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of Leo Szilard

In the following months Fermi and I teamed up in order to explore whether a uranium water system would be capable of sustaining a chain reaction. The experiment was actually done by Anderson, Fermi and myself. We worked very hard at this experiment and we saw that under the conditions of this experiment more neutrons are emitted by uranium than absorbed by uranium. We were therefore inclined to conclude that this means that the water uranium system would sustain a chain reaction. Whether finally we should have said that in print I do not know. However, the fact is that we Plucsep believed it until George Placrik dropped in for a visit. Placrik said that our conclusion was wrong because in order to make a chain nedure reaction go, we would have to climinate the absorption of water; that is, we would have to reduce the amount of water in the system,

and if we reduced the water in the system we would increase the parasitic absorption of uranium and he recommended that we abandon the water uranium system and use helium for slowing down the neutrons. To Fermi this sounded impractical and therefore funny, and Fermi Placsek's referred to helium thereafter as Rizzrika helium. I took Placsek more seriously and, while I had, for purely practical reasons, no enthusiasm for helium, I dropped then and there my pursuit of the uranium water system; thus, while Fermi went on examining this system in detail and trying to see whether by changing the arrangements he could not improve it to the point where it would sustain a chain reaction, I started to think about the possibility of using pe perhaps graphite instead of water. This brought us to the end of June. We wrote up our paper, Fermi left for the summer to go to Ann Arbor, and I was left alone in New York. I still had no position at Columbia; my three months as a guest were up, but there were no experiments going on anyway and all I had to do was to think. Some very simple calculations which I made early in July showed that the

graphite uranium system was indeed very promising, and when Wigner came to New York, I showed him what I had done. At this point, both Wigner and I began to worry what would happen if the Germans general got hold of some of the vast quantities of the uranium which the Belgians had in the Congo. So we began to think through what channels we could approach the Belgian Government and warn them against selling any uranium to Germany.

It occurred to me then that Einstein knew the Queen of the Belgians, and I suggested to Wigner that we visit Einstein, tell him about the situation and ask him whether he might not write to the Queen of the Belgians. We knew that Einstein was somewhere on Long Island but we didn't know precisely where, so I phoned his Princeton office and I was told he was staying at Dr. Moore's cabin at Peconic, Long Island. Wigner had a car and we drove out to Peconic and tried to find Dr. Moore's cabin. We drove around for about half an hour. We asked a number of people, but no one knew where Dr. Moore's cabin We were on the point of giving up and about to return to New

York when I saw a boy of about seven or eight years of age standing at the curb. I leaned out of the window and I asked: "Say, do you by any chance know where Professor Einstein lives?" The boy knew and he offered to take us there, though he had never heard of Dr. Moore/s cabin.

This was the first Einstein heard about the possibility of a chain reaction. He was very quick to see the implications and perfectly willing to do anything that needed to be done. He was reluctant to write to the Queen of the Belgians but he thought he would write to one of the cabinet members of the Belgian Government whom he knew, and he was about to do just that when Wigner said that we should not approach a foreign government without giving the State Department an opportunity to object. So Wigner proposed that Einstein write the letter and send a copy to the State Department with a covering letter. Einstein should say in that covering letter that if we don't hear from the State Department within two weeks,

then he will send the letter to Belgium. Having decided on this course, in principle, we returned to New York and Wigner left for California. (This goes to show how "green" we were. We did not know our way around in America, we did not know how to do business, and we certainly did not know how to deal with the Government.) I had, however, an uneasy feeling about the approach we had decided upon and I felt that I would need to talk to somebody who knew a little bit better how things are done. I then thought of Gustav &k Stalper. He used to live in Berlin, where he had published a leading German economic journal and had been a member of the German parliament; how he was living as a refugee in New York. I went to see him and talked the situation over with him. He said that he thought that Dr. Alexander Sachs, who was economic adviser to the Lehman Corporation and who had previously worked for the New Deal, might be able to give us advice on how to approach the American Government and whether we should approach the State Department or

went to see him and I told him my story. Sachs said that if Einstein were to write k a letter to President Roosevelt, he would personally deliver it to the President, and that there was no use going to any of the agencies or Departments of the Government; this issue should go to the White House. This sounded like good advice, and I decided to follow it.

In the meantime, Teller arrived in New York and I asked

Teller whether he would drive me out to Peconic. Teller and I went

to see Einstein and on this occasion we discussed with Einstein the

practa possibility that he might write a letter to the President.

Einstein was perfectly willing to do this. We discussed what should

be in this letter and I said I would draft it. Subsequently, I

sent Einstein two drafts to choose from, a longer one and a shorter

one.

We did not know just how many words we xx could expect

the President to read. How many words does the fission of uranium rate? So I sent Einstein a short version and the longer version; Einstein thought the longer version was better, and this is the version which he signed. The letter was dated August 2, 1939. I handed it to Dr. Sachs for delivery to the White House.