

neutral scientists would have the deciding voice in determining whether or not an event recorded by seismic stations was of a character to require further investigation, including, possibly, on-site inspection. There are other points which require elaboration in connection with the setting up of such a commission in order that it would be able to function effectively and speedily; but, as I have said, all these questions have been extensively considered by the nuclear powers in the course of their past negotiations and should be readily solved if approached in the spirit called for by the resolution.

Mr. Edberg remarked that "the question of inspection that up to now has been our stumbling-block has not been removed from our agenda by the achievements so far in the field in seismology". I wonder if he meant that we can expect that it will be removed by inevitable scientific progress. But we have also heard a number of statements from the socialist countries that the problem is really a political one and that the intervention of scientists in its solution would be unnecessary. Looked at rightly, the problem of whether on-site inspections are necessary in order to give assurance that no underground test contrary to treaty obligations is being carried out requires both scientific advice and a political decision. The question the scientists should answer is this: What is the probability of X underground nuclear explosions of Y kilotons yield carried out over the period of Z months not being detected and identified using only external instrumentation? Now, if the answer is that the probability is negligible, governments can take a political decision to disregard the limited risk of evasion of the treaty. But if the probability is considerable, then other means of assurance must be provided — that is, on-site inspection. Another political decision enters at this point. If a few on-site inspections are necessary to assure all parties concerned that obligations not to test underground are being adhered to, is there a serious risk that inspecting parties might acquire military information (in spite of the precautions against this which have been frequently explained)? If so, does this risk justify refusing all on-site inspection — that is, refusing a measure which can lead to agreement to sign a treaty to stop all nuclear testing, everywhere, and forever?

An Interim Arrangement

Paragraph 6 of Resolution 1762 (A) calls for an interim arrangement, and this implies that arrangements suspending underground nuclear tests should be of limited duration — perhaps a year, perhaps six months. The Canadian delegation believes, that failing total agreement on a comprehensive treaty, such an interim arrangement could be and should be made between the nuclear powers. We believe that it could be made in very short order if the U.S.S.R. is prepared to agree to procedures which would provide satisfactory assurances that unidentified events were in fact earthquakes and not nuclear explosions. Of course, the same obligation would fall on all other members of the arrangement, but no other prospective party to the arrangement has indicated any objection to such a provision. We were much interested in Mr. Edberg's statement about how seismological