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ON DISARMAMENT**

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SUB-COMMITTEE ON A TREATY FOR THE DISCONTINUANCE
OF NUCLEAR WEAPON TESTS

FINAL VERBATIM RECORD OF THE TWENTY-FIRST MEETING

Held at the Palais des Nations, Geneva,
on Friday, 20 July 1962, at 10 a.m.

Chairman

Mr. ZORIN

(Union of Soviet
Socialist Republics)

PRESENT AT THE TABLE

Union of Soviet Socialist Republics:

Mr. V.A. ZORIN
Mr. P.F. SHAKHOV
Mr. I.M. PALENYKH

United Kingdom:

Sir Michael WRIGHT
Mr. D.N. BRINSON

United States of America:

Mr. A.H. DEAN
Mr. C.C. STELLE
Mr. D.E. MARK

Special Representative of the
Secretary-General:

Mr. O. LOUFI

Deputy to the Special Representative
of the Secretary-General:

Mr. W. EPSTEIN

The CHAIRMAN (Union of Soviet Socialist Republics) (translation from Russian): I declare open the twenty-first meeting of the Sub-Committee on a Treaty for the Discontinuance of Nuclear Weapon Tests. Does any representative wish to speak?

Mr. DEAN (United States of America): Today marks the first meeting of the resumed session of this Sub-Committee after our one month's recess.

Before moving on to what I should like to say today, I regret that I shall once again have to reply to the remarks the representative of the Soviet Union made on 16 July about whether the United States accepts the eight-nation memorandum (ENDC/28) as one of the bases for negotiation. A review of the record of our Sub-Committee will show, I think, that I have had to do this at practically every one of our meetings. I should have hoped that by this time it had become crystal clear to my Soviet colleague, as I believe it has to all other delegations, that the United States has accepted without question the eight-nation memorandum as one of the bases for our negotiations, and that without question we welcome the memorandum.

At that plenary meeting on 16 July Mr. Zorin said:

"It is indeed regrettable that in the statement made by the representative of the United States this morning we heard nothing to the effect that the United States is ready to accept the proposal put forward by the neutral States as a real basis for agreement." (ENDC/PV.57, p.27)

That, of course, is not the United States position. Ever since the memorandum was presented to us on 16 April I have, in the meetings of this Sub-Committee and, indeed, in the plenary Conference too, repeatedly reiterated my Government's acceptance of the eight-nation memorandum as one of the bases for our discussions. For example, on 19 April, in the course of my statement at the ninth meeting of the Sub-Committee, I said:

"As I indicated this morning in the plenary Conference, the United States is most grateful to the eight sponsoring delegations for their conscientious and sincere efforts to facilitate agreement among the nuclear Powers. At the same time, we accept the joint memorandum for consideration and study as a document which, as its co-drafters have told us, is intended to put forward certain concepts which may be helpful in overcoming the deadlock between the two nuclear sides." (ENDC/SC.1/PV.9, p.16)

(Mr. Dean, United States)

We have accepted the memorandum in the spirit in which it was presented, as the distinguished representative of Ethiopia made clear on 19 April - as a "suggestion" which must be further interpreted by agreement among ourselves in this Sub-Committee (ENDC/PV.24, p.5).

In this connexion I am sure it is clear to all that in fact the only document which has been discussed in extenso in this Sub-Committee since 16 April has been the eight-nation memorandum. It is, I believe, a fair analysis of the recent proceedings of the Sub-Committee to state that we have almost entirely occupied ourselves with the consideration of the memorandum alone, and that therefore there should be no question about whether it has been accepted as one of the bases for our discussions.

There is one more portion of Mr. Zorin's statement on Monday last in the plenary meeting which requires a reply. He said then:

"A few days ago the United States carried out an experimental nuclear explosion in the megaton range at an altitude of several hundred kilometres. In doing so it extended the nuclear arms race to outer space. This threatens to have extremely pernicious consequences and may have a direct effect on the living conditions of man." (ENDC/PV.57, p.16)

But my Soviet colleague knows full well that his own Government carried out such tests as part of its massive resumption of the nuclear arms race last September. To make this clear I need only cite from President Kennedy's statement of 2 March 1962, in which he said:

"Much has also been said about Soviet claims for an anti-missile missile. Some of the Soviet tests which measured the effects of high-altitude nuclear explosions - in one case over 100 miles high - were related to this problem."

The Department of State press release of 10 July 1962 also made clear that the United States was undertaking its high-altitude tests only because the Soviet Union itself had put high-altitude tests back into the arms race. The Department of State release said in part of the Soviet test series:

"High altitude tests were also conducted. One of these was considerably more than 100 miles in altitude. These high-altitude tests conducted at several different altitudes were probably the most significant tests from the point of view of the United States' security." (ENDC/46)

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Despite the denial of Tass, there just cannot be any question but that the Soviet Union did conduct tests more than 100 miles in altitude; so I say with great respect, in the words of this release, these statements of Mr. Zorin do indeed reflect "a hypocrisy which cannot be let pass without notice" (ibid.).

The Soviet Union has formally told us it accepts the eight-nation memorandum. But it seems quite clear that it accepts the memorandum only on the basis of the interpretation it itself desires to give to it.

We ourselves have also given an interpretation of the memorandum at the tenth meeting of the Sub-Committee on 24 April, at its sixteenth meeting on 22 May and at its eighteenth meeting on 29 May. The Soviet Union apparently has been unable to refute that interpretation, and it therefore merely continues to charge that the West does not accept the document as one of the bases on which to negotiate.

To be perfectly clear about the interpretation of this document, I should like very briefly to run through its salient provisions and discuss seriatim what seem to be the major principles included in it by its authors. The eight nations, I believe, set forth the basic purpose of the document when they stated:

"They believe that possibilities exist of establishing by agreement a system for continuous observation and effective control on a purely scientific and non-political basis." (ENDC/28, page 1)

The words "by agreement" used by the authors of the memorandum clearly establish that control must be arranged by some agreement between the parties to the treaty. The treaty itself would, of course, be an international agreement by definition. The eight-Power memorandum also stresses clearly the scientific basis for effective control, a basis about which I shall have more to say later.

The memorandum further elaborates on the nature of the control system. The eight nations told us something about the nature of the control system they envisage, when they stated in paragraph 3 of their joint memorandum:

"Such a system might be based and built upon already existing national networks of observation posts and institutions, or if more appropriate, on certain of the existing posts designated by agreement for the purpose together, if necessary, with new posts established by agreement." (ENDC/28, page 1)

(Mr. Dean, United States)

Clearly here the authors of the eight-Power memorandum were talking about several types of arrangements for the designation of observation posts and their integration into the system of networks. First, there is the fact that the system might be based upon existing national networks of observation posts and institutions.

The memorandum clearly speaks of networks, and also of the fact that the system should be "based" and "built" upon already existing stations. This of course implies some expansion. In addition, the authors of the memorandum have guided us concerning the direction in which the expansion ought to proceed. For the second category of posts they speak of under "if more appropriate" are those existing posts which might be designated by "agreement" to be a portion of the system. This clearly means that the system may include such additional posts, whether or not located in the territory of any particular party, as might be designated by "agreement" between the parties.

The third category of posts about which the memorandum clearly speaks are the new posts, which also may be established by "agreement", "if necessary".

How are the posts to be designated? Well, the memorandum clearly states: "by agreement" between the parties. In my estimation it cannot be questioned that what is discussed here, on the basis of the words contained in the memorandum above, is a system of posts some of which may be nationally manned, but which will be international in character since the system will be established by "agreement" as supplemented by "new posts" "if necessary". This interpretation is reinforced by the fact that the memorandum goes on to point out in its paragraph 3:

"Improvements could no doubt be achieved by furnishing posts with more advanced instrumentation". (ibid.)

The question arises, then, who is going to furnish the more advanced instrumentation, and by agreement with whom will the posts be established? It seems only reasonable to me to assume, since the international commission is to be set up by a similar agreement, that it is with the commission that the parties will have to make agreements on the establishment and improvement of a detection system. This is further made clear in the memorandum, since its authors state in paragraph 3 that the commission will depend for its data on -

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"a system for continuous observation and effective control on a purely scientific and non-political basis". (ibid.)

It is therefore clear from paragraph 4 of the memorandum that the commission will be set up by agreement and that it cannot be done unilaterally by any of the parties to the treaty.

The commission is further charged in paragraph 4 with the task of processing all data -

"received from the agreed system of observation posts and of reporting on any nuclear explosion or suspicious event on the basis of thorough and objective examination of all the available data". (ibid.)

If the report is to be made on the basis of an objective examination of the data received from the agreed system of posts, then the report must of course be prepared by the commission. The eight-Power memorandum is again, I submit, explicitly clear on this subject. There is no foundation, for example, for the interpretation that existing national networks rather than the commission should prepare the objective report.

The memorandum goes on to make clear in its paragraph 4 that:

"All parties to the treaty should accept the obligation to furnish the Commission with the facts necessary to establish the nature of any suspicious and significant event." (ibid.)

This portion of paragraph 4 which I have just read is, I submit, closely connected with the phrase in paragraph 5 which reads:

"The party concerned would, in accordance with its obligation referred to in paragraph 4 above, give speedy and full co-operation to facilitate the assessment." (ibid.)

It is also clear, therefore, that the commission will make the assessment on the basis of a thorough and objective examination of all the available data. The parties to the treaty would accept the obligation to furnish the commission with the data - that is, with the full facts with respect to the occurrence. It is clear from paragraph 4 that on-site inspection is considered to be a way to get the facts. Therefore the obligation to accept on-site inspection by representatives of the commission is in reality part and parcel of the obligation to furnish the commission with the facts. This is further clarified in

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paragraph 5 of the memorandum, which states:

"Should the Commission find that it was unable to reach a conclusion on the nature of a significant event it would so inform the party on whose territory that event had occurred, and simultaneously inform it of the points on which urgent clarification seemed necessary." (ibid.)

The commission, therefore, must make a determination with respect to a significant event - it must reach a conclusion about its nature. If the commission cannot arrive at a conclusion, it must seek from the party concerned "urgent clarification" on points regarding which it deems necessary to do so. It is not the party that determines where urgent clarification is required, but rather the commission. Quite obviously the authors of the memorandum believed that the State on whose territory an event might have happened should not be required to judge its own act, nor should the other parties to the agreement be required to accept a State's judgment of its own acts.

In further amplification in paragraph 5, the memorandum also points up the requirement for on-site inspection when it states that:

"The party and the Commission should consult as to what further measures of clarification, including verification in loco, would facilitate the assessment." (ibid.)

By "in loco" I assume it means at the site of the location of the event.

Remembering here, of course, that, as set forth in paragraph 4:

"... parties to the treaty should accept the obligation to furnish the Commission with the facts necessary to establish the nature of any suspicious and significant event" (ibid.),

and the fact that a State's obligation here is specifically extended in paragraph 5 to co-operation in facilitating the assessment to be made by the commission, it is clear that there is an obligation with respect to verification in loco.

Now, I am not putting into the memorandum the word "obligation"; I am reading that word from the text. All that I have said here has been taken precisely from the memorandum without any additions whatsoever on my part.

In respect of its obligation to furnish the facts and to co-operate to facilitate the assessment, the party concerned would therefore have to work closely with the international commission and, if deemed necessary, to co-operate by permitting an inspection on its territory at the site of the event.

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In paragraph 5 the commission is charged finally to inform the parties to the treaty of the circumstances of the case and of the commission's assessment of the event. This assessment should of course include, as the memorandum states in paragraph 5, the results of "full examination of the facts." It is clear that this would of course include verification of the site of the event on the party's territory by the international commission if required to prepare a full assessment of the nature of the event.

In summary, I do not see how it could be clearer that there is to be an international commission and that the designation of existing posts and the setting up of new posts by "agreement", as well as the furnishing of advanced instrumentation to all posts, are matters involving the commission and the parties to the treaty. It is also clear that the commission and the appropriate parties must agree on what is to be done.

In addition, the commission is to determine the nature of events and to prepare an assessment after full examination of the facts. It is the scientists of the commission who will have to participate in full examination of the facts, which includes examination of the site of the event. Finally, it is the party to the treaty on whose territory the suspicious event has occurred which has assumed the "obligation" to furnish the commission with the necessary information and to invite the commission to its territory to fulfil its obligations under paragraphs 4 and 5 of the memorandum.

I believe that this is a correct interpretation of the memorandum, and I do not see how this interpretation can be doubted. I submit that this is a correct and reasonable interpretation, and not the tortured, inaccurate or incorrect one that the Soviet representative has from time to time charged that it is. Certainly if any of the eight authors of the memorandum have rejected the interpretation which I have set out above and have made previously, I have not been informed of it. I have discussed this interpretation of the memorandum in these meetings several times in past months, as I noted earlier in my statement today, and the verbatim records of the Sub-Committee meetings are made available by the Secretariat to all members of the Conference, so that if any of the members who drafted the eight-Power memorandum disagreed with my interpretation they were certainly free to do so.

(Mr. Dean, United States)

I would like to turn now to another subject which is closely linked with our consideration in this Sub-Committee and which has important connotations for our future work, as I made clear at the fifty-seventh meeting of the plenary Conference on Monday 16 July (ENDC/PV.57, p.12).

Since May 1960 the United States has undertaken a series of intensive investigations to improve the identification and detection of nuclear test explosions, which has been called Project Vela. The United Kingdom has participated with us in this work. We had hoped that Soviet scientists too would share in this effort. At one time we had reason to believe that Soviet scientists would participate in this work. This optimism was derived from the Soviet Government's statement of 3 May 1960, which said that:

"The Soviet Government is prepared to proceed immediately to the preparation of a joint programme of research and experiments for the purpose of improving the system of control over underground nuclear explosions producing seismic oscillations of magnitude 4.75 conventional units or below." (GEN/DNT/PV.202, p.3)

The fact that eminent Soviet scientists also took part in the work of the seismic research programme advisory group of the nuclear test ban Conference during May 1960 showed, moreover, that certain concrete plans had actually been worked out for a research programme to be conducted in the Soviet Union.

Unfortunately, at the two hundred and eighth meeting of the Test ban Conference, on 2 June 1960, Mr. Tsarapkin announced that there would be no research programme at all carried out in the Soviet Union. He then informed us that all the plans announced the previous month by Soviet scientists had been unofficial and were now formally repudiated by the Soviet Government. He claimed for Soviet scientists a right of veto on the research preparations under way in the United States, to ensure that only those United States experiments of which the Soviet Union approved would be carried out; but he made it clear that Soviet scientists would contribute nothing beyond that to research in this field (GEN/DNT/PV.208, pp.12,27).

That was unfortunate, but the United States decided to proceed to improve detection capabilities. As might be expected, primary emphasis in the Vela programme has been laid on the investigation with respect to tests underground,

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although studies of test detection in other environments have also been carried out. Studies of other environments have also been included; but, as I have said, the main efforts have been in the field of seismology and the development of related seismic detection techniques. A recent announcement by my Government (ENDC/46) has provided information on preliminary conclusions and observations in this programme. I should like to review for a moment some of these conclusions. I hope my colleagues will note carefully - and I wish to emphasize this - that all of the data presented are preliminary and are under continuing review and analysis, and that there may therefore be possible changes.

These findings definitely do not demonstrate the possibility of doing away with on-site inspections to determine the precise nature of unidentified events. The United States is evaluating and seeking further substantiations of these findings, and will in the near future make such modifications in its present position as seem possible.

Certain of the research projects in the field of seismology have been concerned with the operation of seismic detection instruments at depths of close to 3,000 metres under the earth. This research in deep-hole seismology has progressed hand in hand with research in the use of seismic array techniques. Initial results indicate that instruments can be operated in abandoned cased oilwells at depths approaching 3,000 metres, with results which indicate that sensitivity achieved has been five to ten times better than that obtained at the surface. This is primarily due to decreases below the surface in the level of seismic noise or micro-seisms, which appear to block portions of seismic signals at the surface but, with reduction in the intensity of the seismic noise, permit greater sensitivity in detection instruments.

It is therefore probable that single installations in deep-holes may achieve a capability only realized previously through a large horizontal array of seismic detectors spaced over several miles. This would, of course, permit the installation of instruments at sites where local noise levels and limited space had previously combined to make seismic detection very poor. Further research with surface arrays of seismic instruments using special filtering techniques has also shown some improvement in sensitivity over what it was previously considered possible to attain.

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The coupling of these two techniques - deep-hole seismometers and horizontal arrays - would appear to provide an increase in signal detection capability. However, as I have said, estimates of their effectiveness are currently under way and have not been fully evaluated. In addition, certain experiments with ocean-bottom seismometers have shown that at depths as great as 4,000 feet and at distances of 300 miles from the Nevada test site these instruments are capable, under certain conditions, of detecting seismic signals from underground tests with a sensitivity comparable to conventional land-based instruments.

Certain other research work in connexion with the Gnome explosion for peaceful purposes has shown that travel-time anomalies - that is, unexpected differences in the time which it takes signals to travel through the earth - within the United States are sufficiently great to cause the location of suspicious events to fall some distance outside the 200 square kilometre area formerly considered adequate.

Balancing this discovery, however, new data under collection and new time-correction techniques under study may assist in alleviating these uncertainties in areas where travel time and other geophysical data can be collected.

Gnome - the shot for peaceful purposes - also showed that differences in the path over which seismic signals are propagated introduce pronounced changes in their strength when measured in various directions from the position of the event. In Gnome, for example, deviations of as much as ten times below and ten times above the expected signal strength of body waves - waves which pass through the earth, rather than along its surface - were observed in varying directions up to 1,200 miles. This sort of anomaly, of course, makes test detection somewhat more difficult. Large variations in signal strength have also been found to occur when the medium surrounding the shock point is changed. Alluvium, a sort of packed-earth medium, has for example been found to "muffle" - that is, to reduce - distant seismic signals by as much as ten times over that expected from similar shocks in volcanic tuff. On the other hand, hard rock such as salt or granite increases signal size by about a factor of two, so that such explosions are easier to pick up. Experimental data at hand, together with

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further study and analysis, may make it possible to determine, within limits, the effect of other surrounding media on the generation of seismic signals.

Improvement of depth of focus determinations may considerably enhance identification of earthquakes from nuclear explosions, since man-made explosions occur within a mile or so of the surface and earthquakes generally originate at depths of several miles. Also, with respect to identification - that is, to the precise nature of some seismic events --, the use of first-motion criteria to identify some earthquakes has been found reliable at stations having signal-to-noise ratios of ten or better. For example, a shock of three kilotons yield - a kiloton is equivalent to 1,000 tons of TNT -- in hard rock has been observed to have consistent compressional motion out to a distance of some 450 miles; but, in contrast, a much larger shot in alluvium, the packed-earth medium, gave consistent outward signals only to 250 miles. With improved sensitivity of seismic instruments it may be possible to extend this identification criterion with some degree of reliability to distances between 1,500 and 3,000 miles from buried nuclear explosions in the low kiloton range.

Further, additional study of comparative signal magnitude of seismic waves of various types produced by nuclear explosions and earthquakes indicated that there may be substantially fewer earthquakes that produce signals equivalent to an underground nuclear explosion of a stated yield in the medium of volcanic tuff. If this fact is confirmed it will mean, of course, that there will be fewer earthquakes which might be mistaken for possible underground explosions of a given yield in volcanic tuff.

The scientific and seismological problems treated in this programme have been central to our negotiations. They involve questions both of detection, that is, merely of recording, and identification, that is, specifying the origin of the event. - whether it is natural or man-made - by close-in and distant instrumentation. They also reflect, of course, upon the extent to which on-site inspection must be employed and the regions which must be examined around the site of an event.

The eight-nation memorandum (ENDC/28) recognizes the scientific basis for any control system which must be devised. These research results go to the heart of the problem of designing an effective control system. As I suggested

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at the fifty-seventh plenary meeting on 16 July (ENDC/PV.57, pp.12,13), the United States is continuing its evaluation of this research and will be prepared shortly to propose the timing of a discussion here at our Conference of these research results. As I made clear at that meeting, the discussion of the data together with their implication might be undertaken at some later date in several meetings of the Conference in whatever manner might be deemed most appropriate.

It is our earnest hope that these discussions and the scientific aspects of control will further clarify an understanding of the fundamental issues, which will hasten an agreement on the actual terms of a nuclear test ban treaty, which my Government sincerely desires, between ourselves and other interested parties. It is my Government's earnest wish that the Soviet Union will give full consideration to this proposal and that we may shortly hear that it is willing to proceed with this proposed scientific discussion in depth. We also hope that at the appropriate time the Soviet Union will bring forward scientific data of its own which we may consider together with the United States and the United Kingdom research and, indeed, the data of any other interested party. I regret that the evaluation of our research data is not before us here today; but, as I have said, it will be available in a very short time and I sincerely hope it will enable us to clear away a number of obstacles that have heretofore been hampering our work. I hope these data will provide a real incentive to our being able to work out a mutually-acceptable nuclear test ban treaty.

Sir Michael WRIGHT (United Kingdom): I associate myself with what Mr. Dean has said about research into improved methods of detection and identification of seismic or nuclear events. The United Kingdom, like the United States, has been and is engaged in continuing research in this field. We have been exploring theories, pooling ideas and sharing experiments and their results. As we go along we even examine the suggestions of amateur scientists and armchair critics with as much hope, but usually, I regret to say, with as few results, as they bring to the problem themselves. We focus on the matter the best research brains and the most highly scientific technicians we have. We have shared in disappointments over ideas which seemed promising but which belied their promise. We have shared, too, the excitement of opening up new methods, some of which look like standing up to the test of painstaking experiment.

(Sir Michael Wright, United Kingdom)

Our greatest disappointment has been the failure of the Soviet Union over the past four years to co-operate with us in this field of scientific research. As long ago, I think, as 1959 we extended a warm and friendly invitation to it to do so. We renewed this invitation throughout 1959, 1960 and 1961, and again this year in this Conference. We have suggested it on over twenty occasions, I think, and at every level, including that of the Heads of States. We have offered joint research, we have asked that if the Soviet Union has any helpful facts or data of its own to contribute it will do, as we are willing to do ourselves.

I think our colleagues know that we have the highest respect for Soviet scientists and for Soviet scientific knowledge and skill. All the world knows of the scientific achievements of the Soviet Union, of which the Soviet Government and people are rightly so proud: it was the first country to put a satellite in orbit around the earth, the first country to put men into orbit. Those are notable achievements for which my country has joined with others in expressing warm and generous admiration. By the same token, we have felt sure from the beginning that Soviet scientists would have a most valuable contribution to make in the field of detecting and identifying nuclear tests; indeed, the Soviet Government has itself repeatedly stated that it has important knowledge in this field. It is therefore a matter for keen regret that the Soviet Government has not allowed its scientists to co-operate with ours in joint research or even to share their knowledge with us.

Once, as Mr. Dean recalled today, in 1960, Soviet scientists were permitted to come to Geneva and to sit down for talks of the kind I have been describing with United States and British scientists; but the Soviet Government cut off the talks and disavowed what the Soviet scientists had said. I myself took part in the discussions at that time; and the shock to the two Western delegations, which were discussing in good faith, was of the same order of disappointment as that caused by the recent action of the Soviet Government in disavowing the agreement in plenary Conference on war propaganda. All this adds up to a sad story of lack of willingness on the part of the Soviet Union to co-operate. Some of it would, indeed, be hard to believe if it were not all on official and published record. But never mind. We on our side are

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not going to give up the search for agreement. We are not going to give up the search for a reliable scientific basis for a test ban agreement. As we have said, we now have new data which we hope may be helpful.

Why, it may be asked, is it so important to have a reliable scientific basis for an agreement? The answer, of course, is simple: in the hard realities of the world of today no country is going to enter into an agreement to give up all nuclear tests for ever unless there is adequate assurance, based on scientific knowledge, that other countries are doing the same. There may perhaps be idealists who think otherwise. Perhaps Mr. Zorin is among them, and I use the word "idealist" as a term of affection and not in any critical sense; but life itself, as Mr. Zorin is fond of saying to us, teaches us a different lesson.

For our part, we are now engaged in a thorough but urgent assessment of the new data. As soon as the assessment is complete - and, with our United States colleagues, we are pushing it forward as fast as possible - the results will be put before the Conference. We in the West want to share our knowledge with our partners in negotiation. We have already extended an invitation to any of our partners in the negotiation who may wish to do so to send their scientists to join in the discussion. We extend this once again, with an especially warm and friendly invitation to the Soviet Union. We ourselves hope that with these new data it may be possible to make progress where lack of scientific know-how has been a bar to progress up to now.

I cannot, of course, anticipate the results of the scientific assessment and I do not want to say anything today which might, perhaps inadvertently, make future discussions more complicated and difficult. In any case, these new data come at a time when we have before us in the Conference the memorandum of the eight neutral Powers (ENDC/28), a memorandum which all three of us here have accepted as a basis for negotiation. I regard the fact of this acceptance by the United States, the Soviet Union and the United Kingdom, by all three of us, as a hopeful sign. I hope that the new data will indeed complement the memorandum.

I must say that, for anyone who is looking for areas of agreement, the fact that the three nuclear Powers here represented have each of them stated

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repeatedly and categorically that they accept the neutral memorandum as a basis for discussion - more than that, as a basis for negotiation - must surely be an encouragement. And here I feel that I must take the representatives of the Soviet Union to task. Why does the Soviet Government persist in repeating the claim that the West has not accepted the neutral memorandum as a basis for negotiation? I will repeat here once again that my Government has so accepted it, and accepted it in exactly the way which its sponsors have asked us to do.

Perhaps the Soviet Union is asking us to accept it in some other way. If so, the Soviet Union, by so doing, would thereby differ from the sponsors. But if the Soviet Union is asking the same thing as the sponsors, then I find it difficult to understand its behaviour. In repeatedly claiming that the West has not accepted the memorandum as a basis for discussion, when the West has in fact done so, the Soviet Union is acting as if it were looking for disagreement, seeking for signs of disagreement, peering through a microscope to find some difference of phrase or some shade of meaning which it could interpret as disagreement, because it does not want agreement, because it does not want to recognize that there are steps towards, we hope, full agreement. I must say to my Soviet colleagues that this does not, in our view, contribute to the negotiation of a test ban treaty, and I hope we shall hear no more of it.

Finally, let me say that the recent developments to which I have referred lead us to hope that we shall perhaps be able to meet the very valuable suggestion made by the representative of Mexico, Mr. Padilla Norvo, in plenary session, (ENDC/PV.34, p.16) whereby the nuclear Powers could fix a date - merely as an illustration, perhaps early next year, perhaps before that, perhaps after that - after which they would undertake that no further tests would be carried out. Such a date might well be written into the test ban treaty upon which we hope it will be possible to negotiate and to reach agreement in this Conference during this present session. But success in all this will depend of course - and I must repeat this - on agreement on the capabilities of present-day detection systems and on the possibilities of their improvement. This agreement can only be reached after careful analysis and, of course, only with the full and wholehearted co-operation of the Soviet Union.

(Sir Michael Wright, United Kingdom)

Therefore, I conclude this intervention today with an appeal once more to the Soviet Union to offer us this co-operation. We have appealed very many times in the past. We have not received the response we hoped for. But now at this first meeting of the Sub-Committee after our recess I hope that that favourable response may come.

The CHAIRMAN (Union of Soviet Socialist Republics) (translation from Russian): I should like to make a few comments on behalf of the Soviet delegation.

We have just heard a fairly detailed statement by the representative of the United States and a complementary statement by the representative of the United Kingdom. They touched upon many questions which we have already repeatedly discussed in the past, and they spoke about the latest data obtained during certain experiments carried out in the territory of the United States. They also expressed certain wishes with regard to our future work.

How did we end our discussions before the Committee went into recess?

You will all remember the discussion which took place at the very end of the work of our Committee before the recess, when we summed up, as it were, the entire debate. We said then that all the discussions which had taken place in both the Nuclear Sub-Committee and the Eighteen-Nation Committee itself showed that the Western Powers - the United States and the United Kingdom - were abiding by their old positions on the discontinuance of tests.

I shall remind you of the verbatim record of our meeting of 6 June, where you will find our statement regarding the results of the discussion (ENDC/PV.50, pp. 15 et seq.). We stressed then that the Western Powers were in fact maintaining their old positions on all the basic questions touched upon in the memorandum of the eight non-aligned States. We quoted data showing how the United States and the United Kingdom were filling in the gaps in this memorandum (ENDC/28). That expression was taken from a statement by Mr. Godber, who said that the memorandum had certain areas which needed filling in and that the Western representatives were, in fact, filling them in at the meetings of the Sub-Committee.

(The Chairman, USSR)

A detailed explanation of how the Western representatives were filling in the gaps will be found in the verbatim record of the plenary meeting of 8 June (ENDC/PV.52, pp. 19 et seq.). On page we mentioned that the first gap filled in by the Western delegations related to the question of control posts. How did they fill it in?

I quoted the statement made by Mr. Dean at the sixteenth meeting of the Sub-Committee. Today he also referred to the statement he made at the sixteenth meeting. Mr. Dean said then, and I quote from the verbatim record of the sixteenth meeting of the Sub-Committee:

"Nothing could be clearer than that this system is to consist of some inter-relation of many national networks. In other words, we are to have a multi-national system, by agreement among several nations, and that inevitably means an international system."

(ENDC/SC.1/PV.16, p.11)

He went on to say:

"... when the eight-nation plan speaks of an agreed system of national networks of existing observation posts, it is addressing itself to an international system ..." (ibid., p.12)

At the fifty-second meeting I drew the conclusion:

"An international network appears in place of a national network; the one is substituted for the other; and this is called proof of the desire to conduct negotiations on the basis of the memorandum." (ENDC/PV.52, p.20)

What did Mr. Dean say today? Today he tried to interpret and explain the eight-nation memorandum. He referred to paragraph 3 of that memorandum, and substantially repeated the same interpretation as he put forward at the sixteenth meeting of the Sub-Committee. He tried to prove today that it essentially meant, not an existing network of observation posts, but an international system of control posts. That is the interpretation which was first given then and which was put forward for the second time today.

Further, I quoted the statement made by Mr. Dean about the establishment of inspection:

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"As regards such decisions as the launching of an on-site inspection, which we feel must be obligatory on the parties in certain circumstances ..."

(ENDC/SC.1/PV.12, p.9)

In other words, Mr. Dean alleged the compulsory nature of inspections under the memorandum. What did he try to prove today? Today he referred to paragraphs 4 and 5 of the memorandum, and again tried to prove that according to this memorandum inspection must be compulsory.

Furthermore, I would like to draw your attention also to the statement made by Mr. Dean at our twenty-fourth meeting when we discussed the memorandum. That was the plenary meeting of 19 April. Then Mr. Dean put forward a slightly different point of view of the contents of the memorandum. Then Mr. Dean said:

"... after having carefully studied the eight-nation proposal, the position of the eight sponsors still seems to us somewhat obscure on the precise nature of the obligations that parties to the treaty are to undertake in regard to effective international control and objective, scientific on-site inspections." (ENDC/PV.24, p.16)

He went on to say:

"We fully recognize and appreciate that the plan envisages that some inspections will take place. But there still seems to us to be an element of voluntariness left to the country in which the unidentified event occurred and in which the inspection would take place, rather than an unquestioned right of inspection on the part of the international commission, if it decided that such an inspection was required". (ibid.)

That is what Mr. Dean said on 19 April - that is when, after a thorough consideration of the eight-nation proposal, the United States delegation found that the position of the eight countries as expressed in the memorandum was not entirely acceptable precisely because the memorandum contained an element of "voluntariness", as you put it, with regard to inspections. You then went on to say:

"In our view, in any treaty that we may sign there cannot be any ambiguity about the commitment of each party to agree to this effective international control and to this objective scientific on-site inspection taking place under certain specified conditions." (ibid.)

(The Chairman, USSR)

Now what have we got? Today you tell us that in this memorandum inspections are obligatory. On 19 April you said that there was an element of "voluntariness". On 19 April you did not accept the memorandum as a basis for discussion; this follows quite clearly from your statements. Today you say: "We accept it as one of the bases for discussion". You have said the same thing on other occasions. But why are you taking the memorandum as one of the bases and, as the representative of the United Kingdom said today that the Government of the United Kingdom has accepted the memorandum as a basis, "in the way which its sponsors have asked us to do" (supra, p. 17)? This is a new form of words that has now appeared. Why are you now adopting this position? Because you have interpreted the memorandum in your own fashion, and now in this interpretation you believe it possible to state that you accept it as a basis in the way which its sponsors have asked us to do.

I must say, however, that we have an official document, the report of the Committee to the United Nations Disarmament Commission (ENDC/42), and in this report of the Committee the difference in our positions is quite clearly stated. The Committee's report reads:

"In its statement on 19 April 1962 (ENDC/32), the Soviet Government expressed its willingness to consider the proposals set out in the Memorandum as a basis for further negotiations."

That is our precise position. The report continues:

"The United Kingdom and the United States accepted the joint memorandum as one of the bases for negotiations." (ENDC/42, p.4)

Is the difference not apparent? The difference is quite obvious. But you are trying to say that there is really no difference now, because Sir Michael Wright's wording today coincides with our own. However, it has certain differences. You say:

"... My government has ... accepted it as a basis ... in ... the way which its sponsors asked us to do." (supra, p. 17)

Why this addition? It is because you do not wish to, and cannot, take the memorandum as it stands as a basis for negotiation, since the memorandum contradicts your old position, a position which you have not relinquished. Therefore you add the words "in the way which its sponsors asked us to do"

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in order to cover up your own interpretation of the memorandum. That is the gist of the matter.

I should like to ask the representatives of the United States and of the United Kingdom whether the wording supplied by them and not by us in the Committee's report has been withdrawn, or whether it remains valid. If it is still valid, then all your explanations are of no avail, because your position differs from ours. This is quite clear from the text of the report. If you have changed your position, then tell us frankly that you have changed it from what it was on 14 June this year. Does your new wording replace the old one, or is it merely a rhetorical exercise?

What Mr. Dean said today shows clearly that you have not substantially changed your position. You now interpret the memorandum as you like, but this interpretation no longer coincides with that which you made at the beginning, on 19 April, because at that time you yourselves understood that the memorandum contained at least an element of "voluntariness" with regard to inspections, whereas today you have tried to prove that inspections are essentially obligatory. This does not correspond to the facts: in reality, according to the memorandum, inspection is optional.

As regards the international commission, in our statement of 8 June we quoted from Mr. Dean's statement at the twelfth meeting. I shall repeat this quotation. He said at that time:

"... the international commission would certainly have major duties in the co-ordination of world-wide recording facilities in different countries and in shaping standards and procedures for reporting and recording operations on a global basis.

All this would entail the use of a fairly sizeable staff and would make necessary the adoption of a formal organizational scheme for the allocation of staff members to appropriate sections and divisions. Undoubtedly it would also be necessary to appoint one official to represent the commission in managing the staff and in making sure that the staff capably performed its assigned functions.

It may seem to my colleagues that the description which I have given of the institutions that will have to be established under the

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eight-nation plan" - as a matter of fact, Mr. Dean, not under the eight-nation plan, but under your plan -" resembles in certain respects the central headquarters which was discussed during most of the meetings of the Conference on the Discontinuance of Nuclear Weapon Tests. To a certain extent this is true." (ENDC/SC.1/FV.12, p.10)

That was your position in regard to the international commission, and today you have substantially confirmed it in your interpretation of the memorandum. You have now tried to make out that this position is in accordance with the memorandum. It is nothing of the sort. It is not in accordance with the memorandum. The memorandum does not talk about a commission with a fairly sizeable staff, but about a small scientific commission. The memorandum does not mention the functions which you propose for the commission. As Mr. Godber says, you filled in the gaps in the memorandum; you filled them in accordance with your old position.

Thus, when we finished our work before the recess, we showed that you adhered to your old positions on the main questions touched upon in the memorandum.

Today, although you have declared that you accept the memorandum almost as a basis with the addition: "in the way which its sponsors asked us to do", in fact you are sticking to your old positions. That this is so is borne out by Mr. Dean Rusk's recent statement to which the representative of India, Mr. Lall, drew our attention at our meeting of 17 July. He asked you a question to which neither he nor the rest of us have received a clear answer. Mr. Lall said the following:

"I should like to quote from a statement made by the Secretary of State of the United States on 12 July at a press conference, and with great respect I would ask our colleagues from the United States to explain what it means. Mr. Dean Rusk was talking about the Vela Project and an examination of it which will have to be made. He said this - and I quote from the document which the United States very kindly sends me every morning and which I read faithfully every day:

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'I think' - said Mr. Rusk - 'the first thing will be to have a complete and thorough examination of what the data means in terms of inspection and then to see what that in turn means in terms of our standing proposals.'" (ENDC/PV.58, pp.29 et seq.)

And you, Mr. Dean, in the Eighteen-Nation Committee confirmed to all of us that the existing proposals are your own proposals of 18 April (ENDC/30).

Now Mr. Rusk refers to these proposals, in the light of which he examines all the data. Mr. Rusk went on to say:

"It is too early to say whether this would mean any significant change in our proposals." (ENDC/PV.58, p.30)

Mr. Lall asked the following question:

".... I should like to know what that means. We, the countries which produced the eight-nation memorandum, were under the impression that that memorandum had been accepted as a basis for discussion and that the two sides were not sticking to their own proposals. I feel that we are entitled to know what this means." (ibid.)

We have received no answer to this question, but in the light of what I have just said it is perfectly clear that the United States Government, its delegation here, and its Secretary of State Mr. Rusk, are telling us that they adhere to their old proposals of 18 April, are interpreting the memorandum in the light of these proposals, and are now saying (since the whole world considers the eight-nation memorandum a good basis for an agreement) that they too wish to negotiate on the basis of this memorandum, albeit adding: "in the way which the sponsors asked us to do."

Why do you speak for the sponsors of the memorandum? The sponsors of the memorandum explained their position and declared that they would not interpret their memorandum because its whole contents were clear from the text itself. So you have no reason to interpret the memorandum in your own way. Take it as it stands without any interpretation of your own. So far you have not done so. You take the memorandum as one of the bases; but you have another basis, namely your proposals of 18 April, and you are now adapting the entire memorandum to those proposals. But, as you know, we clearly

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stated at the last meeting of the Sub-Committee on 6 June that we could conclude an agreement solely on the basis of this memorandum (ENDC/SC.1/PV.20, p.22). If you attempt to interpret this memorandum in your own way, we shall not agree to it.

In our statement of 14 June, at the last plenary meeting before the recess, we also defined our position clearly.

We said:

"In continuing to seek satisfaction of these demands, which contradict both the letter and the spirit of the memorandum, the Western Powers - the United States and the United Kingdom - are attempting to treat the proposals contained in the memorandum, not as a basis for agreement, but merely as one of the starting points from which, they say, we should move further towards the old Western position.

Certain voices were heard here which could be understood to say that perhaps we all ought to reject the memorandum as a basis for agreement and proceed to make further concessions to the Western Powers' demands, which are absolutely unacceptable and not justified under present conditions. To proceed in this way would be to destroy the basis for agreement that everyone recognizes in the memorandum of the non-aligned States, and to return to the situation of hopeless impasse which the negotiations for the discontinuance of nuclear tests had reached before the memorandum was submitted. The Committee cannot embark on such a fatal course.

The Soviet Union will seek an agreement for the discontinuance of all nuclear weapon tests on the only basis at present possible, the fundamental provisions of the memorandum submitted by the eight non-aligned States." (ENDC/PV.56, p.28)

That is our position as we stated it on 14 June and as we now confirm it. On this basis we are prepared to conclude an agreement and to negotiate with you.

Now a few words on the comments made by Mr. Dean and Sir Michael Wright on certain particular questions.

(The Chairman, USSR)

Sir Michael Wright referred to the proposal put forward by Mr. Padilla Nervo, the representative of Mexico. He told us today that Her Majesty's Government is favourably disposed to this proposal, but he added:

"Such a date might well be written into the test ban treaty which we hope it will be possible to negotiate and to reach agreement upon"

(supra, p. 17)

Even earlier Mr. Dean had said in the Sub-Committee on 18 May:

"... in this light we were very interested to hear Mr. Padilla Nervo of Mexico suggest in the thirty-fourth plenary meeting that it might be helpful to set a date later this year, or early next year, by which time all testing should halt permanently." (ENDC/SC.1/PV.15, p.10)

Mr. Dean said: "There may well be such merit in this thought", but he added a proviso. What was this proviso? It was:

"That a satisfactory treaty embodying the necessary control measures had been concluded by that date." (ibid.)

Comparison of what Mr. Dean said then and what Sir Michael Wright has said now makes it quite clear that the positions are approximately the same. You are prepared to view Mr. Padilla Nervo's proposal favourably, but only on one condition: that a treaty should have been concluded on your conditions by that date. Where is the favourable attitude to Mr. Padilla Nervo's proposal? That is not what he proposes. He proposes something different: the setting of a date, whether an agreement has been reached by that time or not. That is what Mr. Padilla Nervo proposes. But you are saying that you are favourably disposed towards this proposal if agreement has been concluded by that time. That is not Mr. Padilla Nervo's proposal; it is yours.

Here the situation is the same as in regard to the joint memorandum. You are ready to conduct negotiations on the basis of this memorandum on condition that it is given your interpretation. You are doing exactly the same thing now with Mr. Padilla Nervo's proposal: you are favourably inclined to this proposal if it includes your conditions for concluding a treaty. So much for your favourable attitude to this proposal. Mr. Padilla Nervo does not propose this - it is not his proposal but yours. Therefore your talk about this proposal is pure propaganda.

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Our attitude to this proposal is different: we treat it seriously and we do not wish for any additions or provisos. We are considering it as it is. We are ready to discuss it seriously and, if you agree to accept it without your conditions, we are prepared to discuss it with you.

Thirdly, I should like to comment on the remarks concerning explosions. Mr. Dean has told us that the United States tests in outer space are really only an answer to similar tests by the Soviet Union. I must say at once that this does not accord with the facts, but is an attempt to find a justification for these tests in outer space, which were first carried out by the United States and not by the Soviet Union. Your references to various statements on this subject are, I would say, merely a little propaganda trick. You refer to statements of your own public men. It is, of course, possible to prove a great deal in this way. You refer to statements by President Kennedy and others; but all of them emanate from your side and not ours. What then do you prove? You prove what you want to prove. You prove what is in your interests, nothing more. That is not real proof. The first tests in outer space were carried out by the United States, despite the protests of the whole world and despite the protests made here in this Committee. That is an actual fact.

I should like to say a few more words concerning the new data, obtained as a result of "Project Vela", of which we were informed during today's meeting of the Committee; a special document has also been submitted (ENDC/45). I shall not deal with the question as a whole, since what has been published contains only a small amount of information and the United States intends to submit additional definitive data on the subject; but it is quite clear from a statement by Mr. Lincoln White, a representative of the State Department, that these discoveries, as mentioned in the statement, do not make it possible to do away with control posts and on-site inspections in order to ascertain the exact nature of suspicious events. Secondly, as the statement says, negotiations for the conclusion of a reliable agreement including the necessary degree of international control and verification remain as before the basis of the problem of discontinuing nuclear tests. I must mention in passing that this statement by the State Department was made after a statement by Mr. Dean here

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on his arrival in Geneva, which differed slightly from that position. However, I think that we must take the statement of the State Department as definitive, since it was made later and was made officially on behalf of the United States Government.

Consequently these data which you propose to study do not in fact change your position in the least. You want to maintain your position without changes, and perhaps bolster up that position with these new data. Then what is the point of studying all these data? We can tell you in advance that there can be no agreement on the basis of your old proposals. Then why should we busy ourselves with such a matter as the study of new data which, as you now say yourselves, do not change your position? What is the point of our doing this? That is something I cannot understand. Therefore your views as expressed by Mr. Dean, and confirmed just now by Sir Michael Wright, to the effect that we should make a careful study of all these scientific data, have no real significance for our negotiations, because they attempt, by invoking scientific authority, to confirm your position. We can certainly agree with the scepticism which was voiced by the Indian representative in the Committee on 17 July (ENDC/PV.58, p.31) regarding the attitude of United States scientists in general, since they say one thing one day and a different thing the next, according to the policy adopted by the United States Government. But if there really is anything new in these data, this new material tends to support our position, and not yours.

I should like to quote from the English newspaper "The Observer", which in its issue of 15 July wrote the following in connexion with this report by the United States Defence Department:

"The statement last week by the American Defence Department on improved test detection possibilities went some way to confirming what the Russians and some non-official scientists in the West have been claiming for months past, namely, that virtually all nuclear tests can now be detected and identified by instruments outside the country where the explosion has taken place".

"The Observer" stressed further that hitherto any such suggestion has been strenuously denied by the Western Powers, which released to the public only such scientific information as suited their current political purpose - to

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achieve compulsory on-site inspection inside the Soviet Union. It emphasized that such an inspection is no longer necessary as a means of detecting and identifying nuclear test explosions.

If the State Department, notwithstanding all these data obtained as a result of the Vela experiments, still insists that these discoveries do not make it possible to do away with control posts and on-site inspection, this only shows that the United States does not even wish to consider new data that do not accord with its position, with the position of the United States Government. Why does the United States Government act like this? It seems to me that the reason can only be that it does not want any agreement at all and therefore regards even its own scientific data, obtained from its own experiments, as unacceptable if they do not support this position. This is the conclusion that can be drawn from this fact and these preliminary data submitted to us.

Naturally, should you obtain more precise data relating to this matter, we shall not refuse to consider them in this Sub-Committee. I cannot object to these data being submitted to the Sub-Committee, and we shall consider them if you think it really necessary. But I must express in advance my scepticism regarding the usefulness of such a discussion, seeing that the matter is determined not by scientific data but by the political position of the United States Government.

If the United States Government uses these data to support its current political position which consists in maintaining its old proposals, there will of course be no point in discussing them. The Soviet Government has clearly stated that it is prepared to negotiate and to conclude an agreement now only on the basis of the provisions of the eight-nation memorandum. If you are prepared to negotiate in deed and not in words on this basis without any reservations and without any of your interpretations, and to conclude an agreement, you will meet with full co-operation on our part.

That is all I wanted to say at today's meeting.

If you have any remarks to make, I am prepared, of course, to listen to them, and then perhaps we shall settle the date of our next meeting. Perhaps, seeing that the Ministers are coming and there may be some further meetings and conferences, we should all find it convenient to meet again next Thursday. If there are any other suggestions, I am prepared to discuss them.

Mr. DEAN (United States of America): I know we have agreed that we should adjourn at twelve o'clock, so I shall be very brief. Let me say very simply that the United States and the United Kingdom have described these new research data in general but not in detail; they are now in the course of evaluating them. We have already offered to discuss these data at a time which we shall shortly propose with all the members of the Conference. I was very much interested in what my Soviet colleague said, and I would hope that the Soviet Union would be prepared at that time to share its own scientific data with the Conference, or would at least express its willingness to join in the consideration of these important scientific elements, which I think we must all admit are fundamental to a test ban agreement. While I cannot be any more specific than that at this time, let me say that I am personally hopeful that these new data will help us very much in arriving at an agreement.

With respect to Mr. Padilla Nervo's statement on Wednesday, 9 May, at the thirty-fourth plenary meeting, he said:

"The plans of both parties for carrying out explosions must have an end, and this end should be fixed now in a treaty, because it is dangerous to wait until both series of tests are finished before negotiating an effective agreement that will put a stop to the nuclear arms race."

(ENDC/PV.34, page 16)

As I said at that time, we find his suggestion interesting and we are studying it, but I submit that he seemed to believe himself that this data, if we did agree upon it, was to be worked out in a treaty.

In view of our agreement to adjourn, I shall not say anything more this morning.

Sir Michael WRIGHT (United Kingdom): I have in fact a number of further observations which I should like to make arising out of this morning's discussion, but in view of the agreement to adjourn I shall postpone them until our next meeting. I would agree that that meeting should take place on Thursday, 26 July, since that seems to meet the wishes of all three of us.

The CHAIRMAN (Union of Soviet Socialist Republics) (translation from Russian): It is accordingly agreed that we shall meet again on Thursday, 26 July, at 3.30 p.m.

The meeting rose at 12.5 p.m.