

C.B.S. REPORTS - DISARMAMENT

March 31, 1960

DOCTOR SZILARD AND DOCTOR BETHE DISCUSSION

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Q.

Bill Bethe, I'm glad that you're here. I know I never see...

DIRECTOR

(INSTRUCTIONS)

SZILARD

I'm very happy that you're here, Bethe. I never seen enough of you. You know, the only time I really saw you as much as I wanted to was during the war. Ever since, I see you very rarely. I still remember when you came to Chicago - it was during the Uranium Project. When was it? Early in '43 - and I had complained to you about how things were going - and I said to you - really, the most incredible way (correction) I said to you that, really, decisions are reached in the most incredible manner and the most odd decisions are being reached - and everything is so really peculiar, that I decided to keep a record - and one of these days I will write a book about the story of 'the atomic bomb' - not a book for publication - I will just record the facts for the information of God. And you said to me -

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SZILARD

doin't you think that God knows the facts. And I
said to you ^{yes,} -/but not this version of the facts.
I always thought that sometime I would write this
version of the facts - but I think that probably
I will not do that anymore because I'm really
mainly preoccupied now with the issues which relate
to - well, they relate to the problem of the bomb.
I think I would like to ask you a few question -
because I want to know how you see these things.
Take for instance these negotiati^ons about stopping
bomb tests. Why is it important to stop bomb
tests?

BETHE

Well, I don't thin this is so very important in
itself. I have always seen it mainly as a first
step to a more general agreement and to a more
general disarmament. It seemed an easy first
step to take because neither side would need to
give up very much. But in the meantime the issue
has become so hot - a - that people are made to
believe that we do have to give up a great deal.
But now we have carried out these negotiations
for quite a long time - we are - we have gone

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BETHE

quite a way in agreement with the Russians on this point - and I think if we did not agree now on stopping the bomb tests this would set back the Russian-American relations, and in particularly the disarmament question, for months and probably years.

SZILARD

Well, I can understand that now we have negotiated for so long it will be bad to let these negotiations fail. But what is not quite clear to me is this - you say stopping the bomb test is a first step. Well, it's a first step to what? You seem to believe that it is necessary for us and for Russia to have some formal agreement - providing just for what?

BETHE

Well...

SZILARD

You see, when you say....

BETHE

Yes...yes..

SZILARD

...disarmament, what do you mean? I think I know what the Russians mean. I presume they mean really

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SZILARD

getting rid of the bomb and all other armaments - just keeping first - machine guns - and do it very fast. This, I can understand. But I don't think this is what you mean?

BETHE

No, this is not what I mean. I mean much more - a - arms limitation - and controlled arms limitation than disarmament.

SZILARD

Well, what kind of arms limitation, and to what purpose?

BETHE

I believe it is quite dangerous if both countries have armaments which are capable of destroying the other country ten times over - and that is about the present situation. Now, both countries know this very well. And I think, in particular, our President and Mr. Khrushchev know very well that it would be suicide to begin a war. But we can't rely on this being always the case. And I am very much afraid of a reaction from fear -- I'm very much afraid that one country or the other might be impelled, by the fear of the other country, to launch a surprise attack.

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SZILARD

Well, I can understand that - but only if you assume that we have a situation where say Russia could knock out, in a single blow, our power to retaliate. Now, let's discuss, at present, the next few years, which are complicated - and the situation's rapidly changing - but five years from now, surely the situation will be stable, in this respect - neither we will not be able to knock out Russia's power, to retaliate, with a single blow, and they will not be able to knock out our power to retaliate. Then, as long as the People's government's are sane, does it matter really how many bombs they have?

BEINE

Well, let me - a- first say something else. The - I quite agree with you that as far as we can foresee now, in a few years - and I would put it at less than five - rather two or three -- we will have what is technically called a stable deterrent - that is each country has retaliatory power against the other country sufficient to - to deter the other country from launching an attack, as long as the other country is sane. And I believe that this will come about because we'll have weapons - I.C.B.M.'s - which are mobile, and whose location

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BETHE

the Russians cannot know at any one time. And we will probably have a - a similar power, on submarines also - retaliatory power, which is unknown as to location. So that any attack on us would be suicide -- and clearly the same would be true of the Russians. Then, a sane government, presumably would not start a surprise attack. One thing, however, that I'm afraid of are sudden changes - unforeseen changes in the power situation. It could be that one or the other country would make an invention, unknown to the other country, which would suddenly make this one country believe that it has a great superiority - and if the situation at that time is - is very tense, then the country might be impelled to - to attack.

SZILARD

Well, I will concede that this is conceivable. But I don't think this is very probable. I would - I would be much more concerned - that is - if the bombs remain - and practically, if their number is large - I would be much more concerned about meeting some sort of meeting of the minds with the Russia, of what kind of threats are permissible. You see, I contend that in a world where we retain,

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SZILARD

and the Russians retain, a large number of bombs, it is just not true that these bombs could not be used to threaten anything about modern suicide. You could use these bombs for the limited threats. You could threaten to demolish one or two cities. This, of course, is not a simple matter, and one has to say much more about it - which I don't want to do now. And then, if I understand you correctly - and correct me if I misunderstand you - you visualize a situation where there will be large scale disarmament - perhaps getting rid of the big navies completely - reduce armies to very small group of troops -- you would get rid of the air force -- but perhaps America and Russia would retain -- I don't know how many - fifty or a hundred bombs and rockets suited for their delivery - and would try to stabilize a state on this basis. I would conceive that you can have stability on this basis if we forget all other nations for the moment - provided that we don't threaten anything bad with these bombs - and provided there is some sort of a political understanding - so that really, we don't have to fear anything from Russia - nor do they have to fear anything from us. Now, is

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SZILARD

this approximately your concept of disarmament?

BETHE

This is approximately my concept. I think it's just - a- disarming to a known and rather small number of bombs - and the means to delivery - and I think this would be a much more stable situation than we could have with an unlimited arms race. With the unlimited arms race you never know what the other country is doing, and you therefore are apt to prepare for much worse and such bigger armaments on the other side, then actually exist. And you are preparing for an imaginary power, in the other country, which may be several times the real power - and the other country, of course, responds in kind, and again prepares for a much larger number of weapons. Now, you come then to a number of weapons which is simply fantastic - and if by any accident, this number of weapons were let loose, then we really would be - a - we really would have a catastrophe, and it would really mean the end of civilization - at least in these two countries - and perhaps in several others as well.

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SZILARD

Well now, look. What I know, I know only from reading the newspapers. I think I understand what the Russian proposal is, but I really don't understand what our proposal is. Perhaps we have no proposal? But what you - what you told me makes sense - but I can't easily readin into our official position, so far as it is deadlocked in Geneva, that this is what we have in mind. Do you think this is what we have in mind?

BETHE

I don't think what I have said is - a - the U.S. Government position. I would hope that it would..

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BETHE

I don't believe there is any very definite position of the United States - and in this connection, I would very much favor some agency in the government which would develop a position. But we can talk about that later. What I have talked about is my position. I believe it would be very good to have an agreement for arms limitation at a low level - at a level at the same time which is sufficient to assure to each of the major powers that it could deal with minor disturbances. And then there is another point in this proposal of limitations--- let's say to have a hundred hydrogen weapons - a - with the means of delivery - and that is the question of assuring ourselves against concealment by the Russians. Now, I believe one can always hide a few bombs - a few missiles - a few weapons -but it would be very difficult to hide many hundred without the other side finding a few -if access is granted to inspectors? And so, if you have a hundred weapons, on each side, which are permitted, then each side can be pretty sure that the other side does not have an overwhelming strength in weapons which is concealed, and which they have in addition to the permitted strength.

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SZILARD

Well, I don't know. But I think if you take the Russian proposal - which is very simple - I mean getting rid of all the bombs - and essentially all armaments - in four years - well, I have misgivings, not about feasibility but about desirability. I think it ought to be carefully examined - and I will name some of my misgivings. The objection that in such a disarmed world a few bombs could be hidden - concealed - I don't think is a strong objection. I will tell you why. The main purpose of having bombs - for us and for Russia - is that it represents a deterrent. In certain contingencies, whether you explicitly say so or not, the bomb represents a threat which may deter the other from doing something you don't want him to. Now - a - a hidden bomb - if there's an agreement which limits bombs - and now you are hiding bombs - these bombs are not deterrents. You can't threaten anything with a bomb which you're not supposed to have - and therefore there's very little insensitivity, I think, to hide bombs - because they don't serve, really, any useful purpose except in a case of a war - which seems exceedingly like - unlikely between America and Russia in a disarmed world. My misgivings

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SZILARD

about such a disarmed world are of a different nature. I'm willing to assume that there are no secret armaments - where nothing is hidden - but of course, there will be machine guns - or if there are no machine guns they can quickly be made - and there are no armies, you can very quickly can mobilize a group of people, train them to use machine gun. And how would these be preserved in such a disarmed world? Would these be preserved? I'm much more concerned over whether such - such a situation would be desirable, from a Russian point of view, as I am concerned whether it would be desirable from our point of view. Because, clearly, if it turns out that this is not a desirable state, from the Russian point of view, that agreement would not remain in force. I would like to ask the Russians how would they feel if West Germany moves volunteers - armies - machine guns - into East Germany and unseats the government? Or how would they feel if Germany sends troops, armed with machine guns, into Poland and reconquers the territories it lost to Poland? (coughs) I don't know the answer to this. (coughs) And I have my doubts. But I will still say that the Russian

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SZILARD

proposal should be examined -and really, we have not, in these past fifteen years, given any serious thought to this kind of total disarmament. There was any number of speeches made about disarmament. And one Senator or another gave a speech, and he said that when we disarm and save all these billions -- we are going to spend the money to help underdeveloped nations.--But honest-to-goodness thinking and even a good discussion was just not there - and this, I think, is a pity - and I don't quite understand why - because there's such longing for disarmament, that at least we could examine whether this is a desirable state or not. (coughs) You know, I remember when, in '58, a group at M.I.T. and Harvard tried to set up a disarmament study - and this was really a very good group - and they had very good backing, and very respectable backing - and all they wanted was seventy thousand dollars - and they tried to get it from everywhere - they tried to get it from the Ford Foundation - they tried to get it from the Rockefeller Foundation - seventy thousand dollars could not be had by a very good group to study this issue - something is wrong.

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SZILARD

I do not know what is wrong - but something is wrong.
You know what is wrong?

BETHA

Well, something is terribly wrong, of course. The study of disarmament, it seems to me, is really something which is the responsibility of the government rather than of a private foundation. The private foundations can help, but I believe disarmament, and a real study of the desirability, without preconceived notions - without even preconceived notions that disarmament is desirable necessarily - is something that is as necessary for the government as the Defense Department. It is just as important for us to know what we could do - what alternatives we would have to large-scale disarmament -- it is extremely important to know what the consequence would be of your conceived situation when people would have only machine guns - of the Russian proposal, if you wish. We have to study this, and have to study this by a group which not only is very intelligent but also has complete knowledge of all the technical aspects, including complete knowledge of the armaments which exist, and of the possibilities

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BETHE

for armaments - and therefore, it seems to me, that it is exceedingly important to have an agency in the government which is concerned with disarmament. I don't know just what form this agency should take. There are two or three bills pending in Congress for such agencies - for - Peace Agencies, they call it. I think it's extremely necessary to have such an agency and have it staffed by the best people. And I think it would be very easy to persuade people, and scientists in particular, to volunteer for such studies. And they have to have clearance for secret matters - they have to know what the armaments are about - they have to know what they are abolishing, before coming to a conclusion that they want to abolish it - they have to study means of inspection - they have to study in particular what you were talking about - what would be the consequences of disarmament to this level of that level - and we haven't done this at all. I have the impression that the Russians have done a little more of this than we have. In fact, they have said so, in informal talks, occasionally, that they have an agency which studies these matters - probably not

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BETH

as much as they should be studied -- but we haven't done it at all. And we have the very peculiar situation that the only established agencies in the government are agencies which are concerned with war, namely the Defense Department and the A.E.C. - and therefore, the technical knowledge is concentrated in those departments which are charged with the pursuit of war -- and we must have an agency, equally competent, technically, which is concerned with the pursuit of peace. Don't you think that is very necessary?

SZILARD

Well, I haven't thought about this problem - but I don't quite understand why you need an agency? For instance, there is today, ^{even, a} ~~an~~ subcommittee on disarmament, under Killian, which I think is a subcommittee.....because it is a science advisory committee. It is true that this cannot do the job unless people take time, you see. But assume that say half of this committee would take a year off - they would alternately take a year off - why isn't this as good as an agency - or better? Because an agency is usually staffed with people who are more or less permanently

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SZILARD

making a career of working for the government. And it is not what you want.

BETHE

I think you need both - you need people like Doctor Killian - and other people on his committee. But these people, you should not be asked to spend all their time on this - and a very long time on this - and there are details which have to be worked out - which have to be studied and which should not be studied by these very high-grade and very busy people. So you need a big staff. One you have a big staff, you have an agency. Now, it would be important that this agency.....

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BETHE

Now, it would be important, it seems to me, to have both - to have the very experienced and great men, like Doctor Killian, to give the spirit to the enterprise, and then to have a staff who - who would do the general work and the research and investigations and keep up the relations to other departments of the government. And so I think such an agency should certainly not be set up entirely like one of the agencies we had in the past - it needs the very close consultation of the leading people.

SZILARD

Well, Bethe, of course I cannot possibly object to such an agency. But while you spoke, I had sort of a frightening vision of an agency set up to study desirability and possibility of disarmament - and the young, pretty stenographer applying for a job, and the head of the agency trying to talk her into taking the job and saying - well, you know the pay isn't very good but it's a lifetime job.

BETHE

Well, it might well be a lifetime job. A - I think there'll always be problems - at least as far as we can foresee. It - it won't be done in the next year or two.

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SZILARD

Well, I'm afraid that the decisions will be made in -
during the tenure of the next President. You see,
I see this transitional phase of the state...

BETHE

Yes.

SZILARD

..will be over towards the end of that -- and we'll
have to make up our minds whether we want, essentially,
total disarmament or whether we want to have a
limited number of bombs - and live with them - or
what we want. I agree with you that the present
method of studying these things is really horrible.
I mean, before we go into negotiations with the
Russians, the State Department appoints a lawyer -
most likely a Boston Lawyer - to make a study.
Now, I have nothing against lawyers, but I don't
think this is the best...

BETHE

Nothing against Boston lawyers.

SZILARD

Not at all against Boston Lawyers. But I think
this is a very odd way of making progress. As a
matter of fact, I think this is no way of making
progress. So any proposals to improve the mechanism

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SZILARD

of thinking and studying, is, of course, welcome. I am quite uneasy about our tendency, in these negotiations with the Russians, to try first to determine what is feasible before we know what is desirable. This is really a bad procedure. Because until you know whether you want something - and just how much you want it, you don't know what price you're willing to pay for it - and therefore you don't know whether it's feasible - because whether it's feasible depends on what sacrifice you are willing to make. So I think we are really confusing the issues - or at least dragging out these negotiations unnecessarily by not being able to make up our mind what we want, and negotiate on the basis that we don't know yet whether we want it, but let's see whether it's feasible. This is a bad procedure, I think - and the sooner we make up our minds of what we want, the better off we shall be.

BETHE

Well, I think, in this, as in the armaments, we are in a transition stage. We started out, in the year '55, with unlimited distrust between the two countries.

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BETHE

The first break in this distrust, I think, was the Conference in the Summer of '55 - the first Conference on the peaceful uses of atomic energy. I think this was a very great step. It brought Russian and American scientists together for the first time. And from there, we went by very slow steps getting to know each other - getting to know - a- each other's problems - to some extent, getting to talk to each other. And in this transitional stage, I think we had to look for what is - what is feasible. We may now have progressed enough that we could take the other approach, which I agree is a much better approach, namely, to make up our mind about what is desirable. But it takes a long time, not only to make it clear to ourselves what is desirable, but also to convince the Russians and to convince our own public - to convince the people's of the world. I remember a story which - a- I heard sometime ago about one of the Russian negotiators talking to one of the American negotiators in private. He said - look here, you come to these conferences, and you have proposals, and you tell us these proposals - and

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BETHE

we try to understand your proposals - we don't. Then we go home and think about them. And after a few months we find out that, really, you didn't try to put something over on us, but these proposals were quite sincere and were really quite sensible. Then we are ready to accept them. We come to the next conference and you have changed your proposals. So, what shall we do? It takes a long time to - a - think this out - not by one person, but collectively by a lot of people.

SZILARD

Well, it may take a long time to think it out, but how long it takes - it really depends, really about how intensely you think. If you think only every Sunday, then it probably takes longer than if you think a little bit more than every Sunday. And also, I believe that it will not be thought of clearly without having a more intelligent public discussion on these issues. And here, I think, there is a role which the scientists could play, and which they are not playing now. I think it was Clement Attlee who once said that scientists should be not on to, but on tap. Now, scientists

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SZILARD

are never on top because, clearly, the decisions are made by the governments and not by scientists. But when you say the scientist should be on tap, then you mean that scientists should be there to answer questions - and this is not a good way of using scientists - because in most cases they ask the wrong questions, and therefore they give the wrong answers. I think that scientists could be exceedingly useful, say while discussing informally, with our Russian colleagues, these problems - not when negotiating with them. I'm unhappy if I see scientists used - American, Russian Scientists used to negotiate. That's not what they are for. They're much better in informal discussions - in discovering what really the problems are - what is desirable and what is feasible. And the scientists have not been used this way. And this, I think, is really a great wastage of the very important assets which this country has. I wonder whether you would agree with this?

BETHE

I do agree with you - and - a- I agree with you more than a hundred percent, I might say, having myself

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BETHE

been in some of these negotiations. Scientists are not good negotiators, because scientists - a- want something to happen - they want progress in the thought - they come to a conclusion very quickly - whereas the negotiations are interminable. Scientists don't have patience, usually. The diplomats are very much better than we are in sitting down for a hundred and eighty consecutive sessions and arguing out each individual point and making sure that no loop holes are left. A scientist just goes crazy if he has to do this. So I think the negotiations by scientists, is not a very good idea -- and I agree with you, that the scientists could do very well in getting together and discussing the issues - in a general way - without committing their governments -- and it must be very clear that this doesn't commit their governments - and it must be very clear that what they say one day they may take back the next day, if they find new arguments in the meantime. This is one of the difficulties of the negotiations - when you have said something, one day, then the other side to the negotiations can always hold it against you five days later. And - a - this is not the way how you make progress in

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BETHE

your thinking. You have to bring out the arguments, and you must not be afraid of making mistakes in your thinking because - with the idea that a few days later you can correct them.

SZILARD

You see, at the moment, on this issue of disarmament or arms limitation (coughs) the confusion is so great, not because we don't know what the solution of the problem is - because we don't even know what the main issues are. Now, in this early stage, a discussion among scientists can bring the clarification which is needed. And the reason why a discussion among scientists can do that better than a discussion among politicians is the peculiar nature of a discussion among scientists. You see, if a politician says something, the first question which comes to mind is why does he say it. In a discussion among scientists, which is aimed at the clarification of issues (coughs) if I say something, you have only to ask whether Szilard is right. You don't have to ask why does Szilard say it. This simplifies the discussion to the point where we can make progress. Now, I'm not saying that scientists are always scientists when they speak on public issues. Very

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SZILARD

often a scientist turn into a politician. You see,
a scientist turns into a politicians, when like a
politician he believes he's in the ^{possession} ~~position~~ of the
truth. Then, the only thing that remains to be
done is to persuad other people to do the right
thing. At that point, a scientist ceases to be a
scientist.

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SZILARD

When a scientist believes he's in the possession of the truth, and all that remains to be done is to persuade people to take a certain course of action, then he turns into a politician. Now, scientists can be very good politicians, but I think it will be regrettable if all scientists turned into politicians - and I think we need very badly, just at this time, scientists who regard, as their main aim, the clarification of issues in this dark area where nobody is really in the possession of the truth. And I think it is - would be rather regrettable iff one couldn't get a private group together, who would sit down and examine the Russian proposal - by the Russian proposal I mean the general proposal of really getting rid of the bombs completely - of general and complete disarmament - down to machine guns - and all this done within a period of a few years. Even though it's not likely that this is a desirable solution, I think we should give it the benefit of the doubt and examine it. And it's much better, - I think we make much better progress if we examine concrete proposals than if we sort of generally wander around and examine the general

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SZILARD

problem of disarmament, where it's not like - clear what the world disarmament means. But I feel that it will be quite difficult to get such a group together, and that no agency - I mean no - no - no foundation would provide for a study which frankly aims at examining the Russian proposal for disarmament. This, I think, is regrettable, but I believe probably it is so.

BETHE

I think you are right - that probably no agency would give money for just this purpose. I think agencies and foundations - foundations in particular - would give money for a more general task of studies of disarmament. I think we have moved some distance from where we were in '58. I think now the seventy thousand dollars would be available. I agree with you that concrete proposals are much better than a vague study. On the other hand, people have concrete proposals which perhaps are a little more realistic, like the proposal of disarmament down to a hundred missiles and bombs on each side. A - I think people will be more eager to study proposals which, on the face of it, look promising, than to study proposals which - a - a - seem somewhat

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BETHE

utopian at first sight.

SZILARD

Yes - but you see, if you study the Russian proposal, you are at least studying a proposal which is acceptable to one nation. If you study these more complicated things, you may be studying a proposal which is acceptable to no nation. So there is this argument to be said in favor of what I proposed.

BETHE

On the other hand.....(SOUND ON TAPE WENT OUT
HERE. IN MIDDLE OF ELEVEN.....

We are much too much inclined to stand on prestige, and to see a trap in a proposal from the Russians. And I think, similarly, the Russians will look with great suspicion at any proposal which is coming from our government, and they will always suspect that we try to get an advantage for ourselves, rather than being devoted to a disarmament as such. So I think that a proposal which is acceptable to one nation isn't necessarily the one on which both

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BETHE

nations can agree.

SZILARD

Well, I'll admit that is regrettably probably so.

I think we are both inclined to overestimate the intelligence and the cunning of the other nation -

~~that is~~

BETHE

That is absolutely true.

(CUT)

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SZILARD

I wholly agree with... (WE'LL START SOMETHING NEW)
Look, when I listen to those who say that we cannot agree to a cessation of bomb tests because the Russians could illicitly test bombs, I have often the impression that most of these people would be opposed to cessation of bomb tests even if it were possible to make it foolproof. And the reason is they want to test bombs for some purpose. Now, for what purpose do they want to test bombs?

BETHE

Well, there are several purposes that are being discussed. I don't subscribe to this - but - a -
I want to tell you the things that people talk

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BETHE

Well, first of all they talk about missiles - these are bombs in the low megaton - one megaton class - and there is a desire.....(sound out)(sound returns)....not consider that the Russians can do exactly the same thing, and can improve their weapons by the same factor, or a greater factor, if we permit testing again.

SZILARD

Well, all right, I can see that. But now, what do we gain by stopping tests?

BETHE

Well, we may gain that we avoid some futile arms race. For instance, one other point which is very often mentioned is the possibility of an anti-IX I.C.B.M. an anti-missile which would shoot down and intercontinental ballistic missile of the enemy. Now, in my opinion, this is a very remote possibility. People have thought about it, but it is extremely difficult to detect and identify enemy missiles - it is extremely difficult to know whether you are hitting the right object-- and when you have identified the right object, to hit - when you know what is a missile and what is a decoy - then - then it is relatively

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BETH

easy and you don't need improved atomic bombs to hit them. So I don't believe that the atomic weapons are the key to an anti-missile-missile. On the other hand, I believe that the anti-missile missile is another possible arms race, and one that is quite undesirable in many ways. One way is that it probably will be quite fu - futile -- another way is that you never know - a- whether the enemy has such a - an anti-missile-missile. And if the enemy were to have such a gadget, then we might be in a very difficult position, namely we might be in the position that our stable deterrent doesn't work anymore. At best, I think we would waste billions and billions of dollars trying to devise methods to shoot down enemy missiles - and at worst we would be faced with a situation where we have an instability, where one side can shoot down the other side's missiles - and not vice-versa - and where there might be a real danger of starting a nuclear war, because one side thinks it is stronger than the other.

SZILARD

Well, I can see the point. Now, the point has been made that we should reach an agreement on

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SZILARD

cessation of bomb tests because this will establish a pattern which future agreements can follow. For instance, if you have an agreement limiting the number of bombs which we and Russia may have - a - it will be necessary to detect secret violations - bombs which might be hidden - or rockets which might be hidden - and this agreement on the cessation of bomb tests will set a pattern which can be followed. Now, this, I don't see, at all. Because we have, to such a large extent, relied - relied - relied on gadgets, in trying to discover such explosions, that really we are no longer setting a pattern for future agreements, which cannot rely on gadgets, but must rely on the human element. Would you agree with this?

BETHE

I agree with this, to some extent. But again, we are back to the question of the feasible and the desirable. I think, in the past history of this - a - exercise, it was important to establish the principle of foreign inspectors on the soil of Russia. This is a principle which will be a part of any disarmament agreement - and it is not so much the gadgets as the stations manned with people from (END R.11)

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BETHE

I think the point that matters is not so much the stations as it is the inspectors on Russian soil. The Russians are very sensitive, as you know, to any foreigners on their soil, and at the present time, at least, in order for us to have confidence in the Russians keeping the agreement, we would have to insist on some Western inspectors, in Russia - and this goes for the - a - test cessation agreement as well as for any future disarmament agreement. A - I think, in future more general disarmament agreements, we probably couldn't use many gadgets - we might use the records of factories -- but we can't use many gadgets. But I think you first have to get the principle across that foreigners can be in Russia - can look into things - and that the - a - that Russia is not completely free to do whatever she pleases, in the matter of bomb tests, first - in the matter of armament, later on - and will be subject to inspection by other people.

SZILARD

I am not too happy about this overemphasis on foreign inspectors - nor am I too happy about the notion that cessation of bomb test's agreement

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SZILARD

is a good pattern for what is to come. You see, when there is really far reaching disarmament, there will be no further secrets, and the problem of inspection changes its character - it will be much easier - much more tolerable to Russia to have a free flow of technical and defense information when there are no secrets left. For the time being, there are, of course, secrets. I assume the Russians are eager to keep the position of their launching - the location of their launching sites - the rocket launching sites - secret - and so on. When these secrets no longer exist, then the problem changes. And then I think rather than to rely on foreign inspectors, who are, after all, are very much limited by their limited knowledge of the country, one would want to rely on Russians, who - and with the help of the Russian Government - who, after all, will want to convince us, at the time, that there are no secret violations, and who will try to create a climate in which a man, who gives information about a secret violation, is doing nothing but fulfilling his patriotic duty. And I think that unless one can create such a climate, you cannot be sure that there are no secret violations.

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SZILARD

So probably the acid test of an agreement, which provides for far-reaching disarmament, is the creation of a climate in which you can rely on the Russians to come forward with information - probably the Russian Government itself would give them a big reward if they -- and this does almost completely away with the foreign inspectors. You see, it is -- as I was listening to these discussions on the bomb tests - surveyors with stations - observation stations, of course, located in Russia - and discussing how many foreigners there should be among the engineers and scientists -- I..... in the face in this attempt to write an agreement which cannot be sabotaged. You know, I was sitting next to a friend of mine, who was very much concerned of writing an agreement which cannot be sabotaged - and opposite to us sat a Russian. So I turned to the Russian scientist and said - tell me, who will be the cook at these observation posts? And he said - well, a cook - a cook -- some Russian will be the cook, of course. And then I turned to my friend and said - if I were you, I would not accept the agreement, because if the Russians want to, they

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SZILARD

can instruct the cook to cook so badly that no American scientist or engineer will remain at this post for longer than a few weeks. Now, I'm just mentioning this, because our attempt to write an agreement which cannot be sabotaged - I think this is a futile attempt - and all you can do is try to write an agreement which is in the interests of Russia to keep, and then let Russia find ways to convince us that there are no secret violations. She will find ways of convincing us. This should be her task - it should not even be written into the agreement. The agreement would say that if we are not satisfied - if there are no secret tests, we - we will abrogate, and we will abrogate without giving cause. As soon as -- Russias should have the same right. Then, you don't have to write anything about number of inspections, composition of the observation posts - we will just ask the Russians to please convince us -- they will find ways to convince us. I think this approach will be sounder than the approach which we have taken.

BETHE

Well, you have said a great many things, and many of these I believe. I don't believe that we can go

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BETHE

to this desirable stage in one step. And the suspicions between the two countries are still extremely high. You only need to read the newspapers - you only need to read the statements of a few days ago - of some Senators - and some scientists too, for that matter - there is almost unlimited suspicion, in this country, of Russia. There's far less suspicion, I think, in Russia, of this country. So I don't believe that, at this point, the Russians would be able to convince us that they don't violate. I - I think, at the moment, this is not - not - a - a feasible thing to do. And so, at the moment, I think we should have gadgets as well as people. Now, there is, however, another point, in what you said, which I like very much - namely, you said that it's really up to the Russians to - a - - to - a - create a climate in which violations would not happen and in which they would have this assurance. Now, I believe what you want is that there be a law in the country - a law in Russia, which makes it clear that it is illegal to have secret bomb tests or to conceal weapons - and - a - such like. Is that part of what you mean?

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SZILARD

Well, it's not so important it should be legal, but rather what is important - that denouncing such secret violations should not be illegal. You know, you had, in Germany, after the first war, this curious situation where, on the one hand, Germany had signed The Treaty of Versailles, and she was supposed to have no arms. Yet, the Espionage Act remained on the statute book, and the German, who gave information about the secret violations - about the secret violations of the Treaty of Versailles, was tried in open court and sentenced to jail. Now, this kind of thing, of course, is an inconsistency - of course not tolerable - and it is just a sign of the fact that really the country doesn't want to keep the agreement. Now, you could excuse the Germans because the Treaty of Versailles was more or less imposed upon them. But there is no reason for Russia to enter into an agreement now unless she wants to keep it. Now, this - as a matter of fact, we should very carefully examine the treaty, from the point of view of whether it's advantage is to Russia. If it's not of advantage to Russia, we should not sign it. Because, then it will not remain in force for long.

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SZILARD

But if it is to Russian's - Russia's advantage to have that treat, then I think they will find ways to convince us that they don't secretly violate it. And I would not try to write it into the agreement, how they should do that. Well, of course, all this, I must admit, is easier, if the agreement is a big step forward, providing for far-reaching arms limitations or disarmament. It's much more difficult if it is a small step forward, which still leaves many secrets in existence, which the Russians will have to safeguard. As a matter of fact, I don't know, really, how you do this. As long as there are important secrets, it's very difficult to have any kind of inspection.

BETHE

Well, let me come back to what you said before. I'm - a - very much impressed by the argument about Germany, after the First World War. And - a- I think this means that I understood you correctly. Now - a- you say it must be ^{legal} ~~legal~~ to give information - in fact, better, it must be illegal not to give information - to withhold information. And actually this, of course, would, in principle, be automatically true in the United States. once

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BETHE

we sign a treat. Because, by the Constitution, a treaty is part of the Constitution - it is the supreme law of the land. So violation of the treaty is an illegal act - and information on such violation is a legal act. However, I think this is probably not enough - it's probably not enough in this country, and it is certainly not enough in Russia. I think we must think of more. We must - a- say that both governments should state, very clearly and directly, and in many newscasts, that this treaty is not - is now the supreme law of the land - that violation of the treaty is illegal - that information will be rewarded - and so on. And thereby, we might establish in - among the citizens, a loyalty to the treaty.

SZILARD

.....easy, because we are doing something which I very much like to do.....

END OF REEL #12

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SZILARD

I'm a little uneasy about the trend which this discussion is now taken. Because I feel that we're overly concerned with the question of whether Russia will be capable of hiding bombs or hiding rockets or cheating on the agreement, and not sufficiently concerned really about what the Russians intentions might be. It seem to me rather unlikely - well, let me put it this way - Russia has gone to a great sacrifice to build up huge armaments, and they've used perhaps twenty percent - perhaps twenty-five percent of their national income to do this -- they're building rockets - they're building bombs. Now, it seems rather difficult for me to believe that Russia would go to the trouble of throwing all these expenditures out of the window for the sake of having a disarmed situation, which she wants, and then jeopardize the disarmed situation, which she apparently wants, by hiding a few bombs or hiding a few rockets. I think we ought to be more concerned about - in what conditions we can we be reasonably sure that Russia will have no incentive of cheating, rather than to be talking so much, and almost exclusively about whether or not she has the capability of cheating. You see, I

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SZILARD

THINK - of the smaller nations - if the smaller nations were mainly concerned about the capability of America of invading them - well, they could be jittery all the time. They know very well we have no incentive to invade them, and we have in part no incentive to invade them because they behave accordingly. So I think it will be somehow saner for us to think - how do we have to behave in a disarmed world so that the major disarmed nations, who are essentially saturated nations like America, Russia and England, should have no incentives to cheat. Now, this seems to be a more productive approach to the problem than being overly concerned about capabilities. Would you agree with it?

BETHE

Yes, I would. I am not quite sure just how I would find out about the incentive. It is really something which is very delicate. Suppose we had a completely disarmed world - wouldn't there be an incentive for the Russians to have just a little bit of armament? Because, with some hydrogen bombs, they could then fully dominate the world?

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SZILARD

Only after it is disclosed that they have them.

BETHE

Or by using them?

SZILARD

Hardly by using them. Suppose - suppose they had even fifty hydrogen bombs - and in that ^{in a} total disarmed world, would be rather a large number to go and discover.

BETHE

It certainly is.

SZILARD

What will they do with it? They can destroy fifty cities. So what!

BETHE

Well, they must disclose that they have them, and - and - a- ask us to sign an agreement - a- of surrender.

SZILARD

Look! This is conceivable, but exceedingly unlikely.

BETHE

It is, I agree, exceedingly unlikely. But there are sometimes quite unlikely people in the world. I think Stalin and Hitler were very unlikely people.

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SZILARD

Look! What will they do with it after we surrender? They would impose about a democratic regime, based on the two-party system - and disarmament. But this, they have anyway, under this agreement. So what do they gain?

BETHE

Well...

SZILARD

What do they do with us, if we surrender?

BETHE

Well, they would impose, on us, a one party regime, maybe?

SZILARD

Oh, no, that would make America as strong as Russia. If they want to keep us weak, they would impose, on us, precisely the regime which enable them to have its victory.

BETHE

No, I think that with one country in possession of armaments - and no other country in such possession - this one country could - a - dictate to another country - a- almost anything, no matter what the form of government. And I'm g-I would not...

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SZILARD

It remains - it remains...

BETHE

Yes, I would not agree that the two-party system is weak.

SZILARD

But if it leads to this result, which you just described, then it was weak.

XXXXXXXX SZILARD (cont'd)

Well, I don't know. I think the Russians would have less trouble with us than they would - than they may have with China and Yugoslavia, which has one party systems. A one party system does not mean that party is subservient to Russia - certainly not if it comes about by this method.

BETHE

If the one party, in Yugoslavia - a - does not need to be subservient to Russia, as long as we exist, then this is a matter of power, isn't it? That is Russia cannot just - a- sack Yugoslavia without jeopardizing its position all over the world, and without - a- showing the neutrals that she is a highly aggressive nation. This, she doesn't want to do, as long as we exist.

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SZILARD

Well, I think we have gone a little beyond the area,
you know...

BETHE

I think we have.

SZILARD

..BUT I would -- all I want to say is - that one
cannot completely disregard what is likely or -
or what kind of motivations exist. We cannot
have a world where everybody would use its capability
to the worst. This would not be - could
not survive, you see, if in this society, you ask
what are the capabilities of each of us.

BETHE

Yes.

SZILARD

We can all shoot each other. If we did our worst,
this society couldn't exist.

BETHE

Yes.

SZILARD

And we have gone, in the post-war years, the wrong
way towards disregarding everything but capability.

BETHE

Yes.

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SZILARD

At some point, we will not be able to afford to do this.

BETHE

Yes. Now, we certainly have to look at incentives. And I/^{don't} just quite know how to start. But - a - since - well, I would just feel safer, in a world which is largely disarmed, which has controlled disarmament, down to let's say a hundred weapons on each side, than in a world which is completely disarmed. I think there an instability might occur in a way which I cannot foresee.

SZILARD

Well, I don't want to contradict that at all. My own feeling is that a completely disarmed world is an unstable world.

BETHE

Yes.

SZILARD

And I would quite settle for a hundred bombs - hydrogen bombs...

BETHE

Yes.

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SZILARD

..and rockets, both here and Russia, if in addition we will pledge ourselves not to use those bombs for anything worse than for demolishing of evacuated cities. Then, I think some sort of a stability could be established. I would not want those bombs, here, to represent a violating threat of - goodness knows what we're going to do with it - or a threat of murder and suicide, where we may shoot all our hundred bombs -- well, it's not quite murder and suicide - but pretty close to it. So I don't think we are too far apart -- and if we talk more, maybe we'll be even closer. But I think we are beginning to waste our time talking to each other.

BETHE

Yes.

SZILARD

I think we should now go home and begin to talk to our Russian colleagues about exactly the same problems. Because, we are talking about a problem, here (coughs) where Russian and American interests coincide. You see..

BETHE

Yes...yes.

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SZILARD

...if I didn't think that Russian...

BETHE

Yes...yes.

SZILARD

...and American interests coincide, I think it would be quite futile to talk to your Russian colleagues

BETHE

Absolutely.

SZILARD

But because this interest coincides...

BETHE

Yes.

SZILARD

..andbecause there is a language...

BETHE

Yes.

SZILARD

...among scientists...

BETHE

Yes.

SZILARD

...which is common currency...

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XXXXXXXX SZILARD (cont'd)

I think that perhaps the best use of our time would be to have informal discussion with them - if we can only find those of our Russian colleagues who are interested in these kind of problems?

BETHE

Yes, on this, I entirely agree. And I think such scientists exist, in Russia, just as much as here.. It would be very useful to talk to them. It is also very useful to - a - continue our own thinking - and make sure that we really believe what we said today.

SZILARD

Well, this is most contrary, to my nature, to end a discussion on an agreement. Can you think of something which we could disagree?

BETHE

It seems hard, today.

SZILARD

Well, let me see if I can say - think of something.

You know that story? (IS IT OVER)

You know the story, when somebody asks - a- Dean Levy, of the Law School of Chicago, what kind of a man is Szilard? Can you tell me that? And he said,

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SZILARD

I can tell you very easily - Szilard is this kind of a man - if he is on a jury, and that jury retires - the chairman polls the jury - the poll will probably turn out eleven to one with Szilard dissenting. Then they begin to discuss the problem - and one by one the jurors begin to see Szilard's point -- and more and more come over to his point of view. And finally the foreman puts the issue up to a vote, and the vote is twelve - is eleven to one - again Szilard dissenting on the opposite side. So I wish I could think of something which we can disagree. But if we can't, well, we'll just...

BETHE

We are...

SZILARD

..tolerate and agreement. Max

BETHE

We are missing the other ten.

SZILARD

We are missing the other ten.

END OF REEL #13

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SZILARD

What is funny? I must think of it. I can tell you. Yes, I can tell you two nice stories. You know, my friend Roc has a brother-in-law -- through his sister - who is his wife - and they have nine year old girl ~~child~~ -- and the girl is getting interested in such --- she's getting interested in the brain, for instance. My friend Roc is a biochemist - very hard working - a very devoted scientist. The girl said to her mother - she wanted to know how the brain works, and the mother said - well - she told her something about the parts of the brain - and she wanted to know what these various parts do. So the mother said - well, we don't know exactly what those various parts do. So she said - well, why not cut out a part and see what happens? She said, yes. But it's difficult to do it to human beings. So she said - could we do it to Tippy - and that's the dog? And she says - well, yes, you could do it on Tippy, but would you give Tippy to science? She thought a little bit, and she said - no, I don't think so. We've already given daddy to science.

BETHE

(LAUGHS)

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SZILARD

I tell you another story about the same girl. The mother has asked a doctor - and she works at St. Josphph's Hospital - and the Catholic Sister-is very ill. And the Sister finally asks - can we do something for you? And she said, yes, you can pray for me, and you can ask Lillian to pray for me ~~xit~~ also. So Franz went here and told Ann that the Sister would very much like to pray for her. She says she would. And the next day she went to St. Joseph's Hospital and asked them - did you pray for me, Sister? She said yes, I prayed twice. First, I prayed to the Catholic God to make me well - and then I prayed to the Jewish God to apologize.

BETHE

(LAUGHS)

VOICE

ALL RIGHT. I THINK WE HAVE ENOUGH LAUGHS)

DIRECTOR

(INSTRUCTIONS)

BETHE

Yes, I agree.

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DIRECTOR

(INSTRUCTIONS)

BETHE

Yes, I agree.

DIRECTOR

YEMY (INSTRUCTIONS)

BETHE

Yes

DIRECTOR

(INSTRUCTIONS)

BETHE

Yes. Yes. Yes. Yes.

(CUT)

14/2

SZILARD

It is nice to see you, Bethe. I don't see you often enough. You know, I haven't seen you, after the war, as much as I've seen you during the war.

DIRECTOR

(INSTRUCTIONS)

SZILARD

It is nice to see you, Bethe. I don't see enough

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SZILARD

of you. You know, I saw much more of you during the war than after the war.

DIRECTOR

(INSTRUCTIONS)

SZILARD

I don't think this is so important in itself.

We have been negotiating now for such a long time.

The cessation of bomb tests should be a first step to what? This is what I would like to know.

What kind of arms limitations - and to what purpose?

(CUT)

14/3

SZILARD

QUESTIONS

Now, the cessation of bomb tests would be a first step to what? This is what I would like to know.

What kind of arms limitation and to what purpose?

What I know about this, I only know from reading the newspapers.

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14/3

SZILARD

QUESTIONS

It is not so important for us to enter into formal agreement with Russia than to reach a meeting of the minds. Now, of what sort?

I think that the Russian position ought to be carefully examined.

When you spoke of a peace agency, I had, suddenly, a vision of a pretty stenographer applying for a job, and the head of the agency telling to her - while the ~~work~~ pay is not high the job's a lifetime job.

The cultural decisions may have to be made during the lifetime of the next President.

When you spoke of the agency that would study the desirability and the feasibility of peace, I suddenly had a vision of a pretty stenographer, applying at this agency, and the head of the agency saying to her - well, you know the pay isn't very good but it's a lifetime job.

Well, the point has been made that it will be important to reach an agreement on the cessation of bomb tests in order to establish a pattern

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SZILARD

QUESTIONS (cont'd)

which future agreements can follow.

But apart from reaching an agreement, for the sake of agreement, what do we gain by ceasing bomb tests?

The present confusion is very great. Not only do we know - not - not only do we not know what the solutions of problems are - we don't even know what the problems are.

Well, when I listen to those who argue for continuing bomb tests, I have the impression that they are not so much concerned about secret Russian violations of an agreement but that they are really intent on going on with the tests, because they want to develop bombs for certain purposes. What are these purposes?

When a scientist believes that he is in the possession of the truth, then all that remains for him to do is to persuade people to do what is right, and at that moment he becomes a politician and ceases to be a scientist.

Well, I think ~~that~~ it will - it is. Rather/^{than} continuing this discussion, we should now both go and try

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QUESTIONS (cont'd)

to have some informal discussions with our Russian
colleagues on these topics.

(CUT)

END OF REEL #14

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BETHE

QUESTIONS

I do agree with you, more than one hundred percent, scientists should not be negotiators.

In disarmaments, we are in a transition stage ever since 1955 - since the conference on the peaceful uses of atomic energy.

Of course, the study of disarmament should be by the government, not by a private agency.

In my opinion, the study of disarmament should be done by the government, not by a private agency.

A sane power, of course, would never start a surprise attack.

I don't think what I have just said is the position of the United States.

Let me first say something else.

You have said a great many things - many of which I entirely agree with. But I don't believe that we can go directly to the desirable state of complete disarmament.

(CUT)

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15/2

BETHE

QUESTIONS

You have said a great many things - many of which I agree with. But I don't see how we can go directly to this desirable situation.

When people argue to continue tests, the first thing they argue about is missiles.

ROOM TONE.....

END OF REEL #15