediate processed forms and the refined products (the nuclear fuels U-233, U-235, and plutonium) until they are finally consumed. It is necessary to have

this close control over nuclear fuels (the "explosive" of the bomb) in order to effectively prohibit atomic weapons.

b. Own, manage, and operate all facilities using or producing dangerous quantities of nuclear fuel (such as Oak Ridge and Hanford) to prevent diversion of nuclear fuels from peacetime to military use.

c. License all nondangerous facilities and activities which are operated nationally.

d. Carry on research in all phases of atomic energy.

e. Exercise thoroughgoing rights of inspection and survey, subject only to appropriate procedural requirements and judicial review, in order to locate new ore sources, and to prevent or detect clandestine activities. Military reservations would not be exempted from inspection.

The agency would be a servant of the signatories. The principles governing the agency's policies in the production and stockpiling of production facilities would be spelled out in the agency's charter. The treaty would also provide for the prohibition of the manufacture, possession, and use of atomic weapons by all nations party to the treaty and by all persons under their jurisdiction. The treaty would provide for the disposal of existing stocks, would prescribe the stages whereby controls would go into effect, define violations, and provide effective enforcement measures.

Soviet Counterproposals

The Soviet Union shies away from strong international authority and argues for continuance of atomic operations mainly on a national basis.

a. Atomic weapons would be "prohibited" by a simple agreement based only upon the promises of the signatories.

b. There would be established within the framework of the Security Council an "International Control Commission" with powers limited to making recommendations to governments and to the Security Council; any action by the Security Council could be blocked by a Soviet veto.

c. Nations would continue to own, operate, and manage dangerous atomic energy facilities and would continue to own source materials and fissionable materials.

d. Atomic plants would be subject to some kind of "periodic" inspection. The Soviet has not made clear as to how this inspection would work. The Control Commission would have "access" to facilities and "acquaintance" with production op-



Andrei Gromyko, shown with another member of the Soviet staff, during his term as chairman of the UN AEC. Photo courtesy Pix, Inc.

erations, but inspections would be "periodic" and "normally inspectors will visit only declared plants". It would also have the power to conduct "special investigations" but only when "suspicion of violation arises" with regard to the convention on prohibition. The scope of the Soviet system of inspection is restricted in such a way that, in practice, there would be no opportunity for the Control Commission to become suspicious.

The Basic Issue

The UN plan recognizes that the physical nature of atomic energy itself dictates the need for close control at all stages of development. From the time it leaves the mine until it reaches the end product, atomic energy is a Dr. Jekyll and Mr. Hyde: it can be turned to beneficial or destructive uses. No half-way measures—such as "Monday and Thursday" inspections, or any other type of "periodic" inspection—would offer assurance against the diversion of nuclear fuel from peacetime to military use. That is why something more than just a force of detectives is needed. That is why the agency personnel themselves must operate atomic plants.

The Soviet proposals for control are obviously completely inadequate, and therefore what we are left with is essentially a paper convention on prohibition. A paper convention is no better than the good faith of its signatories. This is not good enough.

The difference between the UN plan and the Soviet proposals reflects a fundamental cleavage between the aims of the majority and the minority. As stated on October 25, 1949 by the majority of the Sponsoring Powers (permanent members of the UN Atomic Energy Commission), reporting on the consultations requested by the General Assembly: "It is apparent that there is a fundamental difference not only on methods but also on aims. All the Sponsoring Powers other than the USSR put world security first and are prepared to accept innovations in traditional concepts of international cooperation, national sovereignty, and economic organization where these are necessary for security. The Govern-

ment of the USSR puts its sovereignty first and is unwilling to accept measures which may impinge upon or interfere with its rigid exercise of unpimped state sovereignty."

Are there any Substitute Plans?

The question has been raised as to whether any changes could be made in the United Nations plan which would make it more acceptable to the Soviet Union. Numerous suggestions have appeared in public discussion, but they do not meet the problem.

One suggestion calls for the development of some kind of "fire alarm system" against an atomic surprise attack, with a much less comprehensive control system than is provided in the United Nations plan. Actually, a primary objective of the UN plan has been to devise the minimum safeguards needed to detect violations with certainty—to give early and unmistakable notice in case any nation seeks to divert atomic energy to the making of weapons. If the alarm system were to be fully effective, it would require the controls of the United Nations plan. Any control system which promises only fifty percent or seventy-five percent effectiveness would give only an illusion of security—an illusion which would jeopardize the safety of the free world.

It has also been proposed that the United Nations attempt an agreement prohibiting the large-scale production of fissionable material, with inspection centering mainly on mining operations. This has two serious shortcomings. First, it lacks some indispensable elements of a workable control system. Further it would give the control system a purely negative character. It would deny the peaceful uses of atomic energy. Actually, the "moratorium" idea has been partly written into the United Nations plan already, but it does not go to the extent of complete prohibition. The plan provides that the international agency will keep fissionable material at a minimum compatible with actual peacetime use, including research and development. But even with this limitation on large-scale production, there will be a need for the prescribed controls throughout all stages of atomic development.

Suggestions for international agreements simply to "outlaw" or "ban" atomic weapons parallel the Soviet counterproposals and are subject to the same inadequacies. Our dealings with the Soviet Union in the past five years make it abundantly clear that the Soviet has little respect for paper promises. United States reliance on such a paper guarantee would seriously compromise the safety of this coun-

try. Without a strong system of international control, a mere convention on the "prohibition" of atomic weapons would give people a false sense of security.

It has been suggested that atomic control should be incorporated into an over-all plan for the control of all armaments. This suggestion recognizes a relationship between the control of atomic weapons and the regulation and reduction of conventional armaments. However, a distinction should be drawn sharply between the formulation of plans and the execution of plans. The system for atomic control is necessarily quite different from the system for the regulation and reduction of conventional armaments. The international control of atomic energy deals with a unique phenomenon: it is concerned with relatively few and relatively new materials; it requires a special type of control system. This is just another way of saying what we said earlier: the nature of atomic control is dictated by the physical nature of atomic energy itself.

When control plans are agreed upon in each of these fields, and are being put into effect, the control plan for atomic energy should be phased into the over-all armaments control plan.

A Broader Deadlock

The stalemate obtaining between the majority of the UN and the Soviet bloc is rooted in the broader issues that divide those two groups. The atomic impasse exists because of an over-all Soviet refusal to join in cooperative efforts to promote world peace and security.

This conclusion was reached by 10 of 12 members of the United Nations Atomic Energy Commission. The Commission's Third Report (May 17, 1948) stated:

"The Commission has been forced to recognize that agreement on effective measures for the control of atomic energy is itself dependent on cooperation in broader fields of policy."

Thus the hope for solution of the problem of effective international control of atomic energy hinges on major and sweeping alterations in the basic foreign policy of the Soviet Union.

It is the policy of the United States to continue its efforts to reach a solution to the international control problem. The U. S. does not regard any single plan as the only answer. It will continue to explore any proposals which offer a reliable means of control and prohibition. The U. S. will continue to support the UN plan unless and until a more workable and more effective plan is developed.