

[We may need permission to reprint this letter -] G.W.S.

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In March 1945, Szilard, then working at the Metallurgical Laboratory in Chicago, drafted a remarkably prophetic document in which he predicted the dangers of an atomic arms race, and even discussed the role of intercontinental rockets.¹² He emphasized the unfavorable effect which the existence of an atomic weapon might have on the postwar position of the United States, which “could no longer count on winning a war by outproducing other countries in guns and tanks.” Szilard called on Einstein and, without revealing anything except his great concern for the future, once again enlisted Einstein’s aid in an effort to obtain an appointment for himself with President Roosevelt. On March 25, 1945, Einstein handed Szilard the following letter of introduction to President Roosevelt:

112 Mercer Str.
Princeton, New Jersey
March 25, 1945

The Honorable Franklin Delano Roosevelt
The President of the United States
The White House
Washington, D. C.

SIR:

I am writing you to introduce Dr. L. Szilard, who proposes to submit to you certain considerations and recommendations. Unusual circumstances which I shall describe further below induce me to take this action in spite of the fact that I do not know the substance of the considerations and recommendations which Dr. Szilard proposes to submit to you.

In the summer of 1939 Dr. Szilard put before me his views concerning the potential importance of uranium for national defense. He was greatly disturbed by the potentialities involved and anxious that the United States Government be advised of them as

N.Y. Simon + Schuster, 1960

(ed. Otto Nathan, Henry Norden)

soon as possible. Dr. Szilard, who is one of the discoverers of the neutron emission of uranium on which all present work on uranium is based, described to me a specific system which he devised and which he thought would make it possible to set up a chain reaction in unseparated uranium in the immediate future. Having known him for over twenty years both from his scientific work and personally, I have much confidence in his judgment, and it was on the basis of his judgment as well as my own that I took the liberty to approach you in connection with this subject. You responded to my letter dated August 2, 1939, by the appointment of a committee under the chairmanship of Dr. Briggs and thus started the government’s activity in this field.

The terms of secrecy under which Dr. Szilard is working at present do not permit him to give me information about his work; however, I understand that he now is greatly concerned about the lack of adequate contact between scientists who are doing this work and those members of your Cabinet who are responsible for formulating policy. In the circumstances, I consider it my duty to give Dr. Szilard this introduction and I wish to express the hope that you will be able to give his presentation of the case your personal attention.

Very truly yours,
A. EINSTEIN

The letter, found in President Roosevelt’s office after his death, was submitted to President Truman. Truman referred it to James F. Byrnes, who was designated to become Secretary of State, but who, at this point, was a private citizen having no official government status. About six weeks later, on May 28, 1945, when the war in Europe had already ended, Szilard, in the company of two other scientists, finally saw Byrnes at his home in Spartanburg, South Carolina. Byrnes reports that Szilard complained of the inadequate contact between atomic scientists and government policy-makers. According to his own account, Byrnes was “unfavorably impressed” by Szilard’s proposals. But, on the other hand, a particularly conscientious historian, who later discussed the Spartanburg meeting with the three participating scientists, came to the conclusion that “at no time did Byrnes impress the scientists with his grasp of the significance of atomic energy.”¹³ The scientists spent most of the interview talking about the potential use of atomic energy for power, which Byrnes had not known about.

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EINSTEIN ON PEACE

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More in History Box
" H. M. Hutchins "

1945

see in History Box
bbs 2

including Jarner
also folder "First Chicago
Conference"

10. *America August 6, 1945, to the passing of
the Atomic Energy Act*

- A. *The scientists become vocal on the issue that
the U.S. will not have a monopoly of the bomb
for long.*
- B. *Fight of the scientists for civilian control of
atomic energy.*

Corrected Nov 12th - 45 L. Gilard
L.H.

b h s 3
History Box

I have to apologize for not having prepared a speech for this occasion, but only after my colleagues and I met today in Washington were we able to discuss what aspect of the subject each one of us might cover. We all are interested in the May-Johnson Bill, but it is not possible to discuss this Bill or any other Bill until it is made clear what the purpose is for which the proposed legislation is intended. Let me, therefore, say what I believe to be the real problem for which a solution must be found and you will see that that problem cannot be solved by an Act of Congress alone.

It seems to me that the existence of the atomic bomb will profoundly affect the military position of the United States and that it will affect her position not favorably but adversely. You can easily judge this for yourselves if you will consider the following. As long as the chief weapons of aggression ^{were} ~~have been~~ tanks, guns, and airplanes the United States could easily out-produce any other nation or combination of nations. If the United States produced ten times as many tanks, guns, and airplanes as another country, ^{her} ~~is~~ military position could be considered strong. When it comes to atomic bombs the United States has again an advantage at the outset. At first, if she has more atomic bombs this means that she could destroy more cities of another country. But if we get into an armament race, very soon we will have enough bombs to be able to destroy all the cities of a potential enemy. Additional bombs would then have very little value to us. There are no more worthy targets for them after we have enough bombs to cover all the cities of the "enemy". Therefore, if we have plenty of bombs and our "enemy" has plenty of bombs ~~xxxxxxxxxxxxxxxx~~ ~~xxxxxxxxxxxxxxxx~~ we will derive no great advantage of having ten times as many bombs as they have. When this stage is reached, (and it can be reached very fast, in the course of an armament race,) when two countries have as many bombs as

Further meetings

they can use their relative strengths will no longer be determined by the number of bombs they have but rather by the number of cities which they have exposed to destruction. In the United States 30 million people live in cities of over 250,000. Altogether 70 million people live in metropolitan areas. When the armament race reaches the stage where ~~this~~ this country and other countries have plenty of bombs ours will be one of the more vulnerable nations. In the long run it is not possible for us to win an armament race. We can do something in order to avoid losing the armament race, *but* the main thing that we can do in this respect is to relocate 30 to 70 million people. If we should do this, *our position* ~~opposition~~ may not be weaker but it still will not be stronger than the position of other large countries which have plenty of bombs. I ~~do not~~ believe that it is ~~impossible~~ to relocate 30 to 70 million people. If we are willing to spend 15 billion dollars a year for ten years we might very considerably decrease our vulnerability by decentralizing our cities. If we do that we may avoid losing the armament race, but that does not mean that we can win such an armament race.

From this remark it would seem that the problem which faces us cannot be solved on the domestic scale; it has to be solved on an international or world scale. I am not saying that it can be solved on a world scale either, but we have to try it. If we have tried it and failed we may be faced with a new situation. Up to now we have not tried it.

Now if you are willing to adopt this point of view that we ~~really~~ have to make an attempt to solve this problem on an international scale then it is quite clear that sooner or later we will have to establish collaboration in this field of atomic energy with other nations. With this in view, I am more ~~worried~~ *disturbed* about the independence *from the Government* of the Commission from the Government which the May-Johnson Bill proposes to set up than I am about any of the other provisions of the Bill.

The greatest danger that we as a nation face is a War which may arise more or less automatically from an armament race - a war which no nation really wants. Even if we feel that the ^{general} problem of war cannot be solved in the next two or three years at least we ^{will} want to avoid the additional danger of war which arises out of the existence of atomic bombs. It is not possible to discuss here the various ^{methods} ~~methods~~ by which this could be attempted, but most of these attempts would involve collaboration with other nations in the field of atomic energy as well as other fields. If the ^{government of the} United States should decide in favor of such a collaboration, under the May-Johnson Bill the President would presumably issue a Directive to this effect to the Commission, and it would be for the Commission to give effect to this directive by issuing appropriate rules and regulations. Now this Commission is practically independent from the Government. It has nine members who will meet at least four times a year and who are supposed to "run the show." The members of the Commission cannot be removed by the President except for cause. If the President wants a majority on the Commission he may have to serve two terms before by means of new appointments he can secure such a majority. ~~The President cannot remove a member~~ Even if the President saw his way to remove some of the ^{might} members in an emergency he ~~may~~ not know which member to remove on account of the secrecy under which this Commission would operate. In the circumstances our relations with other nations might suffer because the members of the Commission have a different idea about what our foreign policy ought to be than the President. If this were the case, the danger would be great that the rules and regulations issued by the Commission would create the impression that we as a nation do not want to collaborate with other nations in the field of atomic energy. I am not inventing something that might ^{happen} ~~happen~~ in the future so much as I am thinking of similar events that have happened in the past.

During this war we have received directives which I believe originated with President Roosevelt instructing us to collaborate with ^a ~~the~~ joint British-Canadian project set up in Canada. Rules and regulations issued by the Manhattan District rendered this collaboration ineffective. I do not believe that we should create in the future a Commission which is so independent from the Administration that it can easily counteract, by means of rules and regulations, the directives of the Administration.

You may raise ~~XXXXXXXXXX~~ the question, "What shall we do if in spite of sincere efforts or attempts to avoid an armament race should fail?" There will be those who will then begin to think about the possibility of waging a war within the next three or four years before other nations have bombs that will threaten our security. ~~While~~ ^{While} I personally find it difficult to get enthusiastic about this "solution", I recognize that from the purely logical point of view this possibility will have to be considered if all other methods fail. But however that may be right now this possibility can hardly ^{attention} take first place in our ~~attempt~~. The May-Johnson Bill attempts to solve the difficult problem of setting up machinery which can be used for both purposes, i.e., making preparations ^{for a preventive} ~~to prevent~~ a war and establishing cooperation with other nations in order to avoid an armament race. If you wish to have machinery which can serve both of ^{these} ~~the~~ purposes, you make it very difficult for anyone to provide you with a design for ~~such~~ ^{such} your machinery. I am not saying that it is impossible to design machinery which could serve well either of these two purposes but ~~it~~ in my opinion the May-Johnson Bill as it is before us cannot serve either purpose well.

In discussing the Bill further let me limit my remarks to one single point, i.e., the question of secrecy. The question is what kind of information do you want to have kept secret? No doubt we might have to keep secret, even though we may not like to do so, technical information relating to ^{the} process

of manufacture of fissionable materials and the construction of bombs. There is, however, another kind of information which you may or may not wish to keep secret and that is information which has neither scientific nor engineering character but has political implications. Let me give you an example. The greatest secret during the war was the fact that atomic bombs could be made. Under war conditions it was perhaps legitimate to keep this information secret. But I remember that at the approach of the San Francisco Conference, many of my friends became exceedingly uneasy because they felt that the people and the delegates of the United States to San Francisco could not live up to their obligations unless they knew that atomic bombs would exist. How could they take a stand on the question of the Charter if they did not know ~~xxxxxxxxxxxxxxxxxxxx~~ ^{with} ~~xxxxxxxxxxxxxxxxxxxx~~ what the situation will be/which with the world will have to cope? As a result of representations made by a number of scientists which reached President Roosevelt, the President asked that ~~Stettinius~~ Stettinius be informed of the existence of the Bomb, and I wouldn't be astonished to hear that our delegation to San Francisco also knew of the bomb. If we go on after the war keeping information of such general type secret from the American people we prevent the American people from discussing intelligently questions of our foreign policy on the basis of facts. For instance if we succeeded in making bombs which could destroy 400 square miles in place of the 4 square miles, destroyed by the bomb//detonated over Hiroshima, would you wish to keep such a fact secret from the American people, or would you want them to know about it? ~~The fact that such a bomb exists is one kind of information which could be disclosed while the methods for making this bomb and its construction could be kept secret if the Administration desired to do so.~~ I think Congress will have to, ^{(in peace time} decide whether it wants to give the Administration the right to withhold) information of a non-technical nature which ^{has} ~~is~~ far reaching from political implications. In my opinion, if bombs ^{could} ~~can~~ be made which can destroy hundreds of square miles this would be a fact which people would have to know in order to

know how to vote.

*There would be no need for them
to know how such points are constructed.*

Perhaps there will be an opportunity later on during the discussion to mention other points connected with the Bill which will have to be discussed if we want to understand what this Bill means - what it means to scientists ~~but more~~ and more important what it means to the country as a whole.

5-6-1960

(Change of subject)

Immediately after Hiroshima, I went to see Hutchins and told him that something needed to be done to get thoughtful and influential people to think about what the bomb may mean to the world, and how the world and American can adjust to its existence. I proposed that the University of Chicago call a three day meeting and assemble about twenty-five of the best men to discuss the subject. Hutchins immediately acted on this proposal and he invited a broad spectrum of Americans ranging from Henry Wallace to Charles Lindbergh. Lilienthal attended this meeting; so did Chester Barnhart, Beardsley Ruml, Jake Weiner.

This was one of the best meetings that I ever attended. In a short period of time we discussed a variety of subjects. We discussed the possibility of preventive war; we discussed the possibility of setting up international control of atomic energy, involving inspection. The wisest remarks that were made at this meeting were made by Jake Weiner, and what he said was this: "None of these things will happen. There will be no preventive war, and there will be no international agreement involving inspection. America will be the possessor for a number of years, and the bomb will exert a certain subtle influence; it will be present at every diplomatic conference, in the consciousness of the participants, and will exert its effect. Then, sooner or later, Russia also will have the bomb, and then a new equilibrium will establish itself." He had certainly more foresight than the rest of us, though it is not clear whether what we have now is an equilibrium or whether it is something else.

One of those who attended the Chicago meeting was Edward Condon. Henry Wallace was at that time looking around for a director for the Bureau of Standards, because Lyman J. Briggs had reached the retirement age. I asked Condon

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age. I asked that Condon be invited, with the possibility in mind that he might be a suitable candidate. Wallace liked him at first sight, and Condon was interested in the position. What I did not know when I thought of Condon as a suitable candidate was the fact that Condon had admired Henry Wallace for a number of years. After the conference I had a discussion with Hutchins and Condon, and I proposed that Condon and I go to Washington for a few days and try to find out what thinking in Washington about the bomb might be.

William Benton, Vice President of the University of Chicago, had just accepted an appointment as Assistant Secretary of State under Byrnes; and when he heard that we were going down to Washington he offered to invite the top desk men of the State Department to dinner, and he asked whether Condon and I might give a short discourse on the bomb for the benefit of the Department of State. This we actually did, and I think that this was the first intimation that these people in Washington had that the advent of the atomic bomb does not necessarily mean that American military power will be enhanced for an indefinite period of time.

While we were in Washington, we somehow picked up a copy of a proposed bill on the control of atomic energy which the War Department has prepared, and which went under the name of the May-Johnson Bill. I took this bill back home with me to Chicago and gave it to Edward Levy of the Chicago Law School to read, who promptly informed me that this was a terrible bill and we had better do something to stop its passage.

While I was in Chicago I read newspapers, the House Military Affairs Committee have held a hearing on the bill which lasted for a day, and then they closed the hearing and prepared to report out the bill. At that one day hearing the proponents of the bill testified for the bill, but no opponent of the bill was heard. This was disquieting

news, but I doubt very much that I would have swung into action had it been not for a more or less accidental circumstance.

When the war ended, we were asked not to discuss publicly the bomb. We were under the impression that this request was made because there were some important international negotiations on the control of atomic energy under way, and any public discussion at this point could have disturbed these negotiations. We were not actually told this, but we were permitted to infer this, and having inferred this, we all decided to comply. Therefore all of us refused the numerous requests to speak over the radio or before groups on what the atomic bomb was and what it might mean to the world. We kept silent. S.K. Allison was the only one who gave a speech - I forgot on what occasion - and he said in this speech that he hoped very much that the secrecy which was imposed upon this type of work during the war may be lifted after the war; otherwise, he said, he personally would cease to work on atomic energy and he will start to work on the color of butterflies.

When his speech became known, Colonel Nichols flew from Oak Ridge to Chicago and gathered a number of physicists, and asked them just for a little while to be quiet and not to stir up things. There is a bill being prepared, he said, on the control of atomic energy, and when that bill is introduced in Congress that will be the right time to discuss these matters. Hearings will be held, and everyone will have an opportunity to appear as a witness and to have his say.

On the day when the one-day hearing was held before the House Military Affairs Committee and the hearings were closed, A.H. Compton arrived in Chicago and he met with the members of the project. He told us on that occasion that the War Department has prepared a bill for

passage through Congress, and that the request which was addressed to us to refrain from publicly speaking on the subject of the atomic bomb was due to the War Department's desire to pass this law without unnecessary discussions in Congress. I remember that I got mad at this point, and got up and said that no bill will be passed on the control of atomic energy in Congress without discussion if I can possibly help it.

Through pure chance I received a telephone call the next morning from Hutchins, who had lunched the previous day with Marshall Field, whether I would be willing to talk to somebody from the Chicago Sun? I said that I am eager to talk to the Sun, but I would not want to talk to the Sun without also talking to the Chicago Tribune, and would Hutchins call up Colonel McCormick and have somebody from the Chicago Tribune come and see me?

I told, in two separate interviews, the reporters who came to see me that there was an attempt on the part of the Army to pass a bill through Congress without "unnecessary discussions" and the physicists will see to it that this shall not happen. Because the information came from Compton and I regarded it as confidential, I did not feel free to identify either myself or Compton in this context; and the Chicago Tribune told me that under these circumstances they cannot use the story. The Chicago Sun, being a less well-run newspaper, did not care, and printed the story on its front page. In retrospect, I know that I made a mistake, and I should have permitted the papers to use my identity and have the story printed both in the Tribune and the Chicago Sun.

But in any case, the fight was on.

I went back to Hutchins and called up Condon, who was at that time Associate Director of Research of Westinghouse, and Condon and I once more went down to Washington to see what we could do. We could have probably done very little, had it not been for the excellent advice which we received from Bob Lamb, who was at that time Legislative Advisor of the C.I.O. He was recommended to us very highly by a number of people, and even though we did not like the idea to work with somebody who was Legislative Advisor of the C.I.O., because we did not want to involve the C.I.O., we decided to overlook this for the sake of getting really first-class advice.

I don't think that anyone knew the Congress as well at that time as did Bob Lamb. When he read the bill, he agreed with us that this bill must not pass. He arranged for us to see Chet Holifield and George Outland. Chet Holifield was on the House Military Affairs Committee, and was picked by Bob Lamb for this reason; George Outland was a friend of Chet Holifield, and a highly intelligent and competent Congressman. Both Condon and I went to see these two gentlemen and explained to them what the situation was. In the evening Bob Lamb reported to us that they were convinced that we had a good case, and that Chet Holifield would fight for us. Chet Holifield then arranged for Condon and me to see the Chairman of the Military Affairs Committee, May, and Sparkman; and he himself joined us at this conversation, and we presented the case to them. May was not impressed, and he shortly thereafter made it public that he was not going to reopen the hearing even though Dr. Condon and Dr. Szilard had asked him to do so.

By this time, however, the scientists in the project got

organized in Chicago, in Oak Ridge, and in Los Alamos. Both Chicago and Oak Ridge came to the conclusion that the May-Johnson bill was a bad bill which must not pass, and they were so vocal about it that a larger and larger portion of the press got interested in the fight.

Los Alamos, under the influence of Oppenheimer, took the opposite position, and was in favor of the passage of the bill.

Condon and I found that everybody in Washington was greatly interested in the issue. We set ourselves a schedule: everybody wanted to see us, and we decided that we would keep Cabinet members waiting for one day, Senators for two days, and Congressmen for three days before we'd give them an appointment. Henry Wallace was very much interested, and he arranged for us to meet Senator Lister Hill.

(continued on page 54.)

We went to see Ickes and Ickes grumbled that he did not read this bill at all. The War Department brought it over, left it there for half a day, and then took it away again. "This is not the first time," he said, "that Royal (?) has been giving me the bum's rush."

We went to see Lewis Strauss who was at that time in the Department of the Navy, and discovered that the Navy did not have any particular views about this bill. The bill was prepared in the War Department, and even though the President made some friendly remarks about the bill, it was not really in any sense an Administration bill. It was a War Department bill.

We then went to see James Newman, in Snyder's office. Snyder's office was supposed to steer the bill through Congress. James Newman had read the bill, and when we saw him he said to us, "I don't believe that you really understand this bill." "Well," we said, "We didn't really claim to understand it, but we just didn't think it was a good bill."

"Well, I don't think it is a good bill either," said Newman, "but I doubt that you understand what it says. Look," he says, "here the bill says: 'there will be a Managing Director and an Assistant Managing Director, and that the Managing Director has to keep the Assistant Managing Director informed at all times.' Now," said Newman, "have you ever seen a provision of this type in a bill? What does this mean? Clearly, it means that the Managing Director will be someone from the Army and the Assistant Managing Director will be someone from the Navy, and since the Navy and the Army don't talk to each other, you have to write into the bill that they must talk to each other on this occasion." For all I know it may well be that he was right.

Under public pressure, May, the Chairman of the Military Affairs Committee, was in the end forced to reopen the hearings. He reopened the hearings just for one more day. Towards six in the evening, I received a telephone call from the Office of the Military Affairs Committee asking me whether I could testify the next morning, before the Committee. I said that I would testify. Who else could testify? There was no one in town whom I knew had anything to do with atomic energy except Herbert Anderson, who has worked on the project mainly as Fermi's assistant. He was a spirited young man at that time. He is now Director of the Enrico Fermi Institute of Nuclear Studies at the University of Chicago. I asked Anderson whether he was willing to testify and he said he would, so I gave his name to the Committee. The War Department asked Oppenheimer and A.H. Compton to testify for the bill, and so there were four witnesses.

I worked through the night and had ended up with some sort of a prepared testimony, which I delivered, and I was then questioned by members of the Committee. Herbert Anderson testified after me and then came Compton and Oppenheimer. Neither Compton nor Oppenheimer were really, at heart, in favor of the bill. Oppenheimer managed to give the most brilliant performance on this occasion, for he gave members of the Committee the impression that he was in favor of the bill, and the audience, mostly composed of physicists, his colleagues, the impression that he was against the bill. He did that by the simple expedient of answering a question put to him by a member of the Committee. He was asked: "Dr. Oppenheimer, are you in favor of this bill?" And he answered: Dr. Bush is in favor of this bill, and Dr. Conant is in

favor of the bill, and I have a very high regard for both of these gentlemen." To the members of the Committee this meant that he favored the bill; to the audience, composed of physicists, this meant that he did not favor the bill.

H.C. Urey was ready to testify and this was communicated to the Chairman, but he was not called. After my testimony, the Chairman dryly remarked, that I have consumed two and a half hours of the Committee's time. It was obvious that the Chairman played ball with the War Department and the Committee was stacked against us. There was no hope of inducing the Committee of amending the bill; but even if there had been some hope, it is not possible to get a good bill by writing a bad bill and amending it. The only hope was to have the bill bottled up in the Rules Committee, and in this we succeeded. The bill has never reached the floor of the House.

One of the men whom I saw rather late in the game was Judge Samuel Rosenman, in the White House. There was no need to convince Rosenman. "I told the President" Judge Rosenman told me, "that it looks that the Army wants to pass this bill by number only."

The Senate set up a Committee on Atomic Energy under the Chairmanship of McMahon, and this Committee started hearings on atomic energy legislation early in 1946. They heard a number of witnesses, and when I testified before this Committee, delivering a carefully prepared testimony, I found a much friendlier reception than I had found before the House Military Affairs Committee.

In retrospect it seems to me that, at this point, I could have left Washington because there was not very much more that I needed to have done. There were plenty of other people interested who were

more influential than I was, yet I stayed throughout most of the hearings and listened to the testimony of several distinguished witnesses. One of the most impressive of these testimonies was the testimony of Langmuir.

One of the things which we tried to get across, and tried to get across very hard, was the notion that it will not take Russia more than five years to develop an atomic bomb also. Even though all younger men and everybody who had a creative part in the development of atomic energy was of the opinion - this is a case of Youth did not prevail.

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Youth
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In his book, Speaking Frankly, James Byrnes relates that when he became Secretary of State he tried to find out how long it would take Russia to develop a bomb. He needed this information in order to evaluate proposals for the control of atomic energy. He reports in his book that, from the best information which he could gather, he concluded that it would take Russia seven to fifteen years to make the bomb. He adds in his book that this estimate was based on the assumption that post-war recovery will be faster than it actually was, and therefore, he said, he thinks that this estimate ought to be revised upward rather than downward. Dr. Conant and Dr. Bush, Dr. Compton, all, - estimated all that it would take Russia perhaps fifteen years to make the bomb. Why this should be so is not clear, though it is of course possible to contrive a psychological explanation for these over-estimates.

The testimony which Dr. Bush gave before the McMahon Committee will always be engraved in my memory. He was asked whether it will

be possible to build ballistic missiles which would fly across the Atlantic, or a distance of 3,500 or 4,000 miles; and he said that this is utterly impossible. One of the Senators then turned to him and said, "Now, Dr. Bush, would you say that 3,000 miles is impossible?" And Bush said 3,000 miles is conceivable but 4,00 miles is utterly impossible. I know, of course, very well why Dr. Bush took this position. If you are an expert, you lose your ability - if you are an expert, you believe that you are in possession of the truth, and, while you may know much, and since you know so much, you are unwilling to make allowances for unforeseen developments. This is, I think, what happened in this case; but the net result is that the development of America's rocket program got underway about three years too late. There was no man who had greater authority in indicating what developments should and what developments should not be undertaken at the time than Dr. Bush.

10. America

Stenorette III

5-6-60 c R

Aug 6, 1945 to the
passing of the Atomic Energy Act (1)

10.

Tape III (cont'd)

Immediately after Hiroshima, I went to see Hutchins and told him

p. 56

that something needed to be done to get thoughtful and influential people

to think about what the bomb may mean to the world, and how the world and

America can adjust to its existence. I proposed that the University of Chicago call a three-day meeting and assemble about twenty-five of the best men to discuss the subject. Hutchins immediately acted on this proposal and he invited a broad spectrum of Americans ranging from Henry Wallace to Charles Lindbergh. Lillienthal attended this meeting; so did Chester ~~Barn-~~ ^{Bowles} hart, Beardsley Ruml, Jake Weiner ^(?) -- this was one of the best meetings that I ever attended.

In a short period of time we discussed a variety of subjects. We discussed the possibility of preventive war; we discussed the possibility of setting up international control of atomic energy involving inspection. The wisest remarks that were made at this meeting were made by Jake Weiner, and what he said was this: "None of these things will happen. There will be no preventive war, and there will be no international agreement involving inspection. America will be in possession for a number of years, and the bomb will exert a certain subtle influence; it will be present at every diplomatic conference in the consciousness of the participants, and will exert its effect. Then, sooner or later, Russia also will have the bomb; and then a new equilibrium will establish itself." He had certainly more foresight than the rest of us, though it is not clear whether what we have

now is an equilibrium or whether it is something else.

One of those who attended the Chicago meeting was Edward Condon. Henry Wallace was at that time looking around for a director for the Bureau of Standards, because Lyman J. ^{Briggs}~~Bricks~~ had reached the retirement age. I asked that Condon be invited with the possibility in mind that he might be a suitable candidate. Wallace liked him at first sight, and Condon was interested in the position. What I did not know when I thought of Condon as a suitable candidate was the fact that Condon had admired Henry Wallace for a number of years. After the conference I had a discussion with Hutchins and Condon, and I proposed that Condon and I go to Washington for a few days and try to find out what ^{the} thinking in Washington about the bomb might be. Graham Benton, Vice President of the University of Chicago, had

just accepted an appointment as Assistant Secretary of State under Byrnes; and when he heard that I was going down to Washington he offered to invite the topmost fellows (?) in the State Department to dinner, and he asked whether Condon and I might give a short ~~talk~~ discourse on the bomb for the benefit of the Department of State. This we actually did, and I think that this was the first intimation that these people in Washington had that the advent of the atomic bomb did not necessarily mean that American military

power would be enhanced for an indefinite period of time.

While we were in Washington, we somehow picked up a copy of a proposed bill on the control of atomic energy which the War Department had prepared; and which went under the name of the May-Johnson Bill.

I took this bill ~~back~~ back home (?) with me to Chicago and gave it to Edward Levy of the Chicago Law School to read, who promptly informed me that this was a terrible ~~bill~~ bill and we had better do something to stop its passage.

While I was in Chicago I read in the newspaper that the House Military Affairs Committee had held a hearing on the bill which lasted for a day, and then they closed the hearing and ~~prepared~~ prepared to report out the bill. At that one-day hearing the proponents of the bill testified for the bill, ^{but} ~~no~~ no opponent of the bill was heard. This was disquieting news, but I doubt very much that I would have swung into action had it not been for a more or less accidental circumstance.

When the war ended, we were asked not to discuss publicly the bomb. We were under the impression ~~that~~ that this request was made because there were some important initial negotiations on the control of atomic energy underway, and any public discussion at this point could have disturbed these negotiations.

We were not actually told this, but we were permitted to infer this and having inferred this, we all decided to comply. Therefore all of us refused the numerous requests to speak over the radio or before groups on what the atomic bomb was and what it might mean to the world. We kept silent. S. K. Allison was the only one who gave a speech -- I forgot on what occasion -- and he said in this speech that he hoped very much that the secrecy which was imposed on this type of work during the war would be lifted after the war; otherwise, he said, he personally would cease to work on atomic energy and he would start to work on the color of butterflies. When his speech became known, Colonel Nichols flew from Oak Ridge to Chicago and gathered a number of physicists, and asked them just for a little while to be quiet and not to stir up things. There was a bill being prepared, he said, on the control of atomic energy, and when that bill is introduced in Congress that will be the right time to discuss these matters. Hearings would be held, and everyone would have an opportunity to appear as a witness and to have his say.

On the day when the one-day hearing was held before the House Military Affairs Committee and the hearings were closed, ^{A. H.} ~~H. A.~~ Compton arrived in Chicago and he met with the members of the project. He told us on that

the War Department had prepared a bill for passage through Congress, and that the request which was addressed to us to refrain from publicly speaking on the subject of the atomic bomb was due to the War Department's desire to pass this law without unnecessary discussions in Congress. I remember that I got mad at this point, and got up and said that no bill would be passed on the control of atomic energy in Congress without discussion if I could possibly help it.

Through pure chance I received a telephone call the next morning from Hutchins, who had lunched the previous day with Marshall Field, (and he asked) whether I would be willing to talk to somebody from the Chicago Sun. I said that I was eager to talk to the Sun but I would not want to talk to the Sun without also talking to the Chicago Tribune, and would Hutchins call up Colonel McCormick and have somebody from the Chicago Tribune come and see me?

In two separate interviews I told the reporters who came to see me that there was an attempt on the part of the Army to pass a bill through Congress without ~~MINIMIZING~~ "unnecessary discussions" and the physicists agreed (?) that this shall not happen. Because the information came from Compton and I regarded it as confidential, I did not feel free to identify

either myself or Compton in this context; and the Chicago Tribune told me that under these circumstances they could not use the story. The Chicago Sun, being a less well-run newspaper, did not care, and printed the story on its front page.

In retrospect, I know that I made a mistake, and that I should have permitted the papers to use my identity and have the story printed both in the Tribune and the Chicago Sun. But in any case, the fight was on.

I went back to Hutchins and called up Condon, who at that time was Associate Director of Research of Westinghouse, and Condon and I once more went down to Washington to see what we could do. We could probably have done very little had it not been for the excellent advice which we received from Bob Lamb, who was at that time Legislative Advisor of the CIO. He was recommended to us very highly by a number of people, and even though we did not like the idea of ~~WORKING~~ working with somebody who was Legislative Advisor of the CIO (because we did not want ~~WHATEVER~~ to involve the CIO), we decided to overlook this for the sake of getting really first-class advice. I don't think that anyone knew the Congress as well

did
at that time as/Bob Lamb.

When he read the bill, he agreed with us that this bill must not pass. He arranged for us to see Chet Holifield and George Auckland (?). Chet Holifield was a part (?) of the House Military Affairs Committee, and was picked by Bob Lamb for this reason; George Auckland was a friend of Chet Holifield, and a highly intelligent and competent Congressman. Both Condon and I went to see these two gentlemen and explained to them what the situation was. ~~MMMM~~ In the evening Bob Lamb reported to us that they were convinced that we had a good case, and that Chet Holifield would fight for us. Chet Holifield then arranged for Condon and me to see the Chairman of the Military Affairs Committee (May) and Sparkman, and he himself joined us at this conversation, and we presented the case to them. May was not impressed, and he shortly thereafter made it public that he was not going to ~~MMMMMM~~ reopen the hearing even though Dr. Condon and Dr. Szilard had asked him to do so.

By this time, however, the scientists in the project got organized in Chicago, in Oak Ridge and in Los Alamos. Both Chicago and Oak Ridge came to the conclusion that the May-Johnson Bill was a bad bill which must not pass, and they were so vocal about it that a larger and larger portion of

the press got interested in the fight.

Los Alamos, under the influence of Oppenheimer, took the opposite position, and was in favor of the passing of the bill.

Condon (2) and I found that everybody in Washington was greatly interested in the issue. We set out as a schedule -- everybody wanted to see us, and we decided that we would keep Cabinet members waiting for one day, ~~XXXXXXXXXXXXXXXX~~ Senators for two days, and Congressmen for three days before we would give them an appointment. Henry Wallace was very much interested, and he arranged for us to meet Senator Lister Hill.

10. America

Aug 6, 1945 to the Passing
of the Atomic Energy Act

TRANSCRIPTION - LEO SZILARD

Stenorette IV

5-6-60 c R.

1. Top 4

~~May 6, 1960 with Rosenfeld~~
~~May 14, 1960 L.S. alone~~

~~May 6, 1960 c R.~~
~~May 14, 1960 alone~~
LS

S: Yes. We went to see Ickes (X) and Ickes grumbled that he did not read this Bill at all. The Wardman brought it over, left it there for half a day, and then took it away again. This is not the first time, he said, that [redacted] has given me the bum's rush.

We went to see Louis Strauss who was at that time in the Department of the Navy and discovered that the Navy did not have any particular views about this Bill. The Bill was written

in the War Department, and even though the President made some friendly remarks about the Bill, it was not really in any sense [redacted]. It was a War Department Bill.

We then went to see James Newman in the Office of -- Duke Snyder's office. Snyder's office was supposed to steer the Bill through Congress. James Newman had read the Bill and when we saw him, he said to us, "I don't believe that you really understand this Bill."

"Well," we said, "We didn't really claim to understand it, but we just didn't think it was a good Bill."

"Well, I don't think it is a good Bill, either," said Newman,

"but I doubt that you understand what it says. Look," he says, "here the Bill says 'there will be a managing director and an assistant managing director, and that the managing director has to keep the assistant managing director informed at all times. Now," said Mr. Newman, "have you ever seen a provision of this type in a Bill?" What does this mean? Clearly, it means that the managing director will be summoned from the Army and the assistant managing director will be summoned from the Navy, since the Army and the Navy don't talk to each other, you have to write into the Bill that they both talk to each other on this occasion." Now, for all I know it might well be that he was right. Under public pressure, May, the Chairman of the Military Affairs Committee was in the end, forced to reopen the hearings. He reopened the hearings just for one more day. Towards 6:00 in the evening, I received a telephone call from the Office of the Military Affairs Committee asking me whether I could testify the next morning, before the Committee. I said that I would testify. Who else could testify? There was no one in town whom I knew who had anything to do with atomic energy except Herbert Anderson, who has worked on the project mainly as Fermi's assistant. He

was a spirited young man at the time. He is now Director of the Enrico Fermi Institute of Nuclear Studies at the University of Chicago. I asked Anderson whether he was willing to testify and he said he would, so I gave his name to the Committee. The War Department asked Oppenheimer and A. H. Compton to testify for the Bill and so there were four witnesses. I worked through the night and had ended up with some sort of a prepared testimony which I delivered and I was then questioned by the Members of the Committee. Herbert Anderson testified after me and then came Compton and Oppenheimer. Neither Compton nor Oppenheimer were really, at heart, in favor of the Bill. Oppenheimer managed to give the most brilliant performance on this occasion for he gave the Members of the Committee the impression that he was in favor of the Bill and the audience, mostly composed of physicists, his colleagues, the impression that he was against the Bill. He did that by the simple expedient of answering a question put to him by a Member of the Committee. He was asked, "Dr. Oppenheimer, are you in favor of this Bill?" And he answered, "Dr. Busch is in favor of this Bill and Dr. Conant is in favor of the Bill and I have a very high regard for both of these gentlemen."

To the Members of the Committee this meant that he favored this Bill. To the audience, composed of physicists, this meant that he did not favor the Bill.

^{Urey}
~~H. C. Yurt~~ (?) was ready to testify and this was communicated to the Chairman but he was not called. After my testimony, the Chairman dryly remarked, that I had consumed two and one half hours of the Committee's time. It was obvious that the Chairman plays ball with the War Department and the Committee was stacked against us. There was no hope of inducing the Committee of amending the Bill but even if there had been some hope, it is not possible to get a good Bill by writing a bad Bill and amending it. The only hope was to have the Bill bottled up in the Rules Committee and in this we succeeded. The Bill never reached the floor of the House.

One of the men whom I saw rather late in the game was Judge ^{Rosenman} Samuel ~~Roseman~~ in the White House. There was no need to convince ^Roseman. I told the President that ^Roseman told me that it looks that the Army was to pass the Bill by number only. After a while,

The Senate set up a Committee on Atomic Energy under the Chairmanship of ^{Mahon} ~~McNair~~ and this Committee started hearings on atomic

energy ~~registration~~ early in 1946. They heard/^anumber of witnesses and when I testified before this Committee - they were very careful about testimony - I found a much friendlier reception, than I had found before the House Military Affairs Committee.

In retrospect it seems to me that, at this point, I could have left Washington because ~~I was~~ very much more that I need to have done. There were plenty of other people interested and more influential than I was, yet I stayed throughout most of the hearings and listened to the testimony of several distinguished witnesses. One of the most interesting of these testimants was the testimony of Langmuir(~~f~~).

One of the things which we tried to get across and tried to get across very hard, was the notion that it will not take Russia more than five years to develop an atomic bomb also. Even though all younger men and everybody who had a creative part in the development of atomic energy was of the opinion - this is the case of

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Skinner IV.
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Rosenfeld 1.
+ alone
Stenorette IV

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part of 10.
~~Starting a new chapter:~~ The only addiction of which I am

*(? L5 alone - starting up Spencere
IV - ? el 40)*

rarely aware is my addiction to truth. It is ~~###~~ possible to trace the sources of a man's addiction but in my case I have no difficulty in tracing my own addiction to the truth to the tales which my mother told me when I was a child. My mother was fond of telling tales to her children and she always had some particular purpose in mind. Why she wanted to inculcate addiction to truth in her children is not clear to me. I remember one story which made a deep impression on me about my grandfather. My grandfather was a high school student at the time of the Hungarian Revolution in 1948. In high school, when

the children were waiting for the teachers to turn up, it was customary in Hungary for one child to keep watch. It was his task of keeping a list of those children who were disorderly and when the *teacher* came to class, he was supposed to submit the list of these disorderly children to the teacher for punishment. In the particular case of the story which my mother told me, the Hungarian Revolution of 1948 was on. A troop of soldiers was marching by the school and a number of children violated orders by leaving the class and lining the street and cheering the soldiers. My grandfather, who was supposed to keep watch on disorderly children, joined those who left the school building *and cheered* ~~to see~~ the soldiers. When the teacher turned up for class, all children were back in the classroom and my grandfather rendered his report. He gave the teacher the list of those children who violated ~~his~~ orders and went out to the street and this list included his own name. The teacher was so much taken aback ~~by~~ *by* ~~with~~ *with* his frankness that no ~~one~~ *body* was punished.

I remember that I was a very sensitive child and somewhat high-strung and I couldn't say that I had a happy childhood but my

childhood was not unhappy either. For some reason or other I was frequently ill ~~up to the year~~ ^{to} up the age of 10 and I did not go much to school. I had mostly instruction at home. [¶] But from my tenth year I was sent to a public school. For some reason or other, throughout the eight years which I spent at the public school until I reached the age of 18, I ^{ve} always been a favorite of the class. Just ^{precisely what} this was due to, I couldn't say. I suppose it was somehow the reaction of the class to my personality and I somehow cut a favorite figure from the set of values - ^{from} ^{the point of view} a set of values which were at that time prevalent in the city of Budapest. There were others who ^{used} ^{marks of} did better work in school even though I had pretty good marks, but these others obviously strove to get good marks and this was resented by the class. My good marks simply came from the fact that I had no difficulty in keeping ahead. I was interested in science, I was interested in mathematics, and I knew languages because we had governesses at home, first in order to learn German and, second in order to learn French. [¶] Perhaps my popularity was also due to my frankness which was coupled with a lack of aggression. ~~###~~ One of the favorite sports of the class was, at

that time, the playing of soccer. I was not a good soccer player but because I was liked there was always a rivalry between the two teams on whose side I will be. I was sort of a mascot. They discovered early that I was, from an objective point of view, no asset to the team and it didn't take them long to discover that I could do least damage by being the goal keeper. ~~So up to the age of 14,~~
~~— sorry —~~ So up to the age of 15, when I finally refused, I played every soccer game of the class on one or the other side, very often on the losing side. In thinking back, I have a feeling of gratitude for the affection which went so far that my classmates did not mind occasionally losing a game for the sake of having me on their team.

I must have made a rather strong impression on my schoolmates, judging from the fact that they reported to me years later a conversation which they had with me which I had forgotten. One of these "memorable" conversations occurred at the outset of the first World War. I was 16 years at the time and, when the war started, we didn't have a very good conception of what kind of an enterprise ^{this} it was. Most people thought that the war would last just a few months, and, ~~as the Kaiser said~~ ^{as} the German Kaiser once said, "Our troops would

be back by Christmas," ^{and} He meant Christmas, 1914. ^P There was speculation in the class of who might win the war, and apparently I said that to them at the time, /I did not of course know who would win the war, ~~and~~ - but I know how the war ought to end. It ought to end by the defeat of the ^{central powers, that is} Austrian-Hungarian ^{and} monarchy ^{and} in Germany, ~~in the~~ end by the defeat of Russia. Now, this I said, I couldn't quite see how ^{this} ~~it~~ could happen, since they were fighting on opposite sides, but I said that ~~this is really how it ought to~~ - this is ^{really} what ought to happen. ↗

(In retrospect I find it difficult to understand how at the age of 16 and without any direct knowledge of countries other than Hungary, I was able to make this statement. Somehow I ^{felt} ~~said it~~, that Germany and the Austrian-Hungarian Empire were weaker political structures than both France and England. At the same time, I ^{felt} ~~said~~, that Russia was a weaker political structure than was the German Empire.

I am inclined to think that my ^{clarity} of judgement has reached its peak when I was 16 and that thereafter, it did not increase any further and perhaps even declined. Of course, a ^{man's} ~~clarity~~ of judgement

- Of course, a man's ^{clarity} of judgement is never very good when he is involved, and as you grow older, ^{and as} you grow more involved, your ^{clarity} of judgement suffers. ^{This} It is not a matter of intelligence, ~~to~~ this is a matter of ability to keep free from emotional involvement.

I was certainly remarkably free of ~~the~~ emotional involvement during the First World War. I remember that when the war started we were at an Austrian resort in [✓]Felden (?). We immediately made arrangements for returning to Budapest by train and, as our train moved slowly towards Budapest, more and more troop trains pulled alongside the train or passed us. ~~The soldiers in all these trains~~
^{all} Most times, the soldiers ⁱⁿ the trains were drunk. Some of the fellow passengers looking out a window and seeing the troop trains pass by made ^uthe remark to my parents that it was heartening to see all this enthusiasm, and I remember my comment which was that I could ~~not~~ see much enthusiasm but I could see much drunkenness. I was immediately advised by my parents that this was a tactless remark, which, ^{am} I'm afraid, had only the effect that I made up my mind then and there that if I have to choose between being tactless and ^{would} being untruthful, I prefer to be tactless.

Thus my addiction to the truth was victorious over whatever inclination I might have had to be tactful.

The war years were rather uneventful for me even though, one year before the end of the war, I was drafted into the army. In

~~#####~~ Austria and Hungary, again corresponding to ^{the} a set of values of those times in those localities, a young man who had

high school education was automatically scheduled to become an of-

ficer, so I was sent to Officers' School, and again in accordance

with a set of values of those times, I ended up third in the Of-

ficers' School ^{of the} Brigade in spite of the fact of my rather unmilitary

posture. Even though I was obviously not what you might call a

good soldier, my teachers were impressed with my ability to grasp

scientific and technical problems. Because I was able to explain ^{how}

the telephone ^{works} at a time ~~when no other~~

in the class when nobody else [↑] could explain the functioning of this

mysterious gadget, I had a certain amount of standing in the class,

and in spite of my unmilitary behavior I ended up third of my class,

which comprised the officers-to-be of the ^{of} particular yearly ~~class.~~

Since people have no imagination whatsoever, they cannot imagine in

peacetime that there should be war, and if the war goes on for a few

years, they cannot imagine that there ever will be peace. So, by the time of the third year of the war when I was drafted and sent to Officers' School, nobody could imagine that war would ever end, and, therefore, more and more emphasis was put on the thorough training of officers. So after I left Officers' School, we were sent to further training in a camp which was established on the German front in Kuffstein. There, while war was raging elsewhere, we were taken on daily trips to the mountains, the Kaisergrube, and by trains in other completely superfluous activities. I imagine we were that in reserve, and that at that particular moment there was no great need at the frontier for officers in the Austrian-Hungarian Army. Our commanding officer, a Captain, had only a few fixed ideas which bothered us; otherwise, he left us complete freedom. One of these ideas were that it was not becoming an officer to walk along the street with his gloves in his hands. He should either wear no gloves or he should put the gloves on. He was also concerned about our being properly dressed and he was indignant when he learned that we didn't bring with us a dress uniform. From then on, it became customary to ask for leave of absence to go home in order to

pick up one's dress uniform. If the war had lasted long enough, we would have all ended up with our dress uniforms ready for festive occasions. Those who went home to Hungary to pick up their dress uniforms were also expected to bring ^{back} some flour. There was a shortage of foodstuffs in Austria ^{when} and Hungary ^{but had} still plentiful food. These leaves of absences usually amounted to about one-fifth to one-third of the School being absent on ^{trips home}. One day, I awoke with a strong headache and high temperature. This frightened me because I knew that if I came down with something like pneumonia I would be put in a hospital in K ^{uffstein} and I would have never a chance to be sent to a hospital back home. Rules in this respect were very severe. We were in the so-called Etape and nobody who was ill could go home. I, therefore, decided that I will ask for a leave of absence to go home for a few days, and then report ill, if my condition gets worse. This way I would land in a hospital in Budapest near home, and ^{if} I were seriously ill, I could have my family look after me. In order to get a leave of absence it was necessary to go through the routine of reporting to the commanding officer in ^{a ceremonial} form. Those who had any requests or who were ordered to face punishment,

~~were~~ usually 15 to 20 on any one day, were lined up in a corridor of the office building where the ~~commander~~ - commanding officer resided, and ~~then~~ have to wait his pleasure. After a half an hour or an hour, he would turn up, stop in front of each man and each man could bring forward his request. My main difficulty was that by the time ~~###~~ this formality started, around noon, my temperature was 102 F. Standing at attention for half an hour or an hour or even standing relaxed is rather a strain if you have a high temperature, and there is always ^a ~~the~~ danger that you may fall on your face. However, I somehow pulled myself together and when my turn came to speak up to the commanding officer, I asked him for a leave of absence ~~for three~~ to go home for a week, because my brother had a serious operation and my parents needed my moral support. He said that he had no objection to my getting a leave of absence and to my home for a week, but right now there were just too many people on leave of absence and I ought to wait until ^{a few people come back and} ~~###~~ Then ~~###~~ he would give me leave to go. I immediately replied that the operation of my brother could not be postponed, and that if it ^{here} ~~was~~ impossible for me to get a leave of absence now for a week, then I would modify my request and ask for a leave for two days, so that I

going

could be home on the day of the operation. The Captain was taken
 aback because ~~#####~~, while it was perfectly all right to
 lie, it was not customary to insist if the request was refused.
 However, just because he was taken aback and did not know quite
 what to think, ~~he~~ I got my leave of absence. ⁹ Now the difficulty
 was how to get to the train, which left about midnight. ^{With the support of} a few of my
 comrades who kept me erect, I was finally pushed into the train and
 sat down in a corner in a compartment,

There were a few other officers in the same compartment and
 when morning came, one of them told me, "Do you feel better now?
 You were pretty drunk last night." "I was not drunk," I told him,
 "I was ill." He didn't reply to this but I could see that he didn't
 believe me. ⁹ As the train approached Vienna, I took my temperature
 again, and to my horror, I saw that it was falling. I spent the
 night in Vienna, and asked a doctor to look me over, who told me ^{that} I had
 no pneumonia and ~~that~~ I was not in a bad shape. The next day I ar-
 rived in Budapest with my temperature down but with a persistent
 cough making its appearance. That I landed in a hospital in Buda-
 pest was not due to my state of health but to my family connections.

I wrote to my commanding officer ~~#####~~ expressing my regrets that I was not able to return to the ^{course,} ~~class~~ and got an affectionate letter commending me for my past military performance and wishing me good luck.

A week later, I received another letter advising me that the class has been dissolved and that everybody was sent to the front. Not long afterwards, I heard that my own regiment at the front had been under severe attack and that all of my comrades disappeared.

The hospital to which I was sent was a hospital for soldiers who suffered from tuberculosis. I did not suffer from this disease and by now I knew what was wrong with me. It seems that I was the first victim of the Spanish Influenza in the Austrian Army.

Correction. Insert earlier.

Two weeks later, I had a letter from my commanding officer advising me that an epidemic of Spanish Flu has broken out in the School and that the School was practically closed. It appears that I may have been the first victim of Spanish Influenza in the School and perhaps in the whole Austrian Army.

Correction. Insert earlier.

So it appears that the Spanish Flu which caused the death of

many of my comrades has saved my own life. Perhaps I should add the Spanish Flu and my own determination to go home when I was ill.

The collapse of the Austro-Hungarian Army, was followed by a troubled period in Hungary, and ended with the Communist Government of Bela K^uthi which lasted about 4 months. This Government lasted too short a period of time to be able to do anything except hold office. During this period the things which have deteriorated during the war deteriorated even further, and I made up my mind that I wanted to leave Hungary in order to study in Germany. One year before I had been drafted I entered, as a student, a Hungarian institute of Technology in order to study electrical engineering. My real interest at that time was physics, but there was no career in physics in Hungary. If you studied physics, all that you could have become was a high-school teacher of physics, not a career that had any attraction for me. Therefore, I considered seriously to do the next best thing and to study chemistry. I thought that if I studied chemistry I would learn something that is useful in physics and I would have enough time to pick up whatever physics I needed as I went along. This, I believe in retrospect, was a wise choice, but I didn't follow

it, for all those whom I consulted impressed upon me the difficulty of making a living even in chemistry and they urged me to study engineering. I succumbed to that advice, and I cannot say that I regret it, because whatever I learned while I was studying engineering came me in good stead later after the discovery of the fission of uranium.

During the troubled times of the Communist regime of Bela K *Kadar*, I made a strenuous effort to obtain a passport and to go - to continue my studies of electrical engineering in Germany. One or two days after these efforts were successful, the Communist regime collapsed and was replaced by the regime of *Horthy*. Thus, I had to start from scratch in my quest for a passport, but through the help of friends I got one rather quickly and I left Hungary to go by *way of Vienna* ~~into~~ Berlin. This was about the worst time after the war because of the coal shortage. There was a shortage of food and ^{there was} a shortage of coal, because ^{of} a shortage of coal, travel was slow and, as a matter of fact, it took me two weeks to get from Budapest through Vienna to Berlin. ⁹ I stayed in ~~Berlin~~ ^{Vienna} only for a few days, as long as it was necessary to make arrangements for the trip to Berlin, but during those few days, I was greatly

impressed by the attitude of the Viennese, who, in spite of starvation and misery, were able to maintain their poise, and were as courteous as they have always been, to each other, as well as to strangers.

In Berlin I had to face new difficulties. The number of foreign students who were admitted were limited. *The attitude towards* foreign students was not friendly in this respect and I had had in Hungary considerable difficulty in obtaining a German Visa. I first tried to get a German Visa to go and study in Munich. I was told that in order to obtain such a Visa, I must first furnish proof that I ^{have} had been admitted as a student at the Institute of Technology in Munich. I wrote to the Institute of Technology and received the reply that they would admit me as a student if the police would give me a permission of residence. I wrote to the police in Munich asking for such a permission, and was told that if I were admitted as a student at the ~~#####~~ *Technische Hochschule* the police would give me such a certificate of residence but otherwise they wouldn't. ~~#####~~ There was no legal way of solving this dilemma, but there seems to be in operation a law of nature which says that if all legal ~~#~~ways are barred

in a righteous cause, the righteous cause finds some illegal ways to achieve its purpose. In this particular case, the illegal ways

consisted in a forged telegram I put through through ~~France~~ ^{procured through friends} at

Army Headquarters in Budapest, which advised me that I have been

admitted to the *Technische Hochschule of Berlin - Charlottenburg* as a student.

On the strength of that telegram I obtained a visa, the German

Visa, and left for Berlin in order to apply for admission to the

Technische Hochschule of Berlin. This permission I finally

got, but not without difficulty and not without having to bring to

bear all the pressure I could through such private connections as

I was able to muster in the city of Berlin.

Berlin, at that time, lived in the heydays of physics.

~~E~~ ^{Von Laue} Ashton was there, Max Planck and ~~Van Leuw~~ were at the University

of Berlin, and so was Walter ^{Labor} Nernst, and Fritz ~~Harper~~ (?) who was

at that time director of one of the Kaiser Wilhelm Institutes. En-

gineering ^{attracted} ##### me less and less and physics attracted me more

and more, and finally the attraction became so big that I was physi-

cally unable to listen to any of the lectures through which I sat

more or less impatiently at the Institute of Technology.

Even though all arguments ^{by} ~~must have~~ the conscious spoke

in favor of getting a degree in engineering rather than getting
 a degree in physics, whatever ^{idealism} consultations went on, on the sub-
 conscious level, argued for the opposite. In the end, as always,
 the sub-conscious proved stronger than the conscious, and it made
 it impossible for me to make any progress in my studies of en-
 gineering. Finally the ego gave in and I left ^{the Technische Hochschule}
 to complete my studies at the University. Sometime around the
 middle of '21,

A Student of physics had, those days, in Berlin, great free-
 dom.

Boys ~~who~~ left high school when they were 18 years old. They
 were admitted at the University without any examinations. There
 were no examinations to pass for four years, ^{during} in which time the
 students could study whatever he was interested in. When he was
 ready to write a thesis, he thought of a problem of his own or he
 asked his professor to propose a problem on which he could work.
 At the better Universities, ^{and} Berlin belonged to them, ^a thesis, in
 order to be acceptable, had to be a piece of really original work.
 If the thesis showed the student to be really able, and was accepted,
 the student had to pass an oral exam-