

between underground nuclear explosions and some earthquakes. As a result, a certain number of "on-site" inspections are still required to convince parties to a treaty that an unidentified underground seismic event is an earthquake and not a nuclear test.

New Techniques

The West devoted considerable effort at this session to outlining in detail the work that had gone into preparing, and the results that could be expected from, the programme for improving techniques of detecting and identifying underground events. The British delegation tabled notes on the encouraging results in the long-range field of intensified seismic research in Britain with the array technique and improved instrumentation developed during the last few years. The U.S. representative described the results his country hoped could be obtained from the establishment of a world-wide network of very large seismic arrays. (One such array has been set up in Montana.) With such a system, it would be possible to determine the nature of a substantially greater proportion of seismic events than at present. However, 20 per cent of underground events in the range above a few kilotons could not be identified by seismographic instruments alone and some "on-site" inspections would therefore, still be required.

Regarding the notion of a "threshold", Western representatives have explained that present scientific knowledge is not adequate to permit the indisputable determination of such a magnitude; for example, the same seismic event may give different readings on seismometers in different parts of the world, depending on a number of factors. The basic conclusion drawn by Western representatives is that there should be an exchange of scientific and technical information in order to clarify the position with regard to the verification of a comprehensive test ban. All non-aligned delegations have supported this suggestion, several pointing out to the U.S.S.R. that, if it really wished a test-ban treaty, it should be prepared to accept such risks as might conceivably be involved in technical talks. So far, the Soviet Union has given no indication that it is prepared to do so.

At the meeting on August 10, Sweden put forward a proposal for the establishment of a "club" to detect — but not specifically to identify (which is much more difficult) — underground events. The "detection club" would be composed of a number of countries with advanced seismological installations; the data obtained from each station would be fed into a common pool. There could be a central organ to co-ordinate the work of compilation. Information thus obtained would be available to any country that wished to obtain it. This idea has been welcomed by all the other non-aligned countries and by the West. At the meeting on September 9, the Canadian representative said:

Canada's geographical position and the development of seismological science in our country are such that we may be able to play a useful part in the building up of any world-wide system of reporting of seismic events and detecting underground nuclear explosions. . . . Canada has already contributed in various ways to experiments in improving detection and identification techniques which have been spoken about in this Committee. I feel that I can