

C.S.S. REPORTS - DISARMAMENT

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DOCTOR SZILARD INTERVIEW DOCTOR TELLER....

Q.

Doctor Teller, you sit down and make yourself comfortable. You are late.

A.

I am late -- tire yourself. I haven't seen you for a long time.

Q.

I saw you, but you didn't see me.

A.

That is..

Q.

I saw you, on SMALL WORLD, discussing, with Russell, the stopping of bomb tests.

A.

...when I have never seen, in my life, except after I have talked with him.

Q.

I see. Well anyway, I want to ask you a number off. questions - and I don't care who listens.

A.

Very good. Go right ahead.

Q.

Now, I think we - we interrupt, now.

(CUT)

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Q.

Come and sit down - and make yourself comfortable.  
You are late.

A.

I am always late - and I am sorry. But it's very nice to see you.

Q.

I saw you, but you didn't see me. I saw you on television - I think it was SMALL WORLD - where you discussed, with Russell, whether to stop or not to stop tests.

A.

Well, you know that - a - YOU saw me - you saw me but I never saw Russell until later when I saw myself on television. And you know, when I saw myself on television, with Russell -you know what my reaction was?

Q.

Yes.

A.

I don't think that some people will like it, if I say - but it's true - I was very bored.

Q.

Well, I wasn't bored. But anyway, I want to ask

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Q.

you a number of things - and I really don't care who listens.

(CUT)

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Q.

As you know, you are late.

A.

I usually am. I'm very sorry, but I am, on this occasion. But it's very nice to see you.

Q.

Yes, you know it's really funny how we meet on this occasion. You remember, in 1939, when we knew there would be trouble; we tried to foresee everything - and we foresaw everything - but I don't think that we have foreseen in 1960 we'll meet in Memorial Hospital in front of television cameras.

A.

You thought you foresee everything. I never thought that I did; although I had some slight suspicion, at that time, that you did. I don't think so any more.

Q.

Well, on this is one of the many issues on which we

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Q.

disagree.

A.

Possibly?

Q.

Well anyway, remember that - when I made the decision - you see - to look for neutrons, emitted by uranium, in the fission process? I picked up the phone, in New York, and called you in Washington, and told you that I'm going to do this experiment.

A.

I remember that.

Q.

And at that time physicists did not indulge in long distance calls as they do today, and this may never well have been, An American, the first scientific long distance call.

A.

I am not sure, but I - in fact, I remember distinctly that I had long distance calls with Bethe concerning the question how the sun produces its energy.

Q.

In which year was this?

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A.

That was just a year before...

Q.

All right, you have priority in long distance calls.

A.

Thank you.

Q.

Now then, I called you again, after the experiment  
was done.

A.

And then I was making chamber music with a good friend  
of mine - you called me out of that -- I was very  
unhappy to be interrupted in the middle of a Mozart  
sonata. And then I should say, I foresaw this  
much about the future - that I was exceedingly  
unhappy about your having found the neutrons -  
because while I did not know what the future will  
be, it was absolutely clear that this means trouble.

Q.

Yes, I remember what you said. You said, what the  
devil.

A.

Could be. In Hungarian.

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Q.

In Hungarian No, in English.

A.

It was in English? Maybe?

Q.

Well anyway, then I came down to Washington, and then we really had a long talk about what the future may bring - and I think we foresaw enough.

A.

Maybe too much?

Q.

No, not even enough, I would say - not even enough, I would say, on second thought. Well, the next thing, I think, that was vivid in my memory, is when you drove me, in July 1939.

A.

Driving/the a car was one of the few things that I always could do better than you.

Q.

Well, this doesn't mean very much - because I don't drive at all.

A.

And this is the only connection in which I can claim that I do something - that I drive a car better than

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A.

anybody else.

Q.

Now, this is beyond me. Can you explain?

A.

The only way how to drive a car any more poorly than I do is not to drive it.

Q.

I see. Still, you have survived - and that's something.

A.

I have survived so far, yes.

Q.

Well, you see, the next thing - well, it is this drive to Paconic, Long Island - which is vivid in my memory. This was in July, '39 - so - not many months after our first conversation.

A.

That subject - that is right.

Q.

And - a - it was on this occasion when you and I went to see Einstein - when the decision was made that Einstein write a letter to Roosevelt.

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A.

And surely this letter was written by you, and Einstein merely signed it.

Q.

No. No, your memory's not correct. You see, this was the second trip which I made to Peconic, Long Island.

A.

Right.

Q.

And the first trip, I made with Vignar. Now Vignar had a much more difficult task than you had - because we didn't know where Mr. Einstein lived. We were told that he lived at Doctor Mood's cottage. And so we looked for Doctor Mood's cottage - and we spent about half an hour driving around Long Island, in the Peconic area, looking for Doctor Mood's cottage - and no one knew about his cottage.

about  
And we were/about ready to give up and go home when I saw a little boy, aged about eight or ten years old, standing on the road - and I said - do you know, by any chance, where Professor Einstein lives? And can you take us there? He knew where Professor Einstein lived - and he took us there.

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Q.

Now, this was - here, we solved a difficult problem. But you see, on this first occasion, we did not discuss - Vignar and I did not discuss, with Einstein, writing a letter to Roosevelt. We were concerned on that occasion about the possibility that Belgium might supply uranium to Germany - not knowing the importance of Uranium - and we were discussing how we could warn the Belgium Government to embargo uranium for Germany. Only - a-after Vignar left did the idea come up that perhaps the thing to do was to approach the American first - and not the Belgium Government - and the decision that this should in fact be done was made on the second visit. There was no draft of a letter available at that time.

A.

I clearly remember the draft of the letter. When did Einstein sign the letter?

Q.

Much later.

A.

When was that?

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Q.

After we decided, in principle, that a letter should be written - I had preferred - and Einstein said to us - told us what he wanted in that letter. I wrote several drafts. You see, there was this problem - how much of the President's time can we take? How many pages of typewritten sheets does the fission of uranium rate?

A.

How many did it rate?

Q.

Two.

A.

That's a lot.

Q.

Oh, yes, it is a lot. Now, this was a problem, and this took quite a long time until the drafts were prepared - and then Einstein selected the longer of the two versions - which was two pages - and this letter was then, as you know, taken by Sach's, to the President, rather late. The letter is dated August 2nd - and the President did not see that letter until about the middle of October. Now, this was followed, by the President appointing a

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Q.

Committee, under the Chairmanship of Briggs. The  
Committee did not meet until October,<sup>21</sup> and you  
were present at the meeting of the Committee.

A.

I was-actually, I wasn't present - a - in order to  
do say anything that I thought - because, at that  
time I was only driving cars, and did not even  
remember what was being done - whether a letter was  
signed or not -- at this meeting, I had the only  
role of repeating the opinion of two eminent physicists -  
Herteux and Enciso Fermi.

Q.

I think your memory is again incorrect.

A.

This is interesting.

Q.

You spoke twice, at this meeting-- once in your own  
name, strongly supporting the general thesis which  
I presented and in which Vignar supported.

A.

Yes. But how could I have done anything else? That  
was trivia.

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Q.

It was trivial, but very important. Anyway, you spoke twice - once in your own name - giving general and strong support to the idea that this was important and that the government ought to be concerned with it -- and this was the issue.

A.

Well, I never had any question about that.

Q.

You didn't, but the government had. The second time you spoke, and had a different hat on - and now you spoke in the name of Chouve Doctor Chouwas invited to attend that meeting, but he couldn't come.

A.

Chouve and Fermi, to be quite accurate.

Q.

Fermi was not invited - Chouve was invited - because Fermi had just come back from the Middle East. And what you was - what happened - this - Chouve could not come because he was out of town - but he had talked to you - and he asked you to deliver a message - and the message which you delivered, in Chouve's name, was a follows. (SOUND OF AUTO HORN) That, in the circumstances, it is not desirable - then you corrected yourself - no - it is not possible

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Q.

to spend usefully more than fifteen thousand dollars  
for this research.

A.

Szilard, we can't agree on anything. I remember it  
was six thousand.

Q.

No - fifteen thousand was the upper limit -- six  
thousand was what we actually got. Naturally, it  
stayed below the limit. But the importance of  
this was this -- that we did not go to this meeting  
in Washington in order to ask the government for  
money, but we wanted is a general blessing - and  
we had the idea of going to a private foundation,  
with the government's blessing, and ask for the  
funds we needed. But because you talked about  
fifteen...

END OF REEL #1

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Q.

...funds we needed. Because you talked about fifteen thousand dollars, the impression was clear that money was the issue - and I was thereupon asked - how much money would be needed - and I said - well, perhaps two thousand dollars - perhaps four thousand dollars? All we needed money for, at that time, was to buy graphite, and to measure the absorption for neutrons of graphite. So, suddenly, money was injected - and off went the meeting on a tangent. And you know why we got the money?

A.

Yes.

Q.

Because the representative of the army, Colonel Adams, launched into a speech in which he told us naive when we that we were/matrixinxa thought that the possibility of creating a new method for producing explosions was important. He said that experience shows that it takes usually two wars before we can know that a new weapon is of any use. Then, he went even further, and said that it would be a mistake to believe that weapons are so terribly important for winning wars. He said that what wins wars is the

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Q.

morale of the people.

A.

This I remember very clearly. This made the deepest impression on me - and I have no doubt that for once we agree on our memory.

Q.

Very good. Maybe from here on we will agree a little more? Now, this exposition of what wins wars took about twenty minutes. And Mr. Vignar, whom you know ..

A.

Yes, I know him.

Q.

...began to fidget a little, and when there was a pause, he said, in his very polite, high-pitched voice - voice - that he was very interested, indeed, to hear this explanation of what it takes to win wars. Then, he went on saying - if it however true that armaments are relatively unimportant for winning wars, then perhaps in the circumstances the present budget of the army could be cut somewhat. When Colonel Adams said to Vignar - well, as far as this two thousand dollars are concerned - which you want for your graphite - you can have it. And this is

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Q.

why we got money for our first experiment on uranium.

A.

Well, I don't know - you argued, either then or later, that we should go a little bit faster than we are going. And if I remember correctly, we did not get into a really full-scale program until after Pearl Harbor - and we actually wasted quite a bit of time, in the beginning, by going more slowly. Do you think that if we had gone faster at that time - a - a - we could have succeeded in producing nuclear explosives sooner?

Q.

Well, as you remember, I was terribly impatient at the time and I thought that we were moving far too slowly. But I was impatient because I thought the Germans are working on the bomb, and the Germans might get the bomb before us. I was quite convinced then, and I'm quite convinced now, that we could have had the bomb eighteen months earlier. However, in retrospect, knowing the Germans had no bomb, I do not regret that we were so slow. As a matter of fact, I would be happier if we didn't have the bomb even in '45 - it was no longer needed to win the war - it would have been just as good

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Q.

to get the bomb after the war was over.

A.

Well, these things are usually, I should say, always out of our hands. And I have the feeling that it is always the right thing for a technical person to move as fast and as efficiently as he possibly can and then explain why he has found - and leave to others - to the government and to the general public - to use what he has found-inthe best possible way. Because, in a democracy, no group of people - and certainly not technical people - who happen to be concerned with one particular aspect - should have so serious right of a decision. I also believe that ~~where~~<sup>had</sup> the bomb come eighteen months earlier, the invasion of France might have been - a - made superfluous. It would have been ~~a~~very different historical approach. And It is hard to imagine how the world would have run. I think most people would say that it is a pity that the war - that we could not get our technical work done sooner.

Q.

Well, Teller, I disagree with you on a fundamental point. You see, Heisenberg said that if twelve

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Q.

people had agreed, in the Fall of 1939, not to make the bomb, there would have been no bomb. And I think he's right. If the Germans could have convinced us, at this moment, that they're not going to work on the bomb, that fact is that I would not have worked on the bomb. I doubt that a number of others - I think would have taken the same position - there'd would have been no bomb. I think that I am master of my own decision. I cannot shift the responsibility to the government - and saying I'm doing whatever I can, as fast as I can, and the while the government will make good use of it-- I don't believe in the wisdom of governments - and if it's my action, I am fully responsible for it. I have to try to guess what the government will do with it, and use my own judgment.

A.

Szilard, do you think that such a thing as the possibility of nuclear energy and the sudden release of nuclear energy in the form of explosions could have remained hidden for very many years?

Q.

No, but it would have been much better if it had come after the war rather than in the middle of it.

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Q.

It would have been much better if instead of Hiroshima there would have been a longer period of public discussion about how to cope with this problem.

A.

I do not know that, whether, after the war, with the situation which exists between the Communist world and the free world, such a public discussion could have been carried on on an equal level. And I would be worried - a - to think how, in that case, we might have missed the boat completely.

Q.

Look, Teller, is it ever possible to know, for certain, what the consequences of your actions are, if they are major actions? But this does not mean that we can say - let's do what we can - and to hell with the consequences?

A.

I do not think that one should ever say that we don't care for the consequences. But I think also that if one seriously believes in democratic government it is necessary to trust that - on the whole, our way of arriving at decisions mainly by the will of the people - as expressed by our clumsy methods -

a.

that this way is the best and this method of government is, today, on trial - and on a very severe trial. I would be foolish to say that governments are always right. But I do believe that we have - have to do our best to try and make the government do the right thing - and we, as scientists, can do that by giving the government and the people the best possible information.

Q.

It is not enough to give information. Look, you've asked if one believes in democratic government. Well, I think a democratic government is the best form of government - but it's not a good form of government. You cannot have any confidence in a government which will take wild decisions. And I think that scientists can do far more than present the government the facts. I - you know, you very often read these days that government - that scientists should be not on top but on tap. Now, scientists cannot be on top, because, of course, they can't make decisions. But when people say that scientists should be on tap - what they mean is this - that all a scientist needs to do is answer question. Whereas, I say that if you are asked the wrong questions,

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Q.

you will give the wrong answers -- and the governments usually ask the wrong questions - therefore, scientists must do more than answer questions.<sup>xpf</sup> Of course, I believe<sup>A.</sup> that all people usually ask the wrong questions - the governments - the people - the scientists as well. And I think that the only hope is that everybody should be allowed to ask all the questions that he wants to - and answer both the questions which have been asked and the questions which have not yet been asked - so our sort of government - which as I agree with you - is the best but which I also agree with you - is not good - has some chance to arrive at a reasonably correct answer -- and I hope that it will.

Q.

Well, Teller, I will probably not agree with you even about the importance of democratic form of government - from a point of view of national behaviour. You see, it is customary to say that a democratic government will never go into war or will never go into an unjustified war - if you wish. I think this is just not so. I think that the difficulties here - let me not talk about democratic government, but let me talk about the American

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Q.

political system. Under the American political system it is not easy of course to go to war. You saw that in the First World War - you saw that in the Second World War. But on the other hand - and under this political system, it is even more difficult to make peace - far more difficult to make peace than it would be - than it would be for instance for some different form of democracy - like you have in England. The form of democracy does not really define a political system - and it is sort of a slogan. You will have to look beyond that word and see how the political system works. And I think the American political system is very unsatisfactory from a point of view of settling a war. You see, one of our great troubles during the Second World War was the principle of unconditional surrender. Now, why? How did this principle arise? Of course, it sort of spontaneously - in a sort of press conference in Casablanca - as we now know -- but the great difficulty, which you'll see in Washington today, are so - for the government to agree, internally, of what needs to be done - handicaps a government - it handicaps it.

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DOCTOR SZILARD INTERVIEWING DOCTOR TELLER

Q.

...handicaps a government - it handicaps it to the point where in negotiation - negotiation of peace becomes a very difficult thing to get. So democracy has its great advantages - but certain forms of democracy are so handicapped - which we ought to frankly recognize. Our difficult, at present, is to reach decisions. It is very difficult, on major issues, to reach a decision, in Washington--- or if a decision is reached, it is very difficult to make it stick.

A.

Our government has been originally designed for times which, if not more peaceful, have been times where change was much slower than it is today - and I believe that, indeed, for us to adapt ourselves to the present increased tempo - the need for fast and radical decisions - the adoption of basically new ideas - is a dreadful thing -- with that I agree. I also believe that the democratic form of government has exceedingly great values which we have to try and preserve.

Q.

Well, on this, there is no disagreement.

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A.

Of course. And it seems that we agree on the future almost better than we seem to have agreed on the past. But I would like to say this - that for all of us - not scientists - but merely individual citizens - the important thing is to try to look at the - some long range problems. And the one long range problem which appeals to me - which I think holds the eventual key to the present situation - is the establishment of a cooperation on a world-wide scale - of the establishment of world law - even of something like a super-national government - an approach to a state where the world would be really at peace - because there is an international authority with moral power and with physical power. Now, I do not think that it is possible for any small number of individuals - not matter how clever they are - to blueprint - to propose how it should be done. But I think it is possible and proper and right for the whole citizenry to press for our moving int this direction, eventually.

Q.

Well, let me say something to that - there was, immediately after the Second World War - there was

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Q.

much discussion about the need of world government -- far more discussion than right now - and I have participated in the discussion. I have ceased to talk about world government - and I give you my reasons, if you are interested - as I am now interested in the possibility of surviving the next twenty-five or fifty years. The - talking about world government doesn't seem to be very useful. I think the basic difficulty is this -- you can have world law only if you have an internationally accepted set of principles of international justice to which a reasonable appeal can be directed. If there is no set of universally accepted principles of international justice - if there is no possibility of an reason to appeal - you cannot have world law. So, I believe that these things are rather far in the future. And I also believe something else - that progress towards world government will not come through establishing supernational authority. I think this is a most - the hardest way to make progress - and I don't think any progress will be made in that direction. I think that pggress towards world government - if it comes at all - will come through an entirely different mechanism - and let

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Q.

me outline that mechanism. Of course, I'm contradicting you again, because you said that no individual can give a blueprint - and I'm going to give you a blueprint. Of course,

A.

Of course I knew that you would - and I disagree in advance.

Q.

Very good. Maybe you'll agree afterward? If we want to make progress towards world government - and if we want to do it - to do it on a slow and continuous basis - we could do this by doing the following -- at least in the democratic countries we could do it - France could accept, in its Parliament, a very small representation from its neighbors - say a few percent - Germans, Dutch, Belgians - perhaps even Poles and Czechs? This can be a very small representation which wouldn't bother anybody. In the course of the next fifty years these representations could gradually reach something like thirty percent of the votes in the French Parliament. The same could happen in the German Parliament - in Belgium - in Holland - and

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Q.

all you would do here is would be to give an institutional expression to the interdependence, which actually exists, in Europe, among these nations. Now, what I claim is this - that this is a process which can be as slow as you wish - which is a continuous as you wish - and which would deeply affect the conduct of the government. You see, if you want to merge two companies - the merger becomes very much easier if there is a large stockholder which holds stock in all the companies which want to be merged. If you have this kind of a situation, then even a supernational authority rests in Europe, and later elsewhere becomes possible - because the Parliaments, to which the governments are responsible, no longer represents only the interest of one nation. I've given you a blueprint. Do you still disagree?

A.

I agree with a part of it. I agree that we should move - that we should think of moving in the direction of merging with those nations, first - which are closest - more similar to us - where this can be done most easily. I furthermore will say this - that what you have proposed, and which is entirely knew to me, is-sounds, to me, very

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A.

ingenious and very amusing - and of course I have accepted - expected that from you. However, I believe that you actually the events will be even more surprising and more ingenious than those things that you are proposing. I think, today, more than I thought twenty years ago, that even you cannot foresee the future - although I am quite sure that you can foresee the future much better than by far the most people whom I know - by all people whom I know - and almost certainly more than I - because I am very, very sure that as far as trying to foresee the future, I am groping very much in the dark.

Q.

What is it...

(CUT)

ROSSI - ROLL #22/1

HACK - ROLL #2/2

Q.E.

Teller, I don't want to leave the impression that we agree on these things. To a point, we agree, I think we agree that ultimately this world will

ROSSI - ROLL 22/1

MACH - ROLL 22/2

Q.

...under one government. We also agree that it will be good - that in the next twenty-five, fifty years we make rapid progress towards drawing together those nations which can be drawn together---and we are in fact making progress in this direction. There is a common market in Europe - and there is American participation in European economic affairs, increasingly. But what I do not believe is this - that this answers the problem which is posed by the bomb. I think the problem which is posed by the bomb really requires a very clear answer - and it will require a clear answer probably in the next five years - and we will be forced to make up our mind either to get rid of the bomb or to find a way to live with the bomb. All these other things - progress towards world community - towards world government - if you wish - will not solve this problem. It is on a different level - and it is much, much greater urgency. All the other things are far too slow to give them much influence to solving - I would say to solving a problem posed by the bomb, for the next twenty-five or fifty years. Beyond that, of course, the solution depends on

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ROSSI - ROLL 22/1

NACK - ROLL 2/2

Q.

...progress towards a world community, and perhaps toward world government. But for the time being, no progress towards this will make-effective, really, the fate of the world.

A.

I like your expression - world community - much better than I like the expression world government. But I also believe that these problems are tied together, and that progress towards the world community must be made as rapidly as we possibly can - and that this is a very effective way in which to proceed. There is perhaps one phase of it in which we could proceed in the near future - at greater speed? And I would like to remind you of something that Neils Detther said quite a few years ago - that it is necessary, in the present circumstances, to open up the world as much as ever possible, to get away as much as possible from secrecy - because secrets will not keep anyway - and the more we can get away from secrecy, the easier will it be to draw the nations together in a community. And I think that this road - this general direction - is a reasonable one --- and I never dare to go farther

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ROSSI - ROLL 22/1

MACK - ROLL 3/2

A.

than propose general directions in which to look. Because the detailed solutions need detailed information - which I do not possess.

Q.

Well, of course I have read Bohr. I think this was an open letter which Bohr wrote?

A.

That is right.

Q.

And I never really fully understood the meaning of it. Because in these generalities of getting away from secrets, it does not appeal to me. I can't see the following problem -- when you talk about say an agreement limiting armaments, or providing for far-reaching...

END OF REEL #3

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DOCTOR SZILARD INTERVIEW DOCTOR TELLER.....

Q.

Well, of course I have read Bohr. I think this was an open letter which Bohr wrote?

A.

That is right.

Q.

And I never really fully understood the meaning of it. Because in these generalities of getting away from secrets, it does not appeal to me. I can see the following problem - when you talk about say an agreement limiting armaments - or far-reaching disarmament - secrecy gets in the way. And here, I think, in a sense, the Russians are right when they say - let's talk about first the agreement of disarmament - and let's talk later about how we police it. Because if you had what the Russians now propose - general and total disarmament - this of course would abolish our secrets - and if you abolish our secrets, it's much easier to agree on measures of inspection. Now, I think we have to distinguish what kind of secrets we talk about. If it's a question of scientific and technical secrets, I think everybody would agree there's not very much point in having them. But there are

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Q.

other kinds of secrets - as long as there are armaments there are military secrets. And I think that the military secrets which get into the way of the kind of inspection - spying - or whatever you want to call it - which is necessary to verify a formal agreement. So, I really don't know what we talk about when we want to get rid of secrecy. I think we can get rid of secrecy only if we can get rid of the reasons for having secrets. That is in an armed world, it seems to be exceedingly unlikely that we can do away with military secrets. You can do away with secrets in physics or engineering, if you wish to -- I think this will make the physicists happy - I don't think it will make the nations happy.

A.

Any proposal such as progress toward greater openness can be disproved by trying to carry it to the extreme. Also, I just confess I cannot make a proposal how we should proceed in detail. It is a very difficult question. But I feel very sure that our approach - namely that we must have control before we can have disarmament - is a very natural

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A.

and a very necessary one.

Q.

Oh, sure, we must have control before we can have disarmament - but we must first agree on what kind of disarmament we are going to have before we can know what kind of controls become acceptable. You see, if we can agree on an arms limitation, I will call it, rather than disarmament - which we regard as very desirable - which Russia regards as very desirable - then I'm sure that both we and Russia will find a way to make this feasible - because we will be willing to pay a price for it - since we want it very much. But if we do what we now do - discuss what is feasible - without knowing ourselves what it is desirable - just how desirable it is - I think we'll just have endless discussions and confusion. I think this technique of discussing what is feasible, without first knowing whether we want it - that is without knowing whether it's desirable - we cannot have an intelligent discussion of whether it's feasible. And I think things have become too urgent and too serious for permitting the confusion of the last fifteen years

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Q.

to go on. You see, there's talk about disarmament - there's talk about world government - but there's very little thought given to what these words mean. There is so much of what I do not know of any half-way respectable study of disarmament that has been published in this country. I know of no publication - half-way or even quarter way respectable, as related to world government - that has been published in this country. So I am very much afraid that just loosely talking about these things will not clarify anything. And I hope that this will change -- as a matter of fact, I'm convinced that this will change. I'm convinced that we will now see perhaps private studies - both to what extent disarmament is desirable - what kind of disarmament may be desirable. I think this has all come now - and will come very fast -- but in the past there was no such study.

A.

Of course, there is this point, which is as present in my mind - that a positive measure - such a cooperation is clearly desirable, if it can be done -- that it is difficult to study these things, I agree -

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A.

that there is expectation and hope that it will be now studied more - I share this hope. As far as disarmament is concerned, if ~~it's~~ <sup>is</sup> it/honest, it might be a very good thing. But I always remember this - that while the first World War might have been caused by a race of armaments - I'm quite sure that the reason for the Second World War was unilaterally and essentially uncontrollled and unplanned and wrongly executed disarmament on the part of the peace-loving nations.

Q.

Well, Teller, I don't want to let this pass, because I'm not even sure that you meant what you say. I would conceive that disarmament - would conceive if ~~it~~ <sup>it</sup> is honest - might conceive it is a very good thing. But I also can conceive that disarmament, even though it's honest, might be an unstable situation. And I think that no one really knows the answer to this, because no one has studied it.

A.

Szilard, I agree with you fully. This, we do not know - and this is a very difficult question. I agree with that completely. On the other hand, I

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A.

hope you agree that wherever it is possible to generate more close cooperation between nations - mutual respect for the same standards - for the same law - for a developing order - wherever that is possible it is progress in the right direction.

Q.

Oh, I wouldn't - I wouldn't agree with this. I think that cooperation for cooperation's sake is a bad thing. I think it will only lead to friction. I think we should cooperate with Russia, for instance, for - in something where the goal of peace will be highly developed for both of us -- then, we will overcome the difficulties. If we just cooperate for the sake of cooperating, in an area which is not important, either for us or for Russia, we will just end up backtracking.

A.

I agree with you that cooperation in order to mean anything must be honest. But honest cooperation, as it is now possible - as it has proved possible, as I mentioned, between the European nations - as it is, I'm quite sure, possible between us and the European nations as well - as I think it might more

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A.

slowly emerge between nations which are farther from each other -- I think honest cooperation of this kind - toward mutually desired goals - is, I think, the basis of lasting progress toward peace.

Q.

Well, if you can discover what goals are mutually desirable and strongly desirable, then indeed you can set up cooperation for it. It is not always easy to have this.

A.

May I mention two, which are beyond question and which are being pushed, but not being pushed strongly enough? One is cooperation in medical matters - another is cooperation in research on the weather. The International Geophysical Year was a very nice and very important thing. The trouble was that it was short - too short. The Year lasted only eighteen months.

Q.

Well, Teller, I would agree with you, of course. Who could object that cooperation in these fields is useful? I do not agree, with you, it is important. From a point of view, which I'm mostly interested, the problem of the bomb - cooperation

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Q.

in this area is of very little importance.

A.

Agreed. But cooperation which is much more broad, as the cooperation in the economic field between European nations - the extension of this cooperation to broader circles, involving if possible, to begin with, all the democratic nations - this, I think, would be an extremely strong first step toward stabilizing the world.

A.

It will be a useful step - I'm not sure it will stabilize anything. But I think, certainly such a thing -- like the common market, for instance - I think it will render Europe prosperous. I think its effects will be greater in prosperity rather than in political unity.

A.

One should try - and I think it's possible to use that basis for more political unity.

Q.

This is not being filmed, is it?

VOICE

(YES, SIR.

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A.

GO ON?

Q.

Let me see - what is the time? Let me see if we can think of something. It's five minutes to - we better stop. We better stop. Let's stop - then we have five minutes private discussion.

A.

Stop before --- and.

Q.

Now look, why don't we arrange it this way they'll send you a transcript.

A.

Fine.

Q.

You cross out whatever you want to cross out.

A.

I hope that you will not do that. I hope that you instead - well, I also wish you send me a complete transcript.

Q.

Just rub out what you think.

A.

No, I think that before we do that - before you

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A.

do that - I would very much - a - like - like to suggest that you also send along a shortened version, you see.

Q.                   A.  
.....you have already edited? Yes,  
I wish you would. I wish you would. At least you proposed it. May I - May I please - may I please - a- ask for the cameras once again - because I do like to say a few things in conclusion, on a purely personal basis - getting away from that fact

END OF REEL #4

5/1

TELLER, WATSON AND SZILARD....

ROSSI - ROLL #23

MACK - ROLL 3

TELLER

We disagreed here, Szilard, quite frequently about the question to what extent it is possible and to what extent it is even useful and reasonable to foresee the future. But I am - I feel sure about one thing - that there was a time, in 1939 and 1940 and 1941 - and in some of the following years - when you had a tremendous influence on the future - and your influence was in the direction of making it possible to have nuclear energy at an early time and to put it at the disposal of the American democracy. I am very happy that you did so. And I think that everybody is happy that you did so. I believe that I am happy not only -- and that we should be happy, not only because we have confidence in our democracy that it will do the right things in the long run, but also because your action was in the best of the traditions of the Western World - to go ahead with technical possibilities and with dreams, not without respect - not without regard to the consequences - but to go - to worry and to go ahead anyway.

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SZILARD

Teller, I think you are bending me with strong praise. Whatever I did was based on a false premise. What I did was based on an assumption that we are in a race with the Germans - the Germans are working the bomb - on the bomb - and that we must work on the bomb so that they don't use the bomb against us. Whether democracies do, in the long run, the right thing, I do not know. But I'm quite certain, in the short running, <sup>very</sup> they ~~know~~ often do the wrong thing. Now, where I foresaw many things, I certainly didn't foresee Hiroshima. And if anyone would have told me that at the end of the war - after the war was won - that we would drop an atomic bomb on a Japanese city, I would have thought that he's insane. So, I must say that I cannot quite accept your praise.

TELLER

You protested against Hiroshima - and I agree with you wholeheartedly. You also said that you did the right thing for the wrong reason. I believe that you are extremely clever, but even you are not clever enough to know for sure why you did what you did - that you did the right thing should be enough.

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THEODORE SZILARD

Look, I have done the right thing - if it will turn out in the end that the existence of the bomb abolishes war rather than destroys mankind. In that case, I did the right thing, and you did the right thing when you took action which led to the creation of the hydrogen bomb.

TELLER

I hope it will be so.

SZILARD

As a matter of fact, this, you cannot know, but I like to shock my audiences, if I talk about these things and I say to them that, at this time, we do not know whether the hydrogen bomb will destroy the world or whether it will lead to the abolishment of war - either of these can happen. But if it should turn out that the hydrogen bomb abolishes war - at it quite possibly will - then I think there ought to be a monument erected, both to you and to Klaus Fuchs - and the monument should shake hands.. Because without you, there would have been no hydrogen bomb in America - and without Klaus Fuchs, there might not have been a hydrogen bomb in Russia - and both hydrogen bombs are necessary if war is to

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SZILARD

be abolished.

TELLER

I thoroughly disagree - and I'm sorry to have to disagree with you, toward the end. I think you overestimate my contribution. I am quite sure you are overestimating Klaus Fuchs' contribution. These things are much easier to perform than most people believe. I think what counts is to think - to worry - and in the end do the right thing by going ahead in a reasonable way.

SZILARD

Teller...

TELLER

How it will come out is of course uncertain.

SZILARD

Teller, I will concede that the hydrogen bomb was inevitable. But as people say, the inevitable comes about through effort - and you made the effort.

(CUT)

ROSSI - ROLL #23/2

HACK - ROLL #3/2

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SZILARD

Teller, I would like to continue this conversation, but if you want to catch this plane, I think you had better leave? If you are late for the plane, the plane won't wait.

TELLER

Planes are terrible. I would very much rather stay. Good luck.

SZILARD

Come back and we'll talk about it. We'll talk about it, privately, without these microphones. It's much nicer.

(CUT)

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WILD TRACK FOR THE STANFIELD SEQUENCE

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SZILARD

I remember that when the show was over and everybody had left except Fermi, I shook hands with Fermi and said, I believe this will go down as a black day in the history of mankind.

I remember that when the show was over and everybody had left except for Fermi, I shook hands with Fermi and said, I believe this will go down as a black day in the history of mankind.

WILD TRACK STANFIELD SEQUENCES -

SZILARD

I remember that when the show was over and everybody had left except Fermi, I shook hands with Fermi and said, I believe this will go down as a black day in the history of mankind.

(CUT)

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ROSSI - ROLL #23

MACK - ROLL #3/3

SZILARD(to Watson)

This is a very pleasant surprise. I didn't/know even you were in town. Please do sit down. You know, Edward Teller was just here.

WATSON

So they told me.

SZILARD

And I talked to him about the world. And two days ago Bethe was here, and I talked to him about the world - and Howard K. Smith was here - and I talked to him about the world. And now you are here.

WATSON

Well, I - I doubt whether I've anything useful to add to this - to this list. But it's very...

(CUT)

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Q.

Well, Mr. Watson, this is a pleasant surprise. You know I didn't even know you were in town.

A.

I was very happy to be able to find you here.

Q.

You know Edward Teller was just here?

A.

So I was told.

Q.

And we talked about the world -- and two days ago Bethe was here and we talked about the world - and Howard K. Smith was here and I talked to him about the world -- and now I'm going to talk about the world with you.

A.

There can't be anything left to say about the world.

Q.

Not very much, no. But you remember when we last met - that was th at the Baden Meeting, last June.

A.

June.

Q.

That was the first Pugwash Meeting.

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A.

Yes.

Q.

And there were Russian scientists and British scientists and French scientists - and of course American scientists - and it turned out, in some of the discussions, that, really, the problem is much more symmetrical, as far as Russia/<sup>an America</sup> is concerned - Russia and America are very much in the same boat - they will have the same problems in the coming years.

A.

Yes.

Q.

Britain's problems were somewhat different - the French problems were somewhat different - and it was this which induced me - if you remember - to drink this toast to you. And do you remember what I said?

A.

No, I should spoil it if I tried to quote it. You had it much better formed than I have.

Q.

I - I rose and drank my glass to the health of Sir Herbert Watson Watt. And I said that I'm

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Q.

speaking in the name of the Russian participants  
and of the name of the American participants - and  
that it was - I wish to say is this - that tonight,  
in the spirit of good fellowship, we are not going  
to hold - hold against him that he's a Briton. Now,  
since the saving of a nation's habit-forming, I  
want now to find out, from you, which nation you  
are to save and how you are going to do about a it -  
go about it?

A.

Well, I - I rather think that the nation that most  
needs saving is the United States. I'd like to do  
more for it than for the others, because on the  
whole they seem to me to be looking after them-  
selves a little better than - than this great  
country.

Q.

Yes, but you know the United States resists being  
saved.

A.

Yes, that is so. They - they're too proud to be  
saved. I think they - the United Kingdom will  
either be the fix very first victim, and be the  
victim not of their own folly but of the folly of

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A.

others (SOUND OUT AND RETURNS)....that our colleagues  
in the Soviet Academy at first hand.

(CUT)

END OF REEL #5