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Recorded speech of Earl Russell, O.M., F.R.S. on the occasion of the opening of the International Conference of Scientists at Pugwash, Nova Scotia, July 8th, 1957.

Almost exactly two years have passed since the statement was issued, signed by the late Albert Einstein, some eight other colleagues and myself, drawing attention to the dangers that would face humanity if another world war were to break out, with the almost certainty of the widespread use of nuclear weapons. In that statement we drew attention to the need for competent scientists to assemble in conference, so that a true assessment of these dangers could be made.

The two years that have elapsed since that statement was issued have not seen any fundamental change in the situation. In fact the stock piles of nuclear weapons have increased, new nations have joined the ranks of those producing these weapons - or trying to produce them - while serious misgivings have been expressed as to whether even the continued testing of such weapons may not result in damage to the population.

The problem of assembling such a conference of scientists has not been an easy one to solve. It was difficult to find a time and place of meeting convenient to scientists of many nations. It was more difficult still to find the necessary financial support. Fortunately, in the end, some generous friends were found to make money available for the meeting. In this connexion I must pay a tribute to the great generosity and helpfulness of your host, Mr. Cyrus K. Eaton, who, by coming to our support at a critical moment, made the present meeting possible, not only by providing suitable premises, but also by contributing most substantially towards the cost of bringing the participants to his residence at Pugwash. I should like, also, at this stage to thank the Indian Science Congress for their offer of hospitality for the meeting. Some of you will remember that it was at first planned to hold this meeting in Delhi last January, and the Science Congress very generously offered to provide all the necessary facilities. Unfortunately, however, owing to various difficulties it was not found possible to proceed with these arrangements.

The present meeting, although of a rather small number of people, is nevertheless of great importance. Its peculiar value lies in the fact that it represents a meeting, for the first time, of leading scientists coming from many countries, and representing all shades of political opinion, who have seriously considered the dangers of an atomic war, and are concerned with doing what they can to avert it. The invitations have been issued on an individual basis. The participants represent only themselves, so that they may put forward their point of view with frankness; and since the proceedings are private, without the fear that misquotation or partial quotation may distort their true opinions. I hope that the discussions will be carried on in an informal manner in the security given by complete privacy, because I believe that informal exchanges may achieve more than formal resolutions at the present stage.

On some of the problems that will be discussed there is no unanimity among scientists. Even the effects of the weapons are subject to wide uncertainties. This is particularly the case with respect to nuclear weapon tests. It is first necessary, then, to try to establish what is definite, and to separate it from what has to be inferred or conjectured. If this meeting could make clear the scientific facts with regard to such questions, and the place where certain knowledge ends, and hypothesis begins, it would perform a useful service.

Inevitably I expect a great deal of time will be devoted to the biological hazards of radiations in general and of tests in particular. But I hope the members of the conference will dwell also on the importance of sustaining peace,

when a major war would inevitably become a nuclear war. The effect of bomb tests is likely to remain controversial for a long time to come. One's attitude to it depends not only on an understanding of scientific facts, but also on certain moral and political assessments. But I do not expect anyone here would care to dispute that the large-scale use of nuclear weapons in war would represent an immeasurable catastrophe. Since the use of these weapons seems certain to follow in the event of any future world war, it is not possible for the conference to escape consideration of the age-old question of the abolition of war as a means of settling differences between nations. Our own age is faced with the task, either of solving this problem, or of witnessing the destruction of all those finest achievements for which the very highest of human intellect, courage, and resourcefulness have laboured during past millenia. When it is agreed that a major war would be an unspeakable disaster to all mankind, it follows that methods other than war, or the threat of war, must be devised for deciding questions as to which different nations disagree. The first step towards such methods must be the lessening of mutual suspicion which has been rendering all negotiations abortive. It may be hoped that the present co-operation among scientists of diverse nations and diverse opinions will prove the seed from which, gradually, a sense of common human problems will come to replace the present futile competition, from which nothing but catastrophe can result.

It seems hardly possible that the present meeting can get very far towards a solution of these perplexing problems, but if it does no more than bring scientists of so many different points of view together for frank and informal discussion, and if it can work out ways and means of continuing these contacts, then it will have achieved something of importance. I hope indeed that this meeting will not be thought of as just an isolated incident, but rather as the forerunner of other larger meetings, even more fully representative of different countries, ideologies and scientific disciplines.

It is a matter of very real regret to me that my state of health has prevented me from being with you in person. I should dearly have liked to take an active part in the discussions, particularly as they concern broad human issues. I realise that my absence may lead to certain complications in the detailed arrangements for the meeting and I regret this very much. I would mention, however, that in all the preliminary arrangements of organising the conference I have had the advice of Professors Powell and Rotblat and I suggest that it might make for the smoothest running of the meeting if the actual organisational arrangements continued in their hands.

With these few words I can do no more than give you my most sincere good wishes for a successful and stimulating series of discussions.