

CONFIDENTIAL

U.S. - SOVIET DISCUSSIONS

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December 28-30, 1967

Meeting held under the auspices of the
Pugwash Group, U.S.S.R. Academy of Sciences -
American participation organized by the
Committee on International Studies of Arms
Control, American Academy of Arts and
Sciences

CORRIGENDUM

One active Soviet participant is identified throughout the record of the meeting as Schtukin. This is in error and should read SHCHUKIN - for Academician A.N. Shchukin of the Leningrad Electro-Technical Institute.

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PARTICIPANTS

United States

Paul Doty (chairman)
Jerome B. Wiesner
Franklin A. Long
Jack P. Ruina
George W. Rathjens
Henry A. Kissinger
Benjamin H. Brown

U.S.S.R.

M.D. Millionshchikov (chairman)
L.A. Artsimovich
P.L. Kapitsa
A.P. Vinogradov
A.A. Blagonravov
V.S. Emel'yanov
V.M. Khvostov
A.M. Shchukin (wrongly identified throughout the
record of the meeting as Schtukin)
Arbatov
M.M. Dubinin

The following were also present, some continuously,
others from time to time. They sat in the back row and did not
participate in the discussion.

A.A. Gryzlov
M. Voslensky
I.S. Glagolev
S.M. Menshchikov
S.G.T. Korzev
M. Shelepin
Karetnikov
Sokolov
Sol'tsev

AMERICAN PROPOSED AGENDA

I. New Technological Factors that Destabilize the Strategic Balance

New missile systems

Ballistic missile defenses

Penetration aids

Consequent uncertainty of performance: relation to deterrence

II. Factors Affecting Strategic Security

Asymmetry of the requirements for deterrence on the two sides

The Problem of Parity

Overreaction by each side to technological uncertainties and misreading of intent

Response to new nuclear powers

The role of the Non-Proliferation Treaty

III. What is Involved in Stopping and Reversing the Arms Race?

To what extent can there be a common view of what mutual restraints are possible?

What principles should govern agreements on mutual restraint, limitations on offensive and defensive missiles, and further steps toward disarmament?

What technical factors need be assessed in order to discuss realistic steps on limitations and disarmament?

Can we restrict numbers and/or kinds of delivery systems?

Can we find mutually acceptable limits on anti-ballistic missile defenses?

How far can we proceed depending only on unilateral verification?

What concrete steps could be taken soon?

MEETING AGENDA

(Proposed by Soviets and agreed to by Americans)

I. Strategic Problems

1. Analysis of the strategic situation.
2. Ways of freezing and cutting back nuclear weapons systems to the level of a minimum umbrella.
3. Ways of reducing anti-ballistic missile systems and keeping them thin.

II. General Problems

1. Ways to end the Vietnam war and bring about a settlement there.
2. Overcoming the remaining obstacles to the NPT.
3. The Improvement of Soviet-American relations.

First Day - December 28

The meeting began at 10 a.m. on December 28 at the House of Scientists.

Millionshchikov welcomed us warmly and briefly. He said it was not a time for long-winded speeches. He preferred to get down to business at once. He outlined his suggestions as to procedure. He suggested that he and Doty serve as co-chairmen and this was agreed. He said that on this opening day we would work until 2 p.m. Tomorrow, the 29th, the Presidium of the Academy of Science of the USSR would meet during most of the day. We would therefore begin our second day's meeting at 5 p.m., after which we could work as long as necessary. On the third day, the 30th, we could start at 10 a.m. and go until about 2 o'clock, when Keldish would give us lunch. Then we would resume at 4 p.m. and work as long as might be necessary. If the group wished, we could meet again on the 31st, for at least a morning session from 10 until 1.

Millionshchikov then turned to the agenda. He said the Soviets agreed to the agenda proposed by the American side, and he outlined the following items for discussion:

1. Analysis of the strategic situation.
2. The question of freezing and cutting back on nuclear weapons systems to the level of a minimum umbrella.
3. Ways of reducing ABM systems and keeping them thin.
4. Ways to end the Vietnam conflict and bring about a settlement there.
5. Overcoming the remaining obstacles to the NPT.
6. Improvement in U.S.-Soviet relations.

(This differs substantially from the U.S. proposed agenda -- see page 2).

Emphasizing that it was necessary to look at both offensive and defensive systems, Millionshchikov observed that the first three items were all facets of the same problem and could be discussed simultaneously as a single cluster of questions. He suggested that we begin with a full discussion of the first three questions. On the second day, we could deal with the other items (NPT, Vietnam, etc.) Then on the final day we could return to the first three questions. Participants would have had time to give thought to specific suggestions that might emerge during the first day and we could have a full and frank discussion of them.

Paul Doty thanked the Soviets for receiving us at this time. He regretted that during the past three years we had not been able to maintain very close contact. He hoped that at this meeting both sides would take a critical look at the present situation and consider how the arms race might be managed so that systems on both sides would be kept at the lowest possible level, and stability could be maintained with least threat to both sides. Regarding Vietnam, Doty said he thought that our group could do its best work at home. What we could do in Moscow was very limited, but we would be glad to discuss the matter as fully as our Soviet friends might wish.

Doty said that on questions relating to the strategic balance our group holds views close to those of the Administration in Washington and our contacts in government are good. Even so, we were here as individuals and would speak as individuals, distinguishing when necessary between (a) our views, (b) the Administration's views and (c) national opinion, which were not necessarily all the same.

Doty said that because of lack of contact, the two sides may have developed different ways of viewing the strategic postures. Only if we had a common view and understanding of the problem could we usefully discuss specifics. He hoped that at the current session we could develop such a common view.

Doty began his analysis by stating that experience had shown that GCD had not been a useful handle for coming to grips with the arms race in this decade. This was regrettable, but it was a fact of life. We had a condition of mutual deterrence, and although this was an unpleasant code by which to live, it has worked and we know that it is possible to live

by it. The key to stable mutual deterrence lay in both sides having a secure second strike, but not a first-strike capability. He quoted McNamara to the effect that neither side had a first-strike capability.

In the early 60s the strategic situation seemed stable because the offense could offset any conceivable defense that might be developed. The offensive systems of both sides were seen as invulnerable. Doty feared, however, that rapidly developing technology in the next decade might erode the confidence that one or both sides have had in their second-strike capability.

Wiesner interrupted to say that in the early 60s some in the U.S. Government tried to effect reductions. They were not successful. He thought it would be interesting at some point to tell the Soviets why, since he felt that the Soviet Union by its actions and statements, was in part responsible.

Doty continued, explaining why many U.S. observers had felt that an effective ABM system was not conceivable. He mentioned the ease with which the offense could increase the numbers of offensive missiles and develop penetration aids, etc. However, the argument about ABM had proved to be inconclusive and now both sides were evidently determined to have light ABM systems. These systems would not be dangerous to the strategic balance so long as they were kept thin, but because of ambiguity on this point, they tended to be destabilizing. There were, moreover, other destabilizing factors in the present environment which Doty listed as follows:

1. The current Soviet build-up.
2. Technological possibilities for the development of missiles with multiple warheads, MIRVs, etc.
3. The Chinese nuclear threat, which had developed faster than expected.
4. Improvements in ABM technology and changes in the cost ratio of offense and defense.

Doty emphasized that these factors, taken together, accelerate the dynamics of the arms race. He spoke in particular of the interaction of ABM and MIRV. Each side tends to assess

conservatively what the other side is doing, and often they overreact. The result was a long process of action and reaction, constituting an upward spiral of the arms race. Both sides would try to maintain an invulnerable second-strike capability, but their confidence that they have such capability would diminish. Each side might imagine that the other was planning a first strike. These were the ingredients of a classic arms race. To what end? The irony was that as each side develops more powerful systems, everybody has less security. Both sides talk of "superiority," but such superiority, if it exists, cannot be translated into political action.

The question that we all have to face, Doty thought, was whether we could level off and then begin to reduce. He suggested that the discussion proceed in two stages. First, we could see whether we could get an agreed assessment of what is driving the arms race. Then, in a second stage we could discuss what might be done to get it under control.

Ruina agreed with Doty's analysis, and said he would only add a few details. He spoke of the "ratchet effect" in the arms race, which could evidently move forward but not backwards. He emphasized our desire to hear from the Soviet side what they think causes it. He said the American side would try to explain their view of the matter.

Ruina then turned to the "thin" ABM system that the U.S. contemplated. Briefly, he said that it consisted or would consist of relatively few radars and a few missiles that could give the entire country a thin protection based on interception far above the atmosphere. Such a system could handle only a few objects. It would not be effective against the Soviet Union, but only against what a small nuclear power such as China might be able to throw at us.

Continuing, Ruina said that a more complex system with advanced radar and many more interceptors was being researched and developed. He was of the opinion that it would still not offer a sure defense.

Turning to the motivation for the U.S. decision to deploy ABM, Ruina mentioned that although it was designed primarily to protect us against the Chinese, nevertheless Soviet policy and statements on ABM had had a lot to do with the decision. It was hard for opponents of ABM in the United

States to argue that while the Soviet Union might do it, the U.S. should not. So we are going to ABM and we are also very active in the development of penetration aids. The most significant of new developments appear to be multiple warheads. These were essentially a penetration aid and this development is surely stimulated by Soviet ABM activity, but the fact was that they could inflict more damage than missiles with single warheads and might, therefore, be thought of by the other side as constituting a first-strike weapon.

Ruina agreed with Millionshchikov that it was not feasible to discuss the offense and defense separately. What we had was one process of action and reaction. This might not be the case if it were possible to develop a perfect defense, but on our side we were convinced that no one could do this. So you get a spiral effect, and all the ingredients of a classic arms race. To get it under control, you would have to reduce both offensive and defensive systems. Reduction of ABM might be an "indirect" way to tackle the arms race problem, but reduction of offensive weapons was the only "direct" way. He felt that this should be made explicit in our discussions, and that the problem should be looked at in toto.

Wiesner also agreed with this view. He said Americans had tended in the past to stress the arguments against ABM because they thought it would be easier to stop something which had not yet started. Of course, the solution to the strategic weapons problem would be to get rid of strategic weapons, but because of the difficult inspection problem, Wiesner had come to favor reduction to what he called a "minimum deterrent" and what the Soviets had renamed "minimum umbrella." Wiesner repeated that he fully agreed it was necessary to discuss limitations on offense and defense simultaneously. He pointed out that the U.S. Government was willing to carry on such discussions at government level and he hoped that it would soon be possible to do this. In the meantime, if we could agree at the present meeting on ways to get started, maybe it would be a good idea "to write letters to our respective governments, presenting our recommendations."

Wiesner observed that at very low levels, inspection would be needed, and he did not think inspection was practical. If one began to think in terms of more modest limits, the first problem was to establish comparable units. A missile with a

single warhead and another missile with multiple warheads might each constitute a "unit," but would they have the same military effectiveness? Despite these difficulties, Wiesner thought that the only feasible basis was numbers of launchers.

Wiesner said that when he suggested the "umbrella" he thought of numbers adequate to give assurance to both sides: from one hundred to two hundred rockets. At that time, this looked rather large to some, but it seemed less large now. Anyway, he thought that at that level, even if one's estimate of what the other side had was wrong by a considerable margin, each side would be satisfied that they had a deterrent.

Wiesner still thought that the umbrella was a good thing to aim at, but now it was necessary to ask; what is the impact of a defensive system at various levels. This raised interesting questions; according to one's point of view, one could say that a defensive system was unsettling or reassuring. Wiesner's own view was that, although it was impossible to develop a sure, reliable ABM system, it would be unsettling in the extreme. Of course, if you went to zero on offensive weapons (with inspection, of course) then ABM might be a good thing in that it would probably be effective enough to deal with the small number of weapons that might be produced clandestinely. Under these conditions, it would not be unsettling. If, however, you pushed down to the level of a minimum deterrent, then ABM would be extremely unsettling. "

Kapitsa interrupted to ask whether the U.S. would really agree to the kinds of reductions that Wiesner was talking about. He observed that the U.S. had refused to sign the convention banning chemical warfare weapons. Now Wiesner was speaking of a much more complicated case. Would the U.S. "really sign?"

Wiesner replied that BCW was not inspectable, certainly not by unilateral means--and inspection was the key.

Rathjens said that what was involved was verification and assurance, not "inspection." Unilateral verification would have been easier a few years ago when missiles were big and highly visible. It had become harder now, but remained possible. He did not know how much longer this would be the case, as missiles became harder to see. Rathjens mentioned here that

we had heard reports recently about Soviet development of mobile ICBMs. This was worrisome, because we could be less sure of how many there were. Under these circumstances, the U.S. almost certainly would overreact.

Long said it was important not to forget NPT. He thought the crux on NPT would be how the Soviet Union and the United States manage their own affairs. This gave increasing urgency to the need to get the strategic arms race under control.

Schtukin asked whether the American side was saying that ABM had triggered MIRV. If so, he disagreed. (The Soviets later elaborated this argument--see pp. 32-33). Secondly, he wondered whether Wiesner was saying that one could abolish the offense but keep a defense? He thought this would be illusory, because the defense might have a dual capability and be used for offensive purposes.

Rathjens said that the answer to the first question was yes. It was actually happening in the U.S. Poseidon and multiple warhead ICBMs were our response to ABM. Perhaps we were overreacting, but this was a fact, nevertheless. He spoke of the "defense conservative" psychology that doubtless operated on both sides. He had heard it argued that the Soviet mobile ICBM was probably a reaction to our ABM. He asked whether this was true.

On the second question raised by Schtukin, Wiesner replied by saying that he had merely intended to explore the question whether with ABM you could have a limited umbrella. He thought that ABM would not be unsettling only if you went to zero. He agreed that conceivably ABM could be converted and be used for offensive purposes. That was why at very low levels one needed inspection.

Khvostov said he was very pleased to hear the Americans talking about offense and defense simultaneously. He thought this was a new development--very different from what was heard at Udaipur (1964). He recalled that Soviet proposals at Geneva and elsewhere had always aimed at reductions of offense and defense simultaneously. Before going further, he thought it would be interesting to hear what the American participants thought of the "well-known Soviet proposals" and why they were not adequate to deal with these

newer questions.

Wiesner said that at Udaipur, the Americans were just beginning to assess the impact of ABM. Now the Soviets were saying, as they had for some time, that one must couple offense and defense. Wiesner agreed and said we were anxious to discuss the question on this basis.

We then had a coffee break, after which Kapitsa asked what was the difference between mobile ICBMs and Polaris. Americans had been talking for years about the virtues of Polaris as an invulnerable second-strike weapon. It was supposed to be a good thing. Were not mobile ICBMs in the same category?

Rathjens replied that submarines were large and could be counted while in production. The land-based mobiles were less visible. Wiesner added that if you had a "sausage factory" producing mobile ICBMs, there would be much uncertainty with regard to numbers and a new complexity which would be difficult to analyze.

Kapitsa then said in the strongest terms that the Vietnam war was a great gulf between us. The Soviet participants hoped to hear in the course of this meeting what the official U.S. position on Vietnam was. He said that the Soviets understand the Middle Eastern war both from the perspective of Israel (which was fighting for its life) and from the perspective of the Arabs. Whether you agreed with the positions or not was another matter. At least you could understand what they were saying; they made sense. The Soviets could not understand the Vietnam war.

Doty said we would answer on Vietnam when we got on to that item. Regarding Khvostov's remarks, he said he thought the answer was that Soviet proposals of 1964 were irrelevant in 1968. In the first place, the proposals were not concrete. They proposed moving toward GCD, with an undefined umbrella as an intermediate step. Second, we were now in 1968, and both China and France have become nuclear powers. What would be the effects now if the Soviet Union and the United States went to zero? Doty felt we had to get back to the agenda, which called for analysis of the strategic situation. He observed that the United States, strategically, was on a plateau as regards numbers. The Soviet Union was rapidly expanding. The Americans hoped to

hear from the Soviets what they think is driving the new arms race. If we got clear answers to this question, we would perhaps be on our way toward a common understanding of the problem.

Khvostov said that the umbrella was defined clearly in the Soviet proposals. The proposals had not been discussed because of the priority of NPT, but the proposals still stood, and the Americans ought to react to them.

Wiesner repeated that at the official level there had been some discussion of having talks about offense and defense simultaneously. If at the present meeting we felt this was important and urgent, we could tell our governments so and recommend that the talks start. At the present meeting, we ought not to go into details of numbers and systems, but only try to get a common intellectual understanding of the problem.

Millionshchikov said he felt there had been a definite advance in that the U.S. participants were now talking of limitations on offense and defense simultaneously. In the circumstances, he thought that we might be able to make real progress toward developing ways of accomplishing such limitations, although he agreed with Wiesner that it was not necessary to go into specifics about numbers, etc. Millionshchikov hoped that the U.S. side would put some proposals in writing. He also hoped that the U.S. participants would prepare answers to questions put by the Soviet side. At the same time, if the American side would put some questions, the Soviets would try to reply.

Millionshchikov went on to say that Kapitsa's views of Vietnam reflected those of all the Soviet participants. They felt that nothing could be resolved without the establishment of confidence between the two governments. Personally, he "could not imagine any agreement on arms limitations so long as one side was engaged in a course of action that could lead to the brink of a military confrontation."

Doty then listed certain questions that he hoped the Soviet participants would consider. First, we should frankly discuss our mutual requirements and see whether we can visualize how the arms race can be brought under control. Then we should try to develop a common conception of how we should respond to nuclear developments in China and France. Next, what are the principles that should govern limitations and mutual restraint?

What technical factors need to be taken into account? At what levels of numbers are viable agreements conceivable? How far can we proceed with unilateral verification? What mix of offense and defense would make sense in a disarming world? Above all, what would be possible when the Vietnam war was over. Doty stressed the last question. He thought the Soviet answer to it would be the most useful message that we could take home to our government. Whatever the political difficulties of the moment, it was important that both sides continue to think hard about how to get the arms race under control. Doty observed that "Vietnam will pass." On the other hand, "the nuclear age will last forever." We can never escape from the problems that it imposes on us.

Wiesner said that he would like to have discussion of how to improve the formal arrangements between the governments for studying and coming to understand the arms race. He thought the 18-nation meeting in Geneva was not the best forum. Ideally, there should be close, continuous bilateral discussion.

Long said that he hoped to hear how the Soviet participants view the function of the nuclear weapons that both sides develop in such variety. Increasingly, U.S. scientists see these weapons only in terms of their usefulness as counter-weapons. If--as one of the Soviet participants was saying during the coffee break--we both understand that we won't bomb the other, then indeed the situation is full of irony. But is this an over-simplified view? Do the Soviet participants see any other role for nuclear weapons?

Non-Proliferation Treaty

We then turned to the question of the non-proliferation treaty, and Emel'yanov initiated the discussion by saying that he thought the main obstacle to agreement was paragraph 3 of the draft treaty. After the Tokyo discussions, where some 92 countries, including those that are now making objections, had voted for IAEA controls, he (Emel'yanov) had assumed that this would be the agreed form of control. Although he himself had originally some doubts about IAEA controls, Wiesner and others had helped him resolve these doubts. Now, some seemed to be saying "We can control you, but you cannot control us." This was unequal and

the Soviet Union could not agree.

Wiesner agreed that this whole problem was most important. Another was that countries like India were saying that the big nuclear powers must accept some forms of restraint.

Emel'yanov said that he thought the crux of the matter was that the FRG did not want any control. He had discussed it with von Weizsäcker after the conference in Czechoslovakia. Weizsäcker seemed to be especially fearful that the U.S. would gain German industrial secrets. He had spoken of Westinghouse. Also, France would be in a privileged position, and the Germans did not like this. Emel'yanov said he was convinced that the FRG was developing a growing nuclear ability. They had plutonium plants, they were building reactors (small ones, to be sure, but who knew what would come next?) and the FRG does not want the details of its operations to become public property. He thought the problem was a political one and not a technical one.

Kissinger said he thought the discussion of NPT should cover three topics:

1. What form of treaty can be signed by both the United States and the Soviet Union?
2. What form of treaty is likely to be accepted by others?
3. In what spirit will the treaty be implemented on a global basis?

Regarding the first question, Kissinger thought that paragraph 3 was the only problem. He wanted, however, to add a political element to the discussion. He thought the imminence of a treaty had caused a number of nth countries to give priority to studying the nuclear problem and had caused some of them to move closer to a nuclear weapons capability. Therefore, the problem every day became more urgent. On the second question, he said that potential nuclear countries see the U.S. and the Soviet Union engaged in a full arms race, and they do not like to be told that they cannot participate in even an elementary way. The crux of this problem is that the United States and the Soviet Union must find ways of reducing their political rivalry and reducing arms. Otherwise, even if a treaty were signed, it would not be viable.

Long then called attention to the recent "citizens' study" of the NPT problem. He distributed copies to the Soviet participants. (The UNA-USA Panel Report).

Doty said he had the personal feeling that the Germans were interested in one thing--their rivalry with France. With Euratom, the Germans have some oversight of French nuclear developments. If Euratom dies the Germans will lose this chance of keeping informed.

Regarding the larger problem of NPT, Doty said that potential nuclear powers want security, the opportunity to participate in the peaceful uses of atomic energy, and a kind of diplomatic dignity. He called attention to the special problem of India, which lies outside both alliance systems. India needs some guarantees against Chinese nuclear blackmail. Because of this and other considerations, Sarabhai had evidently shifted his position. He no longer advocated that India sign a non-proliferation treaty. He was recommending against signature, although he did not favor a weapons program. The USG had proposed a Security Council solution to the reassurance problem, Doty said, but the Soviet Union had not responded.

Emel'yanov thought the NPT had nothing to do with Euratom, which its members could continue if they wished. The question was, what form of control would be applied across the board? He thought the matter was urgent. Time was running against us. He did not think it proper to link NPT to other things.

Wiesner thought that the Article 3 dispute was a question of tactics. Both the Soviet Union and the United States were agreed that IAEA controls were the answer. The United States wanted to sign a treaty now and struggle later about the exact form of inspection. Wiesner then made a second point: that Euratom was dying, and its supporters clung very strongly to its inspection function, which was about all that was left.

Artzimovich also emphasized the urgency of the problem. He thought it would be better for everybody if we could get a treaty now. He felt that as scientists, we should indicate this to our governments and tell them to get on with it. The signature of an NPT treaty would be important, because it

would move us toward détente, as the test ban treaty had done.

Long said we would all say amen to that.

Emel'yanov said that the Soviet Union could not accept a formulation that would permit the "self-contained Euratom countries" to remove themselves from the system of international control.

Arbatov said he doubted that the dispute over Article 3 was a matter of tactics. He thought that U.S. relations with its German ally were very much involved. This was more than a question of tactics and gives rise to apprehension in the Soviet Union.

Wiesner said that although he was not personally involved in any of the negotiations, he had the impression that some other Euratom members were even more concerned than Germany.

Millionshchikov said that having heard the viewpoint of both sides, he thought there was close proximity between the two positions and this was encouraging. The system of controls remained the stumbling block. He thought the United States should press its allies harder to bridge the differences.

We then adjourned for the day.

(At lunch, Khvostov told Kissinger that he thought the Soviets would be flexible on NPT).

Second Day - December 29

Vietnam

We resumed at 5 p.m., December 29. The discussion centered on Vietnam.

Doty led off by saying that there were three wars.

1. The guerrilla war.
2. The war between the main force units.
3. The air war in North Vietnam.

He also distinguished between three sets of attitudes:

1. Those of the American participants.
2. Those of the U.S. Government.
3. Those of the American public.

There were some differences and this ought to be kept in mind.

We then went around the table, and Soviet participants posed questions about Vietnam.

Millionshchikov said there was one question in the minds of the Soviet participants: when would the United States end its war in Vietnam? He said he had not met a single scientist in any country who felt that the war was morally or politically justified. He thought we should analyze the problem in the spirit of Pugwash. In his opinion, the way to end the war was for the U.S. to withdraw. He wondered whether the new NLF program was widely known in the United States. He thought it was a program that could be accepted by democratic public opinion. As scientists, the participants at this meeting should help make the NLF program known, and they should also make it clear that U.S. withdrawal was necessary. Millionshchikov said he understood that the only obstacle to negotiations was the bombing of the north. He disagreed with Doty's thought that there was a separate "air war." War was a bilateral thing. The U.S. bombing of the north was a unilateral action.

Furthermore, he did not understand how U.S. prestige could possibly be more adversely affected than by continuing its present course of enormous investment and nothing to show for it. France in withdrawing from Algeria had gained prestige, and had also made enormous gains economically.

Millionshchikov said he hoped to hear from his American colleagues how the war could be ended. It was throwing a shadow across Soviet-American relations and seriously retarding many steps that could be taken towards disarmament. Millionshchikov wondered why public opinion in the United States was not "sufficiently active" to end the war.

Kapitsa asked what the U.S. military leaders, and specifically General Westmoreland, meant when they used the phrase "complete military victory."

Artzimovich said that he thought Vietnam was the most unfortunate of all wars that the United States had ever fought. It was incomprehensible to him how the USG expected to find a way out. We had half a million men in South Vietnam. Why was it necessary to bomb the north? It was a display of extraordinary incompetence.

Vinogradov asked (1) what are the U.S. aims in Vietnam; (2) what is the outlook as regards the possible spread of the war to Cambodia and Laos?

Emel'yanov said he could not understand why withdrawal would hurt U.S. prestige when the war itself was causing U.S. prestige to decline, and our reputation had been brought so low that it could scarcely go further. He, too, wanted to be informed about United States goals in Vietnam. He wondered whether the United States was trying to replace the United Kingdom, France and the Netherlands in the area.

Arbatov asked how Americans "who have analyzed local wars" view the Vietnam war. Presumably, he said, they have learned that local wars have "unlocal" consequences. He thought that in the context of what had been said the day before about action and reaction, there were dangerous possibilities here. Secondly, Arbatov wanted to know more about the relationship of the war to what he termed "background changes" in the U.S. He asked: "Will the tendencies in the U.S. that operate to prolong the Vietnam war not also operate afterwards and ensure more

"Vietnam-type" wars?" "Is the rigidifying of the U.S. position a consequence of the coming election?" Finally, Arbatov, too, asked about the possibility that the U.S. would go above the 17th Parallel and move into Cambodia and Laos.

Kissinger said he would deal with the problem in two parts. First, he would try to answer the specific questions that had been raised and this would involve some explanation of official U.S. Government views. Second, he would take Arbatov's questions and use them as a basis for looking at the future and at where we might go from here. Regarding Millionshchikov's question as to why public opinion was not more active in stopping the war, Kissinger pointed out that although some in the United States had doubts about the war, there were many others who wanted to win, whatever that might mean. Opinion was quite polarized, and the most recent poll showed that 58 per cent of respondents inclined toward the view that the United States had to do whatever might be necessary to win. Kissinger thought there was no doubt that the President felt more pressure from this group than from critics of the war.

As for the meaning to be given to Westmoreland's talk about "military victory," Kissinger said that in Westmoreland's opinion, the guerrilla activities were viable only because of the activities of the main force units from the north. If the main force units are dealt with, the guerrilla war will come to a halt. The problem was that as the main force units are hurt, they naturally take sanctuary wherever they can. Hence, the pressure in the United States for pursuing the fleeing enemy into Laos, Cambodia, etc.

Regarding United States goals in Vietnam, Kissinger said the main goal was to give South Vietnam freedom to choose its own political forms, free of outside interference. Of course, it was difficult to define what constituted outside interference, but the view was a sincere one. As for the question of how the Vietnam war fits into the analyses of local wars, Kissinger said that he and others who had written on the subject had had in mind the Korean model--that is, a clear aggression across a frontier for territorial gain--not a case such as Vietnam, where foreign influence and help was inserted into a civil war situation.

Kissinger then developed the thesis that the U.S. reaction in Vietnam was in its early stages a response by President Kennedy to Khrushchev's 1960 challenge on "wars of

national liberation." As for the deeper issues, Kissinger felt it was a mistake to think that the great powers conducted foreign policy in terms of some deep design with clearly established objectives and well articulated moves. Bureaucracy and inertia had to be taken into account. The point was that governments usually found that it was easier to continue doing what they were doing than to stop and adopt a different course of action.

Kissinger emphasized that now that the United States has half a million men in Vietnam, the problem is not an abstract problem. It has to be considered in terms of the actual situation that we are in. He agreed with Doty that there were three wars in progress. He also agreed that every effort should be made to end the war honorably as soon as possible. He felt that nobody wanted to see the United States humiliated, and therefore in suggesting steps to end the war, one should have this constraint also in mind. Finally, an end to the bombing was clearly easier to contemplate than troop withdrawal in the initial stages. Therefore, perhaps, this is what one should concentrate on in the search for an acceptable formula for de-escalation.

Kissinger said he assumed it would not do any good to indulge in recriminations about the past. He appreciated the calm mood and tone of the Soviet participants in their comments about Vietnam.

Kissinger pointed out some of the asymmetries in the Vietnam situation. On the one hand, the U.S. was a great world power with worldwide responsibilities. Hanoi was a small power with only local responsibilities. The Vietnamese had fought bravely and gallantly. But the very qualities that had made this possible tended to make them inexpert and obstinate in diplomacy.

The question of how to get negotiations started was critical. If either side should start with the appearance of weakness, it would rapidly begin to lose strength in the South. If, for example, the United States made substantial concessions to the NLF the position of the Saigon government would be weakened. Kissinger's impression was that most Vietnamese tended to go along with whatever power they thought would win out in the long run, and if the position of one side seemed to be crumbling, there would be a rush to the other side. Kissinger spoke of the difficulties of getting a cease-fire in a situation where the government controlled 80 per cent of the country by day

and the insurgents controlled 60 per cent by night. Where could you draw a cease-fire line? There was no territorial line that would make sense. The line was between day and night, and this was hard to draw.

Kissinger apologized for going into so much detail. But he said the question was a serious one that needed the most detailed scrutiny. He emphasized that there was need for a third party, like the Soviet Union, to help Hanoi see the problem in a wider setting.

He said that when you think of United States foreign policy, you must think of the pulling and hauling that goes on between conflicting bureaucracies. He could recall occasions when an outside voice that could be taken seriously could tilt the balance between the conflicting recommendations that the American president receives.

Kissinger said that the first step towards a settlement should be to stop bombing under circumstances that the U.S. could accept and start negotiations. He thought that this could be done. It was not beyond the wit of man to get it established officially that if the bombing stopped, meaningful negotiation would follow without an increased rate of infiltration from the north.

Kissinger thought the Soviet participants should note that the U.S. had offered to withdraw its troops within six months of the time that Hanoi withdrew its forces and the level of violence had decreased. The United States had also said that all elements in Vietnam should participate in the political life of the country. The only thing the U.S. insisted on was that the NLF should not shoot their way into control of the country.

Kissinger then explained what he meant by "lack of humiliation." In his opinion, the United States was not interested in spending its resources in an attempt to prevent, in all circumstances, a Communist government from taking control in South Vietnam. On the other hand, the U.S. would not withdraw in circumstances that appeared to involve a military defeat. If a really free political process could be started, the U.S. would withdraw. The members of the NLF should participate in that free political process. If they could not win in that context, then that should be accepted. If they could win, the United States would have to accept it.

Kapitsa interrupted to ask whether Kissinger was saying that the United States could accept any solution that would not involve a military defeat.

Kissinger said it was more complicated than that. What we needed was a genuinely free political process, i.e., one that did not amount to a trick to cloak a seizure of power by the NLF.

Kapitsa then referred to President Johnson's "emotional" speech in San Antonio. The Americans talked of the need to be calm and business-like, but that speech was all purple passion.

Wiesner interjected that the President's San Antonio speech had had some real business in it which the Soviets had not read. In fact the conditions for de-escalation that the President had outlined seemed less stringent than those which Kissinger had outlined.

Arbatov said that Hanoi had repeatedly said that a cessation of bombing would lead to negotiations.

Kissinger pointed out that Hanoi always said "could" not "would" or "will." The word they used was "pourrait." This, in the opinion of the United States, could be a trick.

Arbatov said that in Russian the distinction could not be made. The two words meant the same thing.

Artzimovich asked whether cessation of infiltration was really so terribly important in view of the great U.S. military predominance in South Vietnam.

Kissinger replied that in his opinion, some variation of the limits of infiltration--in fact, variation within fairly wide limits--would not upset the balance in the South. But suppose that with a cessation of bombing you got massive infiltration and an increase in U.S. casualties. This the President could not allow.

Wiesner pointed out that President Johnson was being criticized in America for unduly restraining the military leaders. If he opted for a cessation of bombing, this criticism would mount.

The President is reminded every day that earlier bombing pauses have led to increased infiltration. Each cessation has brought new pressure to escalate. The President was between two fires. But the important thing to remember was that the "liberals" were in a minority and a much larger group was urging him to finish it off and win the war.

Artzimovich said that the Americans seemed to be saying that the USG was balancing between two sources of pressure. It seemed to him to be a very unstable balancing. If a way could not be found to de-escalate, then undoubtedly the war would spread to Laos and Cambodia.

Wiesner pointed out that there were substantial differences of opinion, not only among the American public, but also in the USG. A third party, if it really tried to be helpful, might help shape the outcome of the American debate.

Doty also stressed the need for third-power intercession. He pointed out that the Soviets as co-chairmen of the Geneva Conference could, if they wished, try to activate the ICC so that it could help get the situation in Cambodia and Laos clarified. The likelihood of the war spreading to those areas would then be diminished.

Millionshchikov said that he hoped the broader questions of international relations, and Soviet-U.S. relations would receive the same detailed analysis that Kissinger had made of the problems of a cessation of bombing. It was necessary to deal with matters in detail, but in the long run we would have to rise above petty questions and deal with the big issues.

Vinogradov said that he did not want to be emotional and would try to restrain himself as his Soviet colleagues had done, but he had to admit that Vietnam made his flesh crawl. He could not understand how so civilized a country as the United States could do what it is doing to the Vietnamese people. Secondly, he had to admit that when he thought about the huge United States bases in Vietnam, he had some doubt that we would ever relinquish them.

Wiesner replied that no one that he knew saw any strategic need for the United States to maintain bases in Southeast Asia in the long run.

Doty said that on the American side, Vinogradov's horror at the war was widely shared. We wanted to repair the damage that this was doing to the quality of life in America and to our relations with the Soviet Union as soon as we could.

Khvostov said parenthetically that he agreed with Vinogradov that even if the U.S. could achieve a military victory, it would be extremely difficult for the U.S. to leave Vietnam. He then went to make his main point, which was that the war has entered a critical phase. He mentioned the forthcoming presidential elections in the U.S. and the developing military situation in Vietnam, and he saw great dangers in the interaction of these two factors, which might lead to the spread of the war and what he called "grave, sweeping, chain-effect consequences." Under these circumstances, he thought that even though the U.S. might entertain some doubt that a cessation would lead to negotiation, the only thing to do was to try. The U.S. should try to understand that the President would gain enormous prestige during the election campaign if he could succeed in getting negotiations started.

Long emphasized that the Soviet participants were looking at a minority group of Americans who were not representative of American opinion. The average American was from a small town and had a small-town, simplistic view of the war. His wife's second cousin might be fighting in Vietnam. This was reason enough for the average American to feel that everything necessary to win should be done.

Long then referred to a memorandum that he had written for people that he knows in Washington. They had said they would be glad to receive his views, but his views were well known and unless he had something new to add, the recommendations that he made would probably not get very far. Long's first reaction was to resent this. He felt that if one argued rightly, it ought not to be necessary to come up with something "new." Nevertheless, he wanted to say to his Soviet friends that we were now at a stage where "something new" could be extremely helpful and might be necessary if any progress were to be made. He thought this "something new" might be injected into the situation by a third country that was respected by both sides--the Soviet Union, for example.

Wiesner said he thought it was only fair to point out that the Soviet Union shared some responsibility for what was

going on in Vietnam--not that it bore so heavy a responsibility as the United States, but nevertheless its share was very real and important. He referred to Khrushchev's speech in January, 1960--the period between Kennedy's election and the inauguration. The speech had said that wars of various types were out of the question, but liberation wars were still admissible. This had sounded like a challenge to people in Washington, and their reaction was not unreasonable. The speech had had the effect of causing the U.S. to feel that the challenge had to be met.

Wiesner went on to say that he did not feel it did any good to wring our hands. We ought to talk less about the past, and give our attention to the future, and speak of the substantive things that can be done now.

Millionshchikov said that like his colleagues he was trying to restrain his emotion. He could not refrain, however, from saying that the remarks of the American participants, if you took them all in all, seemed to add up to the suggestion that the Soviet Union was the main culprit in the Vietnam situation. He wanted to say that Wiesner's and Kissinger's interpretation of the Khrushchev speech of 1960 were wrong. The Soviet Union had never urged others to go to war. It had merely said that if people on their own initiative take up the fight for liberation, it is healthy and ought to be assisted. Millionshchikov then went to say that "we all know that the war in Vietnam is hopeless." The sooner it is ended, the better for all of us. The fact that the U.S. has 500,000 men in Vietnam is indeed a fact, but it is not acceptable as a point of departure for discussing how the war can be liquidated. As long as those troops stay there, the war may grow and spread, and this would involve great danger for the whole world.

The U.S. had to remember that Hanoi was a sovereign government in charge of its own destiny. What makes you think, he asked, that they will accept the conditions that the U.S. puts on and that they will promise to negotiate? Millionshchikov then referred to Kissinger's remark that the U.S., unlike Hanoi, had worldwide responsibilities. He asked: who conferred these responsibilities on the U.S.? His answer was that the U.S. had taken them upon itself, and it could not ask for the sympathy of the world or try to act as if this was in the natural order of things.

Khvostov said there was no getting away from the fact that the first need was to stop the bombing. He then observed that although the American participants were saying that we should think about the future and not dwell on the past, Wiesner had pulled out a speech by Khrushchev which was seven years old and irrelevant to the present situation. Khvostov also took exception to something he had heard Wiesner say about reducing the level of bombing gradually instead of making an abrupt cessation. There was some discussion as to whether seven bombs were better than ten bombs, and Khvostov said that he (who had been bombed during the war) did not think there was any significant difference, that the solution was to go to zero now. Wiesner said that he felt that if you could not go to zero, then seven was better than ten.

Both Wiesner and Long again emphasized the hope that the Soviet Union would help constructively to make it possible to level off the fighting and get negotiations started.

Millioshchikov said that if we were to write a message to our governments, it ought to say: (1) The new NLF program is well conceived, moderate, and sensible, and no one could be humiliated by accepting it; (2) Hanoi is a sovereign state and must be respected.

Doty said that we would deliver these views on the American side. In return, he hoped the Soviet participants would remember the valuable service in the cause of peace which Mr. Kosygin had rendered at Tashkent and that they would urge their government to take a similarly statesmanlike role in Vietnam.

Kapitsa then recalled that in 1905 the U.S. had assisted Russia in ending its war with Japan. Perhaps it was time for the Soviets to return the favor now, sixty odd years later.

Artzimovich said that there had been a cease-fire first in 1905, and this should be the sequence of events in Vietnam.

Third Day - December 30

Vietnam (Continued)

We started the third day's meeting at 10 a.m.

Kapitsa said that although the agenda called for discussion of another item, he hoped that we could return to Vietnam for a few minutes. He felt that everybody had been too emotional on the preceding day. A historical situation had evolved in Asia and it could be objectively analyzed. As he saw it, the U.S. wanted a string of friendly countries in the Far East and South-east Asia. He mentioned Taiwan, Indonesia, South Vietnam and others. He pointed out that U.S. political influence had been established in Saigon at a fairly early stage. When this influence began to decline, the U.S. tried to shore it up by military means. But the more the U.S. intervened militarily, the stronger the NLF became. There was no doubt that the U.S. now had military predominance, but its political position was impossible. Kapitsa insisted that two elements were necessary for victory. You had to achieve a military predominance, but you also had to demonstrate the ability to control the administration and the political life of the country. He cited the war of 1812 as an example. Napoleon occupied Moscow and won a complete military victory, but he was unable to establish political control among the peasants, etc., so within five or six months he was out and his defeat was real. Because the peasants failed him, he lost, although he won all the military battles. He wrote the Tsar, asking for unconditional peace just as President Johnson has done. He did not realize that he was beaten.

It was clear, Kapitsa continued, that the U.S. has lost the Vietnam war. The only way not to lose now would be to exterminate the entire population. The U.S. is licked and should know it. Just reading the U.S. papers, it was easy to see that the U.S. had failed to establish political control, despite the fact that it had put much effort into this aspect and had even sent out a "political commissar." Even in the city of Saigon, U.S. political control was weak. Kapitsa said he had heard from people in North Vietnam that they are confident that the U.S. will have to leave. Despite the great damage that the U.S. bombing was doing, their will was unbreakable.

Kapitsa then referred to Camus' book La Peste to show that life goes on despite great catastrophes. He repeated again and again that North Vietnam has won the war despite the military victories of the U.S.

Some of the Soviet participants, especially Artzimovich, smiled and said that Kapitsa did not know his history, that Napoleon had lose some military battles. Kapitsa said no, and the same thing had happened in Spain. Artzimovich replied that the British had thrown Napoleon out of Spain.

Kapitsa continued that the Pentagon undoubtedly would escalate the war if it had its way, but whatever victories it might win would be only technological and not political. Therefore the case was hopeless.

Kapitsa then made a long digression on the U.S. economic situation, quoting U.S. News and World Report to show that the falling gold balance is serious. The decline of the gold balance was a measure of U.S. debts to foreign powers. He thought it would lead inevitably to the "crash of the dollar." The U.S. economic position was extremely tense. He realized that the gold balance was only a symptom. The root cause was well known, and the Vietnam war was largely instrumental. The U.S. economy had recovered well from the depression, owing to the leadership of FDR and the intellectual tools of Keynes, and had achieved a relatively sound condition, without any serious crises. The internal economy of the U.S. undoubtedly remained in sound condition (he cited the low rate of unemployment), but the U.S. "external economy," constituting "30% of the entire economy" was in "bad shape." The U.S. was no longer self-contained; it was dependent on others. Kapitsa felt that "a great crisis is on the horizon" and in this context he thought it would be hard to increase the allocation of resources for the Vietnam war. Nevertheless, as he saw it, escalation was probable, and an economic crisis would ensue. He asked rhetorically whether the U.S. could find another FDR to save the situation.

Arbatov then put the question of what a cessation of bombing would be like, if it could be achieved. He said he could imagine several different alternatives: (1) an unconditional cessation of bombing without any announcement, (2) cessation for a limited time, (3) cessation with certain conditions attached; (4) cessation accompanied by a U.S. statement saying,

in effect, that there were no conditions, that the United States was seeking peace and doing everything it could to achieve it.

Arbatov then turned to Kissinger and referred to Kissinger's statement that (in Arbatov's rephrasing) the United States must "save face." He said that the American participants should not forget that North Vietnam also must save face. Hanoi thinks that the American "peace talk" is a trick to weaken their morale. He said that if the Soviet Union tried to help, it would first need to know exactly what the real situation was. Words would not be enough. American deeds would be necessary in order to persuade the Soviet Union that the U.S. was serious. Arbatov repeated that the Soviet Union was apprehensive about the drift of official opinion in the United States toward spreading the war to Cambodia, Laos, and above the 17th Parallel.

Vinogradov then asked what was the logic of the U.S. position that the rate of infiltration must not increase. He referred to the fact that the United States already had half a million men in South Vietnam and that Washington was saying that the American forces there could not be defeated.

Kissinger replied to Vinogradov by citing the political problem that an American president would face if, during a cessation of the bombing, American troops began to be killed in larger numbers under circumstances where this could be attributed to an increased rate of infiltration from the North. The U.S. military commanders, who under any circumstances oppose cessation of the bombing, would say that the President was very lax. That was why it was essential that the rate not be increased.

Turning then to Arbatov's questions, Kissinger said he would deal with the second question first. He conceded that there was distrust on both sides. He said he could understand the reasons for Hanoi's distrust. The relationship between United States diplomatic moves and military moves was not always what some of us would have wished. It was not helpful to escalate the war at a time when peace proposals were being advanced. On the other hand, he said, if the war was not ended, escalation would be inevitable. He thought that the minimum that a third party could ask was that the United States not

escalate while the third party was transmitting American proposals.

Regarding Arbatov's first question of what a cessation of bombing might look like, Kissinger said he could not give a definite, authoritative answer; he could only speak in an illustrative way. Of the alternatives listed by Arbatov, an end of the bombing with conditions would not be acceptable to Hanoi. A cessation of bombing without conditions would be difficult for the United States. He thought that a way out of the difficulty might be found if an intermediary who was trusted by both sides could formulate a proposition that according to the intermediary's understanding, negotiations would follow a cessation of bombing and there would be no greater rate of infiltration. At the same time, the United States might say privately to the intermediary that a cessation of bombing was unconditional. In this way, both sides would save face.

Millionshchikov said that from the remarks of the American participants, he understood that the main point was the search for a third party, an intermediary. In reply to this, his Soviet colleagues were saying that this was not the main point, but that the United States must first cease its aggression and in general take steps to liquidate the conflict. Millionshchikov recalled that attempts at intermediation had been made "on a private level" and had failed. Then, "other means" had been tried, and they also had failed. The record seemed to indicate that no intermediary could succeed as long as the United States did not show a will to solve the problem. He then referred again to Tashkent and said that the Soviets were justly proud of the role that Kosygin had played there. However, the key to his success had been that there were demonstrations of good will on both sides. Otherwise, Soviet efforts could not possibly have succeeded. He asked whether in the present circumstances the American participants could imagine themselves serving as an intermediary. He said that the United States Government had to go halfway, and that this was crucial. He concluded by saying that he had wanted, in his brief remarks, to "formulate very precisely" the view that was being taken on the Soviet side of the table. Now, as chairman, he suggested that we turn to the question of the strategic arms race.

Strategic Problems

Blagonravov said that the Americans had spoken of the destabilizing effect of anti-ballistic missile defenses. He said: let me speak for a moment in a speculative way. He said "Imagine a hypothetical case where it is possible to establish a 'real screen' in the atmosphere -- one that would effectively paralyze the offense." Everybody, he said, would consider this a good thing. But at present no defense is 100 per cent effective. Therefore, we need to analyze thoroughly how ballistic missile defenses can affect the offense. He then listed four aspects of offensive systems: (1) their range (2) their accuracy (3) their destructive power, and (4) their reliability.

These were all "qualitative" aspects. The effort to improve and perfect offensive systems in these respects would go on with or without any improvements in defense, and with each new scientific breakthrough, qualitative improvements would be made. In other words, he did not think that the search for improved quality was in any way dependent on what the other side did in the realm of defense. On the other hand, he conceded that in terms of quantity, the offense could be affected by defensive measures, among other factors.

Blagonravov continued that he did not think it would be sufficient to seek a formula for a freeze alone, but that the object must be to find ways to effect reductions with the "ultimate goal" of GCD. He thought that ABM was part of a general problem -- a problem that presented colossal difficulties. He recalled distinctions that had been made in discussion of the appropriate level of a nuclear umbrella. Should there be 50 missiles on each side or 100? What kinds of missiles should be allowed? He thought that such discussion could go on inconclusively for a long time, because the criteria of measurement were vague. Therefore, what was needed above all was good will on both sides. What were the obstacles to good will? The main obstacle was absence of full trust. That was the crux of the matter. Nevertheless, "the complexity of the question compels us to try to make a complete analysis." Time would be needed to seek basic ways of attacking the problem. As for the factor of trust, Blagonravov thought that this was affected on the Soviet side by the United States' war in Vietnam and by United States "procrastination" on NPT. He said: "The German desire for nuclear weapons horrifies us."

Schtukin said that what he had heard from the American side about the possibility of discussing simultaneously reductions in offense and defense was new, interesting and hopeful. The former American desire to separate the two and talk only about defense was based on an "unnatural separation." Schtukin then repeated at length the Soviet thesis as to why improvements of defense were always sought, at every level of armaments, why this was a perfectly moral thing to do, and why the Soviets did not

understand the American desire to discuss ABM in isolation. The present willingness of the Americans to discuss both sides simultaneously, he repeated, was interesting and hopeful. He agreed with Blagonravov that it would be wrong to hold ABM responsible for triggering qualitative improvements in offensive systems. Numbers were another matter, and it was necessary to consider reductions on both sides ("active and passive") simultaneously.

Schtukin continued, saying that although the statements from the American side were interesting, great difficulties remained. Therefore it was necessary to be cautious and not fall into an easy optimism. He thought the deadlock over NPT demonstrated this. It was necessary to make a further effort to visualize in detail how reductions in offense and defense might be simultaneously brought about. Schtukin then said he wanted to put a series of questions:

(1) Wiesner had referred to the possibility of going to zero. This seemed to be "one of his assumptions." Was it a real assumption?

(2) To what extent could one visualize a cutback of both offense and defense? The United States had announced that it was going for a limited ABM. Would the system remain limited? What would be the proportion of "active and passive weapons."

(3) The "question of control" was difficult but unavoidable. He thought we would have to give thought to this aspect before formulating any final proposals.

Khvostov said that he had read the memorandum by Wiesner, which had been circulated in Russian translation. (See Appendix 1.) He found it extremely interesting. It was clear that the intention was to concentrate on both offense and defense simultaneously, with a view to their reduction or elimination. He thought this was the correct way of posing the problem, and he welcomed it. He referred to Wiesner's list of the questions to be tackled. He thought they were complex questions and called for a solution. This would take time and reflection. There was, however, no doubt in his mind that the Soviet Pugwash group would give all these questions very close consideration. It was hard to reply to them at this stage without further study.

Khvostov agreed with Wiesner that while zero was the ideal and should be the ultimate objective, it would not be wise to concentrate on zero at the outset. He recalled that the Soviet proposals envisaged interim measures, and he thought this principle should be accepted. The other questions in Wiesner's paper called for reflection and discussion. Wiesner evidently did not expect final answers now, and Khvostov appreciated this open-ended way of putting the questions.

Khvostov then referred to the concluding portions of Wiesner's paper, where four alternatives were stated: (1) Let the arms race run its course without interfering with it. Like Wiesner, he thought this would be disastrous; (2) the banning of defensive systems plus a freeze on offensive weapons; (3) the banning of defensive systems and reduction of offensive systems; (4) simultaneous limitations on defense and offense. Khvostov thought that we should concentrate on the fourth alternative. Beyond that, we should also consider what the position would be if offensive systems were reduced to zero: "What defense should we have then?"

Khvostov then called attention to one "controversial question." In asking at what stage of disarmament inspection should be introduced, Wiesner was clear in saying that there should be no inspection in stage one. It was Khvostov's "private opinion" that this was the correct approach. Inspection should only come later. In conclusion, he said that the procedure outlined by Wiesner should be conducive to advancing our understanding of the problems.

Doty asked whether he could sharpen his understanding of the Soviet position by asking the Soviets to reply to a question which he then formulated as follows. The United States did not make any secret of the size of its offensive forces which consists of approximately 2200 "delivery vehicles." The United States had also made clear in the most detailed way what its light ABM system would look like. Doty then put the question: if United States systems were kept at this level (aside from maintenance and qualitative improvements "within the systems"), is there a corresponding stage at which the Soviet Union would then agree to level off? Additionally, could the Soviet participants imagine a date when their desired level of deployment would be accomplished and they could begin to discuss reductions?

Millionshchikov said he would like to analyze the question from a more general viewpoint. Reductions were primarily a matter of confidence. The Soviet scientists shared the desire of their government for peaceful co-existence and disarmament, which had been repeatedly declared and demonstrated in deeds. Referring again to Tashkent, he repeated that they were proud of the Soviet role there. It was a tangible demonstration of Soviet interest in the settlement of conflicts and a demonstration that the Soviet Union did not seek war and would take practical steps to avoid war. On the other hand, in discussion of Vietnam, the American side seemed to be saying (as Millionshchikov interpreted it) that some United States leaders were not able to overcome the tendency of the bureaucracy to go on its own course. In Millionshchikov's view, confidence had two ingredients: (1) good intentions (2) ability to carry them out. Millionshchikov was losing confidence in leaders who might have (1) but not (2). He liked to think that we in our deliberations

might be able to help humanity with concrete measures, but it was necessary to remember that local wars could escalate and involve the entire world. Here, he said, the Soviet view differed from that of the Chinese, who "indulged in aggressive talk."

Continuing, Millionshchikov said that perhaps we needed to analyze the arms race in the same detail in which Kissinger had analyzed the problem of a cessation of bombing. But the "atmosphere" was also important. If we discussed arms limitations in an atmosphere of trust, that was one thing, but if we attempted to do it in an atmosphere of distrust, that was something else. We must not lose sight of the "general context." On the one hand, there was the argument that agreements increase trust. This might be. But the possibility of further agreements after the partial test ban treaty had been overcome by Vietnam. This was a matter which could not be ignored. Millionshchikov said that he thought relations between the two countries were critical, and he referred to what he called "U.S. discrimination" in bilateral trade. He did not want to discourage his American friends at the table, but he did want to make a plea for keeping the discussions "in context."

Regarding the specific proposals that had been made, Millionshchikov recalled hearing Ruina in 1964 on the need to ban defensive systems. The Soviet side had opposed this proposal. They had not even thought it necessary to analyze it. They began with the assumption that you could not ban defensive systems without dealing with offensive systems. That was a proposition that "we could not put to our own public, let alone to ourselves." The memories of the destruction of World War II were too vivid.

Now, Millionshchikov said, it was evident that there had been "a certain shift" in the views of his American colleagues, and he was very satisfied with the change. It was good to hear that both offense and defense could be discussed simultaneously. Also, he welcomed the fact that Wiesner's paper was framed in the form of questions and not categorical answers. He thought the questions that had been posed merited the most serious consideration and analysis. At present, "it would be premature to say that these questions could be placed at governmental level." If he (Millionshchikov) recommended this to a leader of his government, he would be examined as if he were a student, and he did not like to put himself in a position where he could not answer the questions that would be put to him. However, he could say that the questions raised by Wiesner and others aroused his genuine interest, and he thought we could "put our heads together" and find the answers to these questions. Perhaps later, after careful study, we would be justified in "making proposals." In conclusion, Millionshchikov said he thought the door had been opened for profitable discussion, and the level of the umbrella would be a good place to start.

Wiesner took up what Millionshchikov had said concerning the necessity of mutual trust. Wiesner said he believed that this was important. On the other hand, he did not think it would be realistic to base military security on trust alone. We must ask ourselves how a system might function without trust. Otherwise, we would be proceeding irresponsibly, and military leaders would quite rightly insist that the questions be scrutinized more rigorously. It would be wrong to get ourselves into the position of saying that the characteristics of military systems are unimportant and that everything should be left to "trust," because in that event we might design a "haphazard system" that would be dangerous for both sides.

Vinogradov pointed to the need to try to ensure that any proposals that we might make would actually be brought to fruition. We should not discuss the matter without thinking of the "further destiny of our proposals." He recalled that "not one Pugwash proposal had been implemented -- not the complete test ban, nor the non-proliferation treaty." In this room, at any rate, there was trust on both sides. But all Pugwash proposals had failed "for technical reasons." We had to be persistent and exert ourselves in our respective countries to see that our proposals would see the light.

Following a break for coffee, Millionshchikov reconvened the meeting and said that we had about one hour more of discussion before lunch. He thought we ought to concentrate on drawing up a detailed list of strategic questions for future consideration.

Ruina said that the American side would like to hear from their Soviet friends what technical developments worried them. On the American side, we had tried to say clearly what we found unsettling about ABM, multiples, mobiles, etc. It was important, if a strategic balance was to be preserved, that neither side fear that the other had or was developing a first-strike capability. Ruina thought that we ought to go down the list and discuss the various strategic systems in detail and hear from one another what our real apprehensions were.

Kapitsa said that it was important to talk about the reliability of systems. He referred to the big power failure in the Eastern United States. He thought that this demonstrated the vulnerability of a highly developed society to a failure in one key place. A bomb in a vital spot (like a knife in the heart) could have a terrific effect. In another spot (like a knife in the shoulder or arm) the effect could be quite different. This suggested to him that highly developed countries like the United States were more vulnerable than less developed countries.

Doty said he would like to answer some of the questions that had been raised, on three levels.

(1) All missile systems were unreliable to some degree, and ABM systems were unreliable in a relatively high degree.

(2) In the popular press and statements by some government leaders on both sides, there was considerable reliance on numbers and weight which, by themselves, could not be a reliable index of the potentialities of missile systems. No one could possibly know in advance what the reliability of a system would be in an environment of a nuclear exchange. About the only thing we could definitely know was the range of weapons; otherwise one could not be precise.

(3) Doty said he fully agreed with Kapitsa that the more industrialized and urbanized a society was the more vulnerable it was. Certainly the United States with its greater concentrations of population was more vulnerable than the Soviet Union. Likewise, the larger warheads of Soviet ICBM's made numbers alone an unsatisfactory measure. Agreements must encompass these factors in any concept of parity that was developed.

Rathjens said that one major difficulty on the American side was that Americans did not understand the objectives of the various Soviet systems. In the United States, there was much debate and discussion, which revealed a lot about both the qualitative and quantitative aspects of our systems. As a consequence of full public discussion, U.S. strategic forces (ICBM's and submarines) had leveled off and the level of our bomber forces had actually been reduced. Sometimes McNamara had actually said that we have more of certain systems than we need. Now, in addressing ourselves to the ABM question, the American side had made it perfectly clear that the system which would be developed was a thin system which would not be effective against the Soviet Union.

By contrast, Rathjens said, we were very unclear about the intentions behind the Soviet development of ABMs. He referred to the Tallin line, for example. Was it designed as a protection against attack by bombers or missiles or both? In the absence of any clear indications on the Soviet side, the United States would probably react as if it were both.

Secondly, Rathjens wondered if we could know when the Soviet build-up of strategic forces would stop. Was the goal equality with the United States, or a first-strike capability? These questions worried us. Third, Rathjens referred to the Soviet development of missiles to fly orbital trajectories. What was their purpose? Perhaps there were reasonable explanations, but on the American side we had no means of knowing it. FOBs looked like a system designed to strike at our air bases. Against cities, it would not appear to be more effective than other Soviet systems. Therefore, it raised again the question

of first strike. Rathjens concluded by making an earnest plea for more information from the Soviet side about their objectives. Without a full exchange of information about intentions, both sides would always fear the worse and overreact.

Schtukin said that we should try to say at least approximately to what level ABM should be reduced in order to ensure that it did not have a dual potential capability, offensive as well as a defensive.

Kapitsa said "we are in an unequal position." The Soviet Union is surrounded by bases equipped with rockets. He asked whether the United States intended to abandon these bases and rely on long-range weapons. If so, conditions would be more equal and more manageable. He referred to American rocket bases in Lebanon (sic), Spain and elsewhere. At this point, several on the American side corrected Kapitsa and said that there were no missiles on our foreign bases. Kapitsa continued by saying: well, then, you have planes there and these planes can carry nuclear weapons. He recalled the case of the bomb that got lost in Spain.

Wiesner said he felt that all these questions would have to be taken into account when officials sat down to discuss precise numbers and systems. Referring to Kapitsa's point about bases he said that planes were the least of our worries; we would be lucky if that was all we had to worry about.

Wiesner went on to recall that he and Ruina had opposed ABM in their advice to their own government as well as to their Soviet friends. Wiesner's Look article had challenged the U.S. decision to deploy ABM. Wiesner said that he took this position with a deep technological knowledge of ABM systems, which he had studied closely. As an engineer, he would much rather have the job of building up an adequate offense to confuse the defense of the other side to that of building an effective defense. He thought that nothing was so confusing as ABM, without adding anything real to security of either side.

Wiesner went on to say that he found it extremely difficult to try to quantify what the strategic balance might be in the presence of ABM. If his Soviet colleagues knew more than he knew, he would be glad to hear their comments. Everybody, he thought, would agree that what we want on both sides is a stable deterrent. But suppose we had an agreement on equal numbers of launchers on both sides. With ABM, how could either side assure itself that it had "effective quality." Wiesner said he simply did not know how one could get such understanding, though, of course, it is essential if there are to be agreements. He said again that he would appreciate hearing Soviet comments on this point.

Millionshchikov said that he found this an extremely interesting matter which raised a great number of questions

that would take time to consider. He thought we were at the heart of the matter and that perhaps at a second meeting it could be discussed in more specific detail. Discussion was possible now that the Americans were willing to include both offense and defense.

Ruina said that before trying to frame specific proposals, he thought long, patient discussion would be necessary to get a common understanding of the character of the problem. He thought that we should attempt to go right down the line and cover the whole spectrum, system by system, problem by problem, in the light of the apprehensions felt on both sides. Kapitsa had mentioned his apprehension about U.S. bases in Spain. Fine. We should discuss this. The American participants had said what their concerns were about the Soviet FOBs. This also should be discussed. Perhaps the present group was too large. Ideally, we ought to have a small number of people who could really put their heads together and even work things out in detail on a blackboard.

Ruina then referred to what Rathjens had said about the need to know more of each other's intentions. He thought this was important, but he wanted to point out that it was also necessary to have meaningful discussion of the capability of both sides. What would each side be capable of in a crisis? He said he would be just as worried if the US developed a first-strike capability as he would be if the Soviets developed one. Above all, he thought we ought to make a list of the troublesome issues so that they could be explored in detail.

Long said that both the U.S. and the Soviet Union were going for ABM, and Millionshchikov had raised the question of how one could be sure that the ABM systems remained thin. Long thought this was indeed a deep and perplexing problem. He said that if he were a Soviet citizen, he would be concerned to know the characteristics of and the intentions behind the U.S. ABM deployment. On the American side, we had the same concern about the Soviet ABM. If the Soviets did not tell the world (and incidentally the U.S.), then our military leaders would have a very attentive audience in the U.S. for the argument that we should react strongly on the basis of our worst fears.

Doty said he thought we should add the question of how the existence of other nuclear powers would affect the reductions that the U.S. and the Soviet Union would propose for themselves. The other nuclear powers would not in the foreseeable future join us in reductions; therefore an intense pre-occupation with the lowest possible umbrella would not be very practical. He would even make the radical comment that it did not much matter if the umbrella consisted of 200 missiles on both sides, or 2000. In either case, both sides would have the capability of eliminating the other as a viable society.

Wiesner asked whether Millionshchikov had really meant to say that he would like to have discussion of how to keep ABM thin.

Millionshchikov replied: yes. He believed that some clarification of this matter would be in order. However, he observed "our information is also too thin, so it is difficult to go into details at this time."

Doty said he thought he knew his Soviet colleagues well enough to say, without being misunderstood, that those who had first developed ABM should have given some thought to this important question: does ABM not introduce sufficient uncertainty as to make any minimum deterrent (or nuclear umbrella) untrustworthy and thereby block movements toward arms reductions.

Artzimovich responded that the Soviets did not make a distinction between thin and thick. Perhaps those who introduced the distinction should have given it some thought.

Doty then read out from the agreed agenda the formulation which Millionshchikov had made of the item about ABM, which related to the problem of how to keep it thin.

We then adjourned for lunch with Keldish, and resumed at 4:45 p.m.

Long led off by saying that he had written out two paragraphs which were not yet available, so he would describe them. He said we face on both sides the technical problem of "equivalence," and this needs intensive study. He agreed with Wiesner that we ought to keep it as simple as possible. Perhaps sheer numbers would be the simplest. On the other hand, gross weight would be almost as simple. In any event, knowledgeable people should analyze the problem, and this should be an item for discussion. It should also be put on the list of matters to be discussed at government level. Perhaps what was needed was a committee of experts of the kind that had been so helpful in developing the background analysis for a test ban. Long concluded by saying that the purpose of his paper was merely to call attention to this problem.

Doty said he would like to return to the delicate point that was under discussion before lunch: how do you limit ABM and keep it thin? No one, Doty thought, had adequately addressed this question. Since it was so difficult to find a unit of measurement to equate offense and defense, perhaps the proposal that could be most easily imagined would be one where ABM would be kept small enough not to upset the balance, in which case it could be ignored if it were roughly equivalent on both sides, that is, with the same number of ABM missiles and radars. He thought this would be one way of proceeding.

Wiesner said he supposed that if ABM systems were really kept quite limited in relation to offensive systems, and if it is obvious that this is the case on both sides (Kapitsa interjected to suggest calling this a "mini-system"), then it would be possible to imagine agreements on ABM and on offensive systems at a fairly high level. The kind of ABM he was talking about would be effective only against small nuclear powers.

Millionshchikov said he was not prepared at present to discuss the question in detail, but he did think that we needed to develop a definition of a thin system. An absolutely thick system would be inconceivable, so, in a certain sense, all systems were relatively thin. Millionshchikov thought that Wiesner's remark about the ratio of offense and defense deserved careful and detailed consideration, and he repeated that we would meet again, after doing some homework, and have such detailed discussion.

Schtukin said that in his opinion the Americans seemed to be saying that a system is thin if it does not affect the ratio of offense and defense. But such a system would be a "cobweb," that is, it would not give any defense at all against a missile attack, and it would therefore be ineffective and "would not get us anywhere." On the other hand, ABM systems directed against third parties were bound to be ambiguous, and Schtukin agreed that the matter deserved further study.

Ruina suggested that we talk about "limited ABM" instead of "thin" ABM.

Millionshchikov said that would not help very much, that all systems were limited, just as all systems were thin. Wiesner said that he agreed absolutely.

Ruina then returned to the matter of drawing up a list for future discussion. He thought we ought to start with Rathjens' list, including the need for clarification of Soviet intentions.

Wiesner demurred at this, and Long suggested, instead, "what are the components of a strategic balance?"

Doty then emphasized again the importance of a secure second-strike capability. He said that on both sides we hope that neither will develop a first-strike capability, and we should discuss how to guarantee this.

Rathjens suggested discussion of the extent to which one would permit qualitative improvements while limiting or reducing numbers. Turning to the question of what is a thin ABM, he said he wanted to introduce a complication. In the United States, consideration had been given to local defense of missile sites, which because of its limited range would not be

capable of protecting cities. Would such a system be permitted? That was an important question to consider.

Doty then attempted to summarize where we stood. He began by asking whether it would be acceptable to carry over the Wiesner memorandum as part of our task. This was agreed. (Later, at Long's suggestion, it was agreed that it is implicit in the Wiesner paper that one must look at various systems: orbital, mobile, etc. Further, Doty said that it was also implicit in the Wiesner paper that we would discuss what limits can be agreed without any inspection.)

Doty then began to read off the items which had been suggested, as follows:

- (1) How can ABM be limited?
- (2) How are ABM units to be equated to offensive missiles?
- (3) Is there agreement that systems should be limited to those serving the purpose of a second strike?
- (4) To what extent would qualitative improvements be allowed within agreed limits of numbers?
- (5) Is terminal hardpoint defense of missile sites to be part of the agreed limited level of ABM, or should it be considered separately and perhaps by unlimited? Doty commented that defense of missile sites was a prime example of a second-strike operation.

Rathjens said it was not necessarily clear that one could distinguish between hardpoint and area defense. He thought that there should be discussion as to whether such a distinction could indeed be made. Doty then suggested the following substitute wording:

- (5) Can point defense of missile sites be considered separately from ABM, and should such point defense be limited? Shtukin said: Let us consider both hardpoint and "wider" defenses.

Kapitsa suggested:

- (6) How does the capability of other powers affect what the U.S. and the Soviet Union can do? When and if other powers can be brought in, how would one go about it?

Rathjens suggested the following:

- (7) Should there be a limit on research and development

and testing of new systems, or should we merely limit their operational deployment?

Millionshchikov then raised the question of control and, further, the question of the possible stages of effecting the operation. Would it be whole-hog or in pieces? He thought the question of control should be thoroughly discussed. There was also the question of the forum in which the matter should be studied.

Doty then tried this formulation: what system of control would be appropriate to each stage?

Millionshchikov said no, there were two separate questions -- first the question of control and secondly, the question of stages.

Doty then listed the items separately:

- (8) The question of control.
- (9) The question of possible steps.

Doty asked whether the list should be closed. Kapitsa said that of course each side could add new items, and Ruina said that certain items ought to be rephrased with some care. Doty agreed, and said that the list he was reading out was only illustrative. There was, further, the question of trying to rephrase them so that they could be accepted by other nuclear powers - or, Doty asked, was it too early to go to this?

Millionshchikov then suggested the item:

(10) Possible forms and scope of agreements. In this connection, he raised the question of "the character of the adherents." What happens, he asked, if there is agreement between the Soviet Union and the United States and other powers do not agree? He thought this question should be given prominence.

Doty said he supposed there was implicit agreement that we should also assess the question of parity. He referred to the many variable factors such as population dispersion, numbers, weight, etc. He thought this question ought to be dealt with.

Long said he thought all this was covered under the item "equivalence."

Schtukin then suggested the following:

(11) What should the situation be for such discussion to start? In the past, he said, we have said that we cannot make

any progress until we get a better atmosphere. He referred to Vietnam.

Doty asked whether the Soviet side could speak further to this. He recalled that despite Vietnam, the two governments had found it possible to discuss NPT. He wondered whether the matters now under discussion were in a different category? If we had to wait for an end to Vietnam, our time scale would be very different.

After a long pause, Millionshchikov said he was trying to run through the list in his mind and to think of what ought to be added. He asked: have we mentioned the quantitative levels at which agreement might be reached?

Wiesner said we were not negotiating. He wondered whether Millionshchikov did not have in mind "the components that make up a nuclear balance at different levels."

Millionshchikov said of course we are not negotiating. But if we are asked, or even if we ask ourselves, where we have got, it would be necessary to include some approximate quantification. He suggested:

(12) What quantitative levels can we talk about?

Vinogradov said he thought the point was to think about the method of calculation. We needed to consider the unit of calculating quantitative solutions.

(The list of questions was later revised by Doty and Millionshchikov - See Appendix 2.)

U.S. - Soviet Relations

We then adjourned for coffee, and reconvened to take up the item "Soviet Union - U.S. relations."

Doty introduced the item by saying that the Vietnam shadow does lengthen and it has become so big that perhaps it is hard to imagine what relations could be like if it were removed. He recalled Kapitsa's reference to the problem of trade between the two countries. Doty said he was no expert, but he had the impression that there had been more progress in the trade area than in disarmament.

Millionshchikov then said he would like to take the opportunity to say a few words. First, he emphasized the private character of the meeting and the importance of not releasing

anything to the press. He assumed that his U.S. colleagues would respond to any press inquiries by saying that the American participants are in Moscow on a purely scientific visit. Secondly, Millionshchikov underlined that this discussion was purely academic "on the level of Pugwash." We had had an exchange of views. We were not ready to send these questions to the governmental level. But we had had a business-like atmosphere and a calm discussion.

Third, Millionshchikov said that as regards U.S.-Soviet relations, he felt that sometimes we tended to deviate from the main questions and to concentrate on details such as the question of sending one scientist instead of two, or sending an exchange scholar for one month instead of three. More important were the larger questions that shaped relations between our governments. It is true, he said, that Vietnam casts a shadow. The U.S. is behaving recklessly and this could lead to a serious deterioration. This ought to be borne in mind. The U.S. should consider this more important than merely getting negotiations going.

Millionshchikov then turned to the large question of what determined bilateral relations. First, he mentioned trade, which he said was limited to a negligible level because of the unacceptable U.S. policy of discrimination. Of course, the Soviet Union could get along without U.S. trade, but this was a major factor in determining relations between the two. Second, he mentioned "the use of harbors and the question of shipping." He referred to "unprecedented discrimination against Soviet vessels." He thought that some analysis of this and some sharpening of public attention in the United States on such questions would help relations. He said the improvement of trade would also help the United States, and it was up to the U.S. to try to eliminate obstacles.

Kapitsa asked whether the American group would say what they considered to be the main obstacles.

Wiesner said he hoped he would not be held responsible for the details of what he had to say, because he was no expert in this field. From his White House experience, however, he could give some of the history -- which he did not necessarily defend himself. He then offered two comments. First, he thought the trade embargo was related to the armaments question. It dated from the time when the Cold War was intense, and it was perhaps justifiable at that time. However, progress was being made on trade when Vietnam cast its shadow. American opponents of an increase in trade got good ammunition for their arguments from the Soviet policy of supplying arms to Hanoi.

Second, Wiesner said that he had the impression that the kind of trade that the Soviet Union wanted needed credits,

and credits raised all the questions that he had referred to in a very intensive form. He said he knew much less about this subject; he was speaking of his impressions only.

Kapitsa asked again: what do you want us to do to help U.S.-Soviet relations?

Wiesner mentioned the importance of broadening the scientific exchange between the two countries. He said that on the American side we had worked on our government on this matter and we hoped the Soviets would work on theirs. Beyond this, the Soviets could try to be helpful on Vietnam. Above all, he thought they could help by making more intensive efforts at disarmament. He thought that both sides should be willing to take more chances on disarmament. Both should be bold. He said that he said these things publicly at home and he hoped his Soviet friends would urge the same thing in the Soviet Union.

Long took up the question of the exchange of people. He said we would like to see the same freedom in this area that we have with, for example, Italy, where we could contact individuals and invite them without reference to the State Department or to the Italian Foreign Ministry.

Khvostov and Emel'yanov then tried to steer the discussion back toward more "elementary" things, specifically economics. Emel'yanov recalled that in 1946 the Soviet Union had been devastated by the war and needed help in restoring its scientific institutes. The Soviets had sent people to the U.S. (our "war-time ally") to pay hard dollars for badly needed laboratory equipment. There were terrible difficulties. He recalled speaking to the president of Westinghouse, who wanted to trade with the Soviet Union, but the U.S. government intervened and would not allow it.

Kissinger responded to Kapitsa's question of what we on the American side would like to see the Soviets do. He said he would try to keep his remarks general and applicable to both sides. He said he was afraid that on both sides people tend to use the concept of peaceful coexistence as a tactic to defeat the other side. Both sell arms to third parties, ostensibly for one purpose, but the arms are then used for some other purpose. He cited Pakistan as an example. There were others. He thought that this practice could lead to very explosive situations and that this question should be put on the agenda.

Artzinovich then reverted again to the question of trade and made a long, impassioned speech about the Soviets' need for computers for scientific purposes and their desire to obtain computers from the United States.

Wiesner said this was a good example. He recalled that in the government he and others had worked hard to understand the question of computers and that he had favored freer policy but that he realized, and no one could deny, that such a policy involved military disadvantages for the U.S. The ABM system illustrated this. Advanced computers are an essential ingredient of an ABM system and in supplying computer know-how we would be providing assistance for such a development. It was on such grounds that many people believed that the export of advanced technology should be restricted.

Kapitsa then made a strong plea for absolute freedom of scientific and medical exchanges.

Brown recalled that the original concept of this Soviet-American Disarmament Study had included the notion of the long-term exchange of resident representatives on both sides. This had not got off the ground, perhaps for good and sufficient reasons. He hoped, however, that it would one day be possible to discuss the matter again and move forward with it.

Schtukin then referred to what Kissinger had said about using coexistence to defeat the other side. He said that in the Soviet view the two systems were competing systems, but that under conditions of peaceful coexistence, the competition could be shifted to peaceful ground where war would not be used as a means.

Doty then circulated to the Soviet participants copies of the Gilpatrick article and McNamara's San Francisco speech and Warnecke's speech. He then commented that the rate of change in the military environment seemed to be faster than any rate of study that we contemplated. He regretted that there had been in recent years a "deterioration of contact." Doty recalled again that the United States had suggested talks at the official level. He thought that there would be great advantage in getting them started soon, particularly if this could be during the remaining period of McNamara's service as Secretary of Defense.

Long said that with the list of questions that we had assembled he had no doubt that we could have a good next session.

Millionshchikov said he thought that the visit of his American friends had contributed to a useful, uninhibited exchange of views. He looked forward to further "academic study" of the questions that had been listed for discussion. He said that after giving further thought to these matters, we could, no doubt, use the "same channels" (that is, between Doty and Millionshchikov) to arrange a next meeting. He could not say when this would be, because he did not yet know how much time would be needed to get prepared on the questions which had been listed, some of which were new and extraordinarily challenging. Finally, he said, we should think about where the next meeting should be held, but that also could come later.

Kapitsa commented that this bilateral meeting had been far better and more productive than larger meetings.

Millionshchikov agreed, saying that he thought that that was the consensus. He concluded by saying "we will not back down on our commitment to have further contact," but he repeated that he could not say anything more in detail about that at present.

Wiesner said that we had achieved an open, free discussion that had been conducted on both sides without fear. He thought this was a precious thing that we ought to try to exploit.

Kapitsa said the most striking thing about the meeting was that neither side had felt it necessary to make compliments about the other. This proved we were friends. Artzimovich said he feared for a moment that Kapitsa was destroying the character of the meeting by paying a compliment, but he noted that it had come after formal adjournment.

AMERICAN MEMORANDUM FOR DISCUSSION

The Limitation of Strategic Weapons

This paper is prepared to stimulate discussion at the meeting, not as a definitive proposal. It is hoped that from the discussion might come agreement to continue consideration of this important subject.

In previous meetings of this kind as well as in official meetings Americans have proposed agreements to prohibit the construction of missile defenses because of the possibility that to do so would stimulate the construction of more offensive weapons, etc. The U.S.S.R. representatives have preferred to consider limitations of offensive and defensive weapons together and we agree that this is the practical problem deserving our most serious discussion. It is proposed that the following issues should be considered during the course of the discussion.

I. Objective of Any Agreement.

Of course one can say to limit offensive and defensive weapons, but to what? I have always believed the ideal number was zero but this is probably not the thing to focus on in these discussions. Let us assume that there will be missiles for the next few years and possibly even defensive systems. The question is, given the desire on both sides to minimize these forces and their costs, can we find a technical basis for doing so? Can we imagine deployment arrangements for both sides which are mutually reassuring that they do not require continuing growth to achieve confidence? In fact can we find smaller force levels which provide equal or greater feeling of security than the arrangements each country is planning to have in about five years. (Five years is chosen because that is about the minimum time required for new systems to be built and installed.)

II. Specific Issues

1. Define basic objective

Possible choices include:

Arresting the growth of offensive forces

Cutting Back to agreed levels

Establishing assured deterrents for both sides

II. Specific Issues (continued)

Beginning a process of continuing force reductions

2. How can various weapons systems be related to each other in defining equivalent forces?

Can one depend only on numbers?

How can size and accuracy be taken into account?

How can mobile vs. immobile, or hardened vs. unprotected delivery systems be equated?

3. How can defensive systems be related to offensive systems?

Is it possible to define a deterrent if a comparable defensive system exists?

4. Can limits of a total offensive-defensive system be established by budgetary control? If so, how would monitoring be done?

5. At what point should we consider some form of monitoring or inspection within each country? In recent years we have steered away from plans that required inspection for we found S.U. did not like them.

Is this still the case?

6. Is there a role for international control and monitoring?

III. Specific forms of limitation

There are several cases to examine in a search for the desirable course to follow:

- 1) Let nature take its course. Build missiles and defensive systems: costs will provide some limit.
- 2) No defenses plus a freeze at some date on offensive weapons
- 3) No defenses plus cutback in offensive weapons.
- 4) Limit on offensive weapons plus limited deployment of defensive systems.

Which of these deserve detailed consideration?

Revised List of Questions for
Future Study and Discussion

1. Can we find mutually acceptable limits on ABM defenses?
2. What is the correlation between ABM and Offensive Missiles?
3. Can there be agreement that both countries deploy their weapons to the extent of possessing only a second strike capability?
4. To what extent are technical improvements compatible with the limited levels that may be agreed upon?
5. Is it useful to consider two categories of ABM defenses (urban and missile site)? If so, what would be the correlation?
6. What types of control would be necessary and possible?

What level of limitation could be agreed without involving internal inspection problems?
7. What are the appropriate stages required to reach the reduction which could be agreed upon?
8. By what ways and means should the problem be discussed?
9. What forms and scope of the agreement are possible?
10. What should the situation be for starting discussions?
11. What approximate, quantitative levels could presumably be reached in the agreement?

What unit could be adopted in calculating the levels to be specified?

Appendix

- 1) How does the continued existence and growth of other nuclear powers affect what we can agree to?