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A Special Relationship

Turning Points in the History of German-Israeli Scientific Cooperation

Preprint 1



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A Special Relationship:

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1. Challenging the myth of apolitical science	5
2. The postwar political situation	9
3. Protagonists of cooperation	13
4. The momentous trip of 1959	18
5. Political, industrial, and scientific elites in Israel	22
6. Reaching out to political, industrial, and scientific elites in Germany	25
7. Internal resistance	31
8. The Waldorf Astoria meeting of 1960 and its consequences	35
9. The early 1960s – progress in the context of a stalemate	39
10. The Minerva solution of 1963	42
11. Avoidance strategies in the early 1960s	44
12. A comparative perspective: the initiatives of the Hebrew University since the 1950s	50
13. The beginning of official diplomacy in 1965 – a response to changed political circumstances	54
14. Reinterpreting the role of science after the establishment of diplomatic relations	57
15. The self-organization of science in the 1960s	59
16. Self-organization versus centralization around 1965	63
17. German scientists as supporters of Israel in times of war	68
18. The “techno-scientific factor” as a political theme of the late 1960s and early 1970s	71
19. The expansion of the cooperation since the late 1960s	73
20. The return of the challenge of coordination in 1970	76
21. The turning point of 1973 – new formats and new partners	79
22. The Minerva Centers – a new form of cooperation in the 1980s	80
23. After 1980 – a change of guards	83
24. Concluding remarks	85
 Acknowledgements	 88
 Literature	 89
Archives	97
Index	98

1. Challenging the myth of apolitical science

The intricate relations between science, society, and government have been the subject of numerous historical studies. Cases in which scientists and scientific institutions played a significant role in handling conflicts of interests or in overcoming traumatic historical experiences have attracted particular attention.¹ The contribution of science and scientific collaborations to the process of developing German-Israeli relations since World War II is perhaps the most dramatic example, and is the subject of this essay. On the Israeli side, the Weizmann Institute of Science pioneered the collaboration with Germany. On the German side, scientists working at the Max Planck Society (MPG) played a crucial role in the history of scientific cooperation with Israel.

On the occasion of the 50th anniversary of German-Israeli diplomatic relations the bilateral scientific cooperation regained broader public interest as a precursor to the celebrated diplomatic event. Since a version of this text was first presented at the beginning of 2015, on the occasion of the official commemoration of this event, a number of further studies have been dedicated to the role of science in preparing this historical turning point.² Traditional narratives³ have mostly emphasized the plain success story of a growing bilateral scientific community and claimed that the establishment of relations between scientific institutions from Israel and West Germany played a fundamental role in establishing diplomatic relations. The most significant exceptions are a short outline by Michael Schüring and the recently published articles by Ute Deichmann, who stressed that for both sides the cooperation also came at a price, in particular concerning the inevitable personal contact of Israeli scientists and organizers with German colleagues who profited from or were even perpetrators of the NS regime.⁴

Our analysis of the developments of German-Israeli scientific cooperation from its inception to the 1980s challenges the still widely held standard view according to which an allegedly “apolitical” science played a pivotal role in establishing diplomatic relations between West Germany

1 Allison L. De Cerreno and Alexander Keynan (eds.): *Scientific Cooperation, State Conflict. The Roles of Scientists in Mitigating International Discord*. New York: New York Academy of Sciences 1998.

2 Dieter Hoffmann: “Versöhnende Wissenschaft. 50 Jahre deutsch-israelische Beziehungen.” *Spektrum der Wissenschaft* 4 (2015), 56–65; Ute Deichmann: “Collaborations between Israel and Germany in Chemistry and the Other Sciences – a Sign of Normalization?” *Israel Journal of Chemistry* 55 (2015), 1181–1218, and Ute Deichmann: “The Beginnings of Israeli-German Collaboration in the Sciences. Motives, Scientific Benefits, Hidden Agendas.” *The Israeli Academy of Sciences and Humanities Proceedings* 9/3 (2016), 35–86.

3 Following the thorough account by Dietmar Nickel. Dietmar K. Nickel: *Es begann in Rehovot. Die Anfänge der wissenschaftlichen Zusammenarbeit zwischen Israel und der Bundesrepublik Deutschland*. Zurich: Europäisches Komitee des Weizmann Institute of Science 1989 (engl.: *It began in Rehovot. The Start of Scientific Cooperation between Israel and the Federal Republic of Germany*. Zurich: European Committee of the Weizmann Institute of Science 1993); Ibid.: *Es begann in Rehovot: die Anfänge der wissenschaftlichen Zusammenarbeit zwischen Israel und der Bundesrepublik Deutschland*. Revised Reprint. Munich: Minerva Stiftung Gesellschaft für die Forschung mbH 1998.

4 Michael Schüring: *Minervas verstoßene Kinder. Vertriebene Wissenschaftler und die Vergangenheitspolitik der Max-Planck-Gesellschaft*. Göttingen: Wallstein 2006, 358; Deichmann, “Collaborations,” 2015, 1199; *ibid.*, “The Beginnings,” 2016, 80–82.

and Israel. Rather, we claim that scientific and political interests were closely interwoven from the outset and that science could play its bridge-building role only because of a specific political constellation and because at least some of the scientific actors themselves were or became aware of their political role within this constellation.

In the following, we begin with a brief outline of our argument and the main points of our analysis. The evolution of the scientific relations between Israel and Germany is a convoluted history of the changing inputs of individuals and institutions and of the complex relations between them. It is therefore not possible to tell this story as a one-dimensional thread of events. Our presentation follows, as much as possible, a chronological order. However, it focuses on specific themes, which characterized the different phases in this history and, therefore, we find ourselves tracing the developments forwards and backwards along the historical timeline.

Our study opens with a brief account of the first official negotiations between Israel and West Germany in the early 1950s on German reparations for war crimes. The difficulties in coming to an agreement reveal the severe obstacles and opposition on both sides to bilateral cooperation, but also the potentials that eventually helped to overcome the strong resistances rooted in specific experiences and interests. While West Germany sought international recognition, Israel was in desperate need of means to support its struggle for existence. After reviewing the general political situation, we describe how a group of protagonists interested in mutual scientific collaboration succeeded in setting up bilateral contacts on the background of the recovery of the international scientific community after the war. The actors in the foreground were scientists, but the organization and funding of a steady bilateral scientific cooperation was also politically motivated and only possible with encouragement and promotion from the governmental side.

German scientists in those days pretended to have nothing to do with politics and tried to distance themselves as much as possible from political issues. The Max Planck Society in the early days even refused to administer governmental money for the Weizmann Institute, due to the fear of becoming involved in foreign policy. In Israel, on the other hand, the scientific elite, and, in particular, the protagonists from the Weizmann Institute were, in a Zionist tradition, closely connected with the political arena. Around 1960, these protagonists were able to mobilize strong political support both in Germany and Israel to establish a stable, institutionalized bilateral scientific research program. The plan for realizing such a cooperation between the Weizmann Institute and the MPG had been triggered by the visit of a prominent Max Planck delegation to Israel in 1959.

While the German scientists acted at a greater distance from the political arena than their Israeli counterparts, the German political context was no less relevant for the beginning of the scientific cooperation than the Israeli context. Indeed, for West Germany scientific cooperation became a form of compensation for the lack of diplomatic exchange, similar to the clandestine military and economic aid it provided to Israel. We therefore refer to this initial phase as the period of “science as a substitute for diplomacy.” The German government provided substantial

support to scientific collaborations because it did not want to damage its good relations with the Arab states with the establishment of full diplomatic relations with Israel. In the field of science, there was no need for secrecy as long as politically low-key “pure” or “basic” science prevailed without direct connections to military or economic interests. The MPG with its emphasis on allegedly “apolitical” basic science thus effectively assumed a political role defined by this context. We analyze in detail how the MPG eventually managed to overcome the tension between its focus on basic science and the demand to serve German foreign policy.

Support came not only from the German government but also from private foundations. Due to a delay of governmental funding, the first research cooperation with the Weizmann Institute was initiated with funds from the MPG, but also from the Fritz Thyssen Foundation and the Volkswagen Foundation. This financial support allowed the first German fellows to pay longer-term visits to Israel. Finally, a contract for scientific cooperation between the Max Planck Society and the Weizmann Institute was signed in 1964. This project-oriented, so-called “Minerva Program” was funded on an annual basis by the German Federal Ministry for Scientific Research. Minerva was the goddess of wisdom and war strategy in Roman antiquity. Rather unexpectedly, she later became the patron of the Max Planck Society, and then also the symbolic “protectress”⁵ of Israeli-German academic relations.

It may thus seem that the stage was set for a regular scientific exchange and for overcoming the political boundary conditions of the initial phase in favor of “normal” scientific cooperation. However, the wider historical and political contexts of a cooperation between Israeli and German scientists were anything but normal. Indeed, this cooperation took place under the long shadows of the Holocaust and of existential threats to the existence of the young Israeli state. The Israeli side and, in particular, the Israeli public was irritated by the fact that some of the German scientists and science managers who had been previously involved with the NS regime were now engaged in the cooperation with Israel.

For the German side, the dual-use character of nuclear physics, widely discussed in the public at that time, was of particular concern because nuclear physics was central to the early cooperation. In fact, a connection between research in the Minerva Program and military applications would have ruined the function of the scientific cooperation as a low-key stand-in for diplomacy in German foreign politics. Under these conditions, both sides opted for what they considered a “pragmatic” attitude, which in fact amounted to a carefully gauged avoidance strategy.

How fragile this strategy actually was and how many obstacles it had to overcome becomes clear from a comparison with the much slower establishment of cooperation between the Hebrew University and West German institutions, in spite of early efforts since the 1950s. The

5 See: “Ten Years of Cooperation with German Science.” *Modell* 1973, reprinted in: Public Affairs Department, Weizmann Institute of Science: *Highlights of a Unique Collaboration. Presented to Josef Cohn on the Occasion of his 80th Birthday*. Rehovot: Weizmann Institute 1984, unpublished, AMPG, III. Abt., ZA 112, Nr. 1.

comparison shows that the success of the Minerva program was by no means self-evident but critically depended on the specific contexts in which the protagonists from the Weizmann Institute and the MPG operated, including their high-level political contacts.

The turning point came around 1965, not only for the Minerva Program but also for German Israeli diplomatic relations. In the early 1960s the substitution of official diplomatic relations by secret contacts was becoming ever more problematic and official diplomatic relations a viable alternative. The beginning of the official bilateral diplomatic exchange in 1965 eventually relieved the scientific cooperation from the diplomatic burden.

The wider political context also changed after international scientific cooperation had been identified as an important goal for German politics. As a consequence, the German government supported the Minerva Program with increasing funds. The result, however, did not lead to a clean separation between political and scientific spheres but rather to a growing awareness, on the part of the German scientific community and in particular also the MPG, that science cannot ignore and avoid political contexts, an attitude widely shared among Israeli scientists from the beginning.

In the sequel, this growing awareness of the political boundary conditions of science and the adoption of responsibility for the cooperation by key actors contributed to the stabilization of German-Israeli relations in a period of further institutionalization and financial affluence, but also to new political challenges. The scientific collaboration with its focus on “science for excellence” now became a factor of stability in an eventful phase of political and military developments, in particular for Israel, from the Six-Day War in 1967, via the Yom Kippur War and the first oil crisis in 1973, to the Camp-David Agreement of 1978 and the Lebanon War of 1982.

From the late 1960s, more and more young Israeli scientists went to Germany, transforming the Minerva Fellowship into a program of real scientific exchange. The scientific cooperation gathered momentum and became a policy factor in its own right. Aware of their growing weight in international relations, scientists and scientific organizations resisted efforts from the Israeli National Council for Research and Development to centralize bilateral research projects.

Although the Minerva Program remained the cornerstone of the bilateral scientific relations, in the 1970s and 1980s an increasing number of funding organizations, research institutions, universities, and governmental entities joined and enlarged the cooperation. From the 1980s, the Minerva Centers were established and became an important new collaborative format, also for Israeli universities. New areas were included in the cooperation, covering also the humanities and even sensitive fields such as contemporary history.⁶

6 The transfer of knowledge about history and literature between Israel and Germany in the last decades is currently being explored in a research project directed by Yfaat Weiss and Gabriel Motzkin, and by Jenny Hestermann (Fritz Bauer Institute) and Irene Aue (Franz Rosenzweig Center) in the BMBF research project “Deutsch-israelische Beziehungen in den Geisteswissenschaften zwischen 1970 und 2000. Studien zu Wissenschaft und Bilateralität.”

This short sketch, which will be substantiated and extended in the following, indicates that we are dealing with an entangled history that cannot be reduced to a simple narrative of apolitical science that substitutes for politics in one critical moment, in order to then return to business, or rather science, as usual. Instead, the long-term success of Israeli-German scientific cooperation can only be understood as a *histoire croisée*, not only between Israel and Germany, but also between science and politics because all sides involved had to repeatedly change their perspectives, understanding, and sometimes even adopt the view points of the other side.

2. The postwar political situation

Until now, the historical analysis of the early scientific and scholarly cooperation between Israel and Germany has mostly looked at how this cooperation began, how it was organized, and why the exchange was beneficial for both sides, also taking into consideration the problem of how the protagonists coped with the burden of the Shoah. But in addition to these important questions, there are further historical and political contexts to be taken into account. One of these contexts is the situation of Israel as a country attempting to build up and maintain a strong military, industrial, and scientific infrastructure in order to support its struggle for existence. Clearly this struggle was also relevant for Israel's scientific development, and vice versa. Another important context is the role of West Germany, or the Federal Republic of Germany (FRG), as a country striving to regain power and political and diplomatic prestige to enforce its claim as the only successor to the former united Germany prior to German reunification.

The political situation regarding the relation between Israel and Germany shortly after the foundation of the two states was ambivalent in the sense that it harbored potential for cooperation and that there were also major obstacles to it. The situation was unique because of the abyss that existed between Israel and Germany as a result of the atrocious crimes committed by Germans—including German scientists—against the Jewish population in Europe during the Nazi period. After the founding of Israel in 1948 and of the Federal Republic of Germany (West Germany) and the German Democratic Republic (East Germany) in 1949, there were no diplomatic or official cultural relations. Moreover, Israeli diplomats were obliged to avoid any contact with their German colleagues and between 1950 and 1956 Israeli passports—proudly labeled “valid for all countries”—were voluntarily restricted “with the exclusion of Germany.”⁷

Despite these deep-rooted reservations, the history of tentative official governmental relations between Israel and West Germany began very early with the Shilumim⁸ negotiations concern-

7 Yeshayahu A. Jelinek: *Deutschland und Israel 1945–1965. Ein neurotisches Verhältnis*. Munich: Oldenbourg 2004, 41.

8 The Hebrew concept means “payments” or “satisfaction”; it had been chosen for the name of the agreement because “reparations,” “amends” or the German *Wiedergutmachung*, “to make good again,” did not describe the situation accurately. “Collective indemnities” and “collective recompense” were used as the corresponding terms in English. Jelinek, *Deutschland und Israel*, 2004, 91.

ing German reparations for Israel.⁹ In 1951, the Israeli government asked the Allies to press West Germany under Konrad Adenauer (1876–1967) for restitution of the Jewish property stolen by the Nazis and for compensation for the use of Jews for forced labor, both to be paid to surviving victims or to the state of Israel. During the Korean War, the main interest of the US as the controlling power in the background was the economic stabilization and rearmament of West Germany so as to integrate it into the frontline of the Western Cold War alliance. In other words, German funds were being earmarked for the reconstruction of a West German army. Consequently, neither the Truman nor the Eisenhower administration pushed the case of reparations for Israel and insisted on direct negotiations between Israel and West Germany without the involvement of the Allies.¹⁰

For Israeli Prime Minister David Ben-Gurion (1886–1973), the recognition and survival of the State of Israel and its stability and safety took precedence over the politically correct treatment of moral issues and German responsibility for the Holocaust. In the years 1948–1951, Israel absorbed 687,000 new immigrants from Europe and from Asian and African countries, among them about 300,000 Jews from displaced persons (DP) camps, many of them traumatized; it was also being threatened by its Arab neighbors.¹¹ Consequently, the country desperately needed military and economic assistance. In Israel, Ben-Gurion's pragmatic approach regarding the use of German reparations in order to protect and develop the new Israeli state met widely with fierce and sometimes violent opposition, particularly from Menachem Begin (1913–1992) and his Herut Party.¹²

It is therefore no surprise that negotiations on German compensation in Wassenaar near The Hague were extremely difficult. First of all, West German Chancellor Konrad Adenauer refused to accept the general guilt of the German people. On the contrary, on 27 September 1951, he officially claimed that the majority of the German people did not take part in the crimes committed against the Jews. This reflected the general opinion in Germany. Yet, at the same time, Adenauer announced that West Germany would assume responsibility for the victims of Nazi crimes. Ben-Gurion took the ambiguous statement as a sign of goodwill and initiated bilateral negotiations on the reparations offered by Adenauer.¹³ These negotiations forced Israeli repre-

9 Ronald W. Zweig: *German Reparations and the Jewish World. A History of the Claims Conference*. 2nd ed. Boulder and London: Routledge 2001.

10 See Michael Wolffsohn: "Das deutsch-israelische Wiedergutmachungsabkommen von 1952 im internationalen Zusammenhang." *Vierteljahrshefte für Zeitgeschichte* 4 (1988), 691–731, here 696–699.

11 Angelika Königseder and Juliane Wetzel: *Lebensmut im Wartesaal. Die jüdischen DPs (Displaced Persons) im Nachkriegsdeutschland*. Frankfurt am Main: Fischer Taschenbuch 1994, 81–268; Jay Howard Geller: *Jews in Post-Holocaust Germany 1945–1953*. Cambridge: Cambridge University Press 2005, 17–218; Mazen Masri: *The Dynamics of Exclusionary Constitutionalism. Israel as a Jewish and Democratic State*. Oxford: Hart Publishing 2017, 76–125.

12 Dan Diner: *Rituelle Distanz. Israels deutsche Frage*. Munich: Deutsche Verlags-Anstalt 2015, 96–97.

13 The declaration in the Bundestag on 27 September 1951 is explicitly mentioned in the Luxembourg Agreement registered by Israel on 27 March 1951. n.n.: No. 2137. Israel and Federal Republic of Germany Agreement (with schedule, annexes, exchanges of letters and protocols). Signed in Luxembourg on 10 September 1952. *United Nations Treaty Series* 162 (1953), 205–311, here 206.

sentatives and the Jewish Claims Conference into direct contact with persons from the “nation of perpetrators.” This confrontation crossed a red line and caused serious objections in Israel.¹⁴ The negotiations were delayed because, at the same time, representatives of the Federal Republic of Germany were involved in drafting the London Agreement on German External Debts,¹⁵ covering the country’s debts from before and after World War II.

Following extended negotiations, the Reparations Agreement between Israel and West Germany was signed by Israeli Foreign Minister Moshe Sharett (1884–1965) and Adenauer in Luxembourg on 10 September 1952. It provided compensation for individual victims of the Nazi terror as well as a program of indemnification for the Jewish people in terms of economic assistance in resettling immigrants from Europe in Israel. West Germany was to pay Israel a sum of three billion DM over a period of fourteen years as well as 450 million DM to the Jewish Claims Conference. The latter should distribute the money among the victims of the Nazi regime. The Israeli side was disappointed by the small amount that had been carefully adapted to the claims of limited economic potential of West Germany at that early stage.

Due to prevailing public opinion in both countries, ratification of the agreement by the respective parliaments faced great difficulties. In Israel, the opposition in the Knesset was supported by rallies and demonstrations. When the agreement was finally ratified, the Israeli government succeeded in inserting an exception into the sweeping legislation that prohibited cultural relations and allowed the government to approve such contacts under special circumstances.¹⁶ This exception was introduced at the insistence of Abba Eban (1915–2002), minister of education from 1960 to 1963 and president of the Weizmann Institute from 1959 to 1966. In West Germany, Adenauer’s governing conservative party did not support the agreement. The main objection was that it did not provide any benefits for Germany while severely damaging their traditionally good relations with the Arab countries. As a consequence, the Reparations Agreement could only be adopted because of the unanimously favorable vote by the social democratic opposition, although not even half of the MPs of the ruling coalition voted for it.¹⁷

Although Adenauer and Ben-Gurion were convinced that full diplomatic relations would be established between Germany and Israel in the future, it took another thirteen years for this to happen. In 1952, just seven years after the Holocaust, official diplomatic relations with West Germany were unthinkable in Israel, while the West German government was quite interested

14 Diner, *Rituelle Distanz*, 2015, 11 and 74–76.

15 Ursula Rombeck-Jaschinski: *Das Londoner Schuldenabkommen. Die Regelung der deutschen Auslandsschulden nach dem Zweiten Weltkrieg*. Munich: Oldenbourg 2005.

16 Hanan Bar-On: “The Role of the Weizmann Institute of Science in Normalizing Israeli-German Relations.” In: Cerreno and Keynan, *Scientific Cooperation*, 1998, 215–223, here 216.

17 Inge Deutschkron: “Die politischen Beziehungen zwischen der Bundesrepublik Deutschland und Israel – eine Bilanz.” In: Ralph Giordano (ed.): *Deutschland und Israel. Solidarität in der Bewährung. Bilanz und Perspektive der deutsch-israelischen Beziehungen*. Gerlingen: Bleicher 1992, 53–72, here 57.

in developing them to boost its international acknowledgement. In place of an embassy, the Israeli Mission was established in Cologne to implement the Shilumim Agreement (as it was called by the Israelis) as well as a German office in Israel. Because the German side paid its debts partly with commodities, this implied further economic and technical German-Israeli contacts. The head of the Israeli Mission was the financial expert Felix Eliezer Shinnar (1905–1985), who was subordinated to the Israeli minister of finance. According to the Luxembourg Agreement, the head of the Israeli Mission had no diplomatic status, but in the documents of the German Foreign Office he was sometimes referred to as the Ambassador,¹⁸ and the Arab countries complained that in the protocol he was treated *de facto* as an official diplomat.¹⁹

Around 1955, the tables started to turn when the General Treaty took effect and ended the period of Allied occupation in West Germany. In the same year, the Federal Republic of Germany became a member of NATO and rearmament, *Wiederbewaffnung*, began. By the end of the 1950s, West Germany had become widely recognized as a state of the Western Bloc; it was an important member of NATO and part of the inner circle of West European integration. It claimed to be the only legitimate German nation state, and opposition to the Soviet Union and the German Democratic Republic (GDR) became a *raison d'état*, codified in the so-called Hallstein Doctrine, in effect from 1955 to 1969. The doctrine, which created a new obstacle to bilateral relations with Israel, prescribed that the West German government would—*as ultima ratio*—not establish or maintain diplomatic relations with any state that recognized the GDR as a legitimate German state, thus making itself susceptible to political blackmail. It allowed Israel's Arab neighbors to threaten to establish diplomatic relations with the GDR if they thought that West German relations with Israel were going too far. This made the official acknowledgement of Israel a serious problem for German diplomacy.²⁰

At that time, the establishment of diplomatic relations with Israel brought no advantages for the West German government. The Sinai War in 1956 isolated Israel because the global Cold War strategy of Israel's most important ally, the United States, aimed at an alliance with the Arab countries to counter the expansion of the Soviet Bloc. Yet, good relations with Israel remained a moral and strategic imperative for Adenauer. Consequently, he did not give in to the US de-escalation strategy during the Sinai War: so as to stop Israeli troops from invading the Sinai, the US demanded that the supply of German goods to Israel be cut off Adenauer's refusal was crucial since in lieu of American support, the German supply became a kind of lifeline

18 See, for example: Dr. Raab, Abteilung 5, "Aufzeichnung, Betrifft: Gespräch mit Botschafter Shinnar über Vorauszahlungen auf die Entschädigung für das deutsche weltliche Vermögen in Israel," Bonn, 29 July 1960, PA AA, 130 B, Bd. 2980B; Von Scherpenberg, "Aufzeichnung, Betr.: Gespräch mit Botschafter Shinnar," Bonn, 27 April 1961, *ibid*.

19 n.n.: "Streit im Hufeisen." *Der Spiegel*, 20 January 1960, 16–17.

20 See, for example: Abteilung 7, "Aufzeichnung, Betr.: Aufnahme diplomatischer Beziehungen zu Israel," 3 Oct 1961, PA AA, B 130, Bd. 6446A.

for Israel.²¹ Israel subsequently showed interest in establishing diplomatic relations with West Germany, but at this point, however, the German side avoided taking this step.

In summary, the controversies surrounding the first open bilateral steps undertaken by the governments led by Ben-Gurion and Adenauer clearly show the obstacles faced by the pioneers of German-Israeli scientific relations. Both sides had to overcome internal opposition, which was particularly strong in Israel. But German post-war politics also had its own impediments to a rapprochement with Israel, partly created by the refusal to accept post-war realities. In a nutshell, the German position regarding Israel was deeply ambiguous. For one thing, West German politics sought good political and economic relations with the Arab countries, yet at the same time, also closer ties with Israel—not merely owing to the undeniable German responsibility for the Shoah but also because such ties would help West Germany to find recognition in the Western world, particularly in the US.

3. Protagonists of cooperation

Turning from the general political context to the situation of science we first note that, even in its formative years, Israel's achievements in science were remarkable, in particular considering the size of the country, its small population, as well as its acute political problems and economic burdens. Among the nations that obtained sovereignty after World War II, the small country stands out in that it was able to achieve a level of scientific research comparable to well-established industrialized democracies. The Weizmann Institute very quickly became an internationally renowned institution pursuing scientific research of the highest standards, particularly in theoretical physics.²²

Some of the leading scholars of the Weizmann Institute were trained at the best scientific centers in Europe, and specifically also in Germany. Some, with a Zionist background, went to Palestine in the 1920s and others in the 1930s when they became homeless in their own country. The desolate region of Palestine was not very attractive for older, well-established top scientists, who preferred the United States or European countries. Consequently, most of the immigrant scientists arriving in Palestine or Israel were in an early phase of their scientific career and had the opportunity to create a modern national science system.²³

21 Markus A. Weingardt: *Deutsche Israel- und Nahost-Politik. Die Geschichte einer Gratwanderung seit 1949*. Frankfurt am Main: Campus 2002, 113–114; Jelinek, *Deutschland und Israel*, 2004, 298–300.

22 “How It All Began.” Interview with Wolfgang Gentner. Modell 1970, reprinted in: Public Affairs Department, Weizmann Institute of Science: *Highlights of a Unique Collaboration. Presented to Josef Cohn on the Occasion of his 80th Birthday*. Rehovot: Weizmann Institute 1984, unpublished, 1, AMPG, III. Abt., ZA 112, Nr. 1.

23 Ute Deichmann and Anthony S. Travis: “A German Influence on Science in Mandate Palestine and Israel: Chemistry and Biochemistry.” *Israel Studies* 9/2 (2004), 34–70, here 48.

After World War II, scientific institutions in Israel urgently needed financial resources and depended largely on Jewish philanthropy. At the time, the scientific community in West Germany—attempting to come to terms with the atrocities of its recent past that implicated many of its members—was committed at all levels (personal and institutional, as well as federal and local) to rebuilding its scientific and academic institutions and reestablishing its international contacts. With the increasing internationalization of scientific research, these two scientific communities would normally have developed modes of extensive cooperation. Yet, given the circumstances, this seemed inconceivable after the defeat of Nazi Germany. Like most of their fellow countrymen, German scientists refused to face their own structural and personal involvement in the crimes of the Nazi era. In many cases, they went so far as to perceive themselves as victims of some Nazi perpetrators and a lost war.²⁴ It goes without saying that such a favorable perception was incompatible with the feelings of the Israeli side—in particular with those of the actual victims of the Nazi regime. Hence, the genocide against the European Jews committed by Germans, including German scientists, during the Nazi era loomed in the background of any initiatives and attempts to establish a framework of scientific cooperation.

The beginning of Israeli-German scientific cooperation was as much an achievement of committed protagonists, who gradually overcame the obstacles, as it was conditioned by the overall political situation.²⁵ One of the protagonists on the German side was the chemist Otto Hahn (1879–1968), who, together with Lise Meitner (1878–1968) and Fritz Straßmann (1902–1980), discovered nuclear fission in 1938.²⁶ Although he became a patron of early German-Israeli scientific relations, Hahn’s attitude toward German crimes remained ambiguous. In 1947, Lise Meitner wrote to the Nobel Laureate James Franck (1882–1964), who had been the first scientist to resign under protest against the anti-Semitic so-called Law for the Restoration of the Professional Civil Service in 1933, emigrating from Germany in the same year:²⁷

[Hahn] suppresses the past at all costs, even though he always truly hated and despised the Nazis. Since one of his main motives is to regain international respect for Germany, and since he does not have a very strong character nor is a very thoughtful person, he denies the facts or trivializes them.

A more positive attitude to Hahn’s conducting the NS period is expressed by Albert Einstein (1879–1955) in a letter to Hahn, who invited him to join the MPG. During the NS period, Einstein had been ousted from the Kaiser Wilhelm Society, the predecessor of the Max Planck

24 Deichmann, “Collaborations,” 2015, 1188; Schüring, *Minervas verstoßene Kinder*, 2006, 359 and 368–369.

25 Schüring, *Minervas verstoßene Kinder*, 2006, 353, 358, and 360.

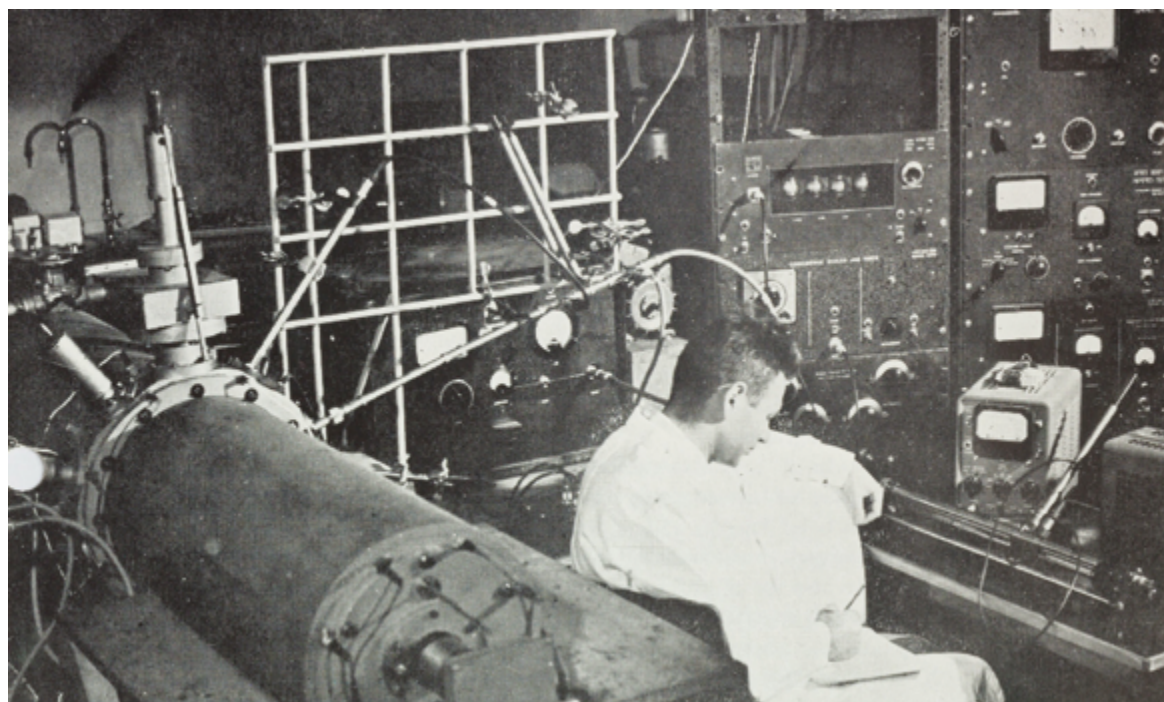
26 Only Hahn was awarded the Nobel Prize in 1944. Otto Hahn: *Vom Radiothor zur Uranspaltung. Eine wissenschaftliche Selbstbiographie*. Braunschweig [1962] 1989; *ibid.*: *Mein Leben*. Munich: Bruckmann 1968; William Shea (ed.): *Otto Hahn and the Rise of Nuclear Physics*. Dordrecht: Reidel 1983.

27 Lise Meitner to James Franck, 10 June 1947. Cited in: Mark Walker: *Otto Hahn. Verantwortung und Verdrängung*. Berlin: Forschungsprogramm “Geschichte der Kaiser-Wilhelm-Gesellschaft im Nationalsozialismus” 2003, 34; Cited in: Deichmann, “Collaborations,” 2015, 1188.

Society. Einstein explained his regret at having disappointed Hahn, whom he considered one of the few to have remained “upright” and to have done “their best” in those evil times. Following this, his refusal was sharp and clear:²⁸

The crimes of the Germans are really the most horrendous that the history of the so-called civilized nations has to offer. The attitude of the German intellectuals – perceived as a class – was not better than that of the mob. ... Under these circumstances I feel an irresistible aversion against being involved in anything that embodies German public life, simply out of a need for cleanliness.

Although no Nazi himself, Hahn had worked for the Nazi regime on nuclear projects as director of the Kaiser Wilhelm Institute for Chemistry. After the war, the American Alsos Mission, reinforced by British units, captured Hahn in Tailfingen, near Stuttgart, where his Kaiser Wilhelm Institute had been relocated.²⁹ He was subsequently interned and interrogated together with other prominent German scientists at Farm Hall, England.³⁰ Following his return from Farm Hall to West Germany, Hahn became a science manager who used his prestige for the



Sophisticated research technology. The Weizmann Institute of Science (WIS) in 1958: the nuclear physics lab. Source: The Weizmann Institute of Science (ed.): *Summary of Manpower, Equipment, and Research Projects*. Rehovot: Weizmann Institute of Science (printed by Ha'aretz Press Tel Aviv) 1958, 9. AMPG, II. Abt., Rep. 102, Nr. 340.

28 Albert Einstein to Otto Hahn, 8 January 1949, The Albert Einstein Archives, Hebrew University of Jerusalem (AEA), 12-071.

29 Volker Lässig: “Das Chemieinstitut auf der Alb.” *Nachrichten aus der Chemie* 60 (2012), 734–737.

30 See Dieter Hoffmann (ed.): *Operation Epsilon. Die Farm-Hall-Protokolle oder die Angst der Alliierten vor der deutschen Atombombe*. Berlin: Rowohlt 1993.

international reintegration of German science, and of the Max Planck Society (as the successor of Kaiser Wilhelm Society) in particular. From 1948 to 1960, he served as its first president. In this capacity, he strongly supported efforts to further the scientific success of the Max Planck Society and West German science in general by establishing contacts with leading international research groups such as those active at the Weizmann Institute in Israel.³¹

The earliest initiatives that would eventually lead to the establishment of an Israeli-German scientific collaboration came, however, from scientists at the Weizmann Institute. The institute had been established in 1934 as the Daniel Sieff Research Institute, mainly as a center for research in chemistry. In the beginning, it was funded by the wealthy Sieff family. Josef Cohn (1904–1986),³² the long-standing leading fundraiser of the institute and, as we shall see, a key figure in this story, was also involved in its establishment. At the time, Cohn contacted several



German scientists, but almost none of the famous scientific emigrants wanted to join the Institute, not even Richard Willstätter (1872–1942), who traveled to Palestine in 1934 to participate in the Institute’s inauguration. In the 1950s, Cohn met the German experimental nuclear physicist Hubert Christian Winkler (b. 1922) in Bonn.³³ Winkler gave Cohn a list of scientists to meet, including Wolfgang Gentner (1906–1980), a name Cohn had not previously heard but that would soon become prominent in this context.

Chaim Weizmann and David Ben-Gurion at the opening of the Weizmann Institute in the reconstructed building of the former Sieff Institute, 1949. Courtesy of the Weizmann Institute of Science Archives. Photographer: Shlomo Ben-Zvi. All rights reserved to the Weizmann Institute of Science.

31 Proposal presented to Adenauer. Otto Hahn: “Vorschlag zur Förderung einer wissenschaftlichen Zusammenarbeit zwischen der Max Planck Gesellschaft und dem Weizmann Institut in Rehovot,” 8 February 1960, 4, AMPG, III. Abt., ZA 145, Nr. 47.

32 n.n.: “The Weizmann Institute was his Whole Life [Obituary].” *Ha’aretz*, 27 October 1986, AMPG, III. Abt., ZA 145, Nr. 47; Interview Josef Cohn, “Zeitgenossen,” *Südwestfunk*, AMPG, III. Abt., ZA 112, Nr. 1.

33 The precise date is unclear, see the talk by Josef Cohn “Bei der Feier ‘1963 – 1983 – Twenty Years of Scientific Cooperation’ – 16. Oktober 1983 im Weizmann Institute – aufgeschrieben nach seinen Notizen,” 2, AMPG, III. Abt., ZA 112, Nr. 1. Winkler studied physics in Cologne and at Zurich University where he received his PhD in 1954, then the *venia legendi* for experimental physics at the ETH Zurich (Swiss Federal University of Technology in Zurich) in the fall of 1961. He was a senior research fellow for physics at CalTech in Pasadena from 1965 to 1967 and subsequently a professor of physics at the California State University in Los Angeles. At the ETH, he worked with Hans H. Staub (1908–1980), who had been a member of the Manhattan Project.

The first scientist from the Weizmann Institute to travel to West Germany in search of opportunities for bilateral cooperation was probably Berlin-born Gerhard Schmidt (1919–1971). As the son of a Jewish mother, he had been forced to leave Germany via Switzerland at the age of 16 and received his academic education as a chemist in Oxford. After years of restraint, in 1956 Schmidt traveled to Munich to meet his father, Erich Schmidt (1890–1975), an organic chemist and professor at Munich University.³⁴ Gerhard Schmidt was interested in forming contacts with German academic and industrial scientists and met Wolfgang Gentner several times between 1956 and 1958 in Freiburg.

Gentner was an internationally renowned German nuclear physicist³⁵ and a student of Walther Bothe (1891–1957). His attitude with regard to the Nazi past and German war crimes differed from that of many of his German colleagues, in particular when he criticized the widespread denial of German guilt. After the occupation of France, Gentner was sent to Paris to run a newly constructed French cyclotron there. Due to his friendship and solidarity with his French colleagues during the German occupation, he remained on good terms with them also after the war. From 1946 to 1958, he was professor at the University of Freiburg. Between 1953 and 1959 he also worked at CERN, the European Organization for Nuclear Research in Geneva and, from 1955 to 1959, acted as the research director of its synchrocyclotron. Finally, in 1958, he became director of the newly founded Max Planck Institute for Nuclear Physics in Heidelberg.

Due to his international contacts and mindset, Gentner was well aware of the fact that the Weizmann Institute largely depended on foreign funding. For his Israeli contacts he was hence the perfect intermediary for German physics. In 1957, Schmidt persuaded Amos de Shalit (1926–1969), nuclear physicist at the Weizmann Institute who also conducted research at CERN, to visit Gentner at his office at CERN and discuss plans for a possible German-Israeli scientific cooperation.³⁶ The first years in Geneva were not easy for Gentner as a German scientist. In view of the recent past, his colleagues from other European countries were rather reserved. Gentner was mesmerized when Amos de Shalit, a scientist from Israel, visited him.³⁷ Gentner later recalled this crucial moment in the early history of German-Israeli scientific relations:³⁸

34 For a more detailed description, see Deichmann, “Collaborations,” 2015, 1185–1186.

35 Dieter Hoffmann and Ulrich Schmidt-Rohr (eds.): *Wolfgang Gentner. Festschrift zum 100. Geburtstag*. Berlin: Springer 2006.

36 Deichmann, “Collaborations,” 2015, 1186.

37 Talk by Wolfgang Gentner, “Weizmann-Institute and German Science – a Contribution to the German-Israeli Relations” [an event organized by the European Committee of the Weizmann Institute of Science at the Wissenschaftszentrum Bonn], 28 November 1978, 12–13, AMPG, III. Abt., ZA 112, Nr. 1.

38 “How It All Began.” Interview with Wolfgang Gentner, *Modell 1970*, reprinted in: Public Affairs Department, Weizmann Institute of Science: *Highlights of a Unique Collaboration. Presented to Josef Cohn on the Occasion of his 80th Birthday*. Rehovot: Weizmann Institute 1984, unpublished, 1, AMPG, III. Abt., ZA 112, Nr. 1.

There were actually two founding fathers: Dr. Josef Cohn and Prof. Amos de Shalit. We have met first in Geneva where Amos held the position of director at CERN from 1955-1959 and built the small accelerator. We talked about the positive aspects of bringing about scientific contacts and cooperation, mainly considering the exchange of young scientists. I myself was very interested in the possibility of young Germans going to Israel, especially to the Weizmann Institute.

In 1958, Cohn visited Gentner in Geneva and asked if there was any interest from the German side in a cooperation with the Weizmann Institute. Gentner not only praised the idea but also began to get involved as an active supporter.³⁹ Another key player, as mentioned, was Otto Hahn, president of the MPG. His dedicated support was an essential prerequisite for the early involvement of the MPG in a bilateral cooperation with the Weizmann Institute of Science.

4. The momentous trip of 1959



1 December 1959, heading out to Israel: the MPG delegation at the Zurich airport. From the right: Josef Cohn, Otto Hahn, Alice Gentner, Wolfgang Gentner, Feodor Lynen. Photo by Hanno Hahn.

© Archives of the MPG, Berlin-Dahlem.

This group of scientists and science managers organized the first visit of an official MPG delegation to Israel. The eventual convergence of Israeli and German perspectives and the success of the delegation's endeavor were to no small extent due to the encounter between two groups of individuals who were exceptionally well positioned to master this challenge. Besides Hahn and Gentner, the biochemist and later Nobel Laureate Feodor Lynen (1911–1979), then Director at the Max-Planck Institute for Cellular Chemistry in Munich, also joined the Max Planck delegation. The impression the group made on their Israeli colleagues contrasted significantly with the widespread image of Germans at the time and thus helped to open doors.⁴⁰ The MPG delegation's trip to Israel in December 1959 has since become legendary.

39 Talk by Josef Cohn, "Weizmann-Institute and German Science – a Contribution to the German-Israeli Relations," 28 November 1978, 3–11, here 5–6, AMPG, III. Abt., ZA 112, Nr. 1.

40 Nickel, *It began in Rehovot*, 1993; Schüring, *Minervas verstoßene Kinder*, 2006, 353 and 360; Deichmann, "Collaborations," 2015, 1198–1199; Talk by Josef Cohn, "Weizmann-Institute and German Science – a Contribution to the German-Israeli Relations," 28 November 1978, 6–7, AMPG, III. Abt., ZA 112, Nr. 1.

This trip has often been described as the first crucial step toward establishing official, long-term Israeli-German scientific cooperation.⁴¹ In the following, we shall more closely examine the conditions, contexts, and immediate consequences of the visit. The delegation did not limit itself to meeting with scientists from the Weizmann Institute, then directed by Schmidt,⁴² and touring the country,⁴³ but also visited the first Israeli nuclear research reactor in Soreq, which was still under construction.⁴⁴ The reactor was delivered by the US in the context of the Cold War “Atoms for Peace” program. Located about five kilometers away from the Weizmann Institute, it belongs to the Israeli government, and was operated by Weizmann technicians. Following the contracts with the supplier, the purpose of the reactor was the exploration of peaceful applications such as desalting seawater for irrigation. But, of course, nuclear technology was and is intrinsically dual-use. Hahn was well aware of this ambiguity, as becomes clear from his guest-book entry at the Soreq reactor:⁴⁵

In admiration for the courage and the constructive determination of inspired people who let this building rise from the desert sands in less than a year, I send the Institute and its staff my best wishes for the rapid completion of this beautiful building. Its purpose will be fulfilled when it serves the peaceful progress of benevolent men and gives us no cause to think about other purposes.

At that time, Germany had also initiated a controversial nuclear reactor research program. Although an advocate of the civil advantages of atomic energy, Hahn was at the same time a fervent opponent to its military use. He signed several declarations against atomic weapons, in particular, the famous Göttingen Manifesto of 1957.⁴⁶ The dual-use character of nuclear energy was certainly an issue also for the Israeli side, represented by Hahn’s former student Ernst David Bergmann (1903–1975). After the rise of the Nazis, Bergmann had been forced to emigrate from Germany. Between 1952 and 1966, he headed the Israel Atomic Energy Commission (IAEC), but was also the leading adviser for opaque military activities.⁴⁷ It was in the former capacity that he received the German delegation at the Soreq reactor. Hahn quickly reestablished

41 For the standard story, see Nickel, *It began in Rehovot*, 1993; Hoffmann, “50 Jahre,” 2015.

42 Michael Sela, Foreword to the 1982 report, II, Annual Minerva Report submitted to members of the Minerva Committee and to the German Ministry for Research and Technology, AMPG, III. Abt., ZA 112, Nr. 1.

43 Itinerary Prof. Dr. O. Hahn, AMPG, III. Abt., Rep. 14A, Nr. 6560, fol. 2; Hanno Hahn, “Israel, Reisenotizen,” *ibid.*, fol. 33–36.

44 Jacob Rycus, Invitation to Otto and Hanno Hahn, Gentner and his wife, Lynen, 6 December 1959, AMPG, III. Abt., Rep. 14A, Nr. 6560, fol. 21–22.

45 Otto Hahn, entry in the Guest Book of the Atomic Research Reactor Nahal-Soreq, 9 December 1959, AMPG, III. Abt., ZA 112, Nr. 6.

46 Robert Lorenz: *Protest der Physiker. Die ‘Göttinger Erklärung’ von 1957*. Bielefeld: transcript 2011; Robert Gerwin: “Als eine Wissenschaftler-‘Zumutung’ noch Politik machen konnte. Die Erklärung der ‘Göttinger 18’ zur atomaren Bewaffnung der Bundeswehr wurde 30.” *MPG-Spiegel* 1987/6, 51–54.

47 On Bergmann, see Deichmann and Travis, “Influence,” 2004, 58–62. On the Israeli nuclear program, see Avner Cohen: *Israel and the Bomb*. New York: Columbia University Press 1998.

a cordial personal relationship and Bergmann asked him to write the first entry in the reactor's guest book.⁴⁸

De Shalit's position was different from Bergmann's. De Shalit had fought from 1947 to 1949 in Israel's War of Independence and supposedly worked for the military, but he eventually became a dedicated opponent of military nuclear research. When Ben-Gurion retreated from politics in 1953, the dedicated political support for a military nuclear program was interrupted for two years. Consequently, in 1954, scientists from the military program moved to the Weizmann Institute. It is in this context that de Shalit became head of the Institute's new Department of Nuclear Physics. Due to the close cooperation between de Shalit, Gentner, and its support by Hans Jensen (1907–1973)⁴⁹ from the University of Heidelberg, nuclear science emerged as the core discipline in the initial years of the program.⁵⁰

Nuclear physics was, of course, a sensitive subject and its dual-use character must have been on everyone's mind. These were, after all, the early days of the Pugwash movement in which the issue was openly discussed among scientists at the international level.⁵¹ Every indication of a proximity between scientific and military nuclear research in the emerging bilateral cooperation would have caused political upheaval with a potentially devastating impact on the cooperation. Realizing this danger, the visit to the Soreq reactor and also the meeting between Hahn and Bergmann were kept secret.⁵² The archival records of the German Foreign Office about trips made by prominent German figures to Israel in 1959 do not mention the delegation.⁵³ Even in later historical accounts of German-Israeli scientific cooperation, issues such as Hahn's visit to the Soreq reactor and the meeting with Bergmann were barely mentioned. As long as there were no diplomatically significant aspects, such as direct links to the military or critical economical interests, scientific relations did not cause any political sensation, even on the side of the Arab states. At this point, also the explicit orientation of the MPG toward basic science came in as a helpful safeguard against the suspicion that military applications may play a role in the cooperation.

48 E. Bergmann to O. Hahn, 8 December 1959, AMPG, III. Abt., Rep. 14A, Nr. 6560, fol. 29.

49 Jensen had been a member of the NSDAP since 1937, No. 5361642, see: Reichsministerium für Wissenschaft, Erziehung und Volksbildung: Kartei. BArch, R 4901/13267.

50 As early as 1961, de Shalit offered to welcome two or three young German scientists to his department. Edmund Marsch to Jacob Rycus, 18 July 1961, AMPG, II. Abt., Rep. 102, Nr. 340.

51 Carola Sachse: "Die Max-Planck-Gesellschaft und die Pugwash Conference on Science and World Affairs (1955–1984)." Berlin: Max-Planck-Institut für Wissenschaftsgeschichte 2016.

52 Josef Cohn made the only traceable public remark on Hahn's visit of the Soreq reactor in a talk around 1980. Josef Cohn, "Max Planck Gesellschaft und Weizmann Institut. Bericht über ein Programm deutsch/israelischer wissenschaftlicher Zusammenarbeit," no date, 1–6, here 5, AMPG, III. Abt., ZA 112, Nr. 7.

53 In the German Federal Foreign Office's minutes, the now famous trip by the MPG delegation in 1959 is mentioned as lectures by visiting professors. V. Hase, "Vermerk," 28 October 1964, PA AA, B 36, Bd. 110.

After their return from Israel on 10 December 1959,⁵⁴ the Max Planck delegation showed great admiration for the level of scientific excellence in the young and struggling nation of Israel, and in particular for the outstanding role of the Weizmann Institute and its scientists in upholding the highest scientific standards. At the end of December 1959, a follow-up meeting was held in Frankfurt to discuss the further consequences of the visit. It was attended by Cohn, Richard Kronstein (1894–1971) the president of the Board of the European Committee of the Weizmann Institute, Gentner, and Klaus Dohrn (1924–1993), who in 1960 became senator of the MPG.

The group decided that Gentner should write a draft proposal⁵⁵ listing the reasons for helping the Weizmann Institute and outlining the funding required. Gentner sent this four-page memorandum entitled “Proposal to promote the scientific cooperation between the Max Planck Society and the Weizmann Institute in Rehovot” to Hahn for comments on 1 February 1960 and planned to discuss the proposal with him in Geneva the following weekend (7–8 February).⁵⁶ Ultimately, the visit of the prominent Max Planck delegation resulted in a plan to establish a cooperation between the Weizmann Institute and the MPG.

To summarize, the general political situation and interests of the two young states harbored considerable potential for seeking scientific cooperation, but this potential was eventually realized by the activities of a few protagonists on both sides who had the necessary historical and political sensitivities and were part of relevant scientific and political networks, offered also by international organizations such as the CERN. The fact that key players came from nuclear physics created a path-dependency for further cooperation, which also included the necessity of dealing with the dual-use character of nuclear technology and its political implications.

The 1959 visit to Israel and its impact on the establishment of the scientific cooperation should, however, not be considered as an isolated endeavor promoted by a few protagonists. On the Israeli side, it had been prepared by a long-term strategy for fostering international scientific collaborations and high-level political contacts. In the following, we shall analyze more closely the significance of the links between the scientific and political spheres that had preceded this crucial encounter and made it possible to turn the initiative of a few scientists into an institutionalized cooperation with far-reaching consequences.

54 Hanno Hahn, “Israel, Reisenotizen,” AMPG, III. Abt., Rep. 14A, Nr. 6560. fol. 33–36, here fol. 36.

55 For the hitherto unidentified first hand-written draft by Gentner, see: “Vorschlag zur Förderung einer wissenschaftlichen Zusammenarbeit zwischen der Max Planck Gesellschaft und dem Weizmann Institut in Rehovoth,” December 1959, AMPG, III. Abt., ZA 145, Nr. 47.

56 Wolfgang Gentner to Otto Hahn, 1 February 1960, AMPG, II. Abt., Rep. 102, Nr. 340.

5. Political, industrial, and scientific elites in Israel

The relations between the political and the scientific elites were different in both countries. In Germany, scientists have frequently viewed themselves as “apolitical,” while in Israel the Zionist tradition was characterized by a close affinity, both institutional and personal, between these two elites. Since this closeness played an important role in mobilizing the networks, enabling the initiation and realization of the Israeli-German scientific cooperation, we shall now take a closer look at their origins.

In 1924, a year before the Hebrew University of Jerusalem was founded, the Technion in Haifa was opened. In the same year, the German Committee for the Technion was established in Berlin and held its regular meetings in the apartment of Albert Einstein, who served as its first president. The committee was dissolved in 1933 when the Nazis came to power. It was not reinstated until 1982, following a visit by Eduard Pestel (1914–1988), Minister of Science and Art of Niedersachsen and Christian Hodler (b. 1931), Assistant Director at the Ministry.

When the Technion was founded, questions arose regarding the function and scope of the institution. One school of thought was that its real mission was to train artisans, craftsmen, and skilled laborers. However, this point of view did not prevail and almost from the outset the Technion operated as an institution of higher education. The history of the State of Israel and the development of its economy and defense might have been quite different otherwise.

The establishment of the Hebrew University in 1925 marked the achievement of an important goal.⁵⁷ It was founded as an international organization, gathering some of the best minds at that time, including Albert Einstein, Sigmund Freud (1856–1939), Otto Warburg (1883–1970), Martin Buber (1878–1965), Paul Ehrlich (1854–1915), and Chaim Weizmann (1874–1952), who later became the first president of Israel. They were intimately involved in developing the concept, raising funds, and gaining support for the Hebrew University in its formative years. The commitment of these distinguished figures helped to secure the success of a research center with international standards, located in a small and poor community struggling for existence. This concept of the university became a model for future institutions of higher education in Israel and central to the development of the country’s scientific and research infrastructure.

57 Hagit Lavsky: “From Foundation Stone to Opening: The Establishment of the Hebrew University, 1918–1925.” In: Michael Heyd and Shaul Katz (eds.): *The History of The Hebrew University of Jerusalem, vol. 1: Origins and Beginnings*. Jerusalem: The Hebrew University Magnes Press 1997, 120–159 [in Hebrew: Tōledōt h-’Ūniversī h-Ivrīt bi-Yerūlayim: ôrīm w-hatlōt]. For the history of the Hebrew University, see Hagit Lavsky (ed.): *The History of the Hebrew University of Jerusalem, vol. 2: A Period of Consolidation and Growth*. Jerusalem: The Hebrew University Magnes Press 2005 [in Hebrew]; Hagit Lavsky (ed.): *The History of the Hebrew University of Jerusalem, vol. 3: Scientific Growth and Political Struggle*. Jerusalem: The Hebrew University Magnes Press 2009 [in Hebrew]; Assaf Zeltser: *The History of the Hebrew University of Jerusalem, vol. 4: Who’s Who prior to Statehood: Founders, Designers, Pioneers*, trans. Jenni Tsafirir. Jerusalem: The Hebrew University Magnes Press 2015; Norman Bentwich: *The Hebrew University of Jerusalem 1918–1960*. London: Weidenfeld & Nicolson 1961.

When established in 1948, the State of Israel was already able to resort to an existing scientific and technological infrastructure with components of basic and applied research: the Hebrew University in Jerusalem, the Technion in Haifa, and the Weizmann Institute of Science in Rehovot were capable of training scientists and educating students at various academic levels. These institutions were not the result of central planning; instead, they were founded, with the aid of private entrepreneurship and philanthropy, by the dynamic and ambitious Zionist movement. From the outset, the aim was not only to satisfy the needs of the Jewish scientific community in Palestine but also to firmly establish the new Jewish homeland on the international academic map.

The infant State of Israel already had a highly respected scientific community, including many scientists who had been educated at the Hebrew University.⁵⁸ David Ben-Gurion focused on the importance of science for national development. To give just one example: the Hebrew University was an item on the agenda of the very first meeting of the Israeli government. Nevertheless, it was not only thanks to its high scientific prestige that the Weizmann Institute, rather than the Hebrew University, became the privileged partner of a German funding program. Some of the leading representatives of the institute had very close contacts to the national and international political sphere. Outstanding examples are Josef Cohn, Abba Eban, and Meyer Wolf Weisgal (1894–1977). As mentioned, Josef Cohn was one of the main driving forces behind the establishment of the Minerva Program. This is also recognized as one of the reasons for his honorary PhD from the Weizmann Institute:⁵⁹

In recognition of his intimate association with this Institute from its very inception, initially on behalf of Dr. Chaim Weizmann himself; of his effective activities as Vice-President of the Institute's European Committee, among the Institute's friends in Europe in general and in the Federal Republic of Germany in particular and, above all, of his total commitment to the support of scientific research undertaken at this Institute.

From 1935 to 1938, Cohn had been personal assistant to Chaim Weizmann, a chemist educated at German and Swiss universities. In 1949 Weizmann became the founding president of Israel. Weizmann and Cohn first met in 1925 in Berlin, Cohn's hometown. He studied sociology and national economy in Berlin and Heidelberg, and after his PhD, supported by Albert Einstein, he became a fellow of the Moses Mendelssohn Foundation.⁶⁰ Due to the rise to power of the Nazi regime in 1933, Cohn left Germany for England, where he continued studying at the London School of Economics.

58 "How It All Began." Interview with Wolfgang Gentner, *Modell* 1970, reprinted in: Public Affairs Department, Weizmann Institute of Science: *Highlights of a Unique Collaboration. Presented to Josef Cohn on the Occasion of his 80th Birthday*. Rehovot: Weizmann Institute 1984, unpublished, AMPG, III. Abt., ZA 112, Nr. 1.

59 Appendix. In: Public Affairs Department, Weizmann Institute of Science: *Highlights of a Unique Collaboration. Presented to Josef Cohn on the Occasion of his 80th Birthday*. Rehovot: Weizmann Institute 1984, unpublished, AMPG, III. Abt., ZA 112, Nr. 1.

60 Interview Josef Cohn, "Zeitgenossen," *Südwestfunk*, 1–10, AMPG, III. Abt., ZA 112, Nr. 1.

Weizmann helped to arrange a stipend but also insisted that it was not the time for learned studies. He offered Cohn a position at his Central Bureau for the Settlement of German Jews in Palestine.⁶¹ Cohn accepted and abandoned his academic career to become a close follower of Weizmann. At the end of the 1930s, he moved to the US with the assignment to organize funding for the Sieff Institute. He also became active as a lobbyist for Palestine and later for Israel. With his contacts, Cohn was able to arrange an audience for Weizmann at the White House in March 1948, where the latter attempted to convince President Harry S. Truman (1884–1972) to support the division of Palestine and the creation of a Jewish part.⁶²

The goal was to create a new, safe, democratic, and liberal homeland for the Jewish people. Weizmann stated that to achieve this goal “research is the strongest weapon the Jews have and with science one can develop a small country without raw materials.”⁶³ For Weizmann and Cohn, as well as for Ben-Gurion, science was a question of survival. To demonstrate the commitment of the infant State of Israel to science, after the death of its first president, Chaim Weizmann, a scientist, Ben Gurion offered the presidency to Albert Einstein. One symbol for the high societal prestige of science in Israel, also because of its economic and military applications, is the five-lirot banknote designed in 1968 with a portrait of Albert Einstein on the front and a picture of the Soreq swimming pool reactor on the back.⁶⁴



Five pound Israeli (Lirit) banknote, 1968. Front: Albert Einstein. Back: nuclear reactor at Nahal Soreq. Watermark: A. Einstein. Design: Prof. Masino Besi, Italy, and Sam Hertz, Holland, 1968. Issued 13 January 1972. Dimensions: 150 x 75 mm. © Bank of Israel.

These close ties between political and intellectual elites in Israel created the conditions for initiating the scientific collaboration with Germany. In fact, launching such a cooperation not only matched the overall strategy of the Zionist and later Israeli elites and institutions such as the Weizmann Institute. It was also accomplished because the Israeli representatives knew how to simultaneously operate on the political as well as on the scientific level.

61 Ibid., 11–12.

62 Ibid., 16–18.

63 Ibid., 15; also cited in a speech by Dr. J. Cohn, 1977, AMPG, III. Abt., ZA 145, Nr. 47; and Anthony R. Michaelis: *Chaim Weizmann. His Living Memorial – The Institute Bearing his Name*. London: Anglo-Israel Association 1974, 23.

64 Front: Albert Einstein. Dominant color: green. Dimensions: 150 x 75 mm. Signatures: David Horowitz, Governor Bank of Israel; Yehuda Chorin, Chairman Advisory Council.

6. Reaching out to political, industrial, and scientific elites in Germany

In 1951, Cohn became an official representative of the Weizmann Institute and worked for the American Committee for the Weizmann Institute of Science in the US until 1956, successfully raising sympathy and support for the project of a Jewish homeland with a major role for science. In order to develop the Weizmann Institute into a leading center of science, Cohn set up contacts with foreign governments, civil institutions, and private donors, raising funds and establishing an international network of cooperation and support. In 1955, he was asked by the American Committee of the Weizmann Institute to move to Zurich, Switzerland, and to establish operations as an executive vice-president of the European Committee for the Weizmann Institute of Science. Cohn made establishing contacts with West Germany his priority.

With the help of Richard Kronstein, Cohn not only contacted German scientists with a view to scientific cooperation, but also used his connections to gain access to the highest political and industrial authorities in Germany. A crucial conduit was Dannie Heinemann (1872–1962), an American industrialist in the electrical engineering sector, owner of the Belgian electro-industrial holding Sofina,⁶⁵ and also a close friend of the German Chancellor Konrad Adenauer. When the Nazis ousted Adenauer from his position as Mayor of Cologne and blocked his income, Heinemann, as owner of Berlin's public utility company BEWAG, financially supported Adenauer and his family.⁶⁶

Cohn had known Heinemann since 1936.⁶⁷ In the course of his attempts to foster scientific collaborations with West Germany, he travelled to the US to ask Heinemann to arrange a meeting with Adenauer, but Heinemann refused although he strongly supported the Weizmann Institute. Heinemann advised Cohn to turn instead to Max Adenauer (1910–2004), Senior City Director of Cologne, a friend of Israel and son of the Chancellor. But Max Adenauer objected that his father would not understand why Heinemann had not asked him directly. Consequently, Cohn planned to visit Heinemann again.

He then received a letter from Heinemann telling him that he had meanwhile changed his mind and had written to the Chancellor on 24 January 1959.⁶⁸ Heinemann informed the Chancellor that Cohn was now a representative of the Israeli Weizmann Institute and explained that this institute worked in such areas as cancer and leukemia research, appealing to a personal

65 Talk by Josef Cohn, "Weizmann-Institute and German Science – a Contribution to the German-Israeli Relations," 28 November 1978, 3, AMPG, III. Abt., ZA 112, Nr. 1.

66 Interview with Josef Cohn, "Zeitgenossen," *Südwestfunk*, 19–20, AMPG, III. Abt., ZA 112, Nr. 1.

67 Talk by Josef Cohn, "Weizmann-Institute and German Science – a Contribution to the German-Israeli Relations," 28 November 1978, 3, AMPG, ZA 112, Nr. 1.

68 Dannie N. Heinemann to Konrad Adenauer, 24 January 1959 (copy), AMPG, III. Abt., ZA 112, Nr. 6. For a facsimile of the original, see Nickel, *Es begann in Rehovot*, 1989, 22.

concern of Adenauer's.⁶⁹ He added that Cohn was attempting to attract the interest of distinguished personalities of science for this institute and had already brought many scientists from different countries to Israel, commenting that these visitors were deeply impressed. He concluded that Cohn wished to speak to German scientists, and that he was convinced that the support of Chancellor Adenauer would significantly facilitate this mission. Subsequently, Max Adenauer also asked for a short meeting with Cohn and the Chancellor, emphasizing that the agenda would not be a financial one.

These letters acted as door openers for initiating an Israeli-German scientific cooperation. Shortly afterwards, on 6 March 1959,⁷⁰ Cohn was able to meet Adenauer for 45 minutes at the Federal Chancellery at the Palais Schaumburg in Bonn. Cohn supposed that the reason why Adenauer trusted him was because he had been educated in Germany and because German was his native language. Cohn told Adenauer that relations between the Federal Republic of Germany and Israel could not be based indefinitely on reparations. There had to be a point when somewhat normal relations would be resumed.⁷¹ Arguing that scientific cooperation could serve as an important instrument for moving in this direction, Cohn proposed formulating a program for scientific cooperation between scientists at the Weizmann Institute and German scientists.⁷² In particular, he outlined an exchange program for young scientists and convinced Adenauer that it made sense to use this opportunity in Germany's fight against anti-Semitism,⁷³ and hence implicitly rise to its moral responsibility regarding Israel. Adenauer was delighted at the idea and, as far as Cohn reported, in the end promised to do everything Cohn asked.⁷⁴

These activities were part of a concerted effort on the Israeli side, a veritable "Operation Germany."⁷⁵ Meyer W. Weisgal, the chair of the Executive Committee of the Weizmann Institute, an experienced fundraiser, had prompted or supported the efforts by Schmidt and

69 Adenauer's first wife died of leukemia.

70 [Josef Cohn], Report on a conversation with Chancellor Dr. Konrad Adenauer at the Federal Chancellery Bonn (*Bundeskanzleramt*), 6 March 1959, 1–3, AMPG, III. Abt., ZA 112, Nr. 3; Talk by Josef Cohn, "Weizmann-Institute and German Science – a Contribution to the German-Israeli Relations," 28 November 1978, 3, AMPG, III. Abt., ZA 112, Nr. 1.

71 As Cohn recorded later. Talk by Josef Cohn, "Weizmann-Institute and German Science – a Contribution to the German-Israeli Relations," 28 November 1978, 3, AMPG, III. Abt., ZA 112, Nr. 1.

72 [Josef Cohn], Report on the activities of the European Committee submitted to the annual meeting of the Board of Governors [of the WIS], November 1962, 1–9, here 6, AMPG, III. Abt., ZA 112, Nr. 6.

73 Josef Cohn to Meyer W. Weisgal, 7 March 1959, AMPG, III. Abt., ZA 112, Nr. 3; [Joseph Cohn], Report on a Conversation with Chancellor Dr. Konrad Adenauer at the Federal Chancellery Bonn, 6 March 1959, 1–3, here 2–3, AMPG, III. Abt., ZA 112, Nr. 3; see also the informal report on one sheet of paper from Hotel Königshof, Bonn, 7 March 1959, AMPG, III. Abt., ZA 112, Nr. 3.

74 Josef Cohn to Meyer W. Weisgal, 7 March 1959, AMPG, III. Abt., ZA 112, Nr. 3; [Joseph Cohn], Report on a Conversation with Chancellor Dr. Konrad Adenauer at the Federal Chancellery Bonn, 6 March 1959, 1–3, here 2–3, AMPG, III. Abt., ZA 112, Nr. 3; Speech by Dr. J. Cohn, 1977, 1–10, here 4–5, AMPG, III. Abt., ZA 145, Nr. 47.

75 Joseph Brainin (Executive Vice-President of the American Committee of the Weizmann Institute of Science) to Josef Cohn, 26 February 1960, AMPG, III. Abt., ZA 112, Nr. 3. See the discussion below. "Operation Germany" also mentioned in: Josef Cohn to Meyer W. Weisgal, 19 March 1960, AMPG, III. Abt., ZA 112, Nr. 3.

de Shalit, as well as by Josef Cohn. The issue had also been discussed with Felix Shinnar, head of the Israeli Mission in Germany. It was agreed that a campaign should be initiated by approaching Prof. Dr. Theodor Heuss (1884–1963), president of the Federal Republic of Germany and also honorary president of the Scientific Council (Wissenschaftsrat), the highest authority for scientific planning in Germany. In addition, one of the scientists from the Weizmann Institute should be entrusted with exploratory work to be conducted in Germany.⁷⁶ As mentioned, another key Israeli figure acting in the background was Abba Eban, who was first and foremost a politician. Nevertheless, or, rather, because of this, he served as president of the Weizmann Institute from 1959 to 1966. Eban's diplomatic and rhetoric qualities were legendary.⁷⁷

After their short conversation in the beginning of March 1959, Adenauer sent Cohn to Siegfried Balke (1902–1984), since 1956 Federal Minister for Nuclear Energy. On behalf of Adenauer, Balke procured contacts for the representatives of the Weizmann Institute, in particular, contacts with the Max Planck Society. At the Annual Meeting of the MPG in Saarbrücken in June 1959, Balke and Gentner informed the president of the Max Planck Society, Otto Hahn, and Ernst Telschow (1889–1988), Secretary General of the MPG, about the plan. Balke advised on the possibility of establishing useful contacts, not only with the West German government but also with industry.⁷⁸ Cohn subsequently met Hahn and Telschow for the first time in Göttingen in July 1959 where he proposed Hahn should make a trip to Israel.⁷⁹ It is thus clear that this legendary trip was as much an endpoint as it was a point of departure. It was the preliminary end of a quest for scientific cooperation with West Germany based solely at the Weizmann Institute, involving a broad array of political as well as scientific contacts. And it was the beginning of a strategy to achieve such a cooperation, now pursued jointly by the Weizmann Institute and the Max Planck Society.

This joint character becomes clear from an influential meeting of key players during the summer holidays of 1959 in Sils Maria, Switzerland. It involved Cohn, Gentner, and his colleague Werner Heisenberg (1901–1976), a major figure in the MPG and in early West German science policy, who went hiking in the mountains nearby.⁸⁰ One result was a plan of a group around Gentner, effectively a predecessor of the later Minerva Committee, to apply for funding from

76 Weizmann Institute, Board of Governors Meeting, 20 April 1959, Dr. Shinnar's statement (in the minutes as circulated), AMPG, III. Abt., ZA 112, Nr. 8.

77 Between 1966 and 1974, he served Israel as foreign minister during a dangerous period for his country, see Abba Eban: *Abba Eban: An Autobiography*. New York: Random House 1977.

78 The possibility of industrial and bank funding had already been mentioned in Cohn's first meeting with Adenauer. [Josef Cohn], Report on a Conversation with Chancellor Dr. Konrad Adenauer at the Federal Chancellery Bonn, 6 March 1959, 1–3, here 3, AMPG, III. Abt., ZA 112, Nr. 3.

79 Josef Cohn to Otto Hahn, Zurich, 29 June 1959, AMPG, II. Abt., Rep. 102, Nr. 340; Marie-Luise Rehder to Josef Cohn, 8 July 1959, *ibid.*; Josef Cohn to Meyer W. Weisgal, 23 July 1959, AMPG, III. Abt., ZA 112, Nr. 3; Josef Cohn, "Erster zusammenfassender Bericht über Unterhaltungen bezügl. des Planes einer Zusammenarbeit zwischen dem Weizmann Institute of Science, Rehovot (Israel), und der deutschen Wissenschaft," 10 August 1959, 1–3, AMPG, III. Abt., Rep. 112, Nr. 6.

80 Wolfgang Gentner to Otto Hahn, 14 September 1959, AMPG, II. Abt., Rep. 102, Nr. 340.

the West German government as well as from German industry for research projects at the Weizmann Institute, and to establish cooperation modeled on the relations of the Weizmann Institute with institutions in the US.⁸¹ At this point, the Max Planck Society entered the scene as a possible recipient and intermediary to transfer German governmental funds for collaboration with Israel without attracting too much political attention. Therefore, neither the German Federal Foreign Office nor the Israeli Mission in Germany was involved.

After the summer meeting, things developed rather quickly, albeit with some detours. Cohn and the Weizmann Institute also envisaged industrial support, despite the fact that German industry had been heavily involved in Nazi war crimes. The next steps were meetings in Frankfurt, Düsseldorf, and later also in Berlin, to present the Weizmann Institute.⁸² The scope of the Weizmann strategy not only encompassed the Max Planck Society. At the beginning of August 1959, Cohn met Gerhard Hess (1907–1983), president of the German Research Foundation (DFG),⁸³ and representatives of German industry,⁸⁴ for example, Ernst Hellmut Vits (1903–1970), who had been a manager of the German chemical industry during the NS period⁸⁵ and was then Director of the Vereinigte Glanzstoff-Fabriken AG and chairman of the German Donors' Association for the Promotion of Sciences and Humanities, *Stifterverband*.⁸⁶ Cohn also contacted Edgar Salin (1892–1974), an economist, professor at the University of Basle, and founder in 1954 of the List Society for socio-economic research. Schmidt was particularly interested in cooperating with the German manufacturing industry on applied chemistry to establish processes important for the underdeveloped Israeli industry.

To provide further useful contacts, Adenauer himself also wrote some letters introducing Cohn to German representatives of trade and industry, for example, to Hermann Josef Abs (1901–

81 "Entwurf," 19 March 1964, AMPG, II. Abt., Rep. 89, Nr. 115; Nickel, *It began in Rehovot*, 1993, 39.

82 Talk by Josef Cohn, "Weizmann-Institute and German Science – a Contribution to the German-Israeli Relations," 28 November 1978, 5–6, AMPG, III. Abt., ZA 112, No. 1. 5–6; Schüring, *Minervas verstoßene Kinder*, 2006, 352.

83 Josef Cohn, "Bericht über Besprechungen in Deutschland (5.–9. August 1959)," AMPG, III. Abt., ZA 112, Nr. 3.

84 Public Affairs Department, Weizmann Institute of Science: *Highlights of a Unique Collaboration. Presented to Josef Cohn on the Occasion of his 80th Birthday*. Rehovot: Weizmann Institute 1984, unpublished, 2, AMPG, III. Abt., ZA 112, Nr. 1; Talk by Josef Cohn, "Weizmann-Institute and German Science – a Contribution to the German-Israeli Relations," 28 November 1978, 5, *ibid.* Back in August 1959, Cohn met director Friedrich Silcher of Bayer AG, a coworker of Ulrich Haberland, Hermann Winkhaus, chair of the Board of Directors of Mannesmann AG, senator of the MPG and member of the German *Atomkommission* (Nuclear Energy Commission), Friedrich W. Siebert, treasurer of the List Society, and Hermann Pünder, treasurer of the MPG, member of the "Pro-Palestine" Committee. Cohn also met civil servants from the Federal Chancellery and Heinrich Grueber, provost of Berlin and brother-in-law of Ernst Hellmut Vits. "Bericht über Besprechungen in Deutschland (5.–9. August 1959)," AMPG, III. Abt., ZA 112, Nr. 3. Winkhaus had been a member of the NSDAP. Sammlung Berlin Document Center (BDC): Personenbezogene Unterlagen der NSDAP: Mitgliederkartei- Gaukartei, BArch, R 9361 IX KARTEI, Winkhaus, Hermann, 14.03.1897.

85 Ernst Klee: *Das Personenlexikon zum Dritten Reich. Wer war was vor und nach 1945*. Frankfurt am Main: Edition Kramer 2003, 641.

86 Nickel, *It began in Rehovot*, 1993, 24.

1994),⁸⁷ spokesman of the Deutsche Bank and Adenauer's financial advisor,⁸⁸ to the Director of Bayer AG and President of the Association of the German Chemical Industrial Companies (VCI), Ulrich Haberland (1900–1961),⁸⁹ and to the Chairman of the Board of Hoechst AG, Karl Winnacker (1903–1989).⁹⁰ The first results of the preliminary discussions with these leaders of industry were two meetings in the fall of 1959 in Frankfurt and Düsseldorf. German bankers attended the meetings as well as representatives of German industry and science, and of the Weizmann Institute.⁹¹ Three distinguished scientists from Rehovot agreed to present their institute: Amos de Shalit, Gerhard Schmidt, and the physical chemist Aharon Katzir-Katchalsky (1914–1972). In the end, de Shalit did not attend because the organizers supposed that his specialization would be of little interest to the industrial managers. The borders between scientific, political, and economic issues were thus blurred.



Karl Winnacker, 1959.
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Herman F. Mark at the Fritz Haber Institute of the MPG,
Berlin, 1954. Photographer Gustav Klipping.
© Archives of the MPG, Berlin-Dahlem.

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- 87 Konrad Adenauer to Hermann Josef Abs (Deutsche Bank) (Abschrift), Bonn, 20 April 1960, AMPG, III. Abt., ZA 112, Nr. 7.
- 88 Interview with Josef Cohn, "Zeitgenossen," *Südwestfunk*, 22, AMPG, III. Abt., ZA 112, Nr. 1.
- 89 Konrad Adenauer to Prof. Ulrich Haberland, Bonn, 20 April 1961, AMPG, III. Abt., ZA 112, Nr. 7. Haberland had been a member of the NSDAP. Sammlung Berlin Document Center (BDC): Personenbezogene Unterlagen der NSDAP.- Mitgliederkartei.- Gaukartei, BArch, R 9361 IX KARTEI, Haberland, Ulrich, 12.06.1900.
- 90 Talk by Josef Cohn, "Weizmann-Institute and German Science – a Contribution to the German-Israeli Relations," 28 November 1978, 5, AMPG, III. Abt., ZA 112, Nr. 1. For the important roles of the MPG, Abs, and, in particular, Winnacker in the Federal German nuclear politics see Joachim Radkau: *Aufstieg und Krise der deutschen Atomwirtschaft 1945–1975. Verdrängte Alternativen in der Kerntechnik und der Ursprung der nuklearen Kontroverse*. Reinbek: Rowohlt 1981, 36–45, 102–105, 145–146, 168–169, and 307–310.
- 91 Nickel, *It began in Rehovot*, 1993, 24; Otto Hahn to Josef Cohn, 23 October 1959, AMPG, II. Abt., Rep. 102, Nr. 340; Josef Cohn to Otto Hahn, 31 October 1959, AMPG, III. Abt., Rep. 14A, Nr. 581, fol. 2; Gerhard Schmidt to Otto Hahn, 17 November 1959, AMPG, III. Abt., ZA 145, Nr. 47.

Hermann Josef Abs hosted the Frankfurt meeting on 14 October 1959, inviting the leading guests Dr. Peter Bartmann (1883–1964), president of the Frankfurt Chamber of Commerce, Werner Bockelmann (1907–1968), lord mayor of Frankfurt, Otto Hahn, Edgar Salin, and Karl Winnacker.⁹² He also chaired a committee to discuss how to proceed. Committee members on the German side were, among others, Gentner, Boris Rajewsky (1893–1974),⁹³ a Frankfurt-based biophysicist and MPI director, Ernst Telschow, and Winnacker.⁹⁴

At the meeting, both Weizmann scientists received strong support from Herman Francis Mark (Hermann Franz, 1895–1992), from the renowned Brooklyn Polytechnic Institute in New York.⁹⁵ The Austrian-born Mark, like Schmidt, was a specialist in X-ray spectroscopy and had worked at the Kaiser Wilhelm Society and for German industry until he left Germany because of the Nazi regime.⁹⁶ After the war, Mark was reconciled with the Fritz Haber Institute of the MPG, successor to the institute at the Kaiser Wilhelm Society where he had worked previously, and became an honorary member of the MPG. He gave a keynote speech in German as vice-president of the American Committee for the Weizmann Institute of Science.⁹⁷ The representatives of the Weizmann Institute presented it as the beacon of cutting-edge research in Israel and as a spearhead of Western science and technology. To illustrate this, they showed a United Artists documentary about the Weizmann Institute entitled “Outpost of Civilization.”⁹⁸ Their presentation also made clear the extent to which the scientific ambitions of the Weizmann Institute resembled those of the Max Planck Society. In a sense, both embody the model of research funding first established by the Kaiser Wilhelm Society. Instead of Abs, Klaus Dohrn from the Kreditanstalt für Wiederaufbau (KfW)⁹⁹ hosted the Düsseldorf meeting. Gentner again floated the idea of sending a Max Planck delegation to the Weizmann Institute.¹⁰⁰

92 Otto Hahn's invitation for the presentation at the Frankfurter Hof, 14 October 1959, AMPG, III. Abt., Rep. 14, Nachlass Hahn, 6560, fol. 3–4.

93 Rajewsky had been a member of the SA and, since 3 May 1937, of the NSDAP, No. 4376688. Reichsministerium für Wissenschaft, Erziehung und Volksbildung, Kartei, BArch, R 4901/23985.

94 Deichmann, “Collaborations,” 2015, 1187.

95 Herman Mark to Josef Cohn, New York, 16 March 1959, AMPG, III. Abt., ZA 112, Nr. 6.

96 Johannes Feichtinger: “Herman F. Mark (1895–1992). Viennese Born ‘Ambassador’ of Macromolecular Research.” In: José Ramón Bertomeu-Sánchez, Duncan Thorburn Burns and Brigitte Van Tiggelen (eds.): *Neighbors and Territories. The Evolving Identity of Chemistry. Proceedings of the 6th International Conference of the History of Chemistry*. Louvain: Mémoires sciences 2008, 219–229; Reinhard Rürup and Michael Schüring: *Schicksale und Karrieren. Gedenkbuch für die von den Nationalsozialisten aus der Kaiser-Wilhelm-Gesellschaft vertriebenen Forscherinnen und Forscher*. Göttingen: Wallstein 2008, 226 and 261. Bretislav Friedrich, Dieter Hoffmann, Jeremiah James and Thomas Steinhäuser: *Hundert Jahre an der Schnittstelle von Chemie und Physik. Das Fritz-Haber-Institut der Max-Planck-Gesellschaft zwischen 1911 und 2011*. Berlin: De Gruyter 2011, 52 and 115.

97 Otto Hahn's invitation for the presentation at the Frankfurter Hof, 14 October 1959, AMPG, III. Abt., Rep. 14A, Nr. 6560, fol. 3–4.

98 Ibid.

99 A lending institution for the German postwar reconstruction founded in 1948 with the support of ERP funds.

100 Talk by Josef Cohn, “Weizmann-Institute and German Science – a Contribution to the German-Israeli Relations,” 28 November 1978, 6, AMPG, III. Abt., ZA 112, Nr. 1; and Josef Cohn, “Max Planck Gesellschaft und Weizmann Institut.

In October 1959, members of the Weizmann Institute invited MPG President Hahn to go to Israel. Meyer W. Weisgal, Gerhard Schmidt, Amos de Shalit, and Abba Eban prepared the ground in Rehovot, with the latter also speaking to Ben-Gurion, who accepted “with the proviso of no publicity whatsoever.”¹⁰¹ Consequently, the campaign received support from the highest places on both sides. Hahn received and accepted an official invitation, which gave him, as well as one physicist and one biologist from the Max Planck Society, the opportunity to visit the institute at Rehovot, which suggests that physics and biology were considered to be the most promising fields of cooperation with the Israeli side.¹⁰² For reasons explained above, the visit eventually turned out to be a success, but not before major obstacles had been overcome on both sides.

7. Internal resistance

Although the stage had been set, the actual implementation of the Minerva cooperation turned out to be more difficult than anticipated. On the Israeli side, the first obstacles arose even before the visit by the MPG delegation. The activities of Cohn and the Weizmann campaigners were a form of competition to the head of the Israeli Mission in Cologne Felix Shinnar. An extraordinary set of documents¹⁰³ shows a deep divide in terms of goals and strategies. There are three descriptions of Shinnar’s reactions to the campaign in connection with his maiden speech to the Board of Governors at the Weizmann Institute on 20 April 1959, after he heard from Kronstein about Cohn’s attempts to obtain funding from German industrialists. Shinnar sent a report in advance of the committee meeting. There is also a memorandum of his more spontaneous speech at the meeting. Finally, in a remarkable letter to Meyer W. Weisgal, Shinnar admitted that he had been too emotional and explained what he should have said at the meeting. As we shall discuss in more detail below, Shinnar’s verbatim statement shows that he was actually more concerned about the ethical problems raised by the efforts to launch a cooperation with German industry than about any competition with Cohn.

In any case, Cohn did not seem to be very impressed and continued with his strategy. In the end, however, attempts to establish stable German industrial support for the Weizmann Institute failed, although some companies and industrial managers made sporadic donations, such as

Bericht über ein Programm deutsch/israelischer wissenschaftlicher Zusammenarbeit,” 2–3, AMPG, III. Abt., ZA 112, Nr. 7.

101 Cited in: Deichmann, “Collaborations,” 2015, 1187.

102 Otto Hahn to Josef Cohn, 23 October 1959, AMPG, III. Abt., ZA 112, Nr. 3; Josef Cohn to Otto Hahn, 31 October 1959, AMPG, III. Abt., Rep. 14A, Nr. 581, fol. 2; Gerhard Schmidt to Otto Hahn, 17 November 1959, AMPG, III. Abt., ZA 145, Nr. 47.

103 Weizmann Institute Board of Governors Meeting, 20 April 1959, Dr. Shinnar’s statement (in the minutes as circulated), AMPG, III. Abt., ZA 112, Nr. 8; Weizmann Institute Board of Governors Meeting, 20 April 1959, Dr. Shinnar’s statement (verbatim), *ibid.*; Felix Shinnar (Head of the Israeli Mission in Germany) to Meyer W. Weisgal (Chairman Board of Governors, Weizmann Institute of Science), 27 April 1959, *ibid.*

Hans Lutz Merkle (1913–2000)¹⁰⁴ chairman of the Supervisory Council of the Robert Bosch GmbH from 1963, or the producer of electrical equipment, AEG. In 1965, Cohn became involved in secret negotiations with AEG about the delivery of a nuclear plant to Israel.¹⁰⁵

While relations with German industry was a delicate issue, the 1959 trip of the Max Planck delegation had helped to advance scientific collaboration. Nevertheless, there was resistance also on the German side. In January 1960, Cohn visited the influential Secretary General of the MPG, Ernst Telschow.¹⁰⁶ The latter received him politely but, at the same time, advocated in internal discussions within the MPG that the society should not be involved in research projects in Israel because this would be against its charter. In his view, it should at least proceed with caution. This was a criticism of what he saw as Hahn's overhasty approach. Telschow, a former member of the Nazi Party,¹⁰⁷ executive director of the Kaiser Wilhelm Society from 1937, and one of the main patrons of its efficient mobilization for the Nazi regime, played an ambiguous role here. He was also the first secretary general of the central administration of the Max Planck Society; he was in office until 1960 and, even later, remained an extremely influential advisor to the society. Telschow, who after the war began to act as a defender of the traditional core of the KWG/MPG, had been an obstacle to the re-establishment of international relations because of his Nazi past.¹⁰⁸ The pragmatic and persistent Cohn attempted to overcome such resistance with the aid of friends such as Hahn and Gentner, but also with the political support of Adenauer. In a second meeting with the Chancellor after the Israel trip, on 4 February 1960,¹⁰⁹ Cohn reported on the results of the trip and informed him about Gentner's memorandum. Adenauer promised to support the plan and to strengthen bonds. In his meetings with Adenauer, Cohn pointed to the relevance of the scientific cooperation for foreign policy. Apart from the scientific reasons, the plan thus satisfied mutual demands: moral-political ones on the German side and financial-political ones on the Israeli side.

104 Merkle had been a member of the NSDAP. Sammlung Berlin Document Center (BDC): Personenbezogene Unterlagen der NSDAP.- Mitgliederkartei.- Gaukartei, BAArch, R 9361 IX KARTEI, Merkle, Hans L., 01.01.1913.

105 AEG, Fachgebiet Kernkraftwerke, to Josef Cohn, 5 July 1965, AMPG, III. Abt., ZA 112, Nr. 3; Josef Cohn to AEG, 15 July 1965, *ibid.* The delivery of the plant was to be accompanied by an arrangement for the desalination of 400,000 m³ sea water per day. American President Lyndon B. Johnson (1908–1973) initiated an American-Israeli expert committee which discussed the project. Parallel to the business negotiations, AEG donated 80,000 DM and 100,000 DM in 1965 and 100,000 DM in 1966 to the Dannie N. Heinemann Accelerator Laboratory at the Weizmann Institute. See AEG to Abba Eban (President of the Weizmann Institute), 16 July 1965, AMPG, III. Abt., ZA 112 Cohn, Nr. 3; Richard Kronstein (President of the European Committee of the Weizmann Institute) to Carl Wilhelm Röder (Board of Directors of the AEG), *ibid.* On the role of science in the Johnson administration, see Ronald E. Doel and Kristine C. Harper: "Prometheus Unleashed. Science as a Diplomatic Weapon in the Lyndon B. Johnson Administration." *Osiris* 21/1 (2006), 66–85. See also Josef Cohn to Hans Bühler and Director Carl Wilhelm Röder (AEG), 3 November 1966, AMPG, III. Abt., ZA 112 Cohn, Nr. 3.

106 Telschow, "Vermerk," 25 January 1960, AMPG, II. Abt., Rep. 102, Nr. 340.

107 Telschow had been a member of the NSDAP since 1 May 1933, No. 2638239. Sammlung Berlin Document Center (BDC): Personenbezogene Unterlagen der NSDAP, BAArch, R 9361-1/3592. Also in Klee, *Personenlexikon*, 2003, 618–619.

108 See, for example, Schüring, *Minervas verstoßene Kinder*, 2006, 297–298.

109 Josef Cohn, Report on an interview with Chancellor Dr. Konrad Adenauer on 4 February 1960 at the Federal Chancellery, Bonn (Palais Schaumburg), 1–3, AMPG, III. Abt., ZA 112, Nr. 6; Josef Cohn to Meyer W. Weisgal, 19 March 1960, 1–2, here 2, AMPG, III. Abt., ZA 112, Nr. 3.

The plan complied, in particular, with Adenauer's political agenda. He planned to meet Ben-Gurion about a month later in New York.¹¹⁰ The establishment of scientific cooperation would be a gesture of goodwill toward the Israeli Prime Minister, in addition to the promise of clandestine economic and military aid, without any promise of official diplomatic relations. The German Chancellor therefore took the opportunity to request Gentner's memorandum, instructing Cohn to tell Hahn to send this memorandum to him immediately.¹¹¹ Hahn traveled to Geneva where he met Gentner and sent the revised and signed memorandum to Adenauer on 8 February.¹¹²

Hence, there was some political pressure and it remained crucial to find a way of placing German governmental funds for cooperation in science in an appropriate institutional and administrative setting. On 11 February 1960, Cohn visited Hahn again and also met (instead of the indignant and stubborn Telschow) Otto Benecke (1896–1964),¹¹³ the other Executive Director of the Managing Board of the Max Planck Society, who had been appointed after internal discussions about Telschow. Hahn and Benecke planned to finance an agreement with the Weizmann Institute on the exchange for young scientists with appropriate Max Planck institutes and they also pledged German governmental funding in the future.¹¹⁴ Telschow was in fact somewhat affronted because Hahn had made a promise on behalf of the Max Planck Society before consulting the Administrative Council of the MPG, and in particular Telschow himself.¹¹⁵

Although Hahn, as President of the Max Planck Society, attempted to overcome the reticence and overcautiousness of his own central administration, initially he was unsuccessful because of support for Telschow's position within the MPG. On 22 February 1960, Benecke discussed the proposal to fund the Weizmann Institute with Adolf Butenandt (1903–1995), the designated successor of Hahn as President of the MPG (from 1960 to 1972). In contrast to Hahn, Butenandt had

110 In the meeting, Cohn's plea for a quick decision was twofold: the upcoming meeting between Adenauer and Ben-Gurion and the end of Otto Hahn's presidency of the MPG in May 1960. Josef Cohn, Report on an interview with Chancellor Dr. Konrad Adenauer on 4 February 1960 at the Federal Chancellery, Bonn (Palais Schaumburg), 1–3, here 3, AMPG, III. Abt., ZA 112, Nr. 6.

111 Interview with Josef Cohn, "Zeitgenossen," *Südwestfunk*, 26, AMPG, III. Abt., ZA 112, Nr. 1.

112 Otto Hahn to Konrad Adenauer, 8 February 1960, AMPG, III. Abt., ZA 145, Nr. 47; "Vorschlag zur Förderung einer wissenschaftlichen Zusammenarbeit zwischen der Max-Planck-Gesellschaft und dem Weizmann-Institut in Rehovot," 8 February 1960, 1–4, AMPG, III. Abt., ZA 145, Nr. 47.

113 Benecke had been a member of the NSDAP, No. 7621908, but he joined the party relatively late on 1 June 1940. Sammlung Berlin Document Center (BDC): Personenbezogene Unterlagen der NSDAP.- Mitgliederkartei.- Zentralkartei, BArch, R 9361-VIII KARTEI, Benecke, Otto, 11.12.1896 and BArch, Sammlung Berlin Document Center (BDC): Personenbezogene Unterlagen der Reichskulturkammer (RKK): R 9361-V/13800.

114 "Vermerk," 11 February 1960, AMPG, III. Abt., ZA 145, Nr. 47.

115 Otto Benecke, "Vermerk," Göttingen, 11 February 1960, AMPG, II. Abt., Rep. 102, Nr. 340. With note from Telschow: "promised without asking the Board! with signature of the President!"; Otto Benecke, "Vermerk," Göttingen, 24 February 1960, *ibid.*, also with a respective note from Telschow.

been a member of the NSDAP,¹¹⁶ but he denied his party membership after 1945.¹¹⁷ Despite several invitations,¹¹⁸ he never visited Israel himself nor became involved in Weizmann Institute events abroad. In 1970, the Science Attaché of the Israeli Embassy in West Germany considered Butenandt as “unsuitable for a visit because of his behavior during the NS period.”¹¹⁹



Inauguration of the tandem accelerator at the MPI for Nuclear Physics in Heidelberg, 1962.

From left to right: Wolfgang Gentner, Otto Hahn, Siegfried Balke, Adolf Butenandt, and Werner Heisenberg.

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In 1960, Butenandt agreed to the exchange of scientists with the Weizmann Institute but was reluctant for the MPG to take on a role as broker for governmental or industrial funds for the Weizmann Institute. He argued that this was in conflict with the statute of the MPG, which defined the MPG’s exclusive purpose as the funding of Max Planck institutes. In a handwritten note, Telschow agreed and criticized President Hahn for accepting the proposal from the Weizmann Institute. In an almost apologetic tone, characterizing scientific collaboration as a substitute for political support, Hahn, also in a handwritten note, added: “Because it is difficult to help Israel for political reasons, this loophole was used in the end. H.”¹²⁰ In search of a solution to its internal dilemma, the MPG council even asked officials in industry if they knew of any other institution that would step in and take on this task.¹²¹ Benecke was also instructed to

116 Butenandt had been a member of the NSDAP since 1 May 1936, No. 3716562. Sammlung Berlin Document Center (BDC): Personenbezogene Unterlagen der NSDAP.- Mitgliederkartei.- Zentralkartei, BArch, R 9361-VIII KARTEI, Butenandt, Adolf, 24.03.1903., Personenbezogene Unterlagen des NSDAP R 9361-I/447, Personenbezogene Unterlagen der NSDAP R 9361-I/Parteistatistische Erhebung 1939, and Personenbezogene Unterlagen der NSDAP/PK: R 9361-II/138311.

117 For Butenandt, see Wolfgang Schieder and Achim Trunk (eds.): *Adolf Butenandt und die Kaiser-Wilhelm-Gesellschaft. Wissenschaft, Industrie und Politik im “Dritten Reich.”* Göttingen: Wallstein 2004.

118 See Adolf Butenandt to Aharon Katchalsky, 15 October 1955, AMPG, III. Abt., Rep. 84/2, Nr. 2967, fol. 2; Josef Cohn to Adolf Butenandt, 7 December 1963, AMPG, II. Abt. Rep. 89, Nr. 114; Adolf Butenandt to Josef Cohn, 15 November 1963 and 21 December 1963, AMPG, II. Abt., Rep. 102, Nr. 340; Adolf Butenandt to Berthold Simonsohn (Bundesverband der Gesellschaften der Freunde der Hebräischen Universität Jerusalem in Deutschland e.V.), 11 February 1964, AMPG, III. Abt., Rep. 84/2, Nr. 7007, fol. 11.

119 Report by Dr. E. Rapaport, August 1970, 8, UAHU, no call number.

120 Otto Benecke, “Vermerk,” Göttingen, 24 February 1960, AMPG, II. Abt., Rep. 102, Nr. 340.

121 “Niederschrift über die Sitzung des Verwaltungsrats der MPG,” 9 March 1960, 25 and 26, AMPG, II. Abt., Rep. 102, Nr. 340.

communicate to Balke that the MPG did not wish to be the intermediary between the German government and the Weizmann Institute. Balke understood and accepted this for the time being.¹²²

On the Israeli side, Cohn reported these developments to Felix Shinnar, who remarked that Cohn would never see any money. Shinnar claimed it would take a year for the German cabinet to discuss the proposal and then refuse it. But this turned out to be a misjudgment because shortly afterwards Cohn did hear from a friend in the law department of the West German Foreign Office that three million DM would be made available.¹²³ The grant was intended as a gesture of goodwill on the part of Adenauer for his meeting with David Ben-Gurion at the Waldorf Astoria, and so the enactment of this plan became top priority. This was not the time to be caught up in red tape because the meeting with Ben-Gurion was imminent and Adenauer pressed the case.¹²⁴ Since the MPG remained recalcitrant, Adenauer had to extort another solution from his cabinet. The cabinet's decision on the first three million DM grant to the Weizmann Institute as proposed by the Hahn/Gentner memorandum was taken on 7 March 1960 when Adenauer intensely discussed the question of diplomatic relations with Israel on the occasion of his planned trip to the US. Balke agreed to pay the three million DM for the Weizmann Institute in three annual installments from the budget of his Ministry for Nuclear Energy and Water Policy. Adenauer supported the proposal and the cabinet agreed.¹²⁵ Obviously, there was some internal juggling in the process because, in the end, the money came from the cultural budget of the German Foreign Office.¹²⁶ In spite of the efforts of some of its main protagonists, the MPG had thus missed the opportunity to pioneer, as a scientific organization, the German-Israeli cooperation.

8. The Waldorf Astoria meeting of 1960 and its consequences

From the Israeli political perspective, diplomatic relations with Germany, which Israel had been attempting to establish since 1956, would have been a crucial instrument in cracking the wall of isolation surrounding the country within the context of the Cold War. On the other hand, there was also, as we have emphasized, strong emotional opposition to any contact with Germany in Israel. Semi-official scientific exchanges, and as well as secret diplomacy or

122 "Notiz von Herrn Dr. Benecke (für Drehbuch)," 11 March 1960, AMPG, II. Abt., Rep. 102, Nr. 340.

123 Interview with Josef Cohn, "Zeitgenossen," *Südwestfunk*, 26, AMPG, III. Abt., ZA 112, Nr. 1.

124 Josef Cohn to Meyer W. Weisgal, 19 March 1960, AMPG, III. Abt., ZA 112, Nr. 3.

125 "Auszug aus dem Kurzprotokoll über die 98. Kabinettsitzung der Bundesregierung am 2. März 1960, 'Außerhalb der T.O. – Aufnahme diplomatischer Beziehungen mit Israel,'" Bonn, 7 March 1960, PA AA, B 130, Bd. 3256A.

126 Nickel, *It began in Rehovot*, 1993, 36–37.

clandestine economic and military cooperation, therefore appeared to be an appropriate conduit, possibly easing the path toward the goal of official German-Israeli relations.¹²⁷

The first meeting between Ben-Gurion and Adenauer took place in New York on 14 March 1960 on the 35th floor of the Waldorf Astoria,¹²⁸ against an American backdrop, so to speak. The Israeli Prime Minister and the German Chancellor convened for two hours. Afterwards, the press was invited to take pictures, which seemed to be an amazing feat considering that it took place only 15 years after the end of the German war crimes against the Jewish people. The press photographs show Ben-Gurion shaking hands with the representative of the “nation of perpetrators.” However, compared with the symbolic impact, the official results were not as sensational. In a quite abstract manner, Adenauer promised to help Israel, while Ben-Gurion stated that, due to the political changes, the new democratic West Germany was not the Germany that had perpetrated the Nazi war crimes. But eight years after the Luxembourg Agreement, there was still no positive decision about official diplomatic relations between the two countries.

Adenauer’s German critics assumed that the German government was afraid of the reaction of the Arab countries, in particular, their leading figure, the Egyptian President Gamal Abdel Nasser (1918–1970), who had already stated in 1956 that he would officially accept East Germany as a state if diplomatic relations were established between Israel and West Germany.¹²⁹ On the other hand, there were rumors of other—clandestine—compensation in the form of a large and generous German loan for the friendly words and attitude of Ben-Gurion. The German government was grateful for Ben-Gurion’s conciliatory statement because, at that time, new Nazi activities in Germany such as swastikas scribbled on walls or the desecration of Jewish graveyards were damaging the international image of the country.¹³⁰ German-Israeli relations became even more complicated when, in May 1960, Israel captured the German war criminal Adolph Eichmann (1906–1962) in Argentina and put him on trial in Israel.

Ben-Gurion had understood that West Germany would give 50 million dollars per year for ten years. He wanted to use the money mainly “for the establishment of large-scale development undertakings in the Negev (which takes up over 60 per cent of the area of Israel), for two reasons: an economic reason and a moral one.”¹³¹ Some dates and figures about the informal agreement at the meeting between Ben-Gurion and Adenauer were leaked from the Israeli delegation

127 For the complex German-Israeli relations and semi-official travel activities from 1959 to 1966, see Jenny Hestermann: *Inszenierte Versöhnung. Reisediplomatie und die deutsch-israelischen Beziehungen von 1957 bis 1984*. Frankfurt am Main: Campus 2016, 46–144.

128 For an analysis of the meeting, see Yeshayahu A. Jelinek and Rainer A. Blasius: “Ben Gurion und Adenauer im Waldorf Astoria.” *Vierteljahrshefte für Zeitgeschichte* 45/2 (1997), 309–344.

129 Jelinek, *Deutschland und Israel*, 2004, 288.

130 *Ibid.*, 311–313.

131 Jelinek and Blasius, “Ben-Gurion und Adenauer,” 1997, 312.

to the public, evidently with the intention to give it a binding character.¹³² The civil servants at the German Foreign Office were horrified, afraid that such loans could mean the end of all their traditionally good contacts with the Arab states, the beginning of an international acceptance of East Germany, and the downfall of the system of the Hallstein Doctrine. Adenauer and the German side claimed that the loan had only been agreed in principle and that they had not promised a loan that would come into effect before the end of the Luxemburg payments on 31 March 1966. Nevertheless, in 1961, Israeli representatives asked for the first installment of the German loan, and as a concession to Ben-Gurion, Adenauer agreed to clandestine loans of altogether 629.4 million DM between 1961 and 1965.¹³³

The negotiations at the Waldorf Astoria also had a secret military element to them. Adenauer made a general commitment to help with weapons.¹³⁴ In 1962, the General Secretary and Minister of Defense, Shimon Peres (1923–2016) and his German counterpart, Franz Josef Strauß (1915–1988),¹³⁵ met to discuss the Israeli wish list, which comprised submarines, missiles, canons, tanks, and airplanes. This was not their first meeting: other top-secret bilateral weapons deals had been taking place since 27 December 1957 when the two met at Strauß's home in Bavaria. In view of threats from Arab states and their accelerated rate of armament, actively assisted by the Soviet Union, Israel aimed to increase the number of its weapons suppliers, which at that time were limited mainly to France, West Germany, and the UK, by purchasing arms from the US. This initiative was promoted through West German mediation, also as compensation for the lack of official diplomatic relations.¹³⁶ Despite strong opposition from the German Foreign Office, Adenauer approved a top-secret 240 million DM weapons supply for Israel in August 1962.¹³⁷ In 1964, the US, which officially refused to deliver weapons to Israel after the Sinai War but looked for concealed ways to help Israel stand up to its Soviet-equipped neighbors, urged the German government to integrate additional tanks in the weapons deal.¹³⁸

In New York, Adenauer and Ben-Gurion did not just speak about economic and military aid for Israel and the political situation in a global Cold War. At the end of the meeting, Adenauer also broached another topic. He informed Ben-Gurion: "I was approached by Dr. Cohen [sic] regarding support for the Weizmann Institute. I want to tell you this matter is alright."¹³⁹

132 Niels Hansen: "Geheimvorhaben 'Frank/Kol.' Zur deutsch-israelischen Rüstungszusammenarbeit 1957–1965." *Historisch-politische Mitteilungen* 6 (1999), 248.

133 Jelinek and Blasius, "Ben-Gurion und Adenauer," 1997, 312–314.

134 For an account on the bilateral weapons deals, see Hansen, "Geheimvorhaben," 1999, 229–264.

135 *Ibid.*, 240–241. Like Balke, Strauß was in the CSU, but while Balke only supported peaceful nuclear energy research, Strauß also opted for nuclear weaponry.

136 See Jelinek, *Deutschland und Israel*, 2004, 300–311.

137 Hansen, "Geheimvorhaben," 1999, 242.

138 *Ibid.*, 246.

139 Jelinek and Blasius, "Ben-Gurion und Adenauer," 1997, 344.

Consequently, to assure Ben-Gurion of the Germans' goodwill, he was also able to add scientific cooperation to the clandestine economic and military support. With the aid of Heinrich Ritzel (1893–1971), a pro-Israeli SPD member of the Bundestag and his party's spokesman in the parliamentary budget committee, political acceptance was achieved for Adenauer's decision to follow funding proposals from the Weizmann Institute and to actually provide such funds.¹⁴⁰

As a form of compensation, the tireless Cohn had tried to use his exceptional connections to arrange personal contacts between Adenauer and prominent American figures in the US in the context of the New York meeting. But this also turned out to be more difficult than expected. Joseph Brainin (1886–1970), journalist and staff member of the American Committee for the Weizmann Institute since 1953, wrote to Cohn that the American Committee and Weisgal, who discussed this issue with Eban, refused to organize a reception for Adenauer in the US. There would be other opportunities to express the appreciation of the American Committee of the Weizmann Institute to Adenauer. Brainin himself did not agree.¹⁴¹

I read your report on your meeting with Adenauer with much interest. It really belongs to Hoch Politik, and should be of value to the Israeli Government in its diplomatic negotiations with Bonn. (If it were up to me, I would propose you for the Israel Ambassadorship to Germany). It appears to me, from your very comprehensive memorandum, that the financial results from Operation Germany are no longer in doubt, and that it is merely a matter of tying up the loose ends and arranging for the exact modus operandi of the grants from the Plank Institute [sic!] to the Weizmann Institute, Congratulations!

In fact, only a few months later, a political compensation actually materialized. In November 1960, John F. Kennedy (1917–1963) became President of the US and Adenauer, who had close connections to the Eisenhower Administration, was afraid of losing contact with the American political establishment, at the time dominated by Democrats. Cohn proposed that Adenauer should send some political friends to the US to build up connections and offered to manage these activities because the American Committee of the Weizmann Institute had close relations with the Kennedy Administration.¹⁴²

Adenauer was happy to agree.¹⁴³ Cohn travelled around and managed visits by Ferdinand Friedensburg (1886–1972), who had been the acting Mayor of Berlin during the Berlin Blockade,¹⁴⁴

140 Nickel, *It began in Rehovot*, 1993, 36–37.

141 Joseph Brainin (Executive Vice-President of the American Committee of the Weizmann Institute of Science) to Josef Cohn, 26 February 1960, AMPG, III. Abt., ZA 112, Nr. 3.

142 Josef Cohn to Konrad Adenauer, Zurich, 19 November 1960, AMPG, III. Abt., ZA 112, Nr. 7.

143 Konrad Adenauer to Josef Cohn, Bonn, 30 November 1960, AMPG, III. Abt., ZA 112, Nr. 7.

144 Konrad Adenauer to Josef Cohn, Bonn, 2 June 1961, AMPG, III. Abt., ZA 112, Nr. 7.

Wilhelm Hahn (1909–1996), professor of theology at Heidelberg University,¹⁴⁵ and Kurt Birrenbach (1907–1987).¹⁴⁶ Birrenbach did not like the idea of being managed by Cohn because he regarded himself as an expert in American relations. But the Chancellor had more appreciation for Cohn's contacts and instructed Birrenbach to rely on Cohn.¹⁴⁷

9. The early 1960s – progress in the context of a stalemate

The MPG delegation's trip to Israel, as we have seen, had been prepared by the persistent engagement of the Israeli side to muster international support for its cause in all areas. From the German political perspective, the scientific collaboration with Israel was part of non-declared compensation for West Germany's pursuit of good relations with the Arab countries and its resulting reluctance to establish official diplomatic relations with Israel. The Adenauer government had taken advantage of the low-key role of science in the arena of foreign politics around 1960. Hence, there was no need for secrecy as long as the issue was handled discretely and there were no obvious connections to crucial military or economic interests. The MPG, with its emphasis on basic science, thus ideally matched this "job description," were it not for its reluctance to become an actor in foreign policy.

The crucial factor in establishing the bilateral scientific cooperation, as mentioned, was the success in mobilizing support from more or less the same political circles that were also behind the implementation of the Luxembourg Agreement. This was also made possible by the traditionally close connections between Israeli scientific and political elites. But while Israeli scientists were used to being openly involved in similar contexts, the beginning of the Israeli-German scientific collaboration represented a challenge for the MPG that required a learning process on how to cope with such political contexts.

Initially, the funding of scientific cooperation with Israel was merely conceived as a substitute for official bilateral diplomatic relations or, to use Hahn's word, as a "loophole." Eventually, however, the MPG in filling this loophole, was turned into a resource for an institutionalized scientific cooperation. Perhaps it also served as an occasion for some German scientists to learn from

145 From 1974 to 1978 he was Minister of Education for Baden-Württemberg.

146 Birrenbach had been a member of the SA 1933–1934, NS-Archiv des MfS: Personalia SA, BArch, VBS 1009/ ZB II 5595 A. 18, and a member of the NSDAP. Sammlung Berlin Document Center (BDC): Personenbezogene Unterlagen der NSDAP/PK, BArch, R 9361-II/79413. He was a lawyer who had joined the NSDAP in 1933 but left the party because it prohibited his marriage to his fiancée who was "half-Jewish." He then emigrated to South America.

147 Talk by Josef Cohn, "Weizmann-Institute and German Science – a Contribution to the German-Israeli Relations," 28 November 1978, 9–10, AMPG, III. Abt., ZA 112, Nr. 1; Interview with Josef Cohn, "Zeitgenossen," *Südwestfunk*, 24–25, *ibid.* It is an open question whether Birrenbach, who was Chair of the Supervisory Board of *Thyssen-AG für Beteiligungen* from 1954 onwards, was involved in the donations from the Fritz Thyssen Foundation to the Weizmann Institute.

their Israeli colleagues about the significance for a scientific institution to pursue its own foreign policies. In any case, the MPG introduced science policy as a goal into its charter in 1964.¹⁴⁸

In the early 1960s, both German-Israeli diplomatic relations and bilateral scientific cooperation remained difficult issues, also because science continued to substitute for diplomacy since the German government refused to establish full diplomatic relations with Israel. In this period, with funding from the German government, the MPG, the Fritz Thyssen Foundation, and the Volkswagen Foundation, the first research cooperations with the Weizmann Institute were initiated and the first German fellows were able to make long-term visits there.

Under pressure from a group of dedicated scientists and the German government, the MPG eventually found a way to overcome the tension between its self-conception as an institution for pure science and the request to serve as a conduit of foreign policy. By mid 1961, the attitude toward the bilateral scientific exchange had changed significantly. The administration of the MPG sent a circular letter to the heads of all Max Planck institutes and called for applications for a new fellowship at the Weizmann Institute.¹⁴⁹ In the very beginning, no external funding was available for the exchange program so the MPG Board decided to use 30,000 DM of Max Planck funds to finance long-term stays by young MPG scientists.

In the early years, the exchange of fellows was carefully prepared: the young, exclusively German fellows were handpicked by Gentner, not only for their scientific competence, but at least as much for their diplomatic qualification and their ability to represent a “new” Germany.¹⁵⁰ Diplomatic skill was the key criterion in the choice of the first Minerva Fellows, as Gentner emphasized retrospectively:¹⁵¹

Hence, we did not campaign but only chose people when we could rely on the opinion of our friends that these were the right kind of young people who would not smash the delicate porcelain, which we had puttied tediously. This was not so easy at all back in the '50s [sic, but related to the early fellows in the '60s].

Funding from the German government effectively started in 1962. The first three million DM were spent on the construction of the Ullmann Institute of Life Sciences, which was established between 1963 and 1965,¹⁵² then one million DM on the general promotion of the Weizmann

148 Max-Planck-Gesellschaft zur Förderung der Wissenschaften e. V.: *Satzung vom 26. Februar 1948 in der am 3. 12. 1964 beschlossenen Fassung*. Munich: Max-Planck-Gesellschaft zur Förderung der Wissenschaften e.V. 1965, 8.

149 Edmund Marsch (Präsidiälbüro) to the Directors and Heads of the Institutes and Research Centers of the Max Planck Society, 5 June 1961, AMPG, II. Abt., Rep. 102, Nr. 340.

150 Wolfgang Gentner to Edmund Marsch, 12 April 1962, AMPG, III. Abt., ZA 145, Nr. 47.

151 Talk by Wolfgang Gentner, “Weizmann-Institute and German Science – a Contribution to the German-Israeli Relations,” 28 November 1978, 14, AMPG, III. Abt., ZA 112, Nr. 1.

152 Nickel, *It began in Rehovot*, 1993, 36.

Institute, and two million DM on the acquisition of a 10 keV Van de Graaff tandem accelerator for the Dannie N. Heinemann Accelerator Laboratory in the Department of Nuclear Physics, which opened in 1965.¹⁵³ The first European accelerator of this kind had been installed at Gentner's Max Planck Institute for Nuclear Physics in 1962 and Gentner consulted about construction of the Rehovot accelerator based on the experiences in Heidelberg.¹⁵⁴ All these funds came from the cultural budget of the German Foreign Office.

In the first few years, applications for fellowships at the Weizmann Institute were limited in number, and the range of participating Max Planck institutes was confined to certain topics. Gentner emphasized in hindsight the importance of confining the cooperation to the field of "pure" or basic science, because practical applications (in nuclear physics, this meant nuclear arms and energy research) were regarded as potentially damaging:¹⁵⁵

Practical applications shouldn't be discussed at all. Of course, someone can apply personally for a patent, but the Institute should not aim at patents. Then again, the interests of industry and governments would arise and spoil all. In this sense, we quietly and peacefully discussed our basic research and understood each other perfectly.

Gentner thus indicated that it was vital for "quiet and peaceful" cooperation not to mention aspects that might disturb or even "spoil" the new scientific relations.

Max Planck directors interested in specific areas of research at the Weizmann Institute had to go through what later came to be called the Minerva Program. Additionally, in late 1961, the first young visiting scientists traveled to the Weizmann Institute. At the Weizmann Institute, Amos de Shalit was the first department head in Rehovot to offer posts to young German research fellows. Among them was the nuclear physicist Lorenz Krüger (1932–1994), who also became a philosopher and much later would play a crucial role in the foundation of the Max Planck Institute for the History of Science. The dominant role of the political context is evident in the reports by the early fellows. Thus, Cornelius Christoph Noack (b. 1935), another young pioneering visiting scientist, wrote to Wolfgang Gentner:¹⁵⁶

One often has the impression that in private many regard Germany as their mental homeland. Overall, we have very positive experiences. Just one thing is deplorable: how the young people inherit the justified hatred of the elder generation.

153 Dr. Röhrecke (Federal Foreign Office) to the European Committee of the Weizmann Institute of Science, 30 January 1964, AMPG, III. Abt., ZA 112, Nr. 3. Decisions were taken on 8 June, 15 August, and 10 September 1962, respectively.

154 Josef Cohn, "Report on a visit with Prof. Wolfgang Gentner Director Max-Planck-Institut für Kernphysik, Heidelberg, on June 3, 1963," 4 June 1963, AMPG, III. Abt., ZA 112, Nr. 3.

155 Talk by Wolfgang Gentner, "Weizmann-Institute and German Science – a Contribution to the German-Israeli Relations," 28 November 1978, 13, AMPG, III. Abt., ZA 112, Nr. 1.

156 Christoph Noack to Wolfgang Gentner, 23 November 1961, AMPG, III. Abt., ZA 145, Nr. 47.

Noack's visit to the nuclear physics department at the Weizmann Institute from 1961 to 1963 was funded by the Max Planck Society. This was the first extended visiting fellowship of a young German scientist in Israel and sowed the first seeds for the later Minerva Fellowship, which was funded by the Volkswagen Foundation from 1964 to 1973.

Despite the high-level political support, cooperation with German scientists at the Weizmann Institute was not broadly welcomed. The Board of Governors of the Weizmann Institute would probably not have officially approved the decision to allow German exchange scientists to join the Institute. Meyer W. Weisgal, Chair of the Executive Council of the Weizmann Institute, de Shalit, and Gerhard Schmidt, Chairman of the Scientific Committee, circumvented the problem by asking every single member of each department if she or he would tolerate a German colleague at the institute. If one single member in any department felt that this would be intolerable, the program would not be implemented there.¹⁵⁷ In fact, there were departments where this was the case, and the program began in a rather piecemeal fashion. It was not until after the Six-Day War in 1967 that the last departments dropped their objections.



Wolfgang Gentner being awarded an Honorary Fellow of the Weizmann Institute by Meyer W. Weisgal, left. In the background is Abba Eban. Rehovot, 1965.
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10. The Minerva solution of 1963

Around the end of 1962, de Shalit proposed to extend and institutionalize the cooperation by establishing a multi-year research contract for German-Israeli bilateral projects at the Weizmann Institute. Cohn and the Max Planck officials involved were convinced that the easiest way would be the direct funding of the Weizmann Institute by the Federal Ministry for Scientific Research, but the ministry disagreed.¹⁵⁸ The German government wanted to provide funding for the Weizmann Institute but explained clearly why it would not finance the Weizmann Institute directly:¹⁵⁹

157 Nickel, *It began in Rehovot*, 1993, 32.

158 Hans Ballreich to Oberregierungsrat Gildemeister (Bundesministerium für wissenschaftliche Forschung), 19 March 1964, AMPG, II. Abt., Rep. 89, Nr. 115.

159 Edmund Marsch (MINERVA Gesellschaft für die Forschung mbH), "Vermerk," Munich, 22 June 1964, 1–2, AMPG, II.

The Ministry for Scientific Research holds that direct funding of the Weizmann Institute would lead to problems for political reasons, particularly regarding the relations to Arab countries, the more so as the research is on the peaceful use of nuclear energy. Hence, this is the only way to transfer these funds, which in reality can be understood as indirect compensation, via the MINERVA Limited. This was already planned in the meetings with Dr. Ballreich and Professor Gentner and the Administrative Council of the MINERVA agreed generally in its meetings on 4 May 1963 and 5 December 1963.

In the spring of 1963, prompted by political pressure, the MPG's legal experts found a solution to the problem of administering the funds in accordance with the MPG's charter that was eventually approved by the administrative council of the MPG.¹⁶⁰

The MPG had just established Minerva Limited (Minerva Gesellschaft für die Forschung mbH) on 25 Oct 1962,¹⁶¹ a subsidiary for the administration of the MPG's commercial scientific infrastructures, which could not be institutionalized at Max Planck institutes. This helped to avoid the direct involvement in economic enterprises such as hospitals or testing facilities. As it turned out, Minerva Limited could be repurposed as the formal solution for funding bilateral projects with the Weizmann Institute. Minerva Limited was not designed for cooperation with the Weizmann Institute of Science but the administration of its funding became one of its first and major tasks. Minerva therefore rather serendipitously became the patron of Israeli-German scientific cooperation. The Administrative Council agreed to the money being transferred through Minerva Limited for three reasons: first, because Minerva Limited was legally less restricted in terms of acting outside of the Max Planck institutes than the MPG itself, second, the grants were awarded for projects in basic research, and, third, only scientists from the MPG and the Weizmann Institute would conduct these research projects.¹⁶² This clever administrative solution also fitted the political needs.

Support did not come exclusively from the German government but also from private foundations. Due to some delay on the part of the German government, the first batch of external money for the Minerva projects, half a million DM, came from the private Fritz Thyssen Foundation. This was the first funding transferred through Minerva Limited, which was still in a seminal state.¹⁶³ A formal contract between Minerva Limited and the Weizmann Institute, officially represented by its European Committee, was drafted and signed in 1964. It concerned the

Abt., Rep. 89, Nr. 115.

160 "Niederschrift über die Sitzung des Verwaltungsrats der MPG," 14 May 1963, 11–12, AMPG, II. Abt., Rep. 102, Nr. 340.

161 Eckart Henning and Marion Kazemi: *Chronik der Kaiser-Wilhelm-/Max-Planck-Gesellschaft zur Förderung der Wissenschaften 1911–2011. (100 Jahre Kaiser-Wilhelm-/Max-Planck-Gesellschaft zur Förderung der Wissenschaften, vol. 1)*. Berlin: Duncker & Humblot 2011, 407.

162 Verwaltungsrat/Minerva, "Bericht des Vorsitzenden, Zusammenarbeit mit dem Weizmann-Institut," 13 November 1964, AMPG, II. Abt., Rep. 89, Nr. 115.

163 Hans Ballreich to the Managing Board of the Max Planck Society, 4 October 1961, *ibid.*; Prof. Robert Ellscheid to Josef Cohn, 10 June 1961, AMPG, III. Abt., ZA 112, Nr. 3; Prof. Robert Ellscheid to Friedrich Schneider (MPG Secretary General), 28 November 1972, AMPG, II. Abt., Rep. 89, Nr. 116.

project-oriented scientific cooperation between the Max Planck Society and the Weizmann Institute to be funded by the German Federal Ministry for Scientific Research through Minerva Limited. From then on, the Ministry renewed the contract every year and slightly extended it on a regular basis.¹⁶⁴

In the early years, centers of exchange were: Heidelberg, with Gentner's MPI for Nuclear Research,¹⁶⁵ the MPI for Medical Research, and Heidelberg University;¹⁶⁶ Mülheim, with the MPI for Coal Research;¹⁶⁷ Munich, home to Feodor Lynen's MPI for Cell Chemistry,¹⁶⁸ the MPI for Biochemistry, and the MPI for Protein and Leather Research; Tübingen, with the MPI for Virus Research;¹⁶⁹ Freiburg, with Otto Westphal's (1913–2004) MPI for Immunobiology;¹⁷⁰ and, slightly later, the group around Manfred Eigen (b. 1927) at the MPI for Physical Chemistry in Göttingen.¹⁷¹

11. Avoidance strategies in the early 1960s

The scientific cooperation proceeded in a politically tense context. However, references to this context were avoided whenever possible. For instance, there was no official or published reaction when news spread of a second, larger Israeli reactor in Dimona constructed with French aid,¹⁷² or when, in 1964, the topic of German weapon supplies was discussed in leading German newspapers together with accounts of German nuclear scientists staying in Israel, also mentioning Gentner and his links to the Weizmann Institute.¹⁷³ One source of information was a press conference held by the German government on 26 October 1964. In reaction, Gentner

164 "Niederschrift über die Sitzung des Senats der Max-Planck-Gesellschaft," 4 December 1964, 8, AMPG, II. Abt., Rep. 89, Nr. 115.

165 See Deichmann, "Collaborations," 2015, 1190–1193.

166 Gerhard Schmidt, "Summary of cooperative research programs 1961–1969 executed under the auspices of the Minerva Grants and Stiftung Volkswagenwerk," 6 October 1969, sections on Nuclear Physics, Isotope Department, Genetics, and Plant Genetics, AMPG, II. Abt., Rep. 89, Minerva, Nr. 125.

167 On Schmidt's cooperation at the University of Heidelberg and the MPI at Mülheim, see *ibid.*, section on Chemistry; Deichmann, "Collaborations," 2015, 1193–1194.

168 *Ibid.*, 1189.

169 Gerhard Schmidt, "Summary of cooperative research programs 1961–1969 executed under the auspices of the Minerva Grants and Stiftung Volkswagenwerk," 6 October 1969, sections on Chemical Immunology and Genetics, AMPG, II. Abt., Rep. 89, Nr. 125.

170 On cooperation with Otto Westphal, see *ibid.*, section on Chemical Immunology; Deichmann, "Collaborations," 2015, 1194–1195.

171 *Ibid.*, 1196; Gerhard Schmidt, "Summary of cooperative research programs 1961–1969 executed under the auspices of the Minerva Grants and Stiftung Volkswagenwerk," 6 October 1969, sections on Chemical Immunology and Chemical Physics, AMPG, II. Abt., Rep. 89, Nr. 125.

172 n.n.: "Israel baut in der Negew-Wüste einen Atomreaktor. Eine Mitteilung Ben-Gurions/nur für friedliche Zwecke." *Frankfurter Allgemeine Zeitung*, 22 December 1960; for the French-Israeli cooperation see Binyamin Pinkus: "Atomic Power to Israel's Rescue. French-Israeli Nuclear Cooperation, 1949–1957." *Israel Studies* 7/1 (2002), 104–138.

173 n.n.: "Bonn schweigt über die Militärhilfe an Israel." *Frankfurter Allgemeine Zeitung*, 28 October 1964.

vehemently protested in a letter to the government because of the potential damage to bilateral scientific relations.¹⁷⁴

In reality, however, it was more difficult to neatly distinguish between basic and applied science, as the case of Wilhelm Groth (1904–1977) illustrates. He became a member of the Nazi Party in 1937¹⁷⁵ and, like Hahn, was a member of the NS nuclear program. Although nuclear research was banned under Allied law in West Germany, the Allies relatively quickly relaxed the restrictions. As an assistant of Paul Harteck (1902–1985)¹⁷⁶ at the University of Hamburg, Groth developed a comparatively cheap method of producing low-enriched uranium with sophisticated high-performance gas centrifuges. He patented the device as early as 1959.¹⁷⁷

In 1961, Groth was in contact with Israel Dostrovsky (1918–2010), Head of the Isotope Research Department of the Weizmann Institute from 1948 to 1965 and also scientific director of a laboratory of the Israel Atomic Energy Commission (IAEC) under Ernst David Bergmann in 1961. Groth and Dostrovsky planned a cooperation on isotope separation processes and one scientist from the IAEC had already visited Groth's laboratory briefly in the summer of 1960. In 1961, Bergmann asked German Nuclear Minister Balke for permission to continue this collaboration:¹⁷⁸

174 Gentner to Secretary of State Karl-Günther von Hase, 16 November 1964, AMPG, III. Abt., ZA 112, Nr. 3; Karl-Günther von Hase (Federal Press and Public Relations Office) to Gentner, 24 November 1964, *ibid.*

175 Klee, *Personenlexikon*, 2003, 205.

176 For the funding of Harteck's research until 1939, see Beauftragter für den Vierjahresplan.- Reichsforschungsrat, BArch, R 26-III/8 (RFR-Kartei), BArch, R 73/11497, and DS/Wissenschaftler, BArch, VBS 307/820001051.

177 Konrad Beyerle and Karl Heinz Welge: *Gaszentrifuge zum Trennen von Isotopen*. Deutsches Patentamt, Auslegeschrift 1191750, Aktenzeichen B 54605 III/82b, application: 28 August 1959, published 22 April 1965. Groth is not mentioned in the patent, but Karl Heinz Welge was his student. Groth supervised his dissertation in 1957; Welge also attained his habilitation in Bonn in 1966. Graham Hancock and Helmut Zacharias: "Nachruf auf Karl H. Welge." *Physikalische Blätter* 57 (2001), 66. The work was done in cooperation with the company Anschütz & Co., Kiel. Beyerle had been an employee of the company until 1945. From 1946 until 1957 he was director of the Institute for Instrumentation (*Institut für Instrumentenkunde*) of the MPG in Göttingen, then director of the *Zentralinstitut für wissenschaftlichen Apparatebau* in Aachen. The patent was already published in 1962. Dr. Krämer (Federal Ministry of Defence) to Dr. Pfanner (Federal Ministry of Justice), 25 June 1962, PA AA, B130, Nr. 2240a; Konrad Beyerle and Karl Heinz Welge: *Improvements in or Relating to Centrifuges for the Separation of Isotopes*. The Patent Office London Nr. 893647, application 29 August 1960, published 11 April 1962. For reports on the project see: Wilhelm Groth: "Gaszentrifugenanlagen zur Anreicherung von Uran-235." *Die Naturwissenschaften* 60 (1973), 57–64; Konrad Beyerle et al.: *Anreicherung der Uran-Isotope nach dem Gaszentrifugenverfahren*. Wiesbaden: Springer 1958 (engl.: Konrad Beyerle, Wilhelm Groth, Hans Ihle, Alexander Murrenhoff, Erich Nann and Karl Heinz Welge: *Enrichment of Uranium Isotopes by the Method of Gas Centrifugation*. United States Atomic Energy Commission, Technical Information Service Extension [Unclassified and Declassified Reports Published by the Atomic Energy Commission and Its Contractors] AEC-tr-3412 [1958], 1–71). For an historical analysis see Stephan Geier: *Schwellenmacht. Kernenergie und Außenpolitik der Bundesrepublik Deutschland von 1949 bis 1980*. Erlangen: Inaugural-Dissertation der Philosophischen Fakultät und Fachbereich Theologie der Friedrich-Alexander-Universität Erlangen-Nürnberg 2011, 65–66 and 265–278.

178 Ernst D. Bergmann (Chairman Israel Atomic Energy Commission) to Seine Excellence [sic] Herr Bundesminister für Atomfragen [Siegfried Balke], Hakirya, Tel-Aviv, 10 November 1961, PA AA, B 130, Bd. 6400A.

Both in the laboratories of the Israel Atomic Energy Commission and of the Weizmann Institute of Science a number of scientists is engaged in studies in this field and would be interested to become acquainted with the gas centrifugation methods developed by Prof. Dr. Groth.

In response, Balke's ministry emphasized that nuclear technology had to be used for peaceful purposes only.¹⁷⁹ After all, these were the days of EURATOM, the Atoms for Peace program, and discussions about a nuclear non-proliferation treaty. Groth's request created considerable concern among German government officials, in particular since he threatened to sue the West German government in the event of any state intervention. The Federal Ministry for Nuclear Energy and Water Supply considered designating him as a classified person.¹⁸⁰ The Foreign Office stressed that, although Groth did not have knowledge of the latest secret developments, his activities could come into conflict with the non-proliferation policy pushed by the US, given that it was impossible to ensure the peaceful use of this technology.¹⁸¹

Officials were also concerned about protest from the Arab states and the Eastern Bloc if information about this cooperation became known. But there were even more problems with this cooperation: one was the danger of interference with the ongoing secret Israeli-French nuclear projects. A point in favor of Bergmann's request was, however, the quest for an intensification of "cultural" relations with Israel.¹⁸² But in the end, the German Foreign Office vehemently intervened against the planned cooperation project, a position that could be defended in view of the restrictions imposed on German-Israeli cultural exchange and ratified by the Knesseth.¹⁸³

Later Groth was again approached by Cohn in the context of an initiative of the Weizmann Institute to broaden the scope of cooperation with German scientists.¹⁸⁴ To avoid the suspicion of the Foreign Office, Groth himself planned bilateral projects with Israel in basic science, some of them going back to proposals he had made in 1964 to the Minerva Commission, covering a wide range of chemistry in isotope and polymer research.¹⁸⁵ One context was the interest of the

179 Wolfgang Cartellieri (State Secretary) to Ernst David Bergmann (President of the IAEA), 29 December 1961, PA AA, B 130, Bd. 6400A.

180 Dr. Gernot Heyne (Bundesministerium für Atomkernenergie und Wasserwirtschaft) to Auswärtiges Amt and Bundesministerium der Justiz, 31 January 1962, PA AA, B 130, Bd. 6400A.

181 On the international relevance of the technology in the 1960s, see John Krige: "Hybrid Knowledge. The Transnational Co-production of the Gas Centrifuge for Uranium Enrichment in the 1960s." *The British Journal for the History of Science* 45/3 (2012), 337–357. For remarks on the tensions between Groth and the Federal Nuclear Ministry see Radkau, *Aufstieg und Krise*, 1981, 51 and 61.

182 Heinz-Werner Meyer-Lohse, "Betr.: Wissenschaftliche Zusammenarbeit mit Israel auf dem Gebiet der Isotopentrennung," Bonn, 2 February 1962, PA AA, B 130, 6400A.

183 "Betr.: Wissenschaftliche Zusammenarbeit mit Israel auf dem Gebiet der Isotopentrennung, Bonn," 19 February 1962, PA AA, B 130, 6400A.

184 Josef Cohn to Wilhelm Groth, 17 October 1965, AMPG, III. Abt., ZA 112, Nr. 3; Minutes of the Meeting, Heidelberg, 28 October 1964, 3–4, AMPG, II. Abt., Rep. 89, Nr. 115.

185 Minutes of the meeting, Heidelberg, 28 October 1964, Appendix 2: Proposal given to some laboratories in Nordrhein-Westfalen after discussion with different scientists in Bonn and in Mülheim, AMPG, II. Abt., Rep. 89, Nr. 115.

Israeli government in semi-industrial projects on the use of sunlight in chemical engineering.¹⁸⁶ Following a suggestion by Groth, Leo Brandt (1908–1971),¹⁸⁷ a key figure involved in founding the nuclear research facility Jülich, invited Amos de Shalit to give a talk at a meeting in Düsseldorf on 13 July 1966 of the *Arbeitsgemeinschaft für Forschung des Landes Nordrhein-Westfalen*.¹⁸⁸ Some well-known scientists were involved in the discussion following the talk:¹⁸⁹ Groth, Günther Otto Schenck (1913–2003)¹⁹⁰ and Carl Heinrich Krauch (1931–2004), both from the MPI for Coal Research in Mülheim and already partners in the collaboration with Israel.¹⁹¹

In 1963, Gerhard Schmidt established the cooperation with Schenck's working group on chemistry induced by electromagnetic rays.¹⁹² The German cooperation partners brought shadows with them from the Nazi past, but it seems that problematic questions were avoided for the sake of scientific cooperation. Schenck had been member of the SA from 1933 and of the NSDAP from 1937.¹⁹³ Krauch's father, the industrialist and chemist Carl Krauch (1887–1968),¹⁹⁴ was a defendant in the IG Farben trial and found guilty of the indictment of "war crimes and crimes against humanity through participation in the enslavement and deportation to slave labor on a gigantic scale of concentration camp inmates and civilians in occupied countries, and of prisoners of war, and the mistreatment, terrorization, torture, and murder of enslaved persons."¹⁹⁵ He was given a six-year prison sentence. The documents do not reveal how Schmidt dealt with these shadows. In any case, they did not stand in the way of the further development of the cooperation. In 1965, the chemist Joshua Rokach (b. 1935) was the first Israeli scientist to visit Germany

186 Gerhard Schmidt probably discussed questions pertaining to this field with Groth on his visit in March 1965, which was sponsored by the Heinrich Hertz Foundation. Amos de Shalit, "Memorandum on the scientific collaboration," December 1966, 3–4, AMPG, II. Abt., Rep. 89, Nr. 125.

187 Bernhard Mittermaier and Bernd-A. Rusinek (eds.): *Leo Brandt (1908–1971). Ingenieur – Wissenschaftsförderer – Visionär. Wissenschaftliche Konferenz zum 100. Geburtstag des Nordrhein-Westfälischen Forschungspolitikers und Gründers des Forschungszentrums Jülich*. Jülich: Zentralbibliothek Forschungszentrum Jülich 2009.

188 Leo Brandt to Amos de Shalit, Düsseldorf, 6 January 1966, AMPG, III. Abt., ZA 112, Nr. 3.

189 Amos de Shalit: *Die naturwissenschaftliche Forschung in kleinen Ländern. Das Beispiel Israels*. Cologne: Westdeutscher Verlag 1966. The text also includes the discussion. Wilhelm Groth was a member of the "Arbeitsgemeinschaft" group, together with Karl Ziegler, Director of the MPI for Coal Research in Mülheim, and Franz Wever, Director of the MPI for Iron Research in Düsseldorf. Arbeitsgemeinschaft für Forschung des Landes Nordrhein-Westfalen (ed.): *Festschrift der Arbeitsgemeinschaft für Forschung des Landes Nordrhein-Westfalen zu Ehren des Herrn Ministerpräsidenten Karl Arnold*. Wiesbaden: Springer 1955, VII–XII.

190 Schenck had been a member of the NSDAP. Sammlung Berlin Document Center (BDC): Personenbezogene Unterlagen der NSDAP-Mitgliederkartei.- Gaukartei, BArch, R 9361-IX KARTEI, Schenck, Günther Otto, 14.05.1913.

191 *Ibid.*, 32.

192 Gerhard Schmidt to Carl Krauch, 5 May 1963, AMPG, II. Abt., Rep. 102, Nr. 340.

193 See Klee, *Personenlexikon*, 2003, 531.

194 He held many managerial posts in the military industrial complex of chemistry in the Nazi period. Klee, *Personenlexikon*, 2003, 335–336; Florian Schmaltz: *Kampfstoff-Forschung im Nationalsozialismus. Zur Kooperation von Kaiser-Wilhelm-Instituten, Militär und Industrie*. Göttingen: Wallstein 2005, 25 and *passim*.

195 Klaus Hentschel and Ann M. Hentschel (eds.): *Physics and National Socialism. An Anthology of Primary Sources*. Basel: Birkhäuser 1996, Appendix F, Krauch, 1937, Document 58.

through the Minerva Program. He worked at the MPI for Coal Research as a member of Schmidt's photochemical cooperation project.¹⁹⁶

The tension caused by the shadows of past crimes for the future of scientific projects not only concerned Schmidt's field of work. The chemist and Director of the MPI for Immunobiology, Otto Westphal, a former member of the SS,¹⁹⁷ also participated prominently in the Minerva Program. He worked with the group led by Israeli biochemist and immunologist Michael Sela (b. 1924) on synthetic antigens and frequently visited Sela at the Weizmann Institute in early 1962.¹⁹⁸ Westphal told Sela about his activities in Nazi organizations. Sela, who lost many members of his family in the Shoah, appreciated Westphal's honesty. While they worked together, Westphal repeatedly visited the Weizmann Institute and the two scientists became friends. Sela, who was President of the Weizmann Institute from 1975 to 1985, never mentioned Westphal's past in public.¹⁹⁹

But avoidance strategies also had their limits. The strong public resentment in Israel against anyone involved in the perpetration of Nazi crimes imposed limitations and restrictions on the collaboration. This appears to have hampered, in particular, the broader exchange with German industry. As mentioned, Adenauer wrote letters to introduce Cohn to Germans in trade and industry such as Hermann Josef Abs of the Deutsche Bank, Ulrich Haberland of Bayer, and Karl Winnacker of Hoechst. As a director of the Deutsche Bank, Abs²⁰⁰ had been responsible for the deprivation of Jewish property. He had also been a member of the supervisory boards of IG Farben and many other companies who extensively exploited slave workers from the concentration camps.²⁰¹ The Director of Bayer AG and President of the German Chemical Industry Association (VCI), Haberland had been director and a member of the managing board of the notorious IG Farben in the Nazi era, while the Chairman of the Board of Hoechst AG, Winnacker,

196 Amos de Shalit, Memorandum on the scientific collaboration, December 1966, 3–4, AMPG, II. Abt., Rep. 89, Minerva, Nr. 125. Rokach, Sela, and Westphal are mentioned in: Nickel, "Gentner," 2006, 162.

197 Westphal had been a member of the SS, No. 247904, and of the NSDAP, No. 5257444. Reichsministerium für Wissenschaft, Erziehung und Volksbildung, BArch, R 4901/13280, and Sammlung Berlin Document Center (BDC): Personenbezogene Unterlagen der SS und SA, BArch, R 9361-III/223831. Also in Klee, *Personenlexikon*, 2003, 672; Deichmann, "Collaborations," 2015, 1194.

198 Amos de Shalit, "Memorandum on the scientific collaboration," Dezember 1966, 2, AMPG, II. Abt., Rep. 89, Minerva, Nr. 125; Gerhard Schmidt, "Summary of cooperative research programs 1961–1969 executed under the auspices of the Minerva Grants and Stiftung Volkswagenwerk," 6 October 1969, sections on Cell Biology and Chemical Immunology, *ibid.*; Deichmann, "Collaborations," 2015, 1194.

199 *Ibid.*, 1194–1196 and interview with Michael Sela IIII–IIII2, here III2.

200 See Christopher Kopper: *Bankiers unterm Hakenkreuz*. Munich: Hanser 2005; Lothar Gall: *Der Bankier Hermann Josef Abs. Eine Biographie*. Munich: Beck 2004; Eberhard Czichon: *Die Bank und die Macht. Hermann Josef Abs, die Deutsche Bank und die Politik*. Cologne: PapyRossa-Verlag 1995.

201 For further information, see Deichmann, "Collaborations," 2015, 1199.

was a manager at IG Farben from 1933 to 1945, a former member of the SA and the NSDAP,²⁰² and, in 1943, had probably visited the Buna factory where Auschwitz camp prisoners were forced to work.²⁰³

Cohn had crossed some red lines to obtain grants without informing the Israeli Mission in Germany.²⁰⁴ Felix Shinnar, the Head of the Mission, did not accept Cohn's style of fund-raising through personal contacts.²⁰⁵ He complained, in particular, that donations from German industry could be conceived as ransom for German war crimes. Following a visit to Israel by Hermann Abs as a guest consultant, Shinnar wrote:²⁰⁶

To approach industrialists in Germany today for the Weizmann Institute means that we are paying for it, because those industries who have supplied under the agreement will, in the very minute they have decided to give a donation or give some payment, whatever you call it, of \$ 10 or \$ 20 or \$ 50,000, at the very same minute we will find it not under this name but in the invoice, in the bill, and this very comfortable and too-simple way we simply cannot allow them.

The moral problem that German industry had been heavily involved in the Nazi crimes was later openly mentioned in a meeting of the Executive Committee of the Weizmann Institute on 5 November 1959 when Meyer W. Weisgal attempted to overcome these reservations.²⁰⁷ In this case, it appears that the burden of the past prevailed over pragmatic interests. Due to the Nuremberg trials, the role of industry in the Nazi crimes was widely known in Israel. The general approach of the Israeli representatives was to accept compensation only in connection with the Shilumim Agreement and to organize the scientific cooperation as a mutual exchange. In light of the complaints by Felix Shinnar and the Executive Committee of the Weizmann Institute, the campaigners eventually came to the conclusion that the Israeli authorities would not

202 Sammlung Berlin Document Center (BDC): Personenbezogene Unterlagen der NSDAP- Mitgliederkartei.- Gaukartei, BAArch, R 9361 IX KARTEI, Winnacker, Karl, 21.09.1903.

203 Stephan H. Lindner: *Hoechst. Ein I.G. Farben Werk im Dritten Reich*. Munich: Beck 2005, 417, note 524. Winnacker and Balke had particularly close contacts. The chemist Balke worked for Wacker Chemie AG, which was linked to Hoechst AG. With the protection of Balke, Winnacker became one of the most important industrial advocates of nuclear technology in Germany. He was Chair of the *Atomkommission* and head of its commission for reactor construction. In 1959, he also became President of the new Atomforum, the lobbying organization of the German nuclear industry. Robert Lorenz: *Siegfried Balke. Grenzgänger zwischen Wirtschaft und Politik in der Ära Adenauer*. Stuttgart: Ibidem 2010, 55–58.

204 During his contact with Adenauer, Josef Cohn also got in touch with Hans Globke, who was the Director of the Federal Chancellery despite his well-known involvement in the draft of anti-Semitic NS laws. Josef Cohn to Hans Globke, 18 August 1963, AMPG, III. Abt., ZA 112, Nr. 3; Josef Cohn to Hans Globke, 21 May 1964, *ibid.*

205 Felix Shinnar (Head of the Israeli Mission in Germany) to Meyer W. Weisgal (Chairman Board of Governors, Weizmann Institute of Science), 27 April 1959, 2, AMPG, III. Abt., ZA 112, Nr. 8.

206 Weizmann Institute Board of Governors Meeting, 20 April 1959, Dr. Shinnar's statement (verbatim), AMPG, III. Abt., ZA 112, Nr. 8.

207 Schüring, *Minervas verstoßene Kinder*, 2006, 352.

accept direct funds from German industry for “psychological reasons,” as the chemist Gerhard Schmidt from the Weizmann Institute put it,²⁰⁸ because this might lead to a public outcry.

In summary, while there was no clear dividing line between scientific and political interests, it was nevertheless politically important to draw such a line with the help of rhetoric and avoidance strategies, as we have described them. Avoiding open discussions about wider applications and dual-use purposes of science and technology, but also about the Nazi past of some of the scientists and other German representatives, became part of a “pragmatic” attitude adopted by both sides. Repressing part of the reality was certainly a cost, a price to pay, but evidently also a subtle political strategy for enabling the cooperation.

12. A comparative perspective: the initiatives of the Hebrew University since the 1950s

In the following, we shall validate some of our claims by way of a comparison with parallel efforts to establish scientific contacts between Israel and Germany pioneered by the Hebrew University. Before coming to the details, we briefly review our main claims regarding what may be called, somewhat misleadingly, the “Minerva initiative.”

We have seen that the scientific cooperation between Israel and Germany was the result of national interests on both sides and as specific political constellation in which science could serve as a means of diplomacy and a compensation for more official relations. But it was evidently also the accomplishment of a group of protagonists acting in institutional environments that favored the use of the opportunity provided by the political context. These environments, specifically represented by the Weizmann Institute and the Max Planck Society, helped to overcome the evident resistance against the collaboration, which ranged from opposition against contacts with Germany on the Israeli side to conflicting political interests, reluctance, and bureaucratic hurdles on the German side.

Critical aspects of this highly successful personal and institutional constellation were the political acumen, vigor and uprightness of protagonists on both sides, but also common scientific interests in the field of nuclear physics fostered by encounters at international organizations such as the CERN. A further critical factor was the strong overlap of political and scientific networks, in particular on the Israeli side. Last but not least, the Weizmann Institute and the Max Planck Society were, in several respects, similar institutions with a focus on high-level basic

208 Klaus Dohrn, “Vermerk,” visitors Josef Cohn and Gerhard Schmidt, 2 February 1960, AMPG, II. Abt., Rep. 102, Nr. 340. Dohrn also had been a member of the NSDAP. Sammlung Berlin Document Center (BDC): Personenbezogene Unterlagen der NSDAP-Mitgliederkartei.-Gaukartei, BArch, R 9361-IX KARTEI, Dohrn, Klaus, 23.05.1905. The German industry was reluctant, too. Chancellor Konrad Adenauer to Josef Cohn, 2 August 1962, AMPG, III. Abt., ZA 112, Nr. 6; Heinrich Ritzel applied for the continuation of Federal government funding for the WIS to compensate the industrial funds. Heinrich Ritzel to Chancellor Ludwig Erhard, 11 March 1964, AMPG, III. Abt., ZA 112, Nr. 7.

science—especially the natural and life sciences—and the flexibility to develop new institutional strategies and concrete research collaborations in an international context.

The comparison with the history of the efforts of the Hebrew University and other institutions shows that, in the end, all of these factors mattered and that the success in initiating bilateral scientific cooperation was by no means self-evident but critically depended on the political boundary conditions and their instrumentalization. The following review of the activities of the Hebrew University also shows, however, that the Minerva Program was not as singular as it may appear but rather part of a much wider academic context characterized by similar initiatives and obstacles. While the Minerva initiative played a crucial role in overcoming a bottleneck situation, all of the bridge building activities eventually contributed to the growing strength of the Israeli-German cooperation.

Since the 1950s, relations with Germany, German scientists, and German academic institutions were also on the agenda of the Hebrew University and other institutions. But the debates on these issues and the specific actions undertaken by these institutions followed a different course. In the 1950s, the main activity of the Hebrew University vis-à-vis Germany was the establishment of Friends' organizations in several cities in Germany. Many prominent figures in the newly established Jewish communities, in academia, and in public circles in Germany were involved in this process. Like everything else in those days, this was not a smooth process. An Association of Friends of the Hebrew University in Germany had existed since the founding of the university in 1925. Its initial role was to collect books for the university library, and later for German Jews to raise funds for the university until the Nazi regime put an end to these activities. The idea of reviving this organization was proposed, in 1954, by Norman Bentwich (1883–1971), formerly the British-appointed attorney general of Mandatory Palestine, who lectured at the Hebrew University in the early years of its existence. In the 1950s, he served as head of the organization called British Friends of the Hebrew University. Prominent archeologist Benjamin Mazar (1906–1995), then President of the Hebrew University, wrote to Bentwich:²⁰⁹

After due consideration it was decided, by the Standing Committee, that in view of the feelings prevailing in Israel towards Germany [...] it would be too early to form now a group of friends there.

In March 1956, Bentwich reported to the Hebrew University on his meetings in Frankfurt and Berlin exploring the possibility of setting up Friends' organizations there. In Frankfurt, he met with Max Horkheimer (1895–1973), the former rector of the university there. Horkheimer was very encouraging and promised to help and involve some prominent members of his faculty in this initiative, such as Franz Böhm (1895–1977), German representative at the Luxembourg negotiations with Israel, as well as philosopher and sociologist Theodor W. Adorno (1903–1969). Böhm later became the first President of the Hebrew University's Friends organization in Frank-

209 Benjamin Mazar to Norman Bentwich, 19 December 1954, UAHU, folder 612.

furt. Bentwich also discussed his initiative with the President of the Federal Republic Theodor Heuss and got the impression that he would be willing to provide his patronage for such an organization. Bentwich found the same support and enthusiasm for his ideas when he met with the Jewish community in Berlin. He urged the university to specify its intentions with respect to Germany. The administration of the Hebrew University responded in July 1956:²¹⁰

Members of the Standing Committee discussed the matter and arrived at the conclusion that for the present, at any rate, we should not proceed further with attempts to establish Friends of the Hebrew University in Germany.

Despite this decision, there were some local initiatives in Germany. In July 1956, Otto Heinrich von der Gablentz (1898–1972), professor of political science in Berlin and father of the German ambassador Otto Martin von der Gablentz (1930–2007) to Israel from 1990 to 1993, was asked to join the emerging Friends of the Hebrew University in Berlin. He wrote to his colleague and acquaintance at the Hebrew University, Benjamin Akzin (1904–1985), telling him that he and his colleagues were willing to help but asking him frankly if it was not too early to present ideas like this. Akzin belonged to the political party that categorically, and even violently, opposed the Reparations Agreement and so he asked Mazar for his advice on how to respond, at the same time, however, expressing his own personal views:²¹¹

It is unthinkable to establish a German Friends organization. The mission of Friends' organizations is to raise funds. There has to be a red line for fundraising. Germany is that red line.

The attitude of the Hebrew University changed in 1957, after another visit to Germany by Bentwich, when he urged the university to agree to form a Society of Friends with three centers in Frankfurt, Berlin, and Cologne. At the same time, Mazar also visited Germany and informed his rector, Michael Even-Ari (1904–1989), that everyone was surprised that a German Society of Friends had not yet been established. The university's Department of Organization and Information subsequently stated its new stand on this matter:²¹²

With regard to starting a Society of Friends in Germany, we have decided that in view of the changed atmosphere in Israel – which had largely been responsible for our hesitancy in the past – we will take up the establishment of Friends of the Hebrew University in Germany as part of our regular Programme of work.

210 Bernard Cherrick (Director of the Department of Organization and Information of Hebrew University) to Norman Bentwich, 8 July 1956, UAHU, folder 612.

211 Benjamin Akzin to Benjamin Mazar, handwritten comments (in Hebrew) in the letter from von der Gablentz to Benjamin Akzin, 19 June 1956, UAHU, folder 612.

212 Bernard Cherrick to Walter Zander (Chairman of the British Friends of the Hebrew University), 29 July 1957, UAHU, folder 614.

The university assigned Mrs. Anni Samuelsdorf (d. 1971) to help establish Friends organizations in different places in Germany. Then Felix Shinnar informed the university that all activities of Israeli public organizations would have to be approved by a special committee at the Ministry of Foreign Affairs in Jerusalem. Mrs. Samuelsdorf succeeded over the next 15 years in establishing societies of Friends of the Hebrew University in Berlin, Frankfurt, Düsseldorf, Hamburg, and Munich, which were headed by prominent figures in German academic and cultural life. By 1981, Friends of the Hebrew University organizations existed in Berlin, Hanover, Bremen, Hamburg, Kiel, Düsseldorf, Dortmund, Frankfurt, Saarbrücken, Stuttgart and Munich. They opened doors, raised philanthropic donations, promoted contacts with local universities and foundations, and organized events to generate public awareness of the Hebrew University and its work.

While the controversial issue of Friends organizations was eventually resolved, allowing them to operate smoothly, the attitude of Israeli academia and its public authorities toward Germany and German institutions remained reserved and ambiguous, however. In December 1958, the Academic Secretary of the Hebrew University urged its administration to take a stand on the issue of fellowships for Israelis to study in Germany.²¹³ He cited three cases as examples: an offer by the Freie Universität in Berlin to fund an exchange of students; an offer from the city of Hamburg to grant two fellowships to study at the University of Hamburg, and a fellowship funded from the Anne Frank Fonds, which uses the income from the sale of Anne Frank's diary for charitable and educational projects. The Standing Committee of the Hebrew University decided to accept fellowships from the Anne Frank Fonds. It also decided neither to address the general issue of cultural relations with Germany nor to submit candidates for the fellowships offered by Hamburg. It was argued—with a certain sense of relief—that the Technion had already provided enough candidates. It was also decided not to establish a student exchange agreement with the Freie Universität.²¹⁴

In July 1957, the negative decision concerning the student exchange with the Freie Universität had already been conveyed by Mazar in a mere personal response to the letter he had received from the Rector of the Freie Universität, Andreas Paulsen (1899–1977), suggesting, however, discussions on establishing contacts between the two universities. In his letter, Paulsen emphasized in particular that a German-Israeli study group, including students and faculty, had been formed at his recently founded university.²¹⁵ But as far as we know, Paulsen never received an official response—a rejection, in other words—to his proposal. This approach also affected the MPG protagonists. On 8 December 1959, two members of the MPG delegation, Feodor Lynen and

213 Letter from the Academic Secretary to the University Administration [in Hebrew], 23 December 1958, UAHU, folder 614.

214 Report on decisions of the Standing Committee of the Hebrew University [in Hebrew], 21 January 1959, UAHU, folder 614.

215 Andreas Paulsen to Benjamin Mazar, 31 July 1957, UAHU, folder 614.

Wolfgang Gentner, gave scientific lectures at the Hebrew University.²¹⁶ Following these lectures, the Ministry of Education demanded the Hebrew University explain this invitation and prove that prior to extending an invitation to these two German professors, their record of conduct during the National Socialist era had been cleared.²¹⁷

The Hebrew University, because it is a very large institution, comprised a more extended scholarly community than the Weizmann Institute, and included humanities and the social sciences. Here, memories of the past played a more central and comprehensive role than at the Weizmann Institute. Hence, the Hebrew University was less flexible in developing academic relations with Germany. Thus, it was not only the political connections of the members of the Weizmann Institute but also its smaller size and exclusive focus on the natural sciences that made the Weizmann Institute, from the Israeli perspective, a more appropriate platform for developing bilateral cooperation with West Germany.

13. The beginning of official diplomacy in 1965 – a response to changed political circumstances

Adenauer's fragile political balance between efforts to isolate the German Democratic Republic using good relations to the Arabic countries, on the one hand, and compensating Israel for the lack of official diplomatic relations with a secret supply of loans and goods, on the other hand, finally failed. One indication of this failure was the scandal in 1962 about German rocket scientists and technicians working for the Egyptian military.²¹⁸ It caused a fierce reaction from Israel because, again, Germans were threatening the existence of the Jewish people, this time, through the construction of weapons of mass destruction aimed at Israel. It was not until 1965 that the German government succeeded in stopping these non-governmental operations in Egypt.²¹⁹

More and more German politicians criticized the lack of diplomatic relations with Israel, and Israeli Prime Minister Levi Eshkol (1895–1969), from 1963 successor to Ben-Gurion, also attacked the ambivalent German politics. In addition, trials of Nazi criminals in the early 1960s highlighted the connections of West Germany's elite to the Nazi period. In reaction to these

²¹⁶ *Mitteilungen aus der Max-Planck-Gesellschaft* 1, February 1960, AMPG, II. Abt., Rep. 102, Nr. 340; "How it all Began." Interview with Wolfgang Gentner, *Modell* 1970, reprinted in: Public Affairs Department, Weizmann Institute of Science: *Highlights of a Unique Collaboration. Presented to Josef Cohn on the Occasion of his 80th Birthday*. Rehovot: Weizmann Institute 1984, unpublished, 1, AMPG, III. Abt., ZA 112, Nr. 1.

²¹⁷ This issue was raised in a question from the floor of M.P. Mordechai Nurok to the Minister of Education, Zalman Aran, 25 December 1959, followed by two letters from the Hebrew University to the Minister of Education, 25 December 1959 and 6 January 1960, and a letter from Minister of Education to Hebrew University, 18 January 1960. These four documents are in Hebrew, UAHU folder 614.

²¹⁸ Jelinek, *Deutschland und Israel*, 2004, 417–429.

²¹⁹ *Ibid.*, 429.

problems, Adenauer planned to initiate diplomatic relations with Israel. However, nearing the end of his political career, he did not have sufficient power for such a radical move.²²⁰ The Shilumim Agreement ran out in March 1965, and there was no arrangement for the continuation of the Israeli Mission. In summer 1964, it became publicly known that the deals discussed in secret at the Waldorf Astoria not only concerned loans but also arms and cooperation in nuclear physics. Also in response to this development, in early 1965, Egyptian President Gamal Abdel Nasser (1918–1970) invited Walter Ulbricht (1893–1973), the First Secretary of the Socialist Unity Party of the GDR to Egypt. This rapprochement caused West German Chancellor Ludwig Erhard (1897–1977), Adenauer’s successor from 1963, to realign German foreign policy, initiating the abolition of the Hallstein Doctrine and thus paving the way for official diplomatic relations with Israel.²²¹

In 1965, when the diplomatic relations were initiated, it was Kurt Birrenbach, mentioned above, who traveled to Israel to negotiate the transactions. The goal was to terminate the secret arms deals. This was extremely difficult and negotiations with Shimon Peres were particularly tough. But the German side was able to offer the establishment of official diplomatic relations and added additional money as compensation for the limitations of arms delivery. Ultimately, on 12 May 1965, West Germany and Israel established diplomatic relations; Erhard and Eshkol



agreed to dispatch ambassadors. In response to this, all but three Arab states severed diplomatic ties with West Germany.²²² Erhard’s government also signed an agreement granting economic assistance to Israel. At the same time, it stopped the German weapons supply to Israel because of the high risk of war in the Middle East and paid an equivalent sum of money for the shortfall. Official con-

From left to right: Josef Selbach (personal assistant to Adenauer), Josef Cohn, Konrad Adenauer, Vera Weizmann in the background, 1966. Public Affairs Department, Weizmann Institute of Science: *Highlights of a Unique Collaboration. Presented to Josef Cohn on the Occasion of his 80th Birthday*. Rehovot: Weizmann Institute 1984, unpublished, AMPG, III. Abt., ZA 112 Josef Cohn, Nr. 1.
© Archives of the MPG, Berlin-Dahlem.

220 Ibid., 437.

221 Ibid., 447–461.

222 Ibid., 461–465.

tracts for economic assistance replaced the politics of secret agreements.²²³ Erhard claimed that the Federal Republic of Germany was aware of its special relations to Israel and the Jewish people. Of course, the regular diplomatic contact was an improvement for bilateral relations but deep tensions remained.

In 1966, Adenauer visited Israel and the Weizmann Institute. In recognition for his leading role in the process of reconciliation and scientific exchange, he became Honorary Fellow of the Weizmann Institute in a ceremony held on 3 May 1966.²²⁴ Foreign Minister Abba Eban, the President of the Jewish World Congress Nahum Goldmann (1895–1982),²²⁵ Felix Shinnar,²²⁶ the former Head of Israel's Mission in Cologne, and, in particular, former Prime Minister Ben-Gurion received Adenauer with accolades at Tel Aviv airport. However, there were also demonstrations led by the Herut Party against the former German Chancellor, complaining that as Chancellor, Adenauer had included former members of the Nazi regime in his government.²²⁷ On the second day of his visit, Adenauer gave a first press conference at the Weizmann Institute, where he used the scientific context of the institute as an excuse for not addressing political issues. But in his meeting with Prime Minister Levi Eshkol in the evening, Adenauer could no longer avoid sensitive subjects. Eshkol, who wanted to advance agreements on German economic support but, at the same time, attempted to show the Israeli opposition that he was not going to be too lenient on the German representatives, gave a dinner speech in Hebrew in which he rejected any possibility of atonement of the German people for the Nazi crimes. Eban and Rolf Friedemann Pauls (1915–2002), the newly appointed first Ambassador of the Federal Republic of Germany to Israel, desperately attempted to tone down the text, which had already been handed over to the press. Adenauer had received the English translation of the manuscript in advance and was upset, threatening to leave the country as a reaction to such an insult. In his response, he did not mince his words either, stating that the Nazi period had produced as many German as Jewish victims and that it was time to forget.

On 9 May, Adenauer visited Ben-Gurion at his retirement home, the kibbutz Sde Boker in the Negev desert. To avoid harming bilateral relations, the sensitive subject was tabooed. This seemed to be the standard procedure for any issue that might cause embarrassment or insult to either side. For the sake of developing bilateral relations, such serious problems were not mentioned. Thus, avoidance strategies discussed above were applied at all levels.

223 "Politik der Heimlichkeiten" is a term coined by Inge Deutschkron, see Deutschkron, "Bilanz," 1992, 53–72, here 61.

224 Weizmann Institute of Science Archive (WISA), 11/75, Adenauer, 168.

225 Nahum Goldmann: *Mein Leben als deutscher Jude*. New ed. Munich: Langen-Müller 1980.

226 Felix E. Shinnar: *Bericht eines Beauftragten. Die deutsch-israelischen Beziehungen 1951–1966*. Tübingen: Wunderlich 1967.

227 Jelinek and Blasius, "Ben-Gurion und Adenauer," 1997, 320.

Difficulties and disavowals have been omitted from the shiny official booklet published on the occasion of Adenauer's visit.²²⁸ The scandal had successfully been avoided, albeit merely superficially. On the surface, Israeli-German relations appeared to be beginning to return to normal—but, obviously, this was neither true nor possible.

14. Reinterpreting the role of science after the establishment of diplomatic relations

The incident during Adenauer's visit to Israel not only shows the fragility of the incipient relations between Israel and Germany but also the importance of other conduits such as science for broadening the channels of communication between the two countries and occasionally acting as a substitute for politics and diplomacy. As we have seen, in the very beginning the scientific collaboration was not so much a pathfinder but rather a trial balloon with strings attached directly connecting it to political forces. Only gradually did the scientific cooperation emancipate itself from these strings, becoming a force in its own right. This was in part due to the cumulative character of scientific collaborations, producing results on which further activities could be built and generating networks extending the range of actors involved. Another factor was the growing institutionalization and the steady financial support of the collaboration which stabilized it to an extent that it could occasionally even act as a corrective of the political relations when the going got rough again. In any case, after the establishment of official diplomatic relations, science became more and more a goal in itself, not without repercussions, however, on the general development of relations between Israel and Germany.

The critical entanglement of science and politics at the beginning of these relations engendered a process that would transform the scientific institutions and the self-conception of scientists, as is evidenced also by the resistance of some actors evoked by the new role they were expected to play in this context. As we shall see in the following, the further development changed the self-understanding of science, as well as the scientists involved in the cooperation. The rhetorical gap between science and politics in West Germany began to decrease. Now, the alleged pioneering role of science as a substitute for diplomacy became ever more a myth that took on itself a political meaning in the sense that it contributed to justify an active role of science in policy making and occasionally also in politics. Josef Cohn, for example, strongly advocated the interpretation that the Minerva Program laid the foundations for official German-Israeli diplomatic relations.²²⁹ Moreover, in their official statements, the MPG officials also adopted this interpretation, indicating a strong impact of the MPG's scientific activities on big politics. This

228 Europäisches Komitee des Weizmann Institute of Science (ed.): *Konrad Adenauer Ehrenmitglied des Weizmann-Instituts. Ein denkwürdiger Tag*. Rehovot: Weizmann Institute of Science 1966, AMPG, II. Abt., Rep. 89, Minerva, Nr. 125.

229 Talk by Josef Cohn, "Weizmann-Institute and German Science – a Contribution to the German-Israeli Relations," 28 November 1978, 10, AMPG, III. Abt., ZA 112, Nr. 1.

interpretation must have been somewhat irritating to the actors who had been directly involved and were thus familiar with the political background. Hence, in a letter to MPG administrative officer Edmund Marsch (b. 1932), Birrenbach somewhat ironically thanked Marsch for the enlightenment in the context of the MPG report on the commemoration of Wolfgang Gentner:²³⁰

It is particularly pleasing when he [Sela] explains that the scientific dialogue between Germans and Jews was also decisive for the establishment of diplomatic relations. I rejoice – because I conducted the negotiations on the initiation of diplomatic relations with Israel on behalf of Chancellor Erhard – that the scientific cooperation added to the success of these negotiations. But I have to say that the Wassenaar Treaty and the well-functioning financial and economic relations between the Federal Republic of Germany and Israel were also seminal for the change in the Israeli government's opinion. Insofar, the MPG text for me is extraordinary important information, too.

Perhaps there was a little bitterness from Birrenbach involved because of Cohn's better relations with the US, but, as we have seen, Birrenbach was right, the crucial point for the beginning of German-Israeli diplomatic relations was the turmoil around the secret weapons deals and the question of the continuation of the Israeli Mission in Germany, not scientific relations.

In his German report on the history of the Minerva Program, Dietmar Nickel (b. 1937) qualified the notion of the leading role played by the MPG delegation's visit for bilateral diplomatic relations as "This is certainly not correct."²³¹ Interestingly, this passage was translated in the English version of the booklet as "Certainly, this is not entirely true."²³² The differences between the two versions of the booklet are worth a closer analysis. For example, in the German edition, there is a photograph of Adolf Butenandt,²³³ which is missing in the English version.²³⁴ The booklet also argues that the scientific relations proved that fruitful German-Israeli cooperation is possible, which implies that, in this regard, the MPG's official historiography of the Minerva Program accepted the political relevance of science. It is also acknowledged that the development of the network of scientific contacts could not be seen as strictly separate from the political relations, as is evident from the stories of Cohn, Adenauer, Ritzel, Abba Eban, Ben-Gurion, and others that we have discussed.

The self-conceptions not only shifted on the side of the MPG. In the late 1960s, the opinion at the German Foreign Office had obviously also changed: science was no longer politically

230 Kurt Birrenbach an Edmund Marsch (MPG General Administration), 12 October 1981, AMPG, II. Abt., Rep. 89, Nr. 117.

231 "Das trifft sicher so nicht zu." Nickel, *Es begann in Rehovot*, 1989, 16.

232 Nickel, *It began in Rehovot*, 1993, 19.

233 See: Nickel, *Es begann in Rehovot*, 1989, 28.

234 Nickel, *It began in Rehovot*, 1993, 30.

irrelevant and nuclear energy was the first item on the Foreign Office's list of important scientific fields.²³⁵ In Israel, this notion was, of course, nothing new. As mentioned above, Amos de Shalit, who pushed basic nuclear research at the Weizmann Institute, was deeply involved with scientific policy-making from the beginning. His ideas about the scientific development of a small country like Israel were the subject of the talk he gave at the Arbeitsgemeinschaft für Forschung des Landes Nordrhein-Westfalen in 1966.²³⁶ He explained that Israel is a country with few natural resources and very limited finances. Owing to the limitations due to the size of the country, not enough researchers and not sufficient economic power were available to develop a broad range of internationally competitive scientific branches. Consequently, scientific activities had to be concentrated on fields leading to applications crucial for the country's economic or military purposes.²³⁷

15. The self-organization of science in the 1960s

The turning point in German-Israeli scientific relations was the period from 1964 to 1965, after the Minerva contract was signed as the first long-term bilateral research agreement. Shortly afterwards, official German-Israeli diplomatic relations were established, relieving the scientific cooperation of the burden to compensate for difficulties in the diplomatic relations. At the same time, scientific exchange became an issue of foreign policy as a symbol of modernity and power.²³⁸ Both aspects allowed the establishment of an increasingly institutionalized and self-organizing system of scientific exchange between the two countries for the sake of science and scientific excellence. As a result, and despite occasional political problems, this marked the beginning of a persistent development characterized by financial growth, as well as by institutional diversification and expansion. More and more funding organizations, research institutions, universities, and governmental administrations participated in the bilateral research network. Administrations and governing bodies, and not only the personal contacts of the leading figures, acted as stabilizing structures.

From the very beginning, support came not only from the government but also from private German foundations, which helped to set up the program by offering grants. From 1964 on, the Volkswagen Foundation began its long-lasting engagement in Israel, funding the gradually growing exchange program of scientists until 1973 under the initiative of Gotthard Gambke

235 Rolf Lahr, "An alle Deutschen diplomatischen und berufskonsularischen Vertretungen, Betr.: Außenpolitische Nutzung des deutschen wissenschaftlich-technischen Potentials," Bonn, 29 January 1968, 7, PA AA, AV, Bd. 2234.

236 De Shalit, *Die naturwissenschaftliche Forschung in kleinen Ländern*, 1966.

237 Similar policies were implemented around the same time in Cuba, see Angelo Baracca, Jürgen Renn and Helge Wendt (eds.): *The History of Physics in Cuba*. Dordrecht: Springer 2014.

238 For the broader context, albeit with a focus on nuclear technology, see: John Krige and Kai-Henrik Barth: "Introduction. Science, Technology, and International Affairs." *Osiris* 21/1 (2006), 1–21.

(1908–1988), Secretary General of the VW Foundation from 1962 to 1975. Cohn met Gambke who became a reliable supporter and advocate of German-Israeli scientific cooperation and played a truly pivotal role in the entire process because the VW Foundation was able to provide financial aid for starting new projects (*Starthilfe*). This aid, just like the support from the Fritz Thyssen Foundation, allowed the Minerva Program to be introduced in 1963, even before the bureaucrats in Bonn had completed the procedures for government funding.²³⁹

The VW Foundation not only supported the exchange program but also granted substantial funding for instruments at the Weizmann Institute. In the first twenty years of the Minerva Program, the VW Foundation helped to finance a vanguard heavy particle spectrometer for the Department of Nuclear Physics, two mass spectrometers for the Isotope Research Department, an ESR spectrometer for the Department of Chemistry and the Department of Isotope Research, an ultracentrifuge, and a recording spectrophotometer for the Department of Polymer Research.²⁴⁰

In addition to the tandem accelerator mentioned above, the German research ministry also periodically funded the acquisition of expensive pieces of scientific infrastructure, such as a Philips electron microscope, equipment and machinery for the Experimental Animals Center and the Department of Plant Genetics, a spectrometer, and a biohazard laboratory, an FT-NMR spectrometer for the Isotope Department, an EM 40 mass spectrometer, a photomicroscope, and an invertoscope IM 35. The list of these expensive assets illustrates a certain path-dependency of the cooperation that had been launched by natural scientists and, in particular, by nuclear physicists, chemists and biochemists. This domain of cooperation was not only ideologically safer, it also bound the cooperation partners together by the use of similar equipment as becomes clear from a comment by Gentner: “Since we [the German scientists] work with similar or even identical instruments as do the Weizmann Institute, exchange of scientists is relatively easy.”²⁴¹

German scientists could draw considerable advantages from their collaboration with Israeli colleagues, for example, by benefitting from their advancement in certain fields, including the use of novel technologies, as well as from their international contacts. An example is the knowledge transfer from Israel to Germany regarding computerized X-ray analytics. A key figure on the German side was Günther Wilke (b. 1925) who, in 1969, became Director at MPI of the Coal

239 On 18 October 1963, the council of the Volkswagen Foundation granted DM 2 million which enabled the Minerva projects to begin immediately. Josef Cohn to Gotthart Gambke, 23 January 1965, AMPG, III. Abt., ZA 112, Nr. 3; Talk by Josef Cohn, “Weizmann-Institute and German Science – a Contribution to the German-Israeli Relations,” 28 November 1978, 8, AMPG, III. Abt., ZA 112, Nr. 1.

240 “Twenty Years of German-Israeli Scientific Cooperation at the Weizmann Institute of Science,” AMPG, III. Abt., ZA 112, Nr. 1.

241 “How it all began,” Interview with Wolfgang Gentner, *Modell* 1970, 3, reprinted in: Public Affairs Department, Weizmann Institute of Science: *Highlights of a Unique Collaboration. Presented to Josef Cohn on the Occasion of his 80th Birthday*. Rehovot: Weizmann Institute 1984, unpublished, AMPG, III. Abt., ZA 112, Nr. 1.

Research in Mülheim an der Ruhr.²⁴² As mentioned, since 1963 the institute, and in particular a working group on ray-induced chemistry led by Günther Otto Schenck within the research group headed by the chemist Carl Heinrich Krauch, was involved in a scientific exchange on photochemistry with Gerhard Schmidt and his group at the Weizmann Institute.

Schmidt, who had earned a Master's degree in organic chemistry in 1942 under the guidance of Robert Robertson (1869–1949), and a doctorate in X-ray crystallography under Dorothy Crowfoot Hodgkin (1910–1994) in 1948—both of whom were later awarded the Noble Prize—was an expert in modern techniques of X-ray structure analysis. Wilke worked at the institute in the field of large metal-organic molecules and needed highly sophisticated computerized X-ray analytics for the structural elucidation of his compounds.

With the aid of Schmidt's department at the Weizmann Institute, Wilke succeeded in implementing a high-end X-ray analytics department for the structural determination of metal-organic compounds at the Mülheim institute. This department was headed by Carl Krüger (b. 1923), who joined the X-ray crystallography group at the Weizmann Institute for 14 months to learn the modern analytical method.²⁴³

To administer the annual grants from the German research ministry for bilateral projects at the Weizmann Institute, a joint scientific committee was set up. It was chaired by Gentner and comprised an equal number of Israeli and German members. The committee met twice a year, discussing and subsequently selecting projects and Minerva exchange fellows. This initiated a new tradition, bringing top scientists – also from outside the Max Planck Society – into the bilateral scientific cooperation. An example is the organic chemist Heinz A. Staab (1926–2012), who established his first contact with the Minerva Program in 1964 as a young professor at Heidelberg University, when his colleague Gentner phoned him to announce a visit by Gerhard Schmidt, who wanted to discuss chemical problems with him.²⁴⁴ In 1965, Staab became a member of the Minerva Committee. In 1974, he was appointed director at the MPI for Medical Research and, in 1980, succeeded Gentner as the committee's chairman.²⁴⁵ In 1984, Staab became the fourth President of the Max Planck Society, the first one to acknowledge the necessity of addressing the Nazi past of the Kaiser Wilhelm Society.²⁴⁶

242 Manfred T. Reetz: "100 Jahre Max-Planck-Institut für Kohlenforschung." *Angewandte Chemie* 126 (2014), 8702–8727, here 8707–8708.

243 Deichmann, "Collaborations," 2015, 1193, and interview with Leslie Leiserowitz, 1206–1210, here 1208.

244 Heinz Staab, talk given at a meeting at the Weizmann Institute to mark 20 years of scientific cooperation between the Weizmann Institute and German scientific institutions, 16 October 1983, 2, AMPG, III. Abt., ZA 145, Nr. 47.

245 Heinz Staab, talk given at a meeting at the Weizmann Institute to mark 20 years of scientific cooperation between the Weizmann Institute and German scientific institutions, 16 October 1983, AMPG, III. Abt., ZA 145, Nr. 47.

246 "Die verbreitete Ansicht, daß die Kaiser-Wilhelm-Gesellschaft die Zeit des Dritten Reichs verhältnismäßig unberührt überstanden hätte, halte ich nicht für berechtigt." Heinz A. Staab: "Kontinuität und Wandel einer Wissenschaftsinstitution." (Talk of MPG President Heinz A. Staab at the MPG General Meeting on 13 June 1986 in Aachen), in: Max-Planck-Gesellschaft zur Förderung der Wissenschaften e.V. (ed.): *Jahrbuch der Max-Planck-Gesellschaft*. Göttingen: Vandenhoeck

The involvement of Heinz A. Staab with the Minerva Program provides another illustration of the advantages German scientists could draw from their collaboration with Israeli colleagues. In less than two years, two of Staab's students visited the Weizmann Institute in Rehovot. Schmidt, in turn, accepted visiting professorships in Heidelberg for 1966, 1967, and 1968.²⁴⁷ Leslie Leiserowitz (b. 1935), then a young PhD from the Weizmann Institute, set up the laboratory in Heidelberg under the supervision of Schmidt. The ambitious task was to elucidate the structure of complex organic molecules. They used a Siemens diffractometer basically designed by Walter Hoppe (1917–1986)²⁴⁸ from the MPI for Biochemistry in Munich. Later, the Weizmann Institute also received one of these instruments. Leiserowitz pointed out that the instrumental analysis was delayed due to the extensive calculations required. He had experience with programming for diffractometers in Rehovot, and developed a stable, path-breaking software for this purpose.²⁴⁹ After Leiserowitz's return to the Weizmann Institute, the Heidelberg group was headed by Hermann Irgartinger (b. 1938), who had been trained in Rehovot as a Minerva Fellow in 1966.²⁵⁰ In a relatively short time, with the aid of such intense mutual scientific exchange, they established a research field that was hitherto virtually unknown in Germany: a combination of X-ray crystallography and organic solid state chemistry. At the end of the 1970s, this became the basis of a new priority program (Schwerpunktprogramm) of the VW Foundation.²⁵¹

Through establishing contacts of this type by the end of the 1960s, the Minerva Program had built a climate of mutual trust and confidence while it moved toward further expansion and specialization. By 1965, 109 scientists had worked on 19 long-term projects conducted at the Weizmann Institute in cooperation with German partners at Max Planck institutes or German universities.²⁵² Ten years later, over 158 scientists were working on 61 projects.²⁵³ Turning points

& Ruprecht 1986, 15–36, here 25; Götz Aly: *Volk ohne Mitte. Die Deutschen zwischen Freiheitsangst und Kollektivismus*. Frankfurt am Main: Fischer 2015, 223, 227, and 235; Horst Kant, Birgit Kolboske and Jürgen Renn: "Stationen der Kaiser-Wilhelm-/Max-Planck-Gesellschaft." In: Dieter Hoffmann, Birgit Kolboske and Jürgen Renn (eds.): *Dem Anwenden muss das Erkennen vorausgehen. Auf dem Weg zu einer Kaiser-Wilhelm-/Max-Planck-Gesellschaft*. Berlin: Edition Open Access 2014, 5–120, here 32.

247 Amos de Shalit, "Memorandum on the scientific collaboration," December 1966, 6, AMPG, II. Abt., Rep. 89, Minerva, Nr. 125.

248 Hoppe had been a member of the NSDAP since November 1938, No. 6757075. Reichsministerium für Wissenschaft, Erziehung und Volksbildung, Kartei, BArch, R 4901/13266.

249 Deichmann, "Collaborations," 2015, 1193–1194 and interview with Leiserowitz 1206–1210, here 1207–1208.

250 Deichmann, "Collaborations," 2015, 1193 and interview with Irgartinger, 1210.

251 Talk by Heinz Staab, "Weizmann-Institute and German Science – a Contribution to the German-Israeli Relations," 28 November 1978, 2, AMPG, III. Abt., ZA 112, Nr. 1.

252 "Summary of Expenditures in Respect of Projects, Minerva Gesellschaft für die Forschung m.b.H. for the Period from January 1, 1965 through December 31, 1965," 31 March 1966, AMPG, II. Abt., Rep. 89, Nr. 115; the program with 19 projects was composed in a meeting of the Gentner group in 1963. Minutes of Meeting held on October 16, 1963 at 15.30 hrs. at San Martin, Rehovot. Appendix B, AMPG, III. Abt., ZA 112, Nr. 7.

253 "Summary of Expenditure from January 1, 1975 through December 31, 1975 for Minerva Gesellschaft für die Forschung m.b.H.," AMPG, II. Abt., Rep. 89, Nr. 166.

are rarely due to sudden events or decisions but are rather the cumulative result of sometimes slow and gradual developments. This is certainly true for the turning point in Israeli-German relations in the mid-1960s, which was followed by important structural changes and a growing emancipation of science. Instead of serving as a substitute for diplomacy, science became a showcase for the establishment of a robust partnership between Israel and Germany, thus vindicating the vision of the trailblazers. As we shall see now, the self-organization of science could, however, not simply be taken for granted. It was challenged by both political and administrative interventions and the consequences of its own success in terms of growth and complexity.

16. Self-organization versus centralization around 1965

In 1960, the Israeli government founded the National Council for Research and Development (NCRD), subordinated to the Bureau of the Prime Minister's Office – which shows the importance that was ascribed to science by Israeli politics.²⁵⁴ The NCRD also played an important role in the collaboration with Germany on which it developed its own views. In 1965, the NCRD attempted to establish centralized governmental control over the collaborations and to coordinate the players. The attempt was a reaction to a diversified environment with ever more players involved in the scientific cooperation with Germany. Remarkably, the idea to establish such a centralized control originated in a conversation between a representative of the NCRD at the Israeli Mission in Germany, E. Rapaport, who later became Scientific Attaché of the Israeli Embassy, and an official from the German Research Foundation, Claus Müller-Daehn (b. 1923). From 1956, Müller-Daehn was Director of International Relations of the DFG. In view of the increasing competition for German funding and the unclear role of both Israeli and German universities in the cooperation, he suggested to form a committee in Israel as a central agency for arranging bilateral grants, similar to the German Research Foundation. Müller-Daehn argued that this would be necessary because of the increasing efforts by Bar-Ilan University, the Hebrew University, the Weizmann Institute, and Tel Aviv University to receive funding from German institutions.²⁵⁵ The patrons of the Minerva Program were, however, not convinced. They saw this effort as potentially damaging to the self-organizing dynamics of scientific cooperation, spear-headed by the Weizmann Institute and the Max Planck Society, the privileged partners of the cooperation. When Müller-Daehn's proposal to Rapaport was discussed at a meeting of the Minerva Committee on 16 November 1965, the reaction was negative. The minutes also

254 In 1987 the NCRD was subordinated to the Israeli Ministry of Science and Technology (MOST). Nickel, *It Began in Rehovot*, 1993, 52. The Israeli ministry of science was established in 1982. Yaacov Saphir (Director National Council for Research and Development), "Scientific Research in Israel – 1982," December 1982, AMPG, II. Abt., Rep. 89, Nr. 117.

255 Minutes of the meeting, Rehovot 16 November 1965, 7–9, AMPG, II. Abt., Rep. 89, Nr. 115; Heinz Pollay, "Vermerk, Geschäftsstelle Düsseldorf," 12 April 1965, *ibid.*; Summary of meeting Held at the National Council for Research and Development at the Prime Minister's Office on 20 January 1966, PA AA, AV, Bd. 2234.

preserve the comments of the politician Heinrich Ritzel who pointed to the risk of interventions by the Laender and the Foreign Office into scientific affairs:²⁵⁶

The possibility existed that the “Laender” might more and more insist upon their cultural sovereignty and may not be prepared to forego their influence. If, however, all funds would now be coordinated by the DFG, many aspects of the programme of this committee would become lost. [...] But if the “Laender” should, because of political implications, become the promoters of science then the work “economy” would be mentioned time and time again, and drastic cuts would follow. He [Ritzel] thought it advisable not to rush matters and not to enter into any commitments, he feared that a development might ensue whereby the Ministry of Science would be completely eliminated from the promotion of Science abroad and that everything connected with the Weizmann Institute would be dealt with by the Foreign Office, which, in his opinion, would undoubtedly result in a curtailment of the programme.



Heinrich Ritzel, left, and Josef Cohn, 1967. AMPG, III. Abt., ZA 112 Josef Cohn, Nr. 1. © Archives of the MPG, Berlin-Dahlem.

In Israel, on the other hand, the idea of centralization fell on fertile grounds, in particular with Yehuda Lapidot (b. 1928), Chair of Biochemistry at the Hebrew University and in charge of scientific liaisons of the NCRD with

foreign countries. Lapidot attempted to organize a central committee as it had been suggested by Müller-Daehn and, in late 1965, contacted the German Ambassador Rolf Pauls to hear the opinion of the German side, as a “fact-finding clarification.” Pauls, in a note to the Foreign Office, described Lapidot as a pragmatist:²⁵⁷

Prof. Lapidot is [...] a typical example of the younger generation of Israeli scientists, affected by the Anglo-Saxon tradition. He is a Sabra²⁵⁸ of Russian descent and is studying in the US temporarily. He has a pragmatic attitude towards German-Israeli relations. He distinguishes between questions of practical cooperation and morals, which he sees as being on a different level. Such an attitude can by no means be taken for granted with younger Israeli professors.

256 Minutes of the meeting, Rehovot, 16 November 1965, 8, AMPG, II. Abt., Rep. 89, Nr. 115.

257 Ambassador Rolf Pauls to the German Federal Foreign Office, 19 October 1966, PA AA, AV, Bd. 2234.

258 Traditional name for Jews born in Palestine.

Lapidot stressed the positive impact of scientific cooperation on private and public bilateral relations. He envisaged the future committee as a form of clearing authority, which also provided information about the Israeli scientific institutions for the German funding organizations. He emphasized that this would not be a way of controlling scientific projects and that the freedom of research would remain unaffected. Pauls reported back to the German Foreign Office and remarked that the “scientific cooperation with Israel is one of the few starting points for the development of better relations between the two countries.”²⁵⁹ The German Foreign Office decided to wait with any decisions until the committee was established. In principle, there were no objections to the plan, apart from one important point:²⁶⁰

For the moment, it remains to be seen whether the planned dependency of the scientific exchange on the approval of a central agency will not be perceived as a restriction on the freedom of scientific contacts regarding the federal structure of cultural life in the Federal Republic of Germany and the scientific spirit oriented toward a free international exchange.

Members of the new NCRD’s committee included Shneior Lifson (1914–2001) of the Weizmann Institute, Haim Hanani (1912–1991) of the Technion, Moshe Prywes (1914–1998) of the Hebrew University Hadassah Medical School, Lapidot of the NCRD, and Zeev Dover (1922–2014) of the Israeli Foreign Office. The committee was responsible for organizing bilateral scientific relations and prioritizing the Israeli projects in case there were more proposals from the Israel side than Germany was able to fund.²⁶¹ The initiative worked particularly in favor of Israeli universities, which did not have such effective lobby organizations as the American and European Committees for the Weizmann Institute. The goal was to develop relations officially and properly, not secretly.²⁶²

Lapidot attempted to gather information about sources of grants, information that the NCRD received automatically from France and the US but not from Germany. He also sent these lists to all Israeli scientific institutions. The German Federal Ministry for Scientific Research did not appreciate these coordination and centralization efforts because it was afraid that the Israeli government would control the scientific exchanges. Consequently, it decided that the NCRD’s plans should be treated with reserve, without embarrassing the Israeli side. According to the view of the German ministry, the new committee was unnecessary and, in particular, would

259 Rolf Pauls, “Betr.: Deutsch-israelische wissenschaftliche Zusammenarbeit,” 1 December 1965, PA AA, AV, Bd. 2234.

260 Dr. Robert Dvorak (Federal Foreign Office) to the Embassy of the Federal Republic of Germany Tel Aviv, 13 December 1965, PA AA, AV, Bd. 2234.

261 Yehuda Lapidot, Draft summary of meeting held at the National Council for Research and Development of the Prime Minister’s Office on 20 January 1966, PA AA, AV, Bd. 2234.

262 Rolf Pauls, “Betr.: Deutsch-israelische wissenschaftliche Zusammenarbeit,” 25 January 1966, PA AA, AV, Bd. 2234.

undermine the options of the existing and well functioning Minerva Program.²⁶³ They hence saw no need for government guidance:²⁶⁴

The connections between German and the Israeli scientists are so close that there are no difficulties in finding ways for intensified cooperation, provided the necessary funds are available and there is a genuine interest on the side of the German scientists.

Also Israeli scientists complained about the NCRD committee.²⁶⁵ Clearly the competition between the privileged partners of the cooperation, the Weizmann Institute and the Max Planck Society, on the one hand, and other academic institutions played a role. The divisions of opinion were similar to those between Cohn and Shinnar in 1959, discussed above, except this time it was not a question of morals but of power. On 8 April 1965, Rapaport met Heinz Pollay (1908–1979), an MPG administrative officer, at the MPG office in Düsseldorf. Rapaport explained that the situation of the Weizmann Institute was not very satisfactory because it had to rely mostly on donations, not on government funding, so that it was difficult, he claimed, to develop a long-term strategy. The notes taken by Pollay make it clear, however, that the issue at the heart of the matter was one of competition among Israeli institutions:²⁶⁶

Dr. Rapaport criticized the activity of Dr. Cohn who was visiting as a member of the Weizmann Institute public authorities in the Federal Republic of Germany and attempted to obtain funding for the Institute.

He also criticized the Hebrew University for using the same strategy as Cohn, employing a certain “Dr. Gottlieb.” It is quite clear that the leading officers in the NCRD did not appreciate the independent fundraising for the Weizmann Institute by the European Committee because they were endeavoring to establish governmental regulation of foreign funding for all Israeli research organizations. The Minerva partners, particularly the members of the Weizmann Institute and the German Ministry for Scientific Research, regarded this as a serious threat to their successful and independent cooperation endeavors.

In a meeting with the Cultural Affairs Officer of the German Embassy in April 1966, Lapidot asked why, after official German-Israeli diplomatic relations had been established, there was still German scientific funding going to the Weizmann Institute in Israel through the Minerva Program.²⁶⁷ This, he argued, had only been necessary as long as there had been no bilateral

263 Dr. Karl Friedrich Scheidemann (Bundesministerium für wissenschaftliche Forschung) to the Federal Foreign Office, Bad Godesberg, 10 February 1966. PA AA, AV, Bd. 2234.

264 Ibid., 2.

265 Dr. Robert Dvorak to the Embassy of the Federal Republic of Germany Tel Aviv, Bonn, 19 April 1966, PA AA, AV, Bd. 2234.

266 Heinz Pollay, “Vermerk, Geschäftsstelle Düsseldorf,” 12 April 1965, AMPG, II. Abt., Rep. 89, Nr. 115.

267 Dr. Gisela Rheker, “Vermerk,” Tel Aviv, 15 April 1966, PA AA, AV, Bd. 2234.

diplomatic relations. It should also be possible for the German Federal Ministry for Scientific Research to provide direct funding in Israel now. The response was that the German side understood the grants to the Weizmann Institute to be grants for Israel in general. Due to budgetary limitations, there would be, for the time being, no further financial support available for other Israeli scientific institutions.

The German Embassy later informed Lapidot about the German ministry's reluctance to support the NCRD's plans for centralizing the administration of bilateral scientific funding.²⁶⁸ But Lapidot did not give up so easily. He complained that he and the Israeli scientific institutions, with the exception of the Weizmann Institute, did not know which would be the appropriate German funding organization to contact.²⁶⁹ Consequently, on 2 September 1966, the German Foreign Office decided that the German Embassy in Tel Aviv should accept all Israeli funding proposals and the German Foreign Office would send them to the appropriate organization.²⁷⁰ Lapidot, who probably also had the interest of the Hebrew University at heart, subsequently visited Germany in October 1966. He focused on improving bilateral relations and, together with Rapaport, visited several funding institutions and foundations.²⁷¹

The two of them met with German representatives at all decision-making levels. In his report, Lapidot pointed out three reasons why the German side was interested in scientific cooperation with Israel: the desire to compensate the Jews for the suffering inflicted upon them; cooperation with high-level Israeli science for the progress of German science; and scientific cooperation as a trigger to cultural relations.²⁷² Lapidot's impression was that the latter two reasons were increasingly gaining in importance. The third one was particularly advocated by the German Federal Foreign Office's Cultural and Scientific Affairs Division, which wished to develop and expand cultural relations between the two countries.

According to Lapidot's report, he insisted that any scientific cooperation between Israel and Germany had to be two-directional. All the Germans he met emphasized the goal of developing a genuine cooperation including mutual visits by scientists. He was adamant about this point: there would be no justification for receiving funding for scientific institutions in Israel, if not under the condition of normal scientific relations. Thus, Israeli scientific institutions had the

268 Rolf Pauls (German Ambassador), "Betr.: Deutsch-israelische wissenschaftliche Zusammenarbeit," 23 May 1966, 1, PA AA, AV, Bd. 2234.

269 Ibid.

270 Dr. Kolb (German Foreign Office), to the Embassy of the Federal Republic of Germany Tel Aviv, Bonn, 19 September 1966, PA AA, AV, Bd. 2234.

271 Rolf Pauls (German Ambassador) to Foreign Office, 19 October 1966, PA AA, AV, Bd. 2234; Hubertus Scheibe (DAAD) to the Embassy of the Federal Republic of Germany in Tel Aviv, Bad Godesberg, 8 November 1966, *ibid.*; Claus Müller-Daehn to the Foreign Office, Kulturabteilung, Bad Godesberg, 28 October 1966, *ibid.*

272 Report by Dr. Y. Lapidot (in Hebrew) to the National Council for Research and Development, October 1966, UAHU, folder 614. The following passages are based on the report.

choice of rejecting any scientific cooperation with Germany but in this case, they would be morally obliged to also reject philanthropic contributions and financial support. The other alternative was that they could establish bilateral scientific relations along with everything else this entailed.

In his report, Lapidot stressed that, following World War II, an extensive decentralization had taken place in Germany. Evidently, he had meanwhile realized how much research foundations and institutions supporting science insisted on their autonomy. He also noted that the German Ministry for Scientific Research acted more like a coordinating than a policy-making body. He thus came to the conclusion that one should rather work directly with the appropriate German institutions, DFG, DAAD, and others, depending on the nature of the requested support.

In the end, the question of central coordination remained open and a challenge for the future that came up again and again in the years to follow. On the one hand, coordination was required in view of the need to respond to the increasing scope of cooperation and the desire to involve further partners, in particular the universities. But, on the other hand, centralized coordination was also seen as a threat to scientific freedom because it opened up spaces for political interventions in scientific collaborations. We shall come back to this ambivalence when discussing the developments during the 1970s and 1980s.

17. German scientists as supporters of Israel in times of war

The emancipation of scientists from their role as scientific emissaries and “diplomats” in the service of high politics was not limited to the scientific domain and its increasingly self-organizing character. It also showed in the capacity of scientists to take an independent stance with regard to official politics. Perhaps the earliest example for this growing independence goes back to the year 1967 and the context of the Six-Day War. When this war began on 5 June 1967, the German government declared its neutrality although the improved relations had helped West Germans to understand the Israeli position. In the same week, the Max Planck Society held its Annual General Assembly in the city of Kiel. A group of the scientists attending this assembly decided to send a telegram to their colleagues and friends at the Weizmann Institute, expressing not only their solidarity but emphasizing that they by no means shared the position of neutrality.²⁷³ That was a snub to the West German government for not siding with Israel. The telegram of support from Kiel was not the only German rejection of the government’s position but it illustrates that, on the basis of personal commitment, friendship, and shared professional interests, the scientific relations gained enough momentum to emancipate their agenda from

273 Edmund Marsch, “Vermerk,” 29 July 1967, AMPG, II. Abt., Rep. 102, Nr. 340.

official politics and to take an independent stance. Ten days after the war, Gentner wrote a letter of support on behalf of the Heidelberg colleagues to de Shalit and stated:²⁷⁴

We are impressed by the marvelous performance of your army and happy, that now the weapons cease. You can be sure that we still wish you that there will be again a just peace, which will take away from your country the threat of war for a long time. It will not be easy to pacify the relations to your neighbors and unfortunately we cannot help much. Nevertheless I wanted to write you a letter letting you and your colleagues at the Weizmann Institute know that we still be with you with all our best wishes and hope for a better future for your homeland.

De Shalit showed his appreciation for the solidarity in his answer:²⁷⁵

Thank you very much for your letter of June 16. It was indeed a difficult time that we had here a couple of weeks ago and it was good and re-assuring to know that our friends abroad were thinking of us. Let us all hope and pray now that all parties concerned will have enough wisdom and inspiration to learn the lesson that all of us have learnt, and to make sure that, this time, a real meaningful peace is established in this area to the acceptance and satisfaction of everyone concerned. With best regards to all our friends in Heidelberg.

The coming into power of the German Social Democrats under Willy Brandt in 1969 did not improve relations with Israel. The fact that the Social Democrats had also been persecuted by the Nazi regime shaped their self-image after the war. Brandt emphasized Germany's neutrality in the Middle East, arguing that modern Germany was interested in a détente of the superpowers and no longer directly responsible for the Nazi crimes. Accordingly, the new SPD government took a somewhat reserved position toward Israel's military policy. It was the era of Ostpolitik; against this background, the relations with Israel played a minor role and the disturbing events in the Middle East were considered secondary. In an interview with an Israeli newspaper, then Foreign Minister Walter Scheel (1919–2016) explicitly used the term "normalization" in reference to German-Israeli bilateral relations.²⁷⁶ This approach immediately caused turbulence in Israel, and illustrates a remarkable lack of German sensitivity during a period in which Israel was fighting for its existence, physically, politically, and economically.

In the 1970s, the Middle East conflict and its global contexts were felt more directly, also in Germany when terrorism shocked and unsettled West Germany, causing severe political clashes and confrontations in the Federal Republic. International terrorism also struck the Israeli-

274 Wolfgang Gentner to Amos de Shalit, 16 June 1967, AMPG, III. Abt., ZA 145, Nr. 47.

275 Amos de Shalit to Wolfgang Gentner, 30 June 1967, AMPG, III. Abt., ZA 145, Nr. 47.

276 Interview Walter Scheel in *Yedioth Ahronoth*, 16 December 1969, cited in: Weingardt, *Deutsche Israel- und Nahostpolitik*, 2002, 198. See also n.n.: "Israel-Politik. Nicht normal." *Der Spiegel*, 2 March 1970, 25–26.

German scientific cooperation directly when the physical chemist Aharon Katzir-Katchalsky,²⁷⁷ a leading figure of this cooperation, was assassinated in the Lod Airport massacre on 30 May 1972 by three members of the Japanese “Red Army.”²⁷⁸ Aharon Katzir had been one of the first Israeli scientists to visit Germany within the framework of the scientific cooperation agreement between the Weizmann Institute and the Max Planck Society in 1961 as a guest at Lynen’s MPI for Cell Chemistry. In 1972, he was a candidate for the upcoming Israeli presidency. Instead, his brother Ephraim Katzir (1916–2009), a biophysicist at the Weizmann Institute, was elected President of Israel the following year.



At the Weizmann Symposium “Impact of Science on Society,” Brussels, 1971. From left to right: Sir John Kendrew (Nobel laureate for chemistry), Aharon Katzir-Katchalsky, Friedrich Cramer (Director of the MPI for Experimental Medicine in Göttingen). Public Affairs Department, Weizmann Institute of Science: *Highlights of a Unique Collaboration. Presented to Josef Cohn on the Occasion of his 80th Birthday*. Rehovot: Weizmann Institute 1984, unpublished, AMPG, III. Abt., ZA 112 Josef Cohn, Nr. 1. © Archives of the MPG, Berlin-Dahlem.

The Yom Kippur War from 6 to 25 October 1973 again evoked expressions of political solidarity between German and Israeli scientists, for instance between Gentner and Michael Sela, then Head of the Immunology Department and later President of the Weizmann Institute. Sela’s response to Gentner shows the personal situation of Israeli scientists and the brutal impact of war, but also the trust that Israeli scientists had meanwhile developed in the political sensitivity of their German colleagues: “We have interrupted a sabbatical leave in Bethesda to come back temporarily to Rehovot because our son-in-law was tragically killed in this horrible war.

277 n.n.: “Wer ist’s?” *Nachrichten aus Chemie und Technik* 20/13 (1972), 247–248.

278 He just returned from a meeting organized by Manfred Eigen in Göttingen, which became the forerunner of the bilateral Minerva Symposia. Nickel, It began in Rehovot, 1993, 48.

I am sending you a copy of a letter sent out from here to Chancellor Brandt.”²⁷⁹ Sela, who had been a key player in the Minerva Program, was referring to a letter sent on 4 November 1973 to Willy Brandt (1913–1992) complaining that the politics of the first social democratic chancellor and the German Federal Foreign Office were not Israel-friendly but rather continued the unfortunate tradition of the appeasement politics of the 1930s.²⁸⁰

The Scientific Council of the Weizmann Institute of Science addresses this letter to you as a distinguished member of the Weizmann Institute community. We wish to express our most bitter disappointment – and our indignation – at the decision of the Federal Republic of Germany aimed at preventing the shipment of essential aid to Israel at a time when our country was fighting a desperate war of survival. The ‘neutrality’ proclaimed by your Government resulted in severely limiting our ability to defend ourselves against aggression though it did not limit the flow of military equipment from the Eastern bloc to our enemies. [...] The reaction of many European leaders to this crisis has been to try to appease the Arabs and the Soviet Union while ignoring the vital long-term interests of Israel, much in the spirit of Chamberlain and Daladier.

18. The “techno-scientific factor” as a political theme of the late 1960s and early 1970s

Appreciation of West German politicians for scientific affairs did not develop until the 1960s, in other words, parallel to the changes in German-Israeli scientific relations. By the end of the 1960s, however, German politicians and officials realized that science had become too important to be ignored as a politically relevant issue or just used as a substitute for diplomacy, in particular also as far as its international significance was concerned. With a certain delay, this changed position corresponded to the Israeli development and the intervention of the NCRD in the scientific collaboration with Germany discussed above.

In 1968, the German Federal Foreign Office stated in a circular²⁸¹ that in previous years, German policy on international cooperation in research and development had largely followed the concept that the government should not interfere with the international exchange of scientific and technical information or with contacts between scientists or technicians. Such activities were considered to be the job of scientists, institutes of higher education, research institutions, and industrial companies. But, according to the circular, this older policy failed to take into account that scientific research and technology have meanwhile become first-order political factors due to their financial magnitude as well as their influence on the economy and the

279 Michael Sela to Wolfgang Gentner, 11 November 1973, AMPG, III. Abt., ZA 145, Nr. 47.

280 Nathan Sharon (Chairman of the Scientific Council of the Weizmann Institute) to Chancellor Willy Brandt, 4 November 1973, AMPG, III. Abt., ZA 145, Nr. 47.

281 Rolf Lahr, “An alle Deutschen diplomatischen und berufskonsularischen Vertretungen, Betr.: Außenpolitische Nutzung des deutschen wissenschaftlich-technischen Potentials,” Bonn, 29 Jan 1968, PA AA, AV, Bd. 2234.

military. These facts no longer allowed international scientific cooperation to be viewed only as the promotion of private relations. Thanks to large-scale international scientific cooperation, foreign policy had thus become aware of science as valuable for détente, for European unification, as well as for deepening bilateral relations. As a consequence, in the eyes of political officials bilateral scientific contacts assumed an increased political significance:²⁸²

The techno-scientific factor is of high importance for German foreign policy, because the specific position of the Federal Republic of Germany in the global public view and in the political dynamics of Europe led to means of foreign policy which are easier to implement than measures used in classical diplomacy.

This view is echoed also in statements of prominent German politicians of the time. On 11 June 1973, Brandt visited the Weizmann Institute to receive an honorary doctorate. In his acceptance speech, he referred to the scientific exchange as a role model and said:²⁸³

In the thirties Chaim Weizmann said: “We will not be like other peoples until the first professor from Europe or America comes here to Palestine to work with us.” This aim you have long since achieved. But for us Germans the other truth applies: we began to be like other peoples when professors came not only from America and Russia, not only from France and Poland, but also from your country to work with us.

During the government of German Chancellor Helmut Schmidt (1918-2015), that is, between 1974 and 1982, the situation in the Middle East entered a period of détente, but the chemistry between the leading political figures in Israel and Germany did not work well, particularly between Schmidt and Prime Minister Menachem Begin (1913–1992). But the positive development of German-Israeli scientific relations somewhat counterbalanced the political tensions. At an event in Bonn organized in 1978 by the European Committee of the Weizmann Institute, the German Minister for Research and Technology, the social democrat Volker Hauff (b. 1940), explicitly described the scientific cooperation as a means of the Federal Government to reach its goals of research policy and mentioned cooperation with Israel in parallel with cooperation with Arab countries:²⁸⁴

The cooperation with Israel is a nice example for the successful efforts of the German Federal Government to realize its goals of research policy also via an international collaboration as broad as possible, understood as the cooperation of partners. Israel offers the very best preconditions for such a policy because of its large pool of qualified scientists. In addition it has completely different

282 Ibid., 5–6

283 Cited in: “Weizmann Institute Honorary Doctorate awarded to Chancellor Willy Brandt,” The Weizmann Institute of Science Press Release, 12 June 1973, 1, AMPG, II. Abt., Rep. 89, Minerva, Nr. 126.

284 Talk by Volker Hauff, “Weizmann-Institute and German Science – a Contribution to the German-Israeli Relations,” 28 November 1978, 1–2, AMPG, III. Abt., ZA 112, Nr. 1.

geographical and climatic circumstances compared to the Federal Republic. This opens up new research options for example for Agricultural Science or Ecology, which would have been barred in Germany or Europe. These topics also play a role in the initiating German-Arabic cooperation in research and technology, for example with Egypt, Saudi-Arabia, Jordan and Kuwait.

The emphasis was no longer on apolitical basic science but on the utility of science for societal concerns such as energy provision and health:²⁸⁵

The results of the bilateral projects with the Weizmann Institute, particularly in the difficult and important fields of Biotechnology, Energy and Cancer research, are excellent ones in the group of the programs funded by my ministry thanks to the high qualification of the scientists of the Weizmann Institute and the high standards of their work, not only compared with the cooperation with other foreign countries, but also with our domestic results.

We will come back to Hauff's speech in the final section of this paper because it also marks a turning point in the institutionalization of the scientific cooperation.

19. The expansion of the cooperation since the late 1960s

In the late 1960s and early 1970s, more and more institutions became interested in participating in the bilateral scientific cooperation because of its prestige and productivity, as well as for the funds available for it. The need to actively promote international cooperation, including with Germany, was widely felt in Israel, in spite of the still existing reservations. In 1968, Alex Keynan (1921–2012), vice-president for research at the Hebrew University and one of the architects of Israel's science policy, was convinced that the university should proactively develop its own modes of scientific cooperation with Germany. As the appropriate mediator, he found a young woman with German background, Charlotte Goldfarb (b.1945), and introduced her to the President of the Hebrew University, Avraham Harman (1914–1992). Harman was an Israeli diplomat, former Ambassador to the United States and had been involved in the negotiations between Ben-Gurion and Adenauer. Harman agreed with Keynan but told Goldfarb with regard to the ongoing controversy about the legitimacy of cooperation with Germany: "You can start working, but I know nothing about it."²⁸⁶ For many years, right up until her recent retirement, Goldfarb made great efforts to develop cooperation between the Hebrew University and German scientists.

Also in 1968, Alexander Goldberg (1906–1985), President of the Technion from 1965 to 1973 and one of the founders of the NCRD, launched a similar initiative. He instructed Josef Hagin

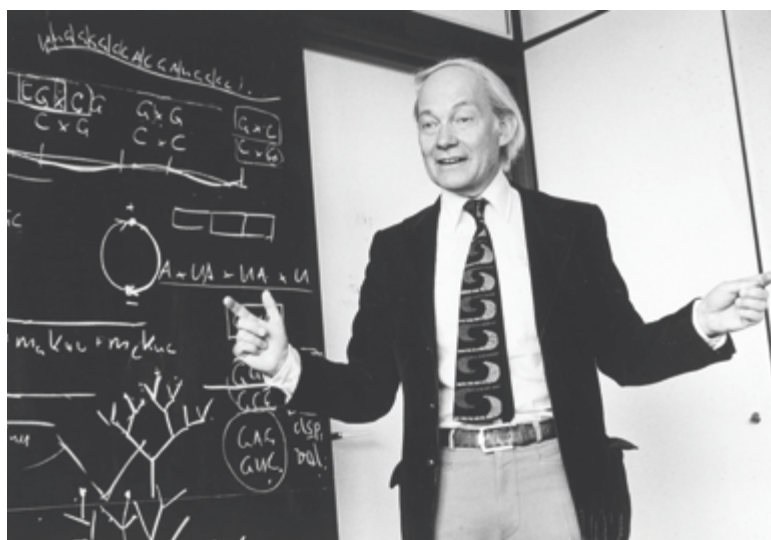
²⁸⁵ Ibid., 6–7.

²⁸⁶ Charlotte Goldfarb, private communication to Hanoeh Gutfreund.

(b. 1921), deputy president for research, to go to West Germany in order to establish contacts with German foundations and institutions, specifically the Volkswagen Foundation and the German Research Foundation. Goldberg also told him to act discretely because of the internal resistance at the Technion. In fact, the Chairman of the Board of Trustees of the Technion at that time, the Danzig-born Justice Moshe Landau (1912–2011) was strongly opposed to establishing any contacts with Germany, emphasized by his use of terms such as “over my dead body.”²⁸⁷

Another significant development in German-Israeli scientific relations in the late 1960s was the fact that the first young Israeli exchange scientists spent extended periods of time working in German institutions. At the Weizmann Institute, besides the chemist Joshua Rokach mentioned earlier as a member of Schmidt’s photochemical cooperation project with the MPI for Coal Research, these pioneers included physicist Uzy Smilansky (b. 1941),²⁸⁸ who was, with interruptions, a guest scientist at Gentner’s MPI for Nuclear Physics in Heidelberg between 1968 and 1971.²⁸⁹ Smilansky’s stay in Heidelberg resulted in a close cooperation and long-standing friendship with Hans-Arwed Weidenmüller (b. 1933), Director at the MPI for Nuclear Physics from 1972 to 2001.²⁹⁰ Other visiting scientists from the Weizmann Institute were Israel Pecht (b.

1937) and Marit Pecht (b. 1939) who conducted postdoctoral research in biochemistry in Manfred Eigen’s laboratory at the MPI for Biophysical Chemistry in Göttingen.



Manfred Eigen in the 1970s. Photographer: Peter Blachian.

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287 Josef Hagin, private communication to Hanoch Gutfreund. Landau had immigrated to Palestine in 1933 and presided over the trial of Adolf Eichmann (1906–1962).

288 Smilansky was the first incumbent of the Wolfgang Gentner Chair of Physics founded at the Weizmann Institute in 1981. Michael Sela, Foreword to the 1980 report, Annual Minerva Report submitted to members of the Minerva Committee and to the German Ministry for Research and Technology, reprinted in: Public Affairs Department, Weizmann Institute of Science: *Highlights of a Unique Collaboration. Presented to Josef Cohn on the Occasion of his 80th Birthday*. Rehovot: Weizmann Institute 1984, unpublished, not paginated, AMPG, III. Abt., ZA 112, Nr. 1.

289 See Deichmann, “Collaborations,” 2015, 1192–1193 and the interview with Smilansky, 1204–1206.

290 For their comments on the Minerva Program, see Uzy Smilansky and Hans-Arwed Weidenmüller: “Die Wirkung des Minerva-Programms.” In: Hoffmann and Schmidt-Rohr, Gentner, 2006, 171–175.

In the early 1970s, scientists from Israeli universities, in particular from the Hebrew University, launched bilateral scientific projects financed by a growing number of funding institutions. The pioneers at the Hebrew University were neurobiologists Hanna Parnas (b. 1937) and Itzhak Parnas (1935-2012), who worked with neuroscientists Josef Dudel (b. 1930) at the Technical University of Munich, and Ilan Chet (b. 1939), later President of the Weizmann Institute (2001–2006), who worked with Aloys Hüttermann (b. 1938) at the University of Göttingen on plant breeding.

From its early beginnings in 1970, the Parnas–Dudel cooperation evolved into the Otto Loewi Minerva Center for Cellular and Molecular Neurobiology, founded at the Hebrew University in 1986. The center mainly uses model systems from marine animals and therefore established the Otto Loewi Laboratories in the coastal town Eilat as its main facility.²⁹¹ The collaboration between Chet and Hüttermann was a long-term effort, resulting in one of the first German-Israeli collaborative research center projects to be funded by the DFG. It can be seen as a precursor to the special agreement, concluded in 1975, between the Hebrew University and the Ministry of Science and Arts of the Land Niedersachsen. Essentially, the project was funded by the Volkswagen Foundation.²⁹² The Hebrew University also concluded several agreements with other German state governments, specifically with Baden-Württemberg to support cooperation in agriculture between the Hebrew University and the University of Hohenheim.²⁹³

In these years, the Berlin Senate funded another collaborative project: Ehud Lenz (b. 1930), professor of mechanical engineering at the Technion, began to closely cooperate with the engineer Günter Spur (1928–2013) at the Technical University of Berlin. Through this cooperation, Spur wished to pay tribute to his prominent predecessor Georg Schlesinger (1874–1949), a Jewish professor who in 1904 had been appointed to the new chair for machine tools, manufacturing systems, and plant operation at what was then the Technische Hochschule in Charlottenburg, Berlin. The NS-government ousted Schlesinger from the university and from Germany because he was Jewish. In 1984, the Schlesinger Chair in Manufacturing Systems and a Schlesinger Laboratory for Automated Assembly were established at the Technion thanks to Spur's efforts.²⁹⁴

In summary, after the mid-1960s, the scope of institutions involved in German-Israeli scientific relations widened significantly. On the German side, further funding organizations as well as the regional authorities of the Laender set up programs of scientific cooperation with Israel.

291 Parnas became director and Dudel Chairman of the Loewi Center's Advisory Board. Josef Dudel: "Itzhak Parnas." In: Bayerische Akademie der Wissenschaften (ed.): *Jahrbuch 2012*. Munich: Verlag der Bayerischen Akademie der Wissenschaften in Kommission C.H. Beck 2013, 185–187, here 186; The Hebrew University of Jerusalem (ed.): *25 Years of Scientific Cooperation Among Scientists of the Federal Republic of Germany and The Hebrew University of Jerusalem*. Jerusalem: The Authority for Research and Development, The Hebrew University of Jerusalem 1995, 8. 19–20.

292 Christian Hodler, private communication with the authors, 16 January 2015.

293 The Hebrew University of Jerusalem (ed.): *25 Years of Scientific Cooperation*, 1995, 8.

294 Rita Seidel, Günter Spur and Hans Kurt Tönshoff (eds.): *Otto Kienzle – Systematiker der Fertigungstechnik. Ein Ingenieur im Zug durch die Zeit*. Munich: Hanser 2014, 162.

Israeli universities, including the Hebrew University, stepped in once their internal resistance had been overcome. On the Israeli side, funding was provided by the Israeli government together with the NCRD.

20. The return of the challenge of coordination in 1970

The rapid growth of the volume and scope of the cooperation brought the question of central coordination and of more strongly involving the universities back on the agenda. We have seen above that in 1965, following a suggestion by Müller-Daehn from the DFG, the Israeli NCRD considered setting up a central committee coordinating the scientific collaboration. The issue continued to be relevant and lingered in the background of many decisions taken in the following years.

In the spring of 1970, the German Ministry for Education and Science attempted to improve coordination by bringing all players together in a large ministerial meeting. On 3 April, Secretary of State Hans von Heppe (1907–1982) convened a meeting of the main institutions involved in cooperation with Israel.²⁹⁵ In addition to the Ministry for Education and Science, the Federal Foreign Office, the Max Planck Society, the Volkswagen Foundation, the DFG, the DAAD and the Alexander von Humboldt Foundation represented the German party at this meeting. Von Heppe and Gentner, who represented the Minerva Committee, were quite aware of the tensions developing in Israel between the Weizmann Institute and the universities due to the exclusive focus of the Minerva Program on the former.

Gentner was aware of the privileged role of the Weizmann Institute and the desire of greater participation on the side of the universities. His response to Heppe's question about the possibility of forming closer ties with the universities was, however, not forthcoming, although he indicated that there were initiatives for expanding the Minerva Program to also include the universities.²⁹⁶ The representative of the Federal Foreign Office also emphasized the importance of balanced relations with Israel and with the Arab states. Consequently, only research projects without any military significance were to be supported.²⁹⁷ DFG representative Müller-Daehn

295 Hans v. Heppe to Friedrich Schneider (Secretary General of the MPG), 3 March 1970, AMPG, II. Abt., Rep. 89, Nr. 116; Edmund Marsch, "Vermerk, Betr.: Deutsch-israelische Zusammenarbeit auf dem Gebiet der Wissenschaft und Forschung," 9 April 1970, 1–4, AMPG, II. Abt., Rep. 89, Nr. 116; Claus Müller-Daehn, "Vermerk, Zusammenarbeit mit israelischen Stellen, Besprechung im Bundesministerium für Bildung und Wissenschaft am 3. April 1970," 13 April 1970, 1–4, Private Collection Christoph Mühlberg. We are grateful to Christoph Mühlberg for providing access to the documents that are in his possession.

296 Claus Müller-Daehn, "Vermerk, Zusammenarbeit mit israelischen Stellen, Besprechung im Bundesministerium für Bildung und Wissenschaft am 3. April 1970," 13 April 1970, 1–4, here 2, Private Collection Christoph Mühlberg; Edmund Marsch, "Vermerk, Betr.: Deutsch-israelische Zusammenarbeit auf dem Gebiet der Wissenschaft und Forschung, 9 April 1970," 1–4, here 2, AMPG, II. Abt., Rep. 89, Nr. 116.

297 Claus Müller-Daehn, "Vermerk, Zusammenarbeit mit israelischen Stellen, Besprechung im Bundesministerium für Bildung und Wissenschaft am 3. April 1970," 13 April 1970, 1–4, here 4, Private Collection Christoph Mühlberg; Edmund Marsch, "Vermerk, Betr.: Deutsch-israelische Zusammenarbeit auf dem Gebiet der Wissenschaft und Forschung,"

reported that his organization was very interested in developing its own cooperation program with Israel and would contact the Ministry for Education and Science about this.²⁹⁸ In March 1970, DFG President Julius Speer (1905–1984)²⁹⁹ had already suggested to the Federal Ministry the allocation of funds to the DFG for the purpose of developing permanent scientific relations between Germany and Israel.³⁰⁰

Regarding the central issue of the meeting, the improved coordination of the various German-Israeli initiatives, the results were disappointing. The best the participants of the meeting could expect was a schedule for the exchange of information on a regular basis. Nevertheless, in the following years, the DFG undertook further attempts to include the universities more systematically into the cooperation and to establish an agreement for research funding at a governmental level.

Shortly afterwards, in May 1970, the DFG signed an agreement with the NCRD about joint colloquia and short visits by scientists from both sides.³⁰¹ There was one caveat: at that time, the DFG statutes only allowed funding for the scientific research of German scientists. In a long and detailed letter, DFG President Julius Speer explained to Josef Hagin how joint German-Israeli projects could nevertheless be funded.³⁰² The proposal would have to be submitted by the German partner and, if approved, the grant would be transferred to the home institution. The Israeli partners, acting as a “subcontractors” would then receive their share from the German institution. The informal program was launched in 1973,³⁰³ and not publicized until very recently. A recent report by DFG officer for international affairs Christoph Mühlberg on the DFG’s activities estimates that 600 to 800 such bilateral projects were financed in this way.³⁰⁴

Support for the strategic aims of the DFG was mobilized, also in Israel. In January 1973, the President of Hebrew University Harman wrote to Nahum Goldmann—who had received his PhD from the University of Heidelberg and was well connected with the German political

9 April 1970, 1–4, here 2, AMPG, II. Abt., Rep. 89, Nr. 116.

298 Claus Müller-Daehn, “Vermerk, Zusammenarbeit mit israelischen Stellen, Besprechung im Bundesministerium für Bildung und Wissenschaft am 3. April 1970,” 13 April 1970, 1–4, here 4, Private Collection Christoph Mühlberg.

299 Speer had been a member of the NSDAP. Sammlung Berlin Document Center (BDC): Personenbezogene Unterlagen der NSDAP.- Mitgliederkartei.- Gaukartei, BArch, R 9361 IX KARTEI, Speer, Julius, 03.12.1905.

300 Josef Hagin to Julius Speer, 29 December 1969, 1–2, here 1, Private Collection Christoph Mühlberg; Julius Speer to Hans v. Heppe, 28 July 1970, 1–3, here 1.

301 National Council for Research and Development, Summary of points discussed and agreed upon, 24 May 1970, 1–2. AMPG, III. Abt., ZA 145, Nr. 46.

302 Julius Speer to Josef Hagin, 4 February 1972, 1–3, Private Collection Christoph Mühlberg.

303 For a short, internal report on the establishment of the program see National Council for Research and Development, “A Summary of the State of Scientific Relations between Germany and Israel,” no date [1973], 1–4, here 1–2, AMPG, III. Abt., ZA 145, Nr. 46.

304 Private communication from Ehud Lenz to Hanoch Gutfreund and Christoph Mühlberg to Hanoch Gutfreund, both in February 2015.

establishment—and asked him to support the DFG initiative in establishing permanent scientific relations between Germany and Israel.³⁰⁵

It would be excellent if [...] you could advocate that the Federal Government should encourage permanent scientific relationships between Germany and Israel through the DFG and assign DM 2.000.000 a year on a regular basis for this purpose. You should know that, in the past ten years, the sum of DM 5.000.000 was given annually by the German Government to the Max Planck Institute for cooperation with the Weizmann Institute. On no account would we want this arrangement to be disturbed.

Harman wanted the West German government to encourage relations with the scientific community outside the Weizmann Institute. We do not know whether Goldmann actually attempted to intervene in this matter. What we do know, however, is that the DFG proposal was not approved. As a consequence, the DFG adopted the strategic decision to develop a cooperation program with Israel funded from its own budget.

Rather than giving in to the request for greater coordination and a centralized program, which had been raised during the ministerial meeting of spring 1970 and further pursued by the DFG, the strategy of the major players in the Minerva Program was to embrace more and more of the scientific competitors and research fields. Instead of Minerva becoming part of an umbrella organization, additional scientific partners were integrated into the Minerva Program.

We are thus able to observe, once again, the high-path dependency of the history of the Israeli-German scientific cooperation in which the Weizmann Institute and the Max Planck Society continued to perpetuate patterns of their original *modus operandi*. As we have seen, their joint activities focused more on personal matchmaking and a bottom-up strategy with decisions taken by scientists rather than through institutionalized coordination. This way of operating was being extended both in scope and format. The Minerva strategy remained, however, strongly shaped by the personal profiles and interests of the pioneers and protagonists who were still heavily involved. As it turned out, in the long run it was impossible within this framework to do justice to the sheer volume of scientific cooperation being taken on, as well as to the multiplicity of interests represented within it.

305 Avraham Harman to Nahum Goldmann, 31 January 1973, UAHU, folder 614.

21. The turning point of 1973 – new formats and new partners

As bleak and tragic as the year 1973 proved to be for Israel in terms of politics, this year in particular and the 1970s in general were very successful in terms of the scientific cooperation with Germany. Between 1964 and 1973, the Volkswagen Foundation spent around 2.5 million DM on the exchange of scientists between the Weizmann Institute and German research institutions such as the Max Planck institutes and various universities. In late 1972, funding of the Minerva Fellowship Program stopped because of the foundation's statute stipulating an exclusion of long-term programs. Now the newly established German Federal Ministry for Research and Technology assumed the task and almost doubled the budget for Minerva Fellowship grants from approximately DM 300,000 to DM 500,000.³⁰⁶

The purpose of this increased funding was also to include Israeli universities and also to allow Israeli graduate students and postdocs to conduct research at Max Planck institutes and German universities.³⁰⁷ Consequently, by 1985, over 600 Israeli and German scientists had been granted the opportunity to become fellows of the Minerva exchange program³⁰⁸—with a steadily increasing number of Israeli scientists joining the Minerva Fellowship Program.³⁰⁹

Also in 1973, a new element was added to the Minerva Program: the bilateral Minerva Symposia, later called the Gentner Symposia.³¹⁰ These meetings of Israeli and German researchers provided an opportunity to explore new cooperation potentials. Another new funding instrument was the endowment of chairs. These were and remain of crucial importance, particularly for institutions such as the Weizmann Institute, which have to raise a substantial part of their funding from external sources and are subject to economic fluctuations.

Private foundations such as the Volkswagen Foundation pioneered endowed chairs for Israeli research institutions and universities from the 1960s onward. The Bertram Blank Career Devel-

306 Gotthart Gambke (VW Foundation) to Wolfgang Gentner, 16 March 1972, AMPG, II. Abt., Rep. 89, Nr. 125; Edmund Marsch, "Vermerk," 20 July 1972, *ibid.*

307 Wolfgang Gentner to Staatssekretär Hans-Hilger Haunschild, 8 June 1973, AMPG, III. Abt., ZA 145, Nr. 46; Staatssekretär Hans-Hilger Haunschild (Federal Ministry for Research and Technology) to Wolfgang Gentner, 3 July 1973, AMPG, III. Abt., ZA 145, Nr. 46; Wolfgang Gentner to Heinz Staab, 5 July 1973, AMPG, III. Abt., ZA 145, Nr. 46; and Staatssekretär Hans-Hilger Haunschild (Federal Ministry for Research and Technology) to Wolfgang Gentner, 3 July 1974, AMPG, III. Abt., ZA 145, Nr. 46; William Taub, Brief Report on Personal Discussions with Prof. W. Gentner on August 27 and September 10, 1974, 11 September 1974, AMPG, III. Abt., ZA 112, Nr. 5.

308 "Niederschrift über die 112. Sitzung des Senats der Max-Planck-Gesellschaft zur Förderung der Wissenschaften e. V. am Freitag, dem 22. November 1985," 7, AMPG, II. Abt., Rep. 62, *Senatsprotokolle.*

309 In the 1970s until 1982 the number of Israeli scientists in the Minerva Fellowship Program was higher than the number of German scientists. 1982–1986 there was an equal ratio. Nickel, *It began in Rehovot*, 1993, 48.

310 Official Opening, Minerva Symposium, Weizmann Institute of Science, 2 April 1973, AMPG, III. Abt., ZA 145, Nr. 47, 8 pages; Igal Talmi to Reimar Lüst, 21 February 1973, Attachment: "Minerva Symposium 2–4 April 1973," AMPG, II. Abt., Rep. 89, Nr. 116; Heinz Staab, "Weizmann-Institut und deutsche Wissenschaft – ein Beitrag zu den deutsch-israelischen Beziehungen," Referat im Wissenschaftszentrum in Bonn am 28.11.1978, AMPG, III. Abt., ZA 145, Nr. 47, here 2–4; Nickel, *It began in Rehovot*, 1993, 48.

opment Chair of Cancer Research at the Weizmann Institute was the first one to be established using German government funding in 1972. The Georg F. Duckwitz Professorial Chair of Cancer Research at the Weizmann Institute followed in 1975.³¹¹ This was linked to a research cooperation with the German Cancer Research Center (Deutsches Krebsforschungszentrum, DKFZ) in Heidelberg that began in 1974. The Minerva Program also began to fund endowed chairs such as the Carl Melchior Chair for International Economics at the Hebrew University in 1984.

Joint projects with large German scientific research institutions, such as the German Electron Synchrotron (DESY) in Hamburg, represented another new form of bilateral scientific cooperation that began in the 1970s.³¹² In 1977, specific DESY grants were incorporated into the Minerva Program so as to allow Israeli scientists to use and develop high-energy equipment that was too expensive to buy and operate at the Weizmann Institute. At DESY, the Experimental High Energy Physics group from the Weizmann Institute participated in a project with 300 scientists from eight countries working on the Two-Arm Spectrometer Solenoid (TASSO) detector at the Positron-Electron Tandem Ring Accelerator (PETRA), which experimentally demonstrated the existence of gluons in 1979.³¹³ Further important work by the Department of Nuclear Physics at the Weizmann Institute was conducted at the Hadron-Electron Ring Accelerator (HERA).³¹⁴

22. The Minerva Centers – a new form of cooperation in the 1980s

Notwithstanding the remaining bilateral political difficulties in the 1970s and 1980s, scientific relations continued to deepen. In particular, the Minerva Centers, established as a new funding instrument in 1980, were visible signs of the growing institutionalization of the scientific cooperation network. The driving force behind this development was Hans-Hilger Haunschild (1928–2012), Secretary of State at the German Federal Ministry for Research and Technology. Minerva Centers at Israeli research institutions were created as an institutionalized framework for the advancement of scientific excellence and cooperative research in the sciences, humanities, and social sciences, where larger groups of scientists could pool their expertise for the scientific exploration of wider areas of research. The individual centers are overseen by a joint Israeli-German scientific advisory board chaired by a German scientist. With these new instruments of funding, including endowed chairs and research centers, the principle of matching

311 Nickel, *It Began in Rehovot*, 1993, 51.

312 “The contracting parties plan to assist the projects of the WIS for the PETRA-Experiment for the extent of the experiment, presumably for 5 years, with an annual support of DM 300.000, beginning in 1977. On these costs MINERVA will bear DM 200.000 and WIS DM 100.000.” Minutes of the 26th Meeting of the Main Committee for Israeli-German Scientific Co-operation (MINERVA) held on 23 September 1978 in Göttingen, 1–10, here 1, AMPG, II. Abt., Rep. 89, Nr. 118; Nickel, *It began in Rehovot*, 1993, 55.

313 Paul Söding: “On the Discovery of the Gluon.” *The European Physical Journal* 35 (2010), 3–28, here 4 and 17.

314 DESY and PETRA – major large-scale cooperation between German/Weizmann Institute researchers, AMPG, III. Abt., ZA 112, Nr. 1.

funds was introduced in coordination with the Israeli government. This means that the Israeli side doubles the interest from the donations invested on the international money market to cover current expenditures.³¹⁵

In 1980, the first centers to be established were the Albert Einstein Minerva Center for Theoretical Physics at the Weizmann Institute and the Richard Koebner Center for German History at the Hebrew University. In this way, the humanities also became part of the Minerva Program as a new field of cooperation. This marked the start of professionalization in this crucial domain of cultural memory. Already in 1977, the Volkswagen Foundation had provided start-up funding for the Richard Michael Koebner Chair for German History at the Hebrew University, where Richard Koebner (1885–1985) was the leading figure in the history department during the 1930s and 1940s. The Federal Ministry for Research and Technology and the Minerva Program also supported the Minerva Institute for German History at Tel Aviv University as well as the transfer of the Wiener Library to Tel Aviv.³¹⁶

During the 1980s, the Minerva Program comprised more and more centers and laboratories for bilateral research, as the table below shows.³¹⁷

CENTERS AND LABORATORIES FOR BILATERAL RESEARCH FOSTERED BY THE MINERVA PROGRAM

Name	Hosting institution	Established in
Albert Einstein Center for Theoretical Physics	Weizmann Institute, Rehovot	1980
Richard Koebner Center for German History	Hebrew University, Jerusalem	1980
Fritz Haber Center for Molecular Dynamics	Hebrew University, Jerusalem	1982
Helmuth Lissner Laboratory for Experimental Physiology	Israel Oceanographic and Limnological Research LTD., Haifa	1982
Gottfried Wilhelm Leibniz Center of Computer Science	Hebrew University, Jerusalem	1984

³¹⁵ Nickel, *It began in Rehovot*, 1993, 50.

³¹⁶ Minerva Institute for German History and Wiener Library, established 1980. http://www.minerva.mpg.de/minerva_centers/center_19.html. Last accessed 22 March 2017; Forschungszentrum für deutsche Geschichte an der Universität Tel Aviv [internal report from the 1980s], AMPG, II. Abt., Rep. 89, Nr. 117.

³¹⁷ Ulrike Kasemi, "Vermerk, Stand der Zusammenarbeit mit Israel," 10 April 1989, AMPG, II. Abt., Rep. 89, Nr. 176; Nickel, *It began in Rehovot*, 1993, 50; The Authority for Research and Development, Hebrew University of Jerusalem: *25 Years of Cooperation Among Scientists of the Federal Republic of Germany and the Hebrew University of Jerusalem*. Jerusalem: Hebrew University 1995, 13–25.

Central Archives for the History of the Jewish People	Hebrew University, Jerusalem	1984
Georg Sachs Minerva Center for Materials Processing and Structure Characterization	Technion, Haifa	1984
Otto Warburg Minerva Center for Biotechnology in Agriculture	Hebrew University, Jerusalem	1985
R. Bloch Coal Research Center	Ben-Gurion University of the Negev, Beer Sheva	1985
Franz Ollendorf Minerva Center for Information and Automation	Technion, Haifa	1985
Arid Ecosystems Research Center	Hebrew University, Jerusalem	1987
Otto Loewi Center for Cellular and Molecular Neurobiology	Hebrew University, Jerusalem	1987
Paul Ehrlich Center for the Study of Normal and Leukemic White Blood Cells	Hebrew University, Jerusalem	1987
Josef Cohn Minerva Center for Biomembrane Research, WI	Weizmann Institute, Rehovot	1988
Edmund Landau Center for the Research in Mathematical Analysis	Hebrew University, Jerusalem	1988
James-Franck Binational Program in Laser Matter Interactions	became nation wide, included Weizmann Institute, Ben-Gurion University of the Negev, Technion, Hebrew University	1988
Schlesinger Minerva Laboratory for Automated Assembly	Technion, Haifa	1988
Otto Meyerhof Center for the study of Drug-Receptor Interactions	Bar-Ilan University, Ramat Gan	1988
Wilhelm Kühne Center for the Studies of Visual Transduction	Hebrew University, Jerusalem	1989
Otto Meyerhof Minerva Center for Biotechnology	Technion, Haifa	1989
Ladislau Farkas Center for Light-Induced Processes	Hebrew University, Jerusalem	1989

The names indicate that beyond the early focus areas of nuclear, chemical, and biochemical research, new fields such as the earth sciences, medicine, biotechnology, materials, and computer science also became part of the Minerva Program. Moreover, applications for Minerva Centers were open to all scientific institutions in Israel. Consequently, research performed at these centers in cooperation with visitors, young scholars, and graduate students from Germany changed the scientific landscape at Israeli universities. The Hebrew University became the main beneficiary of this development in the 1980s.³¹⁸

³¹⁸ 10 of the 21 centers founded in the 1980s were established at the Hebrew University, see table above. According to an internal report on the money invested in scientific projects in Israel from 1977 to 1988 besides the regular annual

23. After 1980 – a change of guards

The 1970s and 1980s not only saw an expansion of the cooperation alongside with structural changes and innovations. These were also the years of a change of guards. Many of those who had survived the Holocaust or had been witnesses to the difficult early stages of bilateral cooperation in the postwar period passed away. Otto Hahn died in 1968, Amos de Shalit in 1969, Gerhard Schmidt in 1971, and Wolfgang Gentner in 1980. After Gentner's death, the Minerva Committee was restructured and membership became limited in time. An older, somewhat paternalistically-minded generation had stepped back, and now the scientific management of the Minerva Program was adapted to the usual evaluation procedures of the modern international science business.³¹⁹ Institutions such as the Gentner Symposia and the Minerva Fellowship Program increasingly welcomed young academics and their new ideas.



Heinz A. Staab and Wolfgang Gentner in the 1970s.
© Archives of the MPG, Berlin-Dahlem.

Minerva contract, the Hebrew University received DM 16.07 million (45 %), the WIS DM 7.8 million (22 %), the Technion DM 4.63 million (13 %), and the Tel Aviv University only DM 1.9 million (5 %) (total DM 35.647 million). "Vermerk, Betr.: Stand der Zusammenarbeit mit Israel," 10 April 1989, AMPG, II. Abt., Rep. 89, Nr. 176. From the DM 10.527 million, which the Minerva program provided between 1975 and 1983 for special scientific projects in Israel, the WIS received DM 4.54 million (43 %), the Hebrew University DM 3.987 million (38 %), and the Tel Aviv University DM 2 million (19 %). "MINERVA-finanzierte Sondervorhaben," AMPG, II. Abt., Rep. 89, Nr. 117. The Minerva funding activity for the Hebrew University began with the endowment of the Koebner Chair of German History in 1977. "The Hebrew University of Jerusalem" [internal report], Richard Koebner Lehrstuhl für deutsche Geschichte, AMPG, II. Abt., Rep. 89, Nr. 117. Already in 1982 the Hebrew University was the most prominent beneficiary of German funds arranged via the NCRD. "Besuch der Hebräischen Universität Jerusalem am Freitag, den 11.12.1982," AMPG, II. Abt., Rep. 89, Nr. 117, 1–6, here 1.

319 For examples on changing governance and evaluation of Minerva centers and projects see Dietmar Nickel to "Bundesministerium für Forschung und Technologie z. Hd. Herrn Dr. Scheller," AMPG, II. Abt., Rep. 89, Nr. 175, here 5–6; "Korrespondenz/Vermerke [1994–1995]," AMPG, II. Abt., Rep. 89, Nr. 179; [Felix Kahle], "Vermerk für den Herrn Generalsekretär," 12 April 1995, Anlage 1 Evaluierungsregelung, AMPG, II. Abt., Rep. 89, Nr. 179; and Nickel, *It began in Rehovot*, 1993, 49–50. For the role of profound personal bonds in the early phase see the description of Heinz Staab in: Heinz Staab to Wolfgang Gentner, 16 April 1973, AMPG, III. Abt., ZA 145, Nr. 46 and his interview in Nickel, *It began in Rehovot*, 1993, 62.

In the new constellation, the plea of the NCRD for more centralized governmental funding finally fell on fertile grounds, as is illustrated by the 1978 speech of the Federal Minister Hauff quoted earlier in connection with an increasing attention of governmental politics for science. As we have indicated above, the speech makes it also clear that the enhanced governmental engagement went along with a stronger emphasis on applied research.³²⁰

Professor Sela explains in his foreword of the annual report of the Institute for 1977, which we received, that the Weizmann Institute plans to strengthen the scientific life in Israel with a number of innovative activities despite of the growing deficit of the Israeli national budget and the bad employment situation for scientists. One of these activities is the stronger orientation from pure basic research towards applied research. The Federal Ministry of Research and Development supports this move supporting the Weizmann Institute beyond the Minerva funding in considerable manner with its project-oriented grants for German-Israeli research and developmental work in the framework of the program of emphasis of my Federal Ministry. The National Council for Research and Development, which is subordinated to the Israeli Ministry for Energy and Infrastructure, administers on the Israeli side these bilateral projects with Israeli research institutions. A joint committee of representatives of the National Council and the Federal Ministry for Research and Development evaluates and coordinates the projects. Besides the Weizmann Institute this cooperation, funded by the disciplinary programs of my ministry, includes the Israeli universities and non-university research institutions, like the Volcani-Center established by the governmental Agricultural Research Organization.

Although there was still no central governmental management of the bilateral scientific relations, the responsible authorities for science now began to establish direct interministerial contacts in order to fund, in particular, applied experimental science³²¹. This development toward larger state involvement and the permanent support of scientific cooperation, including the universities, culminated in June 1986. In this year, the German Federal Ministry of Research and Development (BMFT) and the Israeli Ministry of Science and Development established the bi-national German-Israeli Foundation for Scientific Research and Development (GIF) with an endowment of 150 million DM, provided equally by both sides.³²² The GIF funds non-military research and development in basic and applied science. Following the selection criteria of the

320 Talk by Volker Hauff, "Weizmann-Institute and German Science – a Contribution to the German-Israeli Relations," 28 November 1978, 4–6, AMPG, III. Abt., ZA 112, Nr. 1.

321 This intergovernmental program mentioned by Hauff was also established in 1973. *Deutschland-Berichte* (Bonn) 1/1981, here 13, AMPG, II. Abt., Rep. 89, Nr. 117. It was a late result of the efforts of Julius Speer and Claus Müller-Daehn from the DFG and the NCRD 1969–1970, initiated by travels of Hans-Hilger Haunschild and a delegation of the German Ministry for Research and Technology to Israel in 1972. National Council for Research and Development, "A Summary of the State of Scientific Relations between Germany and Israel," no date [1973], 1–4, AMPG, III. Abt., ZA 145, Nr. 46; "Bericht über eine Informationsreise von Staatssekretär H.H. Haunschild, Bundesministerium für Forschung und Technologie, nach Israel vom 27.3.–3.4.1972," 28 May 1972, Private Collection Christoph Mühlberg.

322 Due to the success of GIF the funds were extended to 300 million DM in 1993. Weingardt, *Deutsche Israel- und Nahostpolitik*, 2002, 311.

DFG, international experts are responsible for the assessment procedure for the allocation of funds. In this way, the strategic aims pursued by the DFG from the late 1960s were also finally reached.

Even after these major steps toward institutionalization and normalization, the scientific cooperation between Israel and Germany continued to include a political dimension as well. In 1994, DFG President Wolfgang Frühwald (b. 1935) launched the so-called “trilateral cooperation program,” which included a Palestinian partner in every cooperative research project. It was intended to support a peaceful development in the Middle East following the Oslo Agreement of September 1993. In this case, the DFG was authorized by a special government decision to transfer the allocated funds directly to the participating partners. The program lasted for twenty years. In recognition of this achievement and its contribution to the Arab-Israeli peace process, Frühwald was awarded an honorary degree by the Hebrew University in 1997.³²³

24. Concluding remarks

The relation between Israel and Germany shortly after the foundation of the two states was highly ambivalent. At the end of the 1950s, Israel’s representation in West Germany was the deliberately non-diplomatic Mission in Cologne, while West Germany had no official representation in Israel at all. The only official contract was the Luxembourg Treaty. Cultural and private exchange was banned, with only minor exceptions. Outside of the Reparations Agreement, cooperation such as the West German military and economic aid for Israel took the form of more or less secret consultations and understandings. There was no silver bullet for the problem of how to construct more official bilateral relations.

Yet, there were both potentials for as well as obstacles to such a future development. The West German and Israeli governments looked for a stronger bilateral relation: the former to support its aspirations for international acceptance as the only legitimate representative of Germany; the latter to strengthen support for the survival of the young Israeli state. But this was only a few years after the end of the Second World War and the resentment in the Israeli general public against the nation of perpetrators remained strong and prohibited any close relations. On the German side, besides the initial refusal to accept German responsibility for Nazi war crimes, the Federal Foreign Office wanted to avoid closer relations with Israel in order to remain on friendly terms with the Arab states.

In this situation, a group of scientific protagonists, mostly from nuclear physics, acted, as we have seen, as catalysts in developing the existing potentials for improving the bilateral relations and in overcoming some of the obstacles mentioned. They met at international institutions like the

323 The Doctor Honoris Causa Certificate, June 1997, Hebrew University, Public Relations Department.

CERN in Geneva, profiting from the international outlook but also from the economic and military relevance of their research field. As we have shown, the initiative clearly started from the Israeli side. Indeed, the relation between scientific and political elites was initially rather different in both countries. In Israel, the Zionist tradition was characterized by a close affinity, institutional and personal, between these two elites. The Israeli actors were therefore able to mobilize both scientific and political networks. In contrast, West German scientists in general and the MPG as a scientific institution in particular tended to regard themselves as “apolitical” – an attitude that also helped them to create a distance with regard to the recent Nazi past. In addition, as we have seen, within the MPG there were also internal resistances against the collaboration by scientists and administrators who had been involved with the Nazi regime.

On the German side, the first decisive steps were therefore taken by politicians, not by scientists or scientific organizations. Only under pressure from the Adenauer government, and against some internal resistance, did the MPG assume a prominent role in a special constellation in which scientific relations could act as a substitute for official diplomatic relations. The scientific cooperation between the Weizmann Institute and the Max Planck Society, represented by the Gentner group, may have acted as an icebreaker for German-Israeli relations, but the political drivers provided the fuel. Here again the establishment of personal, unofficial contacts, avoiding an explicit confrontation with the historical, moral, and political contexts, facilitated a successful opening move. It enabled the scientists to fly under the radar of serious political national and international tensions and conflicts.

There is a striking parallel between this instrumentalization of science for politics and a similar use of sports in this period, which may have even acted as a precedent. On 21 August 1955, a football match between the national teams of West Germany and the Soviet Union marked the beginning of a politics of détente in the post-Stalin era and prepared the visit of Adenauer to Moscow three weeks later.³²⁴ The initiative came from the Soviet government, which invited 1400 selected spectators from East and West Germany to the match in the style of its early Cold War German unification policy. As in the case of Israeli-German scientific relations, the West German Federal Foreign Office was initially rather reluctant, but then welcomed the plan as a means of creating a warmer atmosphere for the visit and for Adenauer’s negotiations in Moscow.

Political interests and propaganda strategies, and not sports, were the crucial reasons for the event. One may similarly refer to this episode as “sport for diplomacy,” or rather, “sport as a substitute and expedient for diplomacy.” But contrary to science, in the case of early Israeli-German scientific relations, sport was used by the Soviet side as a medium of propaganda with thousands of visitors and reports in popular mass media like newspapers, radio programs, and newsreels. In accordance with its political needs, the Soviet government trumpeted the political function

324 See Werner Kilian: *Adenauers Reise nach Moskau* Edited by Konrad-Adenauer-Stiftung e.V. Freiburg im Breisgau: Herder 2005, 94–97; Eduard Hoffmann: “Deutsche Fußball-Nationalelf reist nach Moskau.” *Deutschlandradio Kultur*, “Kalenderblatt,” 21 August 2015. http://www.deutschlandradiokultur.de/vor-60-jahren-deutsche-fussball-nationalelf-reist-nach.932.de.html?dram:article_id=328843. Last accessed 14 February 2017.

of the sports event, while the West German government played it down. Amazingly, the once famous football match between the West German and Soviet national teams is now almost forgotten, while the then very restrained West German-Israeli scientific relations have become the object of anniversary celebrations, public conferences, and historical studies.

Downplaying the political contexts was crucial, also for the beginning of the scientific relations between Israel and Germany. In this case, science as an expedient for diplomacy, on the one hand, and secret military and economic cooperation, on the other hand, were complementary twins. The substitute character of scientific relations could only work as long as they were confined to basic science, bracketing applications and dual-use aspects, but also the NS past of some of the scientists and science managers involved. Consequently, in science, the strategy was to taboo the disturbing political and military contexts of scientific research as a conscious act of suppression on both sides, defended as “pragmatism.” This was not so much a cost but rather a prerequisite of cooperation. As we have also seen, this could not work as well, however, for a larger institution such as the Hebrew University, comprising a more extended academic community including the humanities and the social sciences. In a smaller, purely scientific institution without the humanities and the social sciences, such as the Weizmann Institute, memories of the past certainly also played an important role, but did not prevent early cooperation with citizens and agencies, and scientists and politicians from the country of perpetrators.

In the mid-1960s, the West German government could no longer maintain the secrecy of military and economic cooperation and began to change its political strategy. Diplomatic as well as economic relations were now based on official contracts, and—at least some—secret weapons deals were terminated. Official diplomatic relations became a viable alternative and this changed the situation of the bilateral scientific cooperation as well. Science, unburdened of diplomatic functions, emancipated itself from its role as a means to an end within political contexts and became part of a self-organizing dynamics of scientific cooperation. For some time, the focus of the cooperation on basic natural science remained as a legacy of the early years and perhaps also as an ideological safeguard. The long-lasting personal networks at the core of the cooperation stabilized the scientific exchange during the political crisis between 1965 and 1980, a stability that ensured a certain degree of autonomy from political vicissitudes. Meanwhile, the early cooperation, which had been strongly shaped by individual contacts and interests, became part of an institutionalized framework enjoying continued governmental support. More and more institutions and disciplines were interested in participating in the Israeli-German scientific collaboration because of its scientific prestige and productivity, but also because of the funds available for it.

Since the late 1960s, the growing size of the cooperation had posed challenges of coordination and central administration, but also questions of more adequately including university partnerships, beyond the initial focus on the Weizmann Institute and the Max Planck Society. These challenges were articulated by representatives of the Israeli NCRD, but also by the German DFG. Scientists objected, however, to the danger of limiting the freedom of basic research that a centrally organized, government-controlled cooperation might have. As a consequence,

instead of Minerva becoming part of a governmental umbrella organization, more and more additional scientific partners were integrated into the Minerva program, which was administered by scientists. Eventually, in 1986, a more centralized funding organization was established in form of the German Israeli Foundation, significantly broadening the support for university cooperation.

These developments also changed the MPG. The expansion of the Israeli-German scientific relations contributed to the internationalization of the society but also supported closer contacts of German scientists with the world of politics and policy-making. MPG scientists, and also the leadership of the society, increasingly recognized the significance of special relations with Israel, but also more generally that of an active science policy. In 1964, the MPG included science policy as an official task in its charter. The development of scientific relations with Israel may even have played a paradigmatic role for further bridge building activities, a subject that would require further historical research. In 1974, in particular, Max Planck President Reimar Lüst (born 1923) and a group of MPG scientists began to develop scientific relations between West Germany and the People's Republic of China, in which the cooperation between the Chinese Academy of Science and the MPG served as a central hub.

In this case, both science and sports played a role in breaking through diplomatic barriers. At the beginning of the 1970s, the United States and communist China used sports as a diplomatic tool to reduce Cold War tensions. In April 1971, the US table tennis team arrived in China for a 10-day visit, becoming the first group of Americans in over 20 years to visit behind the "Bamboo Curtain." Their trip led to a renewed dialogue between the two nations, opening the door for President Richard Nixon's own visit to China in 1972. In Cold War history, this episode is known as "ping-pong diplomacy." Most of the matches were won by the Chinese players. As for diplomacy and scientific cooperation, whether between China and the United States, or between Israel and Germany, in the end all sides were regarded as winners.

Acknowledgements

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Archives

AEA: The Albert Einstein Archives, Hebrew University of Jerusalem

online: <http://www.alberteinstein.info/database.html>

AMPG: Archiv der Max-Planck-Gesellschaft, Berlin-Dahlem

II. Abt., Rep. 62, Wissenschaftlicher Rat

II. Abt., Rep. 89, MINERVA (Stiftung) Gesellschaft für die Forschung mbH

II. Abt., Rep. 102, Gründungsakten

III. Abt., ZA 112, Josef Cohn Papers

III. Abt., ZA 145, Heinz A. Staab Papers

III. Abt., Rep. 14A, Otto Hahn Nachlass

III. Abt., Rep. 84/2, Adolf Butenandt Nachlass

BArch: Bundesarchiv, Berlin-Lichterfelde

PA AA: Politisches Archiv des Auswärtigen Amtes, Berlin

AV Neues Amt

B 36 Naher Osten und Nordafrika

B 130 VS-Registatur

UAHU: The Central Archive, Hebrew University of Jerusalem, Jerusalem

WISA: Weizmann Institute of Science Archive, Rehovot

Index

A

Abs, Hermann Josef 28, 30, 48, 49
Adenauer, Konrad 10–13, 25–29, 32, 33, 35–39,
48, 54–58, 73, 86
Adenauer, Max 25, 26
Adorno, Theodor W. 51
Akzin, Benjamin 52

B

Balke, Siegfried 27, 34, 35, 45, 46
Bartmann, Peter 30
Begin, Menachem 10, 72
Ben-Gurion, David 10, 11, 13, 16, 20, 23, 24, 31,
33, 35–38, 54, 56, 58, 73, 82
Benecke, Otto 33, 34
Bentwich, Norman 51, 52
Bergmann, Ernst David 19, 20, 45, 46
Birrenbach, Kurt 39, 55, 58
Bockelmann, Werner 30
Böhm, Franz 51
Bothe, Walther 17
Brainin, Joseph 38
Brandt, Leo 47
Brandt, Willy 69, 71, 72
Buber, Martin 22
Butenandt, Adolf 33, 34, 58

C

Chet, Ilan 75
Cohn, Josef 16, 18, 21, 23–28, 31–33, 35, 38, 39,
42, 46, 48, 49, 55, 57, 58, 60, 64, 66, 70
Cramer, Friedrich 70
Crowfoot Hodgkin, Dorothy 61

D

de Shalit, Amos 17, 18, 20, 26, 27, 29, 31, 41,
42, 47, 59, 69, 83
Dohrn, Klaus 21, 30
Dostrovsky, Israel 45
Dover, Zeev 65
Dudel, Josef 75

E

Eban, Abba 11, 23, 27, 31, 38, 42, 56, 58
Ehrlich, Paul 22
Eichmann, Adolf 36
Eigen, Manfred 44, 74
Einstein, Albert 14, 15, 22–24
Erhard, Ludwig 55, 56, 58
Eshkol, Levi 54–56
Even-Ari, Michael 52

F

Franck, James 14
Freud, Sigmund 22
Friedensburg, Ferdinand 38
Frühwald, Wolfgang 85

G

Gablentz, Otto Heinrich von der 52
Gablentz, Otto Martin von der 52
Gambke, Gotthard 59, 60
Gentner, Alice 18
Gentner, Wolfgang 17, 18, 20, 21, 27, 30,
32–35, 40–44, 54, 58, 60, 61, 69, 70, 74, 76,
79, 83, 86
Goldberg, Alexander 73, 74
Goldfarb, Charlotte 73
Goldmann, Nahum 56, 77, 78
Groth, Wilhelm 45–47

H

Haberland, Ulrich 29, 48
Hagin, Josef 73, 77
Hahn, Otto 14, 15, 18–21, 27, 30–35, 45, 83
Hahn, Wilhelm 39
Hanani, Haim 65
Harman, Avraham 73, 77, 78
Harteck, Paul 45
Hauff, Volker 72, 73, 84
Haunschild, Hans-Hilger 80
Heinemann, Dannie 25, 41
Heisenberg, Werner 27, 34
Heppe, Hans von 76
Hess, Gerhard 28

Heuss, Theodor 27, 52

Hodler, Christian 22

Hoppe, Walter 62

Horkheimer, Max 51

Hüttermann, Aloys 75

I

Iringartinger, Herrmann 62

J

Jensen, Hans 20

K

Katzir-Katchalsky, Aharon 29, 70

Katzir, Ephraim 70

Kendrew, John 70

Kennedy, John F. 38

Keynan, Alex 73

Koebner, Richard 81

Krauch, Carl 47

Krauch, Carl Heinrich 47, 61

Kronstein, Richard 21, 25, 31

Krüger, Carl 61

Krüger, Lorenz 41

L

Landau, Moshe 74

Lapidot, Yehuda 64–68

Leiserowitz, Leslie 62

Lenz, Ehud 75

Lifson, Shneior 65

Lüst, Reimar 88

Lynen, Feodor 18, 44, 53, 70

M

Mark, Herman Francis (Hermann Franz) 29,
30

Marsch, Edmund 58

Mazar, Benjamin 51–53

Meitner, Lise 14

Merkle, Hans Lutz 32

Mühlberg, Christoph 77

Müller-Daehn, Claus 63, 64, 76

N

Nasser, Gamal Abdel 36, 55

Nickel, Dietmar 58

Nixon, Richard 88

Noack, Cornelius Christoph 41, 42

P

Parnas, Hanna 75

Parnas, Itzhak 75

Pauls, Rolf Friedman 56, 64, 65

Paulsen, Andreas 53

Pecht, Israel 74

Pecht, Marit 74

Peres, Shimon 37, 55

Pestel, Eduard 22

Pollay, Heinz 66

Prywes, Moshe 65

R

Rajewsky, Boris 30

Rapaport, I. 63, 66, 67

Ritzel, Heinrich 38, 58, 64

Robertson, Robert 61

Rokach, Joshua 47, 74

S

Salin, Edgar 28, 30

Samuelsdorf, Anni 53

Scheel, Walter 69

Schenck, Günther Otto 47

Schlesinger, Georg 75

Schmidt, Erich 17

Schmidt, Gerhard 17, 19, 26, 28–31, 42, 47, 48,
50, 61, 62, 74, 83

Schmidt, Helmut 72

Sela, Michael 48, 58, 70, 71, 84

Selbach, Josef 55

Sharett, Moshe 11

Shinnar, Felix Eliezer 12, 27, 31, 35, 48, 49, 53,
56, 66

Smilansky, Uzy 74

Speer, Julius 77

Spur, Günter 75

Staab, Heinz A. 61, 62, 83

Straßmann, Fritz 14

Strauß, Franz Josef 37

T

Telschow, Ernst 27, 30, 32–34

Truman, Harry S. 10, 24

U

Ulbricht, Walter 55

V

Vits, Ernst Hellmut 28

W

Warburg, Otto 22

Weidenmüller, Hans-Arwed 74

Weisgal, Meyer Wolf 23, 26, 31, 38, 42, 49

Weizmann, Chaim 16, 22–24, 72

Weizmann, Vera 55

Westphal, Otto 44, 48

Wilke, Günther 60, 61

Willstätter, Richard 16

Winkler, Hubert Christian 16

Winnacker, Karl 29, 30, 48

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