Q between yourself and Meyer Weisgam that I suspect the differences in philosophy about how the Institute should be run and I wonder if you could expand on this.

A Well as I indicated before his contribution to the Institute was very great but the concept that you can run scientific research institutes on the basis of just provide the best possible conditions for the work, get the best people you can and leave them alone is an unrealistic one. It is unrealistic not only for the Weizmann Institute, it is unrealistic for a university or any other activity in this day and age because resources are finite. One has to reach decisions on priorities, one thing and another and the need for organization and decision making about priorities of research and also the need for developing collaborative efforts among scientists is very great that you couldn't just say leave it alone. Somebody had to make a decision whether A would get ten million dollars and B would get nothing, or who gets what. And that was never done in a reasonable way at the Institute so that even though I attempted to get the advice, that he had accumulated over the years, I obviously was my own man, which is what he wanted me to be because I have his letters, you see. You are going to be your own man he said just before I came, after I was elected president. But he said I will be there to offer my advice whenever you want it. Well apparently he didn't want just to offer advice. He wanted to continue running it. It was the kind of an attachment that I can understand but which was impossible. The board of governors also understood and thought that the best way would be that he would not be continuing living on the campus. And they spent a lot of
money to fix him up an apartment in Tel Aviv instead of on the campus but no he came back you see. And furthermore, he continued to sort of hold court so that everybody who found some reason for not being satisfied with what the ultimate decision had to be would run, sort of make end runs and he being the person that he is to carry on a gossiping campaigns and made life for me miserable in quite a number of different ways. But I've seen this in other institutions, in other places. It is not unusual. Let's take the University of Cincinnati that we both know. I was a very great friend of President Langsam and when he became emeritus, and remained on the campus and a new president came along, the feelings between him and the new president were not of the best to describe it mildly because I became very good friends with both. I didn't know the new president. He came while I was away, from Cincinnati. But then we got to know each other. And I continued to have the warmest relationship with the former president and his wife, but at the same time I knew the other one. And I came to realize the following: that there is something that is a more, let's say, general manifestation general phenomenon that a president who has spent a great part of his life to developing an institution and now becomes emeritus, and when a new man comes in and does many things which he didn't do before, subconsciously looks upon it as a reflection of his own incapacity. And I have yet to see a situation in which, when a former president of an institution remains in sight, when a new man comes along, that there isn't really, ultimately, somehow a bad feeling that arises that is not the fault of the new man so much but that it is a natural consequence of the fact that, and perhaps not always, but
very often the previous man looks upon any innovation, any change as almost a slap in his face as to hell, why the hell didn't he do it. Therefore it can't be good.

Q Let me ask you another question. You made certain allusions that in a sense you were the new boy on the block and moreover, a new boy who was not native to Israel. How did the faculty take to Dr. Sabin who is after all an American and not an Israeli?

A Well, let me say this that while contrary to general beliefs most of the faculty were not native born. Many were. And if they were not native born they came as small children. And they fought and bled and it was part Israel—Israel was part of their life you see. There were also many who came from other countries and continued to come. And I would say that to the extent that no chief executive officer in any institution can hope to be able to please everybody. If he wants to please everybody the best way is to do nothing, let everybody run his own way and just end up with bedlam. So somebody must always disagree. But I would say that I developed by and large a very warm relationship that a considerable number of the faculty because I had no personal ax to grind. That was it. For the first time there was a scientist present since Weizmann. There was a scientist president who did not have a department there, who was not a scientific director and he had his own department or his own discipline. So that I did develop a broad base of friendship. And I was very gratified as the minutes of the final board of governors meeting shows when there was a lot of disagreement among faculty also about policy and particularly the policy of the new self-proclaimed almost chairman of the board and there was one of those discussions at the board of governors, the last board of governors
meeting in November of 1972, but it really made me sick. Not because of attacks on me but because of the whole nature of the thing and so I didn't come to a morning meeting. It was already announced that I was resigning etc., etc. And it was more a discussion about the new acting president, a new kind of president, what should be done and some of the people made some horrible remarks both non scientist members of the board and some of the members of the faculty who always attend the board meetings, so I didn't come. And it was interpreted by some of the deans and faculty members that somehow perhaps somebody hurt my feelings. And they got up and gave speeches to the board of governors in expression of the esteem and the feelings of what I had contributed to the Weizmann Institute that I found very gratifying. And subsequently when I went back I had a very special expression of esteem of my services. So, I would say that while of course there are always some who I am sure didn't like me, that I nevertheless still have a wonderful relationship so every time I went back to Israel in '73, '74, '75, I go back to the Weizmann Institute. I live on the campus and the warmest association with--.

Q Let me ask another question. You mentioned mission oriented research. How did people at the institute take to this notion?

A You would, if you would put this in the sense of whether or not scientists working in Israel whether at the university or the Weizmann Institute wanted to do whatever they possibly could to help advance the growth and development of Israel. I would say that there was more of that kind of motivation than probably in any other part of the world. But when it came specifically to implement something that he would have to do himself, then the difficulty
arose so that I would say that there was certainly a large body who said this is not for us. We are serving Israel just be advancing science and yet they wanted to help, and many of them did help, because in the beginning, in 1948 the people in mathematics and Petrowski and they went out into the desert, you see, and they were looking for uranium and they were looking for minerals and they were looking for things to help Israel. There is no question of dedication and first in Professor Petrowski himself and his group developed a heavy water, the process for heavy water which was tremendously important and helped the world. So that there were a great many who had that dedication. But the way to put it into effective use—that was where the difficulty arose.

Q Now when you speak of mission oriented research at an institute, one therefore thinks of special relations that the institute has with government.

A No. Not necessary with government but with a conception of what are the needs now. We are talking because agriculture has as I have already described, very excellent record. But rather with what are the ways and means by which research in a special field could advance the economic development of Israel. And the idea that I had never was that research of the broadest nature in which phenomena are investigated for their own sake, to advance the disciplines of physics or chemistry of mathematics or physics of biochemistry or immunology, whatever. It was not a question of this or that. But it was a question of having a balance in the institute where side by side with discipline-oriented research, non categorical research as I have talked about it before, could be carried on with research directed towards the achievement of
special objectives. And one of the problems that I found in Israel in general which applies to other countries also is that when scientists on their own who are motivated and want to help in dealing with certain important problems having to do with economic development let's say, that they invariably think of the wrong problem because they don't know what the needs are for economic development. They don't know what would be a market or what would be the basis for establishing a new industry. And as a matter of fact, an analysis is shown of the so called applied research—it's a term which I personally dislike—because it is misunderstood. The so called applied research has been done at institutions of higher learning in Israel, and at the Weizmann Institute for many years before I came, it just didn't even earn enough to cover the costs of somebody who had to be involved in trying to get a patent or anything. They dealt with the wrong problem. And the thing that I tried to bring in was that in real mission oriented research, in problem oriented research related to the development of certain specific activities of importance to industry that you must work with industry. That you cannot have a scientist by himself dreaming up of what may be important and it may turn out he will work for ten years and use up the resources of the institute and come up with something that has a market equivalent to not even the costs of what he himself requires to support himself for a year, or to work alone, not to work in a team. And therefore what I tried to do was to by working with and familiarizing myself with the problems of existing industrial development in Israel, with the ministries of what would be required for Israel really to develop for itself an industrial
new capability that would provide sources for export. And one of the conclusions I came to and then tried to implement was that even if science and technology in Israel would come up with something with a process or something that would give it a tremendous advantage on the international market, that the giants controlling the international market would be able to freeze it out. They wouldn't have a ghost of a chance to compete. So if you can't compete with the giants, my philosophy was work with them. Many of the giants in various industrial activities spent hundreds of millions of dollars a year for research and development, in different categories, hopefully because that would create the new markets, the new processes, the new industry of the future. And my idea was to go to them and to ask them whether they could identify problems which they regard as very important and in which the expertise already existing at the Weizmann Institute could let's say help to take a part of the challenge. You don't take a protocol. You take a challenge. So that if they could spend half percent, one percent, invest it in the Weizmann, but work side by side. In other words, just as the development of the transistor which is touted so much as the basis for the revolution in American industry, had to be a equilibrium kind of reaction between the man who was developing it and Bell Telephone Laboratory, so you have to go back. You have to work with the people in industry who might use that process, tell you are on the right track, tell you you are on the wrong track instead of just being given 50 thousand dollars a hundred thousand dollars, work on something--no. I tried to develop a plan where you would work together with industry. And I did. I managed to get for example, Dow Chemical involved to a
point where I had the president and vice president for research come
don down and we met and we worked out certain things and actually came
to the first plan that I had for involving the giants of industry
in the rest of the world with brain power in Israel as only a part
of their investment in brain power, but with the proviso that if
something came out of the effort in Israel, there would be certain
provisions.

(a) that it wouldn't be just the institute that would benefit
by royalties. But that a certain part of the industrial process or
whatever it is that would, that might be involved would actually
be done and produced in Israel and provide jobs in Israel and utilize
trained man power in Israel provided it could be competitive. And
that the market would be a joint one, you see. And this required
special planning and actually I might as well say it now, we did
develop an important field of collaboration with one of the biggest
chemical giants in the world, Dow Chemical, U.S.A., and Dow Chemical
Europe is one of the biggest giants in the world. And we had a
wonderful thing worked out in which they were just breaking their
necks trying to get something, and I won't say what the process
was, which some of the Weizmann Institute could contribute to. And
we already had gone to the point where certain confidential
information was exchanged with the scientists who would be working
on it, a contract was signed. We agreed. Everything was fine,
and then when it was signed, I get a call begging me to let them
off the hook because their lawyer said that if the Arabs found out
that Dow Chemical was cooperating in this way with Israel that they
would lose markets, etc., etc. Would I let them--they had signed
a contract. Of course, let them off the hook. I am going to show
you the kind of activities that I was involved in. So, if you are defeated there, try again. I don't give up. So I will have to mention now another one, a giant in the pharmaceutical—the biggest giant, spends more money on scientific research than probably half, half of all the academic institutions in the United States. I met with the president. I met with the director for research and development. I told them that they would have to define the problem. What their important problems are. And finally arranged a meeting and they came down all came down to the institute. And I set up meetings with opposite numbers to find out where the interesting capabilities crossed. And the division chiefs and their operation. And we were going to have a way to circumvent the Arab boycott, and they were quite willing to work on it. But it broke down with some of the people in the institute themselves because they were going to give it ten percent of their time. I said for God's sake, in this field of activity you can't give it ten percent of the time because it is highly competitive. By the time you get through, nobody's going to be interested any more in what you are doing so if you are not prepared to set aside a certain number of personnel or take on additional personnel that will spend 100% of its time on it, and you keep working, then you won't get anywhere. And the thing broke down because lack of cooperation. And I might as well say for the record that while the man who is now president of Israel, Pechowski Kassir, one of the outstanding biophysicists whose discoveries in the field of insoluble enzymes had extraordinary potentials for new development in chemical industries, while he had great ideas that he could set down, but when it came down to specific collaboration that he broke
down. When I had the visit of this extraordinarily huge multi-billion dollar operation with his whole staff and directors down at the institute, as my guests, and when the president went to talk to him, he treated him—I saw the president coming out of his office because I was running from building to building. I had this whole staff. He came out of his office red as a beet. He was not a Jew. There were no Jews involved in this at all. It was a non-Jewish multi-billion dollar corporation. I said what happened? He said that man talked to me as if I were a cheap salesman. He said to me if you want to give me some money to help me do what I like I will do it. But if you want me to help you work on something in which you are going to make a profit, he said you have come to the wrong person. And he said he treated me like rubbish. These are some of the things I ran into. Let me give you another example.

And this was during the period of my presidency at the Weizmann Institute because it has a bearing that goes far beyond the Weizmann Institute and that is why I am stressing it. It has a bearing of how to utilize the excellent brain power we have in the world to deal with some of the most important problems facing the world. From the point of view at least of providing the knowledge I know that once you have the knowledge you still have still other problems to overcome. But, in 1971 it was, I think it was '71. The Rockefeller Foundation and the Nobel Foundation got together and called together an ad hoc group of people op personum. Not representing institutions, to meet in Villa Sebiloni on--

Q I have been there. Beautiful.
A Beautiful lake in Italy. In largo formo to consider the question of how we can mobilize the brain power of the world to deal with major human problems. It was a wonderful collection of people. I still have the photograph somewhere. I was there ad personum but also as the president of the Weizmann Institute among some of the people you would know. Bronck was there. There were people from the Massachusetts Institute of Technology, from the Rockefeller Foundation and so on. The great Greek Doxiodis, Constantine Doxiodis was also a member of the group because he had developed this beautiful concept of interdisciplinary collaboration. The problem was particularly acute of what might be done. The United Nations was considering establishing a United Nations University and so on and it was considered that that would be so politically encumbered that you couldn't hope much from it so out of these considerations came a suggestion.

Perhaps one could establish a federation of institutes of advanced study. Not only in the sciences. But also in economics and various other things involved and even juris prudens to deal with broad world problems in the multi disciplinary way in which they called for. To establish a federation, a voluntary federation of institutes of advanced study to then do a number of things. To define problems. And then to try to get together with people to work on them, to get the knowledge. And so the Weizmann Institute among nineteen other institutes became one of the founding members of such a federation of institutes for advanced study with headquarters in Stockholm, it was incorporated and the former director of the Nobel Foundation was made chairman of this and a small working group was set up. And then we had the next meeting in
1972 where one began to try to implement the program development and I asked my good friend Pechowski, now president Kassir if he could come up with a working paper for that 1972 meeting where I was still there now as representing one of the participating institutes on how particularly his great contributions to science insoluble enzymes namely, could be used for developing totally new activities particularly in economically developing countries where you can grow starches, using solar energy, with tremendous way but not just for consumption as food but as the raw material for entirely new industrial processes. And there was a man from Sweden who also was interested more or less in that field. And actually I brought this proposal to a meeting and it was received. It was really a wonderful proposition. Magnificent document. And it was accepted as one of the major programs in which to try to develop an effort and the man from Sweden who was Heden H E D E N who was really a very well orientated and organized person and professor Pechowski was supposed to take the lead. And the basic paper, position paper was supplied by Pechowski. Heden also had a companion paper. It would have made a wonderful basis to go to work for international. But when it came to see what Pechowski was in a position to do to try to--oh, no. He was finished when he submitted his position paper his work was done. And it fell through that way.

You see, there is a need for developing systems of collaborative effort and interdisciplinary effort on top of planning and involvement of people from different disciplines who will carry through who will not merely say well here is an idea. How you implement it I don't care. It is none of my business.
There has got to be some sort of organized effort and I can tell you I have talked with people who have continued to be involved with this federation of the institutes for advanced studies for which there is a great deal of hope. It is not working out, because it seems as if it ought to be easy to get the brain power of the world to work together, but the precise mechanism of doing it has not yet been found. I tried. This is one of my overriding interests not only at the Weizmann Institute where I tried to implement specific things, but by involvement with this federation of institutes for advanced studies through the Nobel Foundation, the Rockefeller Foundation, on a much larger scale, on a world scale in which the Weizmann Institute became a partner with other institutes for advanced studies. But the mechanism is not there. And I am not at all sure that I know certain things that don't work. I have learned many things that don't work but this was my overriding idea. One of my overriding interests as president of the Weizmann Institute not as an isolated parochial activity only in the state of Israel, although that was primary, but also as part of a larger effort in the world. And that is where some of the frustrations came in too. So that I have touched again on another aspect of the problem. I can mention still another one.

I got for example the head of one of the biggest mining operations from Britain who came flying in to Israel, and I set up a special meeting with his advisors with six people in the Weizmann Institute who could possibly help with some of the biggest obstacles to mining operations. Namely, the pollution of rivers by certain influences (effluents) with certain metals and certain other things, mercury, arsenic and so on. And there was work going
on on the development of highly specific membranes at the Weizmann Institute which had high affinities for picking out one ion or another. And I brought them together you see because I tried not merely to preach, but if I decided it was necessary to bring the giants of industry together with the giants of science, I went out and did it and tried it. And I found that the scientists at the Weizmann Institute didn't live up to the challenge. Now I am not saying that they are any worse than scientists anywhere else. They are not but if I did not have my physical problem, I would have continued in the effort. But I felt that it required quite a different level of activity than I was capable of giving or, again, that I as an American Jew would ultimately be able to break through. And as an after thought now, maybe the best thing for the Weizmann Institute would be to give up the idea of being involved in mission oriented research, leave it merely as an institute on a much smaller scale, on a much smaller budget, trim out all the unnecessary mediocre and pedestrian type of research and people and just leave the best, have a budget that is about 20% of the present budget and be an institute of just non-categorical discipline oriented research with no attempt to say you must help Israel, to help its economic development. No, it will have to be done by someone—but then don't try to continue to do the impossible. If this is the decision, cut the budget, cut out the weeds and this would hurt you see because somebody would have to make a decision of who goes because as I said, as in every other institution, for ever top notch man there were perhaps eight who were not, eating up space, and money and personnel, administrative personnel, you see. These were some
of the basic, crucial issues and it was just I found that that it would be impossible to carry through with the board of governors which actually was just two men one of whom it was just impossible—I couldn't work with him. The man who became president later couldn't work with him. You see, the problems are--

Q Dr. Sabin, one sort of peripheral Institute question. Was there much competition between the Weizmann Institute and let us say the Hebrew University or the University of Tel Aviv?

A There was in a sense, and that is an unavoidable competition among academic institutions but let me describe in one sense. There was a time when most of the Ph.D.s in the sciences and the professors let's say were produced in part, to a large part, by the Weizmann Institute and also the Hebrew University which was one of, one of the first universities to be established. But after a while, by the time I got there that was no longer the case. The University of Tel Aviv was already pretty well developed with its own highly developed science departments and there was of course many of the professors at the Hebrew University, and Tel Aviv and Technion and the other institutions came from the Weizmann Institute. But also you must remember that many of the truly young, bright people who were the top notch scientists of the Weizmann Institute they were graduates of the Hebrew University. You see it was that kind of an interrelationship. So that there was competition for men, new men, you see, the best men. There was also competition and each wanting to let's say do its piece. But there was also cooperation. For example in the field of nuclear physics where the Weizmann Institute had an accelerator that served the purpose of
training in basic nuclear physicists, had collaborated with the other universities. They all came and did their work there. And when the new accelerator that only just is being completed, is being put into operation, it is a consortium again. It is going to be, while it is located at the Weizmann Institute, it is going to be available to all the Universities, so you have a combination. You have cooperation, you have competition. And that is inevitable. Israel is a country like any other country. The Jews in Israel are like many other people, with faults and many great competencies but everything is more so in Israel.

Q Look, I think here we will stop.

END OF TAPE