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ATOMIC ENERGY

FROM scientific workers, at least, there will be a warm welcome for the blend of caution and idealism which constitutes the statement on atomic energy issued in London and Washington by President Truman, Mr. Attlee and Mr. Mackenzie King on November 15 as a result of their conversations (see p. 615). Essentially, the statement embodies the conclusions reached by scientific opinion, both among those who have been directly associated with the development of atomic energy and more generally. Most of the ideas that have been put forward for the control of the atomic weapon are included in the terms of reference of the Atomic Energy Commission now to be set up under the United Nations, and in the final article of the statement there is to be sensed something of the urgency and of the overwhelming need for establishing new international machinery or organization, competent to deal with an unprecedented situation which has made some surrender of national sovereignty inescapable if mankind is to avoid disaster.

Too much must not, of course, be claimed for the statement. No decisions have yet been taken: the Commission, which is to work with the utmost dispatch, has first to agree, and agreement may be difficult. The member States of the United Nations will then have power to criticize its recommendations, and there is as yet no certainty that such recommendations will be accepted. Instruments and organizations and schemes alike have yet to be formulated and agreed. None the less, the advance is real and important. So far, the questions of the international inspection of national territories and of the removal of atomic weapons from national armouries have been discussed only by private individuals and groups. They are now to be debated by States, and the offer to abandon their present monopoly, made by the Western Powers, both challenges the temper of the world and makes possible discussion of the whole question in an atmosphere of mutual trust and not intransigence; it also throws the onus on any who reject the resultant proposals to provide an alternative and acceptable solution.

Whatever may be the outcome of the work of the Commission, the present statement should prove a landmark in science. The affirmation that the fruits of scientific research should be made available to all nations, and that freedom of investigation and free interchange of ideas are essential to the progress of knowledge, marks the public acceptance of a truth that has always been urged in these columns, and of which the making available to the world of the basic scientific information essential to the development of atomic energy for peaceful purposes is only a particular example. The signatories met further to consider the possibility of international action "to promote the use of recent and future advances in scientific knowledge . . . for peaceful and humanitarian purposes". These general declarations must not be overlooked by scientific men, for there are still many obstacles to be overcome in the way of the free flow of scientific knowledge and interchange both of ideas and of workers. They may yet prove of

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service in widely different fields from that of the possible development of other methods, or of new methods, of warfare which may constitute as great a threat to civilization as the military use of atomic energy.

This contingency is expressly contemplated by the signatories of the statement, which contains no more important passage than that which affirms their intention that all further information of this character that may become available from time to time shall be similarly treated. That step, with the express declaration that the signatories of the statement are willing, as a first contribution, to proceed with the exchange of fundamental scientific information and the interchange of scientific men and scientific literature for peaceful ends with any nation that will fully reciprocate, should go far to create an atmosphere of reciprocal confidence essential to political agreement and co-operation. It is for precisely that reason that some doubts may be entertained as regards the validity of the argument that "specialized information regarding the practical application of atomic energy" should be withheld until such time as "effective, reciprocal and enforceable safeguards, acceptable to all nations" have been devised.

There are two points involved in this argument. The decision to exchange fundamental information is of necessity a general statement; but men of science must be watchful of any attempt to delimit such knowledge for the purpose of instituting a form of censorship. Knowledge is constantly extending its boundaries, and the idea that it is possible to lay down rules for the guidance of an administrative body is most dangerous.

As regards the second point, there is nothing to be gained by haphazard broadcasting of the facts regarding the industrial processes for the atomic bomb, and no objection can reasonably be raised against the intimation in the statement that the United States, Great Britain and Canada are prepared to share such detailed information, on a reciprocal basis, with other of the United Nations when such safeguards against its use for destructive purposes have been devised. That position may not, however, hold indefinitely. Speed in working out the safeguards is vital, and the urge must come from the three signatories of the statement as well as from the other nations in the civilized world to whom the offer is made, and who, as the statement rightly emphasizes, share the responsibility for devising means to ensure that the new discoveries shall be used for the benefit of mankind instead of as a means of destruction.

The United States clearly could not at present go beyond this offer; but scientific workers must see to it that the note of urgency is not lost and that the present decision regarding the industrial information is kept constantly under review. Exceptions, once admitted, are apt to create precedents, and to end by nullifying the principle at stake. Moreover, since the consensus of scientific opinion is that any secrets of the military application of atomic energy—and they may be a chimera—are unlikely to remain secret for any lengthy period of time, the long-term

diplomatic drawbacks of secrecy in encouraging unwarranted suspicion and mistrust may outweigh such temporary advantages as may be thought to derive from the present proposal.

From the diplomatic as well as from the scientific point of view, therefore, this aspect of the statement must be kept carefully under view, and it supplies an imperative reason for the Commission completing with the utmost dispatch what are suggested as the first two stages in its task: consideration of the wide exchange of scientific men and information; and the development of full knowledge concerning the natural resources of raw materials. Further, the plan is designed to foster the growth of confidence from actions, and from actions which will engender confidence through close intercourse. While confidence may be a matter of time, the close intercourse is an immediate and vital matter.

A second imperative reason for urgency is to be found in the immense potentialities which atomic energy offers for the material well-being of mankind. Scientific men, while recognizing in the statement the substantial acceptance of their own point of view, must also accept responsibility for seeing that public opinion recognizes what is at stake, and clearly understands both the sacrifices of national sovereignty which are involved in any system of international control, and also the consequences of failure to co-operate and to develop an effective scheme. If the precedent of war-time experiment is any guide, the development of atomic energy for industrial and humanitarian purposes will call for the investment of very large resources in material, in man-power and in brain-power. Full and swift development will most assuredly depend on that team-work in science operating across national frontiers of which the War has given us such remarkable instances.

The statement rightly reminds the world that the responsibility in this matter is one that rests upon the whole civilized world, and not on Great Britain, the United States and Canada alone. The offer which they have now made will provide an opportunity for the authorities of the U.S.S.R. to satisfy the desire of Russian scientific workers so conspicuously displayed at the recent celebrations of the two hundred and twentieth anniversary of the Academy of Sciences in Moscow to co-operate with their fellows elsewhere. If scientific men are to meet and mix freely, and to learn to know one another, much will depend on how far those of the U.S.S.R. in particular are enabled to co-operate.

Men of science in Great Britain at least will be at one in the hope that the work of the new Commission will give a fresh impetus to co-operation among scientific workers generally, not merely in the control of the use of atomic energy for destructive purposes, but also in its development for peace-time use, and in opening up a new atomic age. Above all, men of goodwill everywhere will hope the proposals will give fresh reality and purpose to the United Nations Organisation, and foster the mutual trust and understanding among the nations upon which alone the fullest measure of co-operation is possible even in a task of such world-wide scope and significance.