



Interview by Ute Deichmann with Prof. Jörg Hübner

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Prof. Hübner studied physics at the University of Heidelberg. When he was a doctoral student, he visited, in 1963, the Weizmann Institute. In 1971 he became professor of theoretical physics in Freiburg, and in 1973 in Heidelberg.

UD: How did your contact to the Weizmann Institute come about?

JH: I wrote my master's thesis (Diplomarbeit) at the MPI for Nuclear Physics in Heidelberg; it was a thesis in experimental physics. When Wolfgang Gentner who was the director of the MPI asked me whether I would like to go to Israel for some time - he would provide the financial support - I agreed. In any case I wanted to change to theoretical physics. So I began my doctoral thesis under Amos de Shalit. He was a man of remarkable charisma and radiation. After I returned to Heidelberg one and a half years later, I completed my thesis with Hans Weidenmueller.

UD: How strongly was Hans Jensen involved in the collaboration? What was his interest in collaborating with the Weizmann Institute?

JH: He took care of the exchange from a distance. He had been a member of the NSDAP, but he behaved decently; and ideologically he had clearly not been a Nazi. Therefore he was one of the few older scientists who were invited to Israel. After attending a conference in Israel in 1957, he became strongly interested in the work of the Weizmann Institute. He had developed his shell model of the atomic nucleus (at the same time as Maria Goeppert-Mayer, with whom he shared half of the 1963 Nobel Prize in physics) already in 1949; the model describes the structure of the nucleus in terms of

independently moving nucleons. As younger scientists, de Shalit and Igal Talmi at the Weizmann Institute "grew up" with this model and developed it further. Racah at the Hebrew University strongly contributed to the mathematical development of the model; Jensen could not do this. The shell model is a simplification of a many-body problem for which there are no exact mathematical solutions.

UD: What were the scientific benefits of the collaboration for the institutes in Heidelberg? I think that a fruitful collaboration is one which is based on an exchange of complementary research. How did research in theoretical nuclear physics in Heidelberg differ from that at the Weizmann Institute?

JH: The collaboration consisted mostly of the exchange of young people. Therefore its standard could not be very high. But there was an intellectual exchange at the level of established scientists, too, for example through visits and conferences, not necessarily through joint publications. And there were indeed complementary approaches. Let me come back to the example of Jensen. The Weizmann Institute was clearly more mathematically oriented. The scientists there knew mathematics, but Jensen who was an outstanding physicist, but not very strong in mathematics

At the beginning of the 1960s the Weizmann Institute had a higher standard than the Heidelberg department; not only in physics, but also in the way science was conducted, in Israel they had already implemented the Anglo-Saxon approach. It was an international institute, and the contacts helped to improve the level of scientific work and the international recognition of physics in Heidelberg.

The collaboration also had political ramifications; it helped to internationalize German science. The collaboration with Israel opened the door to contacts also with institutes and departments in the world. At the time, Germany was still strongly internationally boycotted.

UD: Which benefit did the collaboration have for the Weizmann Institute?

JH: The Weizmann Institute benefitted in the main financially, for example by receiving research grants. There were a few people who had broader visions, but as was the case with Ben-Gurion and Adenauer the financial aspect was the most important one for Israel.

UD: De Shalit had the vision of integrating Israeli science more into European science and he anticipated that German science would play an important role in Europe again.

JH: It is amazing that he saw this, because at the early 1960s Germany had not yet developed again high standards in physics, and the collaboration with France was much more important to Israel. I assume that de Shalit defended the collaboration with Germany against the strong opposition at the Weizmann Institute by pointing to the financial benefits. For example when I was at the Institute in 1963, the Egyptian press wrote that German atomic physicists were helping the Israelis to build atomic bombs (a ridiculous statement, since I was a doctoral student at the time!) This caused a problem for the Weizmann Institute, one of many problems due to the collaboration with Germany.

UD: Which scientific importance did the visit at the Weizmann Institute have for your work?

JH: It mainly affected my style of working. A few years later I spent some time in the United States, where a similar style was prevalent, and these experiences influenced me a lot. I also sent students to Israel. I have kept contacts to colleagues until now, when they became mainly personal relationships.