The Max Planck Society and Pugwash during the Cold War

An Uneasy Relationship

✣ **Carola Sachse**

Introduction

The complex story of West German relations with the transnational initiative known as the Pugwash Conferences on Science and World Affairs ("Pugwash") was shaped by an array of domestic factors, including Germany's position as the defeated aggressor of the Second World War and the subsequent territorial and political division of the country between the two Cold War blocs. The relationship was also deeply influenced by the Göttingen Declaration of April 1957, an initiative on the part of eighteen leading West German scientists through which they sought to define their position in a remilitarizing Federal Republic of Germany (FRG) and express their social responsibility as nuclear experts. This declaration proved politically controversial insofar as it challenged the defense policies of Chancellor Konrad Adenauer. The bitter controversy it provoked coincided, roughly, with the inaugural meeting of Pugwash in July 1957 and shaped the responses of the "Göttingen Eighteen" to the Pugwash initiative that summer and in the longer term. The majority of the "Eighteen" were prominent members or former scientific employees of the Kaiser Wilhelm Society (KWS), renamed in 1948 as the Max Planck Society (MPS), an elite, powerful institution within West German science and one that is also important for the Pugwash story. Many scientists undoubtedly felt a keen sense of loyalty to their country and were eager to rebuild (West) German science and its institutions, most prominently the MPS. The development of Pugwash in the FRG was bound up with the process of institution-building at the MPS, seen by many as a key element in the rehabilitation of German science in the postwar period and an integral part of the wider project of nation-building in a country characterized by a virulent anti-Communism within government and society at large and grappling with a unique position in Cold War geopolitics.

Journal of Cold War Studies
Vol. 20, No. 1, Winter 2018, pp. 170–209, doi:10.1162/jcws_a_00804

This article shows that the MPS decisively influenced the development of Pugwash in West Germany through an approach that can be characterized as "engagement at a distance." This was manifest as a sustained ambivalence on the part of leading members of the MPS toward Pugwash. Although this approach was effective in placing distance between the MPS and Pugwash, it did not preclude engaging with Pugwash on terms that suited West Germany's scientific elite. The MPS strategy of distancing, which might also be described as institutional inertia, was sustained throughout the period under study by three presidents: Otto Hahn, Adolf Butenandt, and Reimar Lüst. Each crafted a different mode of engagement with Pugwash, contingent on a variety of strategic considerations.

In addition to examining the tenure of each MPS president, the article highlights a small cohort of scientists, each of whom played crucial roles in the development of Pugwash. They include the prominent MPS member Carl Friedrich von Weizsäcker, as well as physicists outside the MPS—notably Gerd Burkhardt, Werner Kliefoth, and Helmut Hönl—who played a decisive role in establishing a Pugwash group in the FRG and in the creation of an institutional home for it within the Vereinigung Deutscher Wissenschaftler (VDW, Federation of German Scientists), founded in 1959. A lawyer and MPS social scientist, Horst Afheldt, and MPS physicist Klaus Gottstein became pivotal figures in Pugwash from the late 1960s until the 1990s. Each of them was positioned differently in relation to the MPS, the VDW, and Pugwash, and each acted in his own particular way, shaped by his own experience and outlook and by professional and career considerations. All agreed that a war waged with nuclear weapons along the Iron Curtain would be devastating for the adjoining countries, especially the two German states, and they shared the conviction that as scientists they should commit to the social responsibility of science. But they struggled with the question of how best to go about this, especially in the wake of the Göttingen Declaration, of which Weizsäcker had been the principal architect. Weizsäcker's preference for a discreet style, or—as his colleague at the MPS, Werner Heisenberg, put it—the "unseen path" (*unsichtbarer Weg*) to political engagement and influence, was not shared by all of his colleagues.[1]

This article explores West German scientists' responses to Pugwash as a means to understand more fully its development in this national setting.

1. Heisenberg quoted in "Protokoll der Vorbereitenden Besprechung zur Gründung einer Pugwash-Gruppe," n.d. [28 April 1959], cited in Elisabeth Kraus, "Die Vereinigung Deutscher Wissenschaftler: Gründung, Aufbau und Konsolidierung (1958–1963)," in Stephan Albrecht et al., eds., *Wissenschaft—Verantwortung—Frieden: 50 Jahre VDW* (Berlin: Berliner Wissenschaftsverlag, 2009), p. 39.

The analysis here foregrounds the role of the MPS in this dynamic and uses the development of Pugwash in the FRG to explore the evolving relationship between science (and its institutions) and politics, the relationship between scientists and politicians, and the relationship of both to policy-making in the Cold War.[2] Matthew Evangelista's examination of Pugwash in the Soviet Union and the United States has revealed much about when and how transnationally organized scientific expertise could and could not be deployed as a resource in Cold War politics.[3] Drawing on his work in particular, this article examines the various ways natural scientists drew on transnational political activism as a resource for promoting their professional and political goals and the often contradictory forces at work within the FRG that shaped the possibilities for and characteristics of participation in Pugwash.[4]

Based on records held in the archives of the Max Planck Society, and especially the papers of the MPS scientists who participated in the VDW or the West German Pugwash group, the article casts new light on the history of the MPS in the context of the division of Germany and the Cold War.[5] It

2. Mitchell G. Ash, "Wissenschaft und Politik als Ressourcen füreinander," in Rüdiger vom Bruch and Brigitte Kaderas, eds., *Wissenschaften und Wissenschaftspolitik* (Stuttgart: Steiner Verlag, 2002), pp. 32–51; Carola Sachse and Mark Walker, eds., "Politics and Science in Wartime: Comparative International Perspectives on Kaiser-Wilhelm-Institutes," special issue, *Osiris*, Vol. 20 (September 2005); and Helmuth Trischler and Mark Walker, eds., *Physics and Politics: Research and Research Support in Twentieth Century Germany in International Perspective* (Stuttgart: Steiner Verlag, 2010).

3. Matthew Evangelista, *Unarmed Forces: The Transnational Movement to End the Cold War* (Ithaca, NY: Cornell University Press, 1999). Evangelista sees Pugwash as exerting considerable influence on, for example, the preparation of the Anti-Ballistic Missile (ABM) Treaty, signed in 1972, and the Intermediate-Range Nuclear Forces (INF) Treaty, signed in 1987. See also Bernd W. Kubbig, "Communicators in the Cold War: The Pugwash Conferences, The U.S.-Soviet Study Group and the ABM Treaty: Natural Scientists as Political Actors: Historical Successes and Lessons for the Future," *PRIF Reports*, No. 44 (1996); and Bernd W. Kubbig, *Wissen als Machtfaktor im Kalten Krieg: Naturwissenschaftler und die Raketenabwehr der USA* (Frankfurt: Campus Verlag, 2004).

4. Among the first to discuss the role of transnational actors in international affairs were Joseph S. Nye, Jr., and Robert O. Keohane, "Transnational Relations and World Polities: An Introduction," *International Organization*, Vol. 25, No. 3 (Summer 1971), pp. 329–349. A recent special issue of *The British Journal for the History of Science* includes a call for transnational approaches in the history of science: Simone Turchetti et al., "Introduction: Have We Ever Been 'Transnational'? Towards A History of Science Across and Beyond Borders," *The British Journal for the History of Science*, Vol. 45, No. 3 (September 2012), pp. 319–336.

5. Max Planck Archive, Berlin (MPA), papers of Adolf Butenandt, Klaus Gottstein, Otto Hahn, Reimar Lüst, and Carl Friedrich von Weizsäcker. The papers of Hans Peter Dürr, Werner Heisenberg, and Josef Mattauch were not accessible at the time of my research. I also analyzed the papers of the institutes, research offices, and study groups led by these scientists, and the files of the MPS president's office and meetings of MPS management bodies. In addition, I carried out a lengthy interview with Klaus Gottstein (Munich, 11 November 2011), who also gave me further documentation.

adds to the small body of work on both the VDW and Pugwash, developing new perspectives on the relationship between them and on the relationship of each to the MPS.[6] The literature on the KWS, the MPS's predecessor during the National Socialist era and the early postwar years, including the politics of its denazification, is huge and still growing, but the history of the MPS in the second half of the twentieth century is largely tabula rasa.[7] By focusing on the relationship between science, scientists, and the state, and on how senior scientists fashioned a new role in Cold War diplomacy, the article highlights a hitherto overlooked aspect of the FRG's history during the Cold War. At the same time, it casts new light on the history of Pugwash, not least the ways a particular national context fed into the transnational encounter at the Pugwash table.

Supplementary information was received from Reimar Lüst (letter, 18 September 2012) and Dietmar Nickel (telephone call, 16 September 2012).

6. Albrecht et al., eds., *Wissenschaft—Verantwortung—Frieden*. Especially useful contributions for this article include Hans-Joachim Bieber, "Die VDW zwischen Gründung und Schließung ihrer Forschungsstelle (1964 bis 1975)," in Albrecht et al., eds., *Wissenschaft—Verantwortung—Frieden*, pp. 91–248; and Kraus, "Die Vereinigung Deutscher Wissenschaftler," in Albrecht et al., eds., *Wissenschaft—Verantwortung—Frieden*, pp. 27–71. See also: Götz Neuneck and Michael Schaaf, eds., *Zur Geschichte der Pugwash-Bewegung in Deutschland: Symposium der deutschen Pugwash-Gruppe im Harnack-Haus Berlin, 24. Februar 2006*, Preprint 332 (Berlin: Max-Planck-Institut für Wissenschaftsgeschichte, 2007). Like previous anniversary commemorations for Weizsäcker, the 2012 centenary of his birth prompted commemorative publications that refer to his Pugwash activities, including Ulrich Bartosch and Reiner Braun, eds., *Perspektiven und Begegnungen: Carl Friedrich von Weizsäcker zum 100. Geburtstag* (Berlin: Lit Verlag, 2012).

7. On the KWS, see Reinhard Rürup and Wolfgang Schieder, eds., *Geschichte der Kaiser-Wilhelm-Gesellschaft im Nationalsozialismus*, Vols. 1–17 (Göttingen: Wallstein Verlag, 2002–2008); and Susanne Heim, Carola Sachse, and Mark Walker, eds., *The Kaiser Wilhelm Society under National Socialism* (New York: Cambridge University Press, 2009). For the early history of the MPS, see Michael Schüring, *Minervas verstoßene Kinder: Vertriebene Wissenschaftler und die Vergangenheitspolitik der Max-Planck-Gesellschaft* (Göttingen: Wallstein Verlag, 2006); Heiko Stoff, "Adolf Butenandt und die Nachkriegszeit, 1954–1956: Reinigung und Assoziierung," in Wolfgang Schieder and Achim Trunk, eds., *Adolf Butenandt und die Kaiser-Wilhelm-Gesellschaft im "Dritten Reich"* (Göttingen: Wallstein Verlag, 2004), pp. 368–401; and Carola Sachse, "What Research to What End? The Rockefeller Foundation and the Max Planck Gesellschaft in the Early Cold War," *Central European History*, Vol. 42, No. 1 (March 2009), pp. 97–141. On the more recent history of the MPS, only one volume has been published recently: Dieter Hoffmann, Birgit Kolboske, and Jürgen Renn, eds., *"Dem Anwenden muss das Erkennen vorausgehen": Auf dem Weg zu einer Geschichte der Kaiser-Wilhelm/Max-Planck-Gesellschaft*, Proceedings Vol. 6, Max Planck Research Library for the History and Development of Knowledge (Berlin: Edition Open Access, 2014). Some reflections are offered in the commemorative publication of Peter Gruss and Reinhard Rürup, eds., *Denkorte: Max-Planck-Gesellschaft und Kaiser-Wilhelm-Gesellschaft: Brüche und Kontinuitäten 1911–2011* (Dresden: Sandstein Verlag, 2010). Cathryn Carson's *Heisenberg in the Atomic Age: Science and the Public Sphere* (New York: Cambridge University Press, 2010) affords new insights into Heisenberg's role in the development of West German and European nuclear research but pays only brief attention to Heisenberg's relationship with the VDW and Pugwash. The chronology by Eckart Henning and Marion Kazemi, *Chronik der Kaiser-Wilhelm-/Max-Planck-Gesellschaft zur Förderung der Wissenschaften, 1911–2011: Daten und Quellen* (Berlin: Duncker & Humblot, 2011), is indispensable.

The Göttingen Declaration

In the spring of 1957, the North Atlantic Treaty Organization (NATO) developed its concept of massive retaliation, according to which nuclear weapons would be used rapidly if a military conflict erupted with the Soviet Union. NATO headquarters announced that it would equip forces stationed in West Germany with additional tactical nuclear weapons. The FRG government now believed the moment had come to catch up with its largest NATO partners by arming its own forces with "tactical" nuclear weapons. This was a crucial part of Adenauer's wider strategy of anchoring the FRG within the Western alliance.[8]

On 12 April 1957, the main West German newspapers published a statement signed by eighteen leading FRG scientists protesting these plans. The Göttingen Declaration, as this document came to be known, was drafted by the physicist Carl Friedrich von Weizsäcker and mathematician Max Born, who had returned in 1952 to the FRG from wartime exile in Edinburgh and who had been awarded the Nobel Prize in Physics in 1954. Their action was prompted by Adenauer's euphemistic description of short-range nuclear weapons as mere tactical reinforcements of conventional artillery. Although the declaration was partly a general but forceful critique of the dangers of nuclear weapons, and emphasized an apolitical—yet anti-Communist—position, it specifically challenged key elements of the Adenauer government's defense and nuclear weapons policies, saying that a country like the FRG on the front line of the Cold War would be better off without nuclear weapons on its soil. Although emphasizing their political neutrality, the scientists made their anti-Communist position clear, while also stating that they would not do work connected with nuclear weapons. In addition to Born and von Weizsäcker, those signing the declaration included serving MPS President

8. See Richard H. Beyler, "The Demon of Technology, Mass Society, and Atomic Physics in West Germany, 1945–1957," *History and Technology*, Vol. 19, No. 3 (2003), p. 232. Recent publications on West German rearmament include Stephan Geier, *Schwellenmacht: Bonns heimliche Atomdiplomatie von Adenauer bis Schmidt* (Paderborn: Schöningh 2013); Michael Knoll, *Atomare Optionen: Westdeutsche Kernwaffenpolitik in der Ära Adenauer* (Frankfurt: Lang, 2013); Klaus Naumann, "The Great Tradition and the Fates of Annihilation: West German Military Culture in the Aftermath of the Second World War," in Frank Biess and Robert G. Moeller, eds., *Histories of the Aftermath: The Legacies of the Second World War in Europe* (New York: Berghahn Books, 2010); Bruno Thoß, *NATO-Strategie und nationale Verteidigungsplanung: Planung und Aufbau der Bundeswehr unter den Bedingungen einer massiven atomaren Vergeltungsstrategie 1952 bis 1960* (Munich: Oldenbourg, 2006); Frank Nägler, ed., *Die Bundeswehr 1955 bis 2005: Rückblenden—Einsichten—Perspektiven* (Munich: Oldenbourg, 2007); and Detlev Bald and Wolfram Wette, eds., *Alternativen zur Wiederbewaffnung: Friedenskonzeptionen in Westdeutschland 1945–1955* (Essen: Klartext, 2008).

Hahn, Heisenberg, five more directors of Max Planck Institutes (MPIs), and six former KWS/MPS scientists—among them several Nobel laureates.[9]

Amid rising tensions in the FRG over Adenauer's remilitarization policies, the Göttingen Declaration struck a chord with large sections of the public. To this day, the "professors' protest" is cited in Germany as testimony to the courage of scientists taking civic responsibility for the possible consequences of their research and is acclaimed in anniversary commemorations.[10] The intervention was bold insofar as there was no precedent for West German scientists to speak out publicly on sensitive matters concerning the defense and military policies of their own government. This, together with the timing, made the declaration incendiary, eliciting a furious response in Bonn. Not only did it embarrass the government as a whole, it enraged Adenauer, who accused the scientists of political incompetence. He summoned five of the signatories to a meeting in the chancellery that resulted in a mutually agreed communiqué clarifying that the government had never planned to develop or produce its own nuclear weapons and had never asked FRG scientists for their cooperation.[11] The "Göttingen Eighteen" not only were lambasted by their own government but also had to contend with responses from across the Atlantic. Negative coverage of the declaration in the U.S. press emphasized that it constituted an implied criticism of U.S. scientists involved in developing nuclear weapons.[12] Criticism also was voiced within

9. MPI directors or heads of department included the two Nobel laureates Heisenberg and Max von Laue, Mattauch, Friedrich-Adolf Paneth, Fritz Strassmann, Weizsäcker, and Karl Wirtz; former MPS scientists were Fritz Bopp, Rudolf Fleischmann, Otto Haxel, Hans Kopfermann, Heinz Maier-Leibnitz and Wilhelm Walcher. The other signatories were Nobel laureate Max Born, Walter Gerlach, Wolfgang Paul (Nobel Prize 1989), and Wolfgang Riezler.

10. Deutsche Physikalische Gesellschaft (DPG), press release, June 2007, https://www.dpg-physik.de/presse/pressemit/2007/pdf/dpg-pm-2007-006.pdf; DPG, press release, August 2007, https://www.dpg-physik.de/presse/pressemit/2007/pdf/dpg-pm-2007-008.pdf; and Christiane Böhm, "Göttinger Erklärung von 1957," *Göttinger Tageblatt Eichsfelder Tageblatt*, 17 September 2012, http://www.goettinger-tageblatt.de/Campus/Goettingen/Goettinger-Erklaerung-von-1957. Among the numerous books on the Göttingen Declaration's history, see Ilona Stölken-Fitschen, *Atombombe und Geistesgeschichte: Eine Studie der fünfziger Jahre aus deutscher Sicht* (Baden-Baden: Nomos Verlagsgesellschaft, 1995); Alexandra Rese, *Wirkung politischer Stellungnahmen von Wissenschaftlern am Beispiel der Göttinger Erklärung zur atomaren Bewaffnung* (Frankfurt: Lang, 1999); Elisabeth Kraus, *Von der Uranspaltung zur Göttinger Erklärung: Otto Hahn, Werner Heisenberg, Carl Friedrich von Weizsäcker und die Verantwortung des Wissenschaftlers* (Würzburg: Königshausen & Neumann, 2001); and Robert Lorenz, *Protest der Physiker: Die "Göttinger Erklärung" von 1957* (Bielefeld, DE: Transcript, 2011). All volumes include reprints of the declaration itself.

11. Kraus, *Von der Uranspaltung*, p. 57; and Rob Burns and Wilfried van der Will, *Protest and Democracy in West Germany: Extra-Parliamentary Opposition and the Democratic Agenda* (London: Macmillan, 1988), p. 87.

12. Weisskopf to Weizsäcker, 6 May 1957, in MPA, III/ZA 54–44.

the West German scientific community. The respected anti-Nazi physician and philosopher Karl Jaspers maintained that the signatories were politically ignorant.[13]

By contrast, the scientists' views found support among diverse sections of the West German public and had a significant political impact, spurring the Social Democratic Party (SPD) into action in the Bundestag. In addition, the declaration helped lead to the *Kampf dem Atomtod* (Fight of Atomic Death) campaign in 1957–1958 and was one of the factors accounting for a marked upsurge in public protest against and political challenges to the Adenauer government in 1958. The effects of the declaration on public opinion and at the grass-roots level within the political parties perhaps explains the ferocity of the backlash from Bonn.

The lasting ill feeling engendered by the declaration caused MPS scientists to be extremely wary of speaking out on sensitive issues that might embroil them in political difficulties with Bonn.[14] The episode raised general questions concerning when and how a commitment to scientific responsibility should be put into practice. The scientists had learned that nuclear expertise and knowledge about the devastating force of nuclear weapons were neither sufficient nor legitimate grounds for political intervention. What, then, did the "social responsibility" of scientists mean at the European frontline of the Cold War? Institutional considerations also arose. The "Göttingen Eighteen" emphasized that in making their protest they were acting as individuals, not as representatives of the MPS or of their respective home institutions. All knew well the risk that crossing into political territory carried in terms of damaging the reputation of the professional institutions to which they were affiliated. If the Göttingen Declaration was a political miscalculation, one of its lessons was a renewed awareness of the link between individual action and institutional reputation, which perhaps heightened scientists' disinclination to take a stand on public policy out of a sense of civic duty or scientific responsibility. For most MPS scientists, preserving the reputation of their elite research institutions was paramount.

13. Arne Schirrmacher, "Physik und Politik in der frühen Bundesrepublik Deutschland: Max Born, Werner Heisenberg und Pascual Jordan als politische Grenzgänger," *Berichte zur Wissenschaftsgeschichte*, Vol. 30, No. 1 (March 2007), pp. 13–31; Beyler, "The Demon of Technology"; and Cathryn Carson, "New Models for Science in Politics: Heisenberg in West Germany," *Historical Studies in the Physical and Biological Sciences*, Vol. 30, No. 1 (1999), pp. 158–165.

14. See Weizsäcker Papers, in MPA, III/ZA 54-43 and 54-44.

The Max Planck Society: Rebuilding and Protecting West German Science

The MPS came into existence in 1948–1949 as a continuation of the KWS (founded in 1911), which by the end of World War II comprised approximately 40 research institutes across Germany. This continuation under a new name was facilitated by the support of British scientists and occupation officers as well as representatives of the Rockefeller Foundation, despite the qualms of the U.S. military occupation government. The MPS was, and still is, financed mainly from public budgets (roughly 50:50 from the *Bund* and *Länder*) and operated as the institution responsible for "basic research" within the FRG's new division of scientific labor.[15] Like its predecessor, the MPS was and remains an institution dedicated exclusively to active research. The emphasis on basic research reflected the U.S. Cold War-era preference for applied research to remain the province of U.S. laboratories, at a safe remove from Soviet and East German adversaries and spies.[16] The MPS and its members were elitist, more or less conservative, and loyal to the FRG government. The society's leading figures were robustly anti-Communist and wanted to anchor the FRG firmly in the Western alliance. They were eager to draw a line under their Nazi past and reintegrate West German science—foremost the MPS—into the international scientific community. For scientists, appointments as MPS director were a mark of professional success and status. As representatives of the MPS, members were expected to reflect its values, abide by its standards, and safeguard its reputation. Relations between the MPS president and the

15. The Königstein Agreement of 1949, signed by the states (*Länder*) of the Federal Republic, set out the federal structure of West German science and regulated the responsibilities of *Bund* (federation) and *Länder* for funding science and research. See Kurt Pfuhl, "Das Königsteiner Staatsabkommen," *Der öffentliche Haushalt: Archiv für Finanzkontrolle*, Vol. 5, Nos. 5/6 (1958/1959), pp. 200–215.

16. On the concept of basic research within the MPS, see Carola Sachse, "Grundlagenforschung: Zur Historisierung eines wissenschaftspolitischen Ordnungsmuster am Beispiel der Max-Planck-Gesellschaft," in Hoffmann, Kolboske, and Renn, eds., *Anwenden*, pp. 215–239. On U.S. science policy in Europe, see John Krige, *American Hegemony and the Postwar Reconstruction of Science in Europe* (Cambridge, MA: MIT Press, 2006). On the tendency of U.S. funding bodies in the 1970s to fund more "basic research" in the United States, see Hunter Crowther-Heyck, "Patrons of the Revolution: Ideals and Institutions in Postwar Behavioral Science," *Isis*, Vol. 97, No. 3 (September 2006), pp. 420–446. On U.S. conceptions of the German science system in general and the MPS in particular, see Sachse, "Rockefeller Foundation." For a historical reflection on how the MPS saw itself, see Jürgen Renn and Horst Kant, "Forschungserfolge," in Gruss and Rürup, eds., *Denkorte*, pp. 70–78. On the historical origins of "fundamental science," see Sabine Clarke, "Pure Science with a Practical Aim: The Meanings of Fundamental Research in Britain, c. 1916–1950," *Isis*, Vol. 101, No. 2 (June 2010), pp. 285–311. See also *Isis*, Vol. 103, No. 3 (September 2012), which includes a "Focus" section on "applied science"; and Desiree Schauz, "What is Basic Research? Insights from Historical Semantics," *Minerva*, Vol. 52, No. 3, pp. 273–328.

membership (i.e., the MPI directors and heads of MPI departments) were typically close, cooperative, and non-hierarchical—this was especially true of the small cohort of senior nuclear scientists who played a salient role in the MPS in the postwar period, including those who were important in the Pugwash story.

In 1948, Otto Hahn, a chemist who in 1945 had been awarded the Nobel Prize for his discovery of nuclear fission in 1938, became the first president of the newly formed MPS. His tenure, which lasted until 1960, coincided with the onset of the arms race, the remilitarization of the FRG and its entry into NATO, and growing public protest over these developments generally and against nuclear weapons in particular. Hahn's highest priority was to build the MPS into an organization respected both for the caliber of its scientific research and for its political and ethical integrity.[17] Rebuilding the MPS was part of the wider agenda of rehabilitating the reputation of German science and reintegrating its scientists within the international community—both, in turn, a part of the nation-building project within the young FRG. This was not an easy task. Albert Einstein had turned down an offer of renewed MPS membership in 1949. Because of the "crimes of the Germans" and the "attitude of German intellectuals," he wanted nothing more to do with it.[18] Moreover, Hahn, Weizsäcker, and especially Heisenberg had all come under scrutiny for their part in Nazi Germany's nuclear bomb project (the *Uranverein*). All of them had been interned by the British at Farm Hall in 1945.[19] After the war, Heisenberg in particular remained a controversial figure because of unresolved questions about his part in the nuclear bomb project. Despite taking the lead role in developing (peaceful) nuclear research in the FRG, he refrained from any public statements on nuclear armaments in his later years.[20] All were in their own ways dealing with the Nazi past and seeking to

17. Ruth Lewin Sime, "Otto Hahn und die Max-Planck-Gesellschaft: Zwischen Vergangenheit und Erinnerung," *Ergebnisse 14: Vorabdrucke aus dem Forschungsprogramm "Geschichte der Kaiser-Wilhelm-Gesellschaft im Nationalsozialismus"* (Berlin: Max Planck Society, 2004).

18. Einstein to Hahn, 28 January 1949, quoted in Reinhard Rürup, *Schicksale und Karrieren: Gedenkbuch für die von den Nationalsozialisten aus der Kaiser-Wilhelm-Gesellschaft vertriebenen Forscherinnen und Forscher* (Göttingen: Wallstein Verlag, 2008), p. 181.

19. Mark Walker, *Nazi Science: Myth, Truth, and the German Atomic Bomb* (New York: Plenum Press, 1995). Among the ten internees were seven KWS scientists: Erich Bagge, Hahn, Heisenberg, Horst Korsching, Laue, Weizsäcker, and Wirtz. The others were Kurt Diebner (*Heereswaffenamt*), Gerlach (University of Munich), and Paul Harteck (University of Hamburg). See Dieter Hoffmann, *Operation Epsilon: Die Farm-Hall-Protokolle oder Die Angst der Alliierten vor der deutschen Atombombe* (Berlin: Rowohlt, 1993), pp. 60–79.

20. See Carson, *Heisenberg in the Atomic Age*, pp. 218–309; Horst Kant, "Max-Planck-Institut für Physik: Berlin—München," in Gruss and Rürup, eds., *Denkorte*, p. 323; and Kraus, *Von der Uranspaltung*, pp. 284–285.

emancipate themselves from its shadow. Rebuilding the MPS was a key part of this process.

Under Hahn's successor from 1960 to 1972, the biochemist Adolf Butenandt, the number of member institutes grew substantially, from 40 to 52, and the overall budget increased by a factor of nearly seven, from roughly 80 million Deutschmarks (DM) in 1960 to 540 million DM in 1971. In the 1970s and 1980s, the astrophysicist Reimar Lüst, whose presidency lasted from 1972 to 1984, faced harder times and stagnant budgets: opening new institutes now came at the price of closing older ones. Only during the reunification process could the MPS expand substantially. (In recent years, the number of MPIs has leveled off at around 80.)[21] Since the 1970s, the MPS has steadily reestablished its international reputation for research excellence, and today it is renowned as the flagship institution of German science, receiving a large share of the country's science budget.[22]

Pugwash: Uneasy Relations in the Encounter between National and Transnational Projects

The signing of the Göttingen Declaration, despite its discouraging consequences, might seem to indicate the readiness of scientists in the FRG to intervene boldly against nuclear weapons. However, reactions among leading West German scientists to the prospects and principles of the Pugwash movement demonstrate how politically fraught such interventions were.

Hahn's appointment as MPS president in 1948 came against a backdrop of negotiations in Bonn that determined the future structure of the West German state and its constitution. In 1949, the leader of the newly formed CDU, Adenauer, was elected the country's first chancellor (he remained in power until 1963). In the 1950s, his priority lay with anchoring West Germany within the Western alliance, and to this end he pursued a "policy of strength,"

21. In 1948 when the MPS was reestablished, there were 23 MPIs (apparently this did not include the institutes in Berlin and the Soviet and French Zones of Occupation); in 1960, 40 (including the institutes in Berlin-West and the former French Zone of Occupation); in 1972, 52; in 1984, 58; in 1990, 61; in 2002, 80. See Gruss and Rürup, eds., *Denkorte*, p. 14. For budget and financial data, see Jürgen Renn, Horst Kant, and Birgit Kolboske, "Stationen der Kaiser-Wilhelm/Max-Planck-Gesellschaft," in Hoffmann, Kolboske, and Renn, eds., *Anwenden*, p. 94 n. 312. On the MPS's reorganization, see Sachse, "Rockefeller Foundation"; and Rüdiger Hachtmann, *Wissenschaftsmanagement im "Dritten Reich": Geschichte der Generalverwaltung der Kaiser-Wilhelm-Gesellschaft*, Vol. 2 (Göttingen: Wallstein, 2007), pp. 1041–1156.

22. The institutes undertake research in a wide range of fields, mainly within the natural sciences but also in law, the humanities, and the social sciences.

central to which was rearmament. The U.S. military had already begun to station nuclear artillery, "Atomic Annies," on West German soil in 1953. In 1955, the Bundeswehr, the West German armed forces, had been reestablished in the wake of the Paris Peace Treaties and the FRG's accession to NATO—viewed as a hostile act by the USSR. Meanwhile, the National People's Army of the German Democratic Republic (GDR) was being integrated into the Warsaw Pact. Rearmament, evident in the creation of the Bundeswehr and the introduction of conscription in 1956, proved deeply controversial in the FRG, stirring protest especially on the Left. Adenauer stood firm on his policy of strength, and his consecutive electoral successes, including a resounding victory in 1957, point to widespread support for his program of remilitarization.[23] The Göttingen Declaration reveals the difficulties of challenging Adenauer's remilitarization policy and explains why doing so led to a fierce backlash and political difficulties for the signatories and, by extension, the MPS.

Adenauer's "policy of strength" eclipsed another major objective in Bonn: the reunification of Germany. Adenauer remained implacably opposed to the GDR, the existence of which was not recognized by the West German government, a position articulated in the Hallstein Doctrine. The postwar division of Germany that brought into being a Communist neighbor was a traumatic event that profoundly shaped the political contours of the FRG and instilled in its political system and society at large an especially virulent anti-Communism. As Eric Weitz has noted, the anti-Communism of Adenauer and the Christian Democrats, in power from 1949 until 1963, was "deep-seated and unyielding"—and was given extra emotional charge by the existence of the GDR, viewed by many in West Germany as the "state that should not be."[24] In August 1956, the Federal Constitutional Court banned the German Communist Party, which it saw as posing a threat to the "basic order of freedom and democracy" guaranteed by the Basic Law. This move underlined the stark political realities for the Left in the FRG in the mid-1950s.[25]

23. See, especially, Beyler, "The Demon of Technology," p. 232. On Adenauer, see the classic biography by Hans-Peter Schwarz, *Adenauer: Der Staatsmann 1952–1967* (Stuttgart: DVA, 1991); and Marie Luise Recker, *Konrad Adenauer: Leben und Politik* (Munich: Beck, 2010).

24. Eric D. Weitz, "The Ever-Present Other: Communism in the Making of West Germany," in Hanna Schissler, ed., *The Miracle Years: A Cultural History of West Germany, 1949–1968* (Princeton, NJ: Princeton University Press, 2001), pp. 219–236.

25. Andrei S. Markovits and Philip S. Gorski, *The German Left: Red, Green, and Beyond* (New York: Oxford University Press, 1993), p. 34.

The GDR stood as a constant reminder of both the war and the threat of Communism, and official contact with it ran contrary to one of the founding principles of the West German political system. Informal contacts, however, by family members, former colleagues, and members of the Christian churches with "our brothers and sisters" in the "other part" or the "occupied zone" of Germany were encouraged and fostered by several federal governmental agencies as well as private institutions in the West.

This was to be important in terms of Pugwash. Arising from the Russell-Einstein Manifesto of July 1955, the Pugwash conferences were an innovative response to the dangers of a nuclear arms race that both reflected and defined the Cold War. Pugwash was a scientific network geared to action, which drew its appeal and power from crossing national borders—one response to the "new way of thinking" called for in the manifesto.[26] Pugwash sought to add the voice of scientists to political discussions on nuclear weapons policy and to raise public awareness and understanding of the new problems of the nuclear age. Pugwash explicitly wanted to establish a kind of sub-governmental, semi-official—yet, for diplomacy purposes, transmissible—dialogue between East and West, including between the two Germanys and, as such, aroused within the West German government suspicions of Communist infiltration.

For scientists in the FRG, the Russell-Einstein Manifesto and Pugwash posed troubling dilemmas. An early indication of uneasiness on the part of senior West German scientists toward transnational anti-nuclear weapons initiatives came in 1955, when Hahn declined Russell's request to put his name to the manifesto.[27] The following year, Hahn also turned down Russell's invitation to attend the first conference. A draft of Hahn's letter to Russell explaining his decision affords telling insights into the basis for his polite refusal:

> Among the signatories of your letter of 29 August [1956], I cannot help noticing that strongly left-wing names predominate. I know of my friend Max Born that he is completely neutral. Of the other signatories, I do not know how far a single one of them is truly neutral. We in Germany are in a particularly difficult situation in that the Federal Republic, not steered by communism, to which Born,

26. In concluding remarks at the "Writing Pugwash Histories" workshop (University of Vienna, 10–12 May 2012), John Krige noted the difficulties in defining Pugwash, including defining it as a "movement." Pugwash, he argued, has little in common with social movements in the classic or "new" mold and so might better be described as a non-governmental organization.

27. Russell wrote to Hahn for the first time in April 1955, and one year later Joseph Rotblat invited him to a meeting during his visit to England. Hahn declined. In August 1956 Russell invited Hahn to the first conference, in India. He declined both this and the invitation to the deferred conference in Pugwash, Canada. Further invitations and refusals followed (MPA, III 14A-3663, Correspondence Hahn-Russell, 1955–1958; and MPA, III 14A-3631, Correspondence Hahn-Rotblat, 1956).

> Heisenberg, and I belong, confronts a communist "oriented" German Democratic Republic. . . . Neither is India, in my opinion, a country truly neutral in its attitude.[28]

Most striking perhaps are Hahn's concerns about the "strongly left-wing" complexion of the organizing committee, which included Frédéric Joliot-Curie and Cecil F. Powell. Hahn also emphasized the particular sensitivity to this in the FRG, a country in which anti-Communism was widespread and that was still coming to terms with the postwar division of Germany, which had created that second, Communist German state. Hahn's concern with political neutrality reflected the tense political climate in the FRG, where the very question of scientists forging semi-official East-West connections—an explicit aim of Pugwash—was politically dubious. He was almost certainly also acting to protect the MPS's political integrity, which was seen as essential to preserving its reputation. Both were essential to the process of institution-building under way. All of these factors underpinned a mode of political engagement with Pugwash on the part of the MPS, articulated through its president and senior figures, that was characterized by ambivalence and manifested as polite refusals to invitations to meetings. Participation at Pugwash meetings would become primarily the province of colleagues, some senior, most junior, from outside the MPS.

Hahn's skepticism about Russell's manifesto and the first Pugwash conference was shaped both by the political situation within the FRG and by institutional and professional interests, the latter being closely bound up with the MPS. His position was in part the result of his internment at Farm Hall during 1945, when he decided to commit himself after the war to "rescuing German science."[29] On appointment as MPS president, he began to think of this in narrower terms: that of rescuing the MPS as the flagship institution of West German science, which in turn would be a key element in the process of rehabilitating German science. Engaging with a transnational anti-nuclear and pro-disarmament initiative like Pugwash might create political difficulties that could complicate the entwined processes of institution-building and "rescuing" German science. In a note to Joseph Rotblat, the Polish-British physicist now working closely with Russell and organizing what would become the Pugwash movement, Hahn explained he wanted to

28. Hahn to Russell, draft letter, 15 September 1956, in MPA, III 14A-3663. The suspicious signatories for Hahn were Frédéric Joliot-Curie, Leopold Infeld, Linus Pauling, Cecil F. Powell, Rotblat, and Hideki Yukawa. Russell to Hahn, 29 August 1956, in MPA, III 14A-3663.

29. See Sime, "Otto Hahn."

avoid conferences that included "representatives of Russia and the satellite states."[30]

Hahn's guarded responses to both the Russell-Einstein Manifesto and the follow-up meeting that Russell and Rotblat were planning and organizing throughout 1956 reflected an awareness of how these initiatives would be perceived in Bonn, especially at a sensitive period in Adenauer's remilitarization policy. The leftist orientation of key figures, the explicit transnational agenda of forging East-West dialogue, including between the two Germanys and its staunch pro-disarmament message, at a time when Adenauer was thinking about nuclearizing the Bundeswehr, would all elicit suspicion and hostility toward Pugwash in Bonn. That Pugwash actively sought publicity for its causes and activities was a further complication. If, for all these reasons, Hahn was reluctant to engage with Russell's initiatives in 1955–1956, his unease significantly increased in the aftermath of the Göttingen Declaration in 1957.[31] However, signatories to the Göttingen Declaration, because of their standing and prestige, were the very scientists whom Russell and Rotblat hoped to attract to Pugwash. As Pugwash got underway, the signatories of the Göttingen Declaration were reeling from the backlash in Bonn directed primarily at them and were chastened by the experience.

Weizsäcker: A Pivotal Figure for Pugwash in West Germany

Notably absent from the inaugural Pugwash meeting in July 1957, the FRG was represented by Weizsäcker at the second meeting, held in April 1958 in Lac Beauport, Canada. He had been recommended to Russell for this role by Hahn, who otherwise continued to distance himself from Pugwash and never attended a meeting.[32] Hahn perhaps thought West German scientists ought not to exclude themselves from Russell's initiative, which was seemingly being placed on a more permanent footing. Weizsäcker was an interesting choice. Charismatic, respected, and well connected in political and scientific

30. Hahn to Rotblat, 8 May 1956, MPA, III 14A-3631.

31. Instead, Hahn in 1956 was campaigning among international Nobel laureates for his "Mainau Declaration," which again was a warning against nuclear perils but did not call for the signatories to take political action. See Kraus, *Von der Uranspaltung*, pp. 152–165. Hahn's texts on atomic risks are listed in Kraus, *Von der Uranspaltung*, pp. 390–398. His best-known text is *Cobalt 60: Gefahr oder Segen für die Menschheit* (Göttingen: Musterschmidt, 1955).

32. Hahn to Russell, 16 January 1958, in MPA, III 14A-3663. See Kraus, "Die Vereinigung Deutscher Wissenschaftler," p. 40.

circles, he came from a family that was something of a political dynasty (he was the son of Ernst von Weizsäcker, diplomat and later second-in-command of Hitler's Foreign Office) and was thus wholly accustomed to the world of high politics.[33] For the president, Weizsäcker was the ideal person to represent the interests of the MPS within what was now an emerging network, albeit one that, for Hahn and some of his colleagues, remained politically suspicious. The politically reliable and experienced Weizsäcker offered a safe pair of hands for dealing with the uncertainties of an innovative and transnational initiative involving senior scientists from other countries. Moreover, Pugwash fitted with Weizsäcker's own strengthening interest in the politics of scientific responsibility, evidenced in his part in the Göttingen Declaration. He had recently taken the highly unusual career step of moving from his position as head of department at the MPI for Physics in Göttingen to a chair in philosophy at the University of Hamburg to pursue his growing interest in questions about scientific responsibility and the relationship between science and society. Hahn perhaps saw, too, that Weizsäcker's political experience and skills would be useful: Chastened by Adenauer's fury over the Göttingen Manifesto, Weizsäcker could now be relied on to uphold and represent Western liberal values and FRG interests among scientists at the Pugwash table. For the MPS, Weizsäcker appeared to be a philosophical and political pioneer who would steer West German Pugwashites away from any political pitfalls and controversy.[34]

By the end of 1958, Weizsäcker was also beginning to be perceived more favorably in Bonn. This change stemmed from his travels in the United States after Lac Beauport, during which he met with several leading U.S. scientists, including Edward Teller. These encounters changed his thinking on the problems posed by nuclear weapons. Teller explained some of the controversies raging within the U.S. scientific community about nuclear weapons policy and Cold War strategy. Weizsäcker learned about the concept of "graduated

33. In the Nuremberg trial (Wilhelmstraße) in 1949, Ernst von Weizsäcker was sentenced to five years in prison as a war criminal but received amnesty as early as 1950. He was defended by Hellmuth Becker, a long-time friend of his son Carl Friedrich and later director of the MPI for Human Development. His younger son, Richard, who later became president of the FRG, served as assistant counsel for the defense. For a publication on this matter that stirred controversy, see Eckart Conze et al., *Das Amt und die Vergangenheit: Deutsche Diplomaten im Dritten Reich und in der Bundesrepublik* (Munich: Blessing Verlag, 2010). Conze's book was strongly criticized by Hans Mommsen, Hans Möller, Richard Evans and others. See Martin Sabrow and Christina Mendel, eds., *Das Auswärtige Amt und seine umstrittene Vergangenheit: Eine deutsche Debatte* (Frankfurt: Fischer Verlag, 2014).

34. On Weizsäcker and the MPS, see Horst Kant and Jürgen Renn, *Eine utopische Episode: Carl Friedrich von Weizsäcker in den Netzwerken der Max-Planck-Gesellschaft*, Preprint 441 (Berlin: Max Planck Institute for the History of Science, 2007).

deterrence," advanced by some as an alternative to the official NATO strategy of "massive retaliation."[35] This alternative concept renounced the first use of nuclear weapons, distinguished between civilian and military targets, and envisaged responses to crisis other than simple surrender or nuclear war. For Weizsäcker, these ideas were full of promise for the future, spurring him to rethink the arguments advanced in the Göttingen Declaration.[36] He now viewed central tenets of the declaration as questionable in a Cold War context of rapid and profound advances in weapons design and military strategy. Weizsäcker reframed his approach to the politics of scientific responsibility. Eschewing manifestos of all kinds, he concluded that initiatives ought not to embark on the "extreme path" of making unambiguous demands or be restricted to influencing the powerful players of politics and business behind the scenes. Rather, in putting scientific responsibility into practice, scientists should take the "invisible path," working away from the glare of media attention.[37] In the summer of 1958, Weizsäcker published a series of articles in the German liberal weekly newspaper *Die Zeit* under the title "Living with the Bomb," which outlined his new position on the Göttingen Declaration without fully dissociating himself from it.[38] This went some way toward restoring his political credibility in Bonn.

On several grounds, therefore, Weizsäcker was well suited to a role in Pugwash, and he came subsequently to exercise enduring influence over the nature and extent of his country's engagement with it. Yet his approach to Pugwash was far from straightforward. The ways he wielded influence reflected the subtleties of the "unseen path."[39] Like others within the scientific elite,

35. This regarded the limited use of nuclear weapons as technologically feasible and was initially formulated on the British side by thinkers including the Labour politician Denis Healey and Rear Admiral Anthony Buzzard and developed by U.S. specialists including Teller, Richard Leghorn, and Henry Kissinger.

36. For example, the idea that small countries could protect themselves and "promote world peace by renouncing explicitly and voluntarily the possession of atomic weapons of any kind." The discussions in the United States brought him also to reconsider the question of working on nuclear technologies (including weapons) that could contribute to graduated deterrence. See "Erklärung der 18 Atomwissenschaftler vom 12.4.1957," in Albrecht et al., eds., *Wissenschaft—Verantwortung—Frieden*, pp. 15–16; and Carl Friedrich von Weizsäcker, "Die gegenwärtigen Aussichten einer Begrenzung der Gefahr eines Atomkriegs," *Sonderdruck der ZEIT-Aufsätze (Mit der Bombe leben)* (Hamburg: Die Zeit, 1958), pp. 14, 21.

37. Heisenberg first advised the "invisible" instead of the "extreme path" of political engagement. See "Protocol of the Preparatory Meeting to Establish a Pugwash Group," n.d. [28 April 1959], cited in Kraus, "Die Vereinigung Deutscher Wissenschaftler," p. 39.

38. Weizsäcker, "Die gegenwärtigen Aussichten."

39. He discussed his ideas mainly with Weisskopf, Leo Szilard, Powell, and Rotblat. See correspondence in MPA, III/ZA 54–44; and Neuneck and Schaaf, "Zur Geschichte der Pugwash-Bewegung in Deutschland," p. 33.

he was ambivalent about Pugwash.[40] By the mid-1970s, he had attended just two of its annual conferences—Lac Beauport (1958) and Baden (1959)—and a working group meeting in Mariánské Lázně (1967). His encounters with Pugwash were brief, intermittent, and undertaken on his terms; for example, when it suited his carefully calculated strategic interests or could be related to professional or career advancement and networking opportunities. He also preferred to attend meetings that were more convenient to him, travel-wise. His engagement with Pugwash stood in tension with his enduring ambivalence toward it, lending a further complication to the dynamics of Pugwash in the FRG. The pattern of engagement that emerged was complex, shifting, and sometimes contradictory—but with Weizsäcker always at its heart.

Pugwash in West Germany after 1958: Impetus from Outside the MPS

As senior MPS figures shied away from Pugwash, a trio of West German university physicists, Burkhardt, Kliefoth, and Hönl, whose careers were established but who were not members of the MPS, proved more receptive to the conferences. Inspired by the values and principles of the Göttingen Declaration, the trio attended the third Pugwash conference in Vienna, accompanied by Born. Elderly, and only recently (in 1953) returned to the FRG after his forced migration to Great Britain in 1933, Born was one of the "Göttingen Eighteen"—all of whom had been invited to Vienna and had, excepting Born, declined the invitation.[41]

Upon returning from Austria, the trio sought to place Pugwash on a firmer footing in the FRG.[42] Acting on the call in Vienna to form national groups, the trio envisaged a "Pugwash group in the Federal Republic," even as they had only a vague sense of the institutional form this might take. Mindful of suspicion toward anything perceived as leftist, they wished, however, to be neither "pinned down to a particular ideological line" nor "isolated within Germany."[43] They first considered joining the Society for Social Responsibility

40. "Ambivalence" also became programmatic for Weizsäcker's later research program. See Hubert Laitko, Der Ambivalenzbegriff in Carl Friedrich von Weizsäckers Starnberger Institutskonzept," Preprint 449 (Berlin: Max-Planck-Institut für Wissenschaftsgeschichte, 2013).

41. On the Vienna conference, see the article by Elisabeth Röhrlich elsewhere in this issue of the journal.

42. Kraus, "Die Vereinigung Deutscher Wissenschaftler," p. 33–35.

43. Burkhardt to Gerlach, 24 February 1959, quoted in Kraus, "Die Vereinigung Deutscher Wissenschaftler," p. 37.

in Science but decided it was too closely associated with the pacifist Quakers. Instead, they looked to the Federation of American Scientists (FAS) as a potentially useful model, taking advice from the Jewish Viennese physicist Victor Weisskopf, who had been living in the United States since 1937. Weisskopf had worked on the Manhattan Project and had then become a key figure in the formation of FAS in 1945–1946.[44] Burkhardt, Kliefoth, and Hönl saw the creation of a Pugwash group as a means to reach "beyond the Iron Curtain," not least as a means to build relations with former colleagues in the GDR. Such contact was a politically charged issue, and the trio hoped that Pugwash might provide a means for this "without incriminating ourselves politically."[45]

The problem of the GDR remained a key political issue in the FRG throughout the period of division and was especially sensitive in the 1950s and 1960s, when Bonn refused any form of diplomatic concession toward or recognition of the East German regime. In this climate, maintaining contact with former colleagues in the GDR was important for all scientists inside and outside the MPS, in the East even more than in the West. For those within the MPS, however, this need was to some extent eased by the continued existence of the German Academy of Scientists Leopoldina, based in the East German city of Halle. Founded in 1652, the Leopoldina preserved its all-German and international character throughout the division of Germany, and in 2008 it became the country's first national academy of sciences. Its biannual general assembly, which continued through the period of division, offered opportunities for high-level scientific exchanges that could be maintained between meetings—albeit under the watchful eye of the secret services. Hahn, Butenandt, and Heisenberg were long-standing Leopoldina members (joining in 1926, 1934, and 1933 respectively), and Weizsäcker and Lüst were appointed during the period of division (in 1959 and 1973).[46] Another channel for contact between scientists in the two Germanys was via the networks

44. After the war, Weisskopf taught at MIT, and from 1961 to 1965 he headed the European Nuclear Research Center in Geneva.

45. Burkhardt to Gerlach, 24 February 1959, quoted in Kraus, "Die Vereinigung Deutscher Wissenschaftler," p. 37.

46. The story of how GDR scientists managed to sustain a top-level scientific academy on East German soil, with far more members from Western than from socialist states, and the role played by MPS scientists in that process, constitutes a special chapter in the history of science during the Cold War. See Kristie Macrakis, "Einheit der Wissenschaft versus deutsche Teilung: Die Leopoldina und das Machtdreieck in Ostdeutschland," in Dieter Hoffmann and Kristie Macrakis, eds., *Naturwissenschaft und Technik in der DDR* (Berlin: Akademie Verlag, 1997), pp. 147–169. In 1980, for example, Leopoldina members included 718 from the West (356 from the FRG) and 292 from Warsaw Pact countries (143 from the GDR). See also Sybille Gerstengarbe, Jens Thiel, and Rüdiger vom Bruch, *Die Deutsche Akademie der Naturforscher zwischen Kaiserreich und früher DDR* (Berlin-Brandenburg: be.bra wissenschaft verlag, 2016), pp. 429–495.

of the "Protestant Mafia" that crossed the East German–West German border and with which Weizsäcker and Heisenberg were involved.[47] One interpretation of the effect of these continuing relations with East German colleagues within the higher echelons of West German science is that for leading members of the MPS, like Hahn, they negated the value of Pugwash as a means to maintain relationships across the East-West divide. By contrast, for those outside the MPS, including Burkhardt, Kliefoth, and Hönl, the possibility of forging East-West networks was an important incentive for engaging with Pugwash.

The groundbreaking efforts of Burkhardt, Kliefoth, and Hönl to establish Pugwash in the FRG were especially crucial in light of the inertia toward it at the MPS. Their commitment sharply contrasted with the ambivalence of MPS members. Although Weizsäcker had attended the Lac Beauport meeting, Hönl and other colleagues remained unsure of his commitment to Pugwash and the aims of the Göttingen Declaration.[48] The view from within the MPS and of other senior scientists was different. For example, Walter Gerlach, professor of experimental physics at the University of Munich and one of the "Göttingen Eighteen," interned in 1945 at Farm Hall for his role as the last manager of the Nazi atomic project and now a leading science administrator in West Germany, saw Weizsäcker as an indispensable figurehead for Pugwash in West Germany.[49] But for Burkhardt, Kliefoth, and Hönl, Weizsäcker in 1958–1959 appeared in a different light. Without the backing of the MPS, the trio was struggling to realize their vision of a national Pugwash group. In 1959, however, things began to change—albeit in a faltering way, marked by contradictions and silences.

In late June 1959, Weizsäcker attended his second Pugwash meeting, traveling to Baden, Austria, for the fourth Pugwash conference, organized around the topic of "Arms Control and World Security." In September 1959, and in a somewhat surprising development, Hahn, Heisenberg, and Weizsäcker,

47. When the Berlin Wall was built in 1961, members of this network were among the Protestant signatories of the Memorandum of Tübingen, calling for the recognition of the Oder-Neisse line as Germany's eastern border. See Richard von Weizsäcker, *Vier Zeiten: Erinnerungen* (Munich: Siedler Verlag, 1997), p. 180; Carson, "New Models for Science in Politics," p. 169; Andrea Strübind, "Das Tübinger Memorandum: Die politische Verantwortung der Nichtpolitiker," *Kirchliche Zeitgeschichte*, Vol. 24, No. 2 (2011), p. 393; Kant and Renn, "Eine utopische Episode," pp. 29–30; Carson, *Heisenberg in the Atomic Age*, pp. 333–340; and Dieter Hoffmann, "Carl Friedrich von Weizsäcker (1912–2007), 'Wissenschaftler und Citoyen,'" *Acta Historica Leopoldina*, No. 63 (2014), pp. 23–52.

48. Hönl to Burkhardt, 26 September 1959, quoted in Kraus, "Die Vereinigung Deutscher Wissenschaftler," p. 38. For a moment even Hahn and Laue felt unsure. See Kant and Renn, "Eine utopische Episode," p. 27. See also Kraus, *Von der Uranspaltung*, pp. 342–344.

49. Gerlach to Burkhardt, 26 June 1959, quoted in Kraus, "Die Vereinigung Deutscher Wissenschaftler," p. 40.

together with seven MPI directors, declared themselves members of "the Pugwash Circle of the Federal Republic"—although only Weizsäcker had attended a meeting.[50] The reason for this sudden apparent shift in attitude toward Pugwash within the MPS and, notably, on the part of its president, Hahn, remains unclear.[51] After two years of carefully distancing itself from Pugwash, the MPS elite seemed now to be endorsing it. Possibly this was a pragmatic response to the way Pugwash was moving beyond its tentative beginnings: Its meetings were attracting senior scientists from both superpowers, and the number of participant countries was growing. By now it was clear, too, that Pugwash differed markedly from the form of protest hitherto preferred by scientists: the one-off statement or petition. Rather, Pugwash offered a sustained form of action; it was versatile, engaging critically with issues as they arose, for which it was able to draw on wide-ranging expertise. Perhaps the MPS perceived the political expediency of signaling goodwill toward an organization seemingly garnering respect among scientists and within political circles around the world.

However, the endorsement of Pugwash by some senior MPS scientists in September 1959 did not translate into action. From within the newly declared "Circle," only Weizsäcker and MPS biologist Hans Friedrich-Freksa subsequently attended annual Pugwash conferences—the latter twice, in London in 1962 and Ronneby in 1967. After his trip to Baden, eight years passed before Weizsäcker attended another Pugwash conference.[52] The country's most active Pugwashites at this time, including Burkhardt, were not members of the MPS. Operating in the space between them and the MPS was Weizsäcker.

The VDW—A Framework for Pugwash in the Federal Republic

In late 1959, the FRG's Pugwash group—which might loosely be defined as including both the small number of active West German Pugwashites,

50. Kliefoth to Butenandt, 8 September 1959, in MPA, III 4/2 4528; and "List of Gentlemen Who Declared Themselves Members of the Pugwash Circle of the Federal Republic," 8 September 1959, MPA III 4/2 4528. Physicists alongside Heisenberg and Weizsäcker were Wolfgang Gentner (MPI for Nuclear Physics), Max von Laue (Fritz-Haber-Institute, MPS), and Mattauch (MPI for Chemistry). Alongside Hahn was the chemist Strassmann (MPI for Chemistry). The biologist was Hans Friedrich-Freksa (MPI for Virus Research), later joined by Butenandt (MPI for Biochemistry) and Georg Melchers (MPI for Biology).

51. To date, primary sources do not provide clearer evidence about this shift.

52. *Participants in the Pugwash Conferences on Science and World Affairs, 1957–2007* (Pugwash Conferences, 2007), https://pugwashconferences.files.wordpress.com/2014/05/participants-and-meetings-1957-2007.pdf, p. 140.

notably Burkhardt, and the self-professed "Pugwash Circle"—still lacked an institutional home and organizational framework. The solution to this situation came in the autumn of 1959 when, during the annual conference of the Association of German Physical Societies, the efforts of the Vienna trio bore fruit with the formation of the VDW. Henceforth, this new organization provided a framework for Pugwash in the FRG. That said, the VDW was not synonymous with Pugwash. Rather, from its inception, the VDW fulfilled a much broader role.

The VDW was an extraordinary addition to the institutional landscape of West German science: a wholly new kind of organization with a novel remit.[53] It is perhaps best understood as a national non-governmental organization concerned primarily with the promotion of social responsibility in science. The Göttingen Declaration provided its crucial reference point. This was evident in the founding statutes of the VDW, which defined its aims as seeking to "awaken and deepen" scientists' awareness of their "responsibility for the effects of their work on human society," to provide a political voice for its members, a channel through which their views might reach and influence policymakers in ways that might help "combat the misuse of scientific and technological findings."[54] Leading MPS figures who had also been signatories to the Göttingen Declaration, including Hahn, Heisenberg, and Weizsäcker, were centrally involved in setting up the VDW. Weizsäcker, in particular, became a dominant force in the organization. For the MPS scientists involved, the VDW was conceived, partly, as a forum for West German colleagues from other research institutions to pursue the goals of the Göttingen Declaration, albeit in ways less likely to elicit political controversy; for example, through academic research into the dangers of nuclear war and security issues. For them the VDW was much less a vehicle for Pugwash, toward which they remained ambivalent despite recognizing that the Pugwashites had to be accommodated. By contrast, Burkhardt, Kliefoth, and Hönl, who had also played a part in the creation of the VDW, viewed it primarily as a platform from which to strengthen and advance the interests of Pugwash within the FRG. Committed Pugwashites were thus one constituency within a diverse founding membership comprising scientists from many disciplines working in both academic and industrial research contexts, some of whom were neither connected to nor especially interested in Pugwash.

53. On the founding of VDW, see Kraus, "Die Vereinigung Deutscher Wissenschaftler," pp. 35–44.

54. VDW statute reprinted in Albrecht et al., eds., *Wissenschaft—Verantwortung—Frieden*, pp. 17–19 (citations: para. 3).

From the outset, then, there were significant differences between the two distinct groupings—senior MPS figures and active Pugwashites—whose combined efforts had brought the VDW into existence.[55] Different views and levels of commitment to Pugwash present at the inception of the VDW did not disappear. In a predominantly liberal-conservative milieu dominated by Weizsäcker, the ambivalence of the MPS elite toward Pugwash continued. This was apparent, for example, in the founding statutes of the VDW, which, while advocating cooperation with "associations with similar objectives in other countries" and the organization of "international conferences," did not explicitly refer to Pugwash or its activities.[56] Thus, although the VDW membership included Pugwashites, the VDW was never defined by them, nor was its agenda dominated by Pugwash-related activities. Pugwashites, however, did at times attain positions of influence in the VDW. Burkhardt, for example, served as its president from 1962 to 1965. The VDW brought together constituencies that, while sharing a commitment to the values of the Göttingen Declaration and a concern with the idea of scientific responsibility, had different agendas and priorities that existed in tension and developed in parallel with one another within the organization.[57] The dynamic was one of a reciprocally beneficial accommodation, coexisting in the tangled networks of individual scientists who were—partly simultaneously—members of the VDW, Pugwash, the MPS, or other academic, professional, or industrial institutions. Nevertheless, for all these ambiguities and contradictions, the VDW served as an institutional home for West German Pugwash and continues to do so to this day.

In the 1960s, Weizsäcker exercised a controlling influence over the development of the VDW. He was centrally involved in the day-to-day management of its staff and its activities, serving initially on the committee and

55. Members of the VDW board were the MPS scientists Weizsäcker (1965–1973), Dietrich Goldschmidt (MPI for Human Development) (1969–1979), Gottstein (MPI zur Erforschung der Lebensbedingungen der Wissenschaftlich-Technischen Welt, MPI-L) (1976–1982), Hans-Peter Dürr (MPI for Physics) (1979–1986, 1991–1997, 2000–2007), and Hartmut Grassl (MPI for Meteorology) (2002–2009). See Albrecht et al., eds., *Wissenschaft—Verantwortung—Frieden*, pp. 581–585. I have not yet identified all the MPS scientists in the smaller operating committee, but Weizsäcker belonged to it from 1959 to 1965 and Gottstein from the mid-1960s. See Kraus, "Die Vereinigung Deutscher Wissenschaftler," p. 43; and Klaus Gottstein, "Erinnerungen an Pugwash und die Rolle der VDW als deutsche Pugwash-Gruppe," in Neuneck and Schaaf, eds., *Zur Geschichte der Pugwash-Bewegung in Deutschland*, p. 40.

56. VDW statute reprinted in Albrecht et al., eds., *Wissenschaft—Verantwortung—Frieden*, pp. 17–19 (citations: para. 3).

57. Klaus Gottstein, "Die VDW und die Pugwash Conferences on Science and World Affairs," in Albrecht et al., eds., *Wissenschaft—Verantwortung—Frieden*, pp. 359–376; and Gottstein, "Erinnerungen an Pugwash."

then, from 1965 to 1973, on the board. Still scarred, perhaps, by the backlash following the Göttingen Declaration and alert to the consequences of stepping into the political arena by putting scientific responsibility into practice, Weizsäcker instilled a conservative culture within the VDW that influenced its approach to tackling issues relating to "science and society." The VDW maintained a position of loyalty to the government overall but also sought to provide a forum for engaging critically with sensitive issues relating to nuclear weapons, affording a new space for discussion between pro-government and more critically minded scientists. The VDW also became an active research organization, and as its research activities expanded in the 1960s Weizsäcker wielded powerful influence over that research—much of which was carried out by his assistants, based in the administrative and research offices of the VDW in Hamburg. The Hamburg research office, which opened in 1964, came to serve—through the activities of its staff—as a hub for Pugwash in the FRG, strengthening the association between the VDW and Pugwash.

The VDW Research Office in Hamburg and Pugwash

Weizsäcker's standing and influence in the MPS were such that, on his departure in 1958 from the MPI for Physics in Göttingen to the University of Hamburg, the MPS paid for an assistant to smooth the transition and to help him begin research on military-related issues. The first research assistant, Eckart Heimendahl, acted as head of the VDW's new administrative office in Hamburg, producing bulletins and reports to try to engage the VDW membership in discussions about nuclear problems such as fallout, radiation effects, and the "dangers of science." Heimendahl's efforts met with little success, the VDW's professorial members proving especially difficult to mobilize.[58] In November 1960, Heimendahl attended the sixth annual Pugwash conference, held in Moscow, where the topic under discussion, "Disarmament and World Security," resonated with the themes of his own research. Burkhardt, a seasoned Pugwashite and fellow member of the VDW, was also in Moscow, and the pair later attended the Pugwash meeting in Dubrovnik in September 1963. Until Burkhardt's death in 1969, he served as an enduring link between the VDW and Pugwash. From 1958 to 1967 he attended nine annual conferences, and while serving as VDW president he was also the West

58. With Hermann Franz, another of Weizsäcker's former students and now a Siemens employee, Heimendahl developed specialized seminars for students and interdepartmental lecture series on these topics. See Kraus, "Die Vereinigung Deutscher Wissenschaftler," pp. 44–59.

German representative in the newly formed Pugwash Study Group on Biological Weapons.[59] His death, along with that of Werner Kliefoth in the same year, depleted the ranks of West German Pugwashites, and signaled generational change in the FRG's role in Pugwash. In 1961 Heimendahl's role at the VDW passed to law student Horst Afheldt, then working on his doctoral dissertation examining the implications of nuclear testing in international law. Working with Weizsäcker, Afheldt established various study groups to deal with questions of arms limitation and control in Europe, state security and the freedom of science, international law, and civil defense.[60] An ethos of loyalty to the government did not prevent the VDW from undertaking innovative and potentially politically sensitive research, including the formation of study groups to look into questions of civil defense, arms control, and the risks of nuclear testing. Research work was carried out in a spirit of academic investigation and was geared to aiding rather than antagonizing Bonn.

Following in Heimendahl's footsteps, Afheldt also became a regular participant at Pugwash conferences, beginning with the one held in September 1962 in London. Burkhardt and Friedrich-Freksa were also among the eight FRG delegates at this large meeting, which was, in part, a celebration of the fifth anniversary of the Pugwash movement, now garnering respect and growing in stature. Afheldt subsequently attended annual conferences and study group meetings more or less regularly until the 1990s. Beginning in 1964, Afheldt was the West German representative in the new Pugwash Study Group on European Security.[61] The synergies between the research interests of Afheldt at the VDW and the issues on the table at Pugwash provided him with a compelling rationale for becoming involved. Moreover, the Pugwash meetings offered an opportunity to meet prominent scientists from around the world.

Meanwhile, from within the body of work undertaken in Hamburg came two important position papers on the dangers of nuclear war. Published by the VDW in 1962 and 1963, and carefully edited by Afheldt, the two papers were endorsed by Hahn, Heisenberg, and Weizsäcker, who, in a co-authored preface, emphasized that "the only reliable civil protection" lay in "the prevention of war."[62] Important developments flowed from these papers. Together with Weizsäcker, Afheldt began a large-scale research project on "the effects of

59. *Participants in the Pugwash Conferences on Science and World Affairs*, pp. 53, 77.

60. Kraus, "Die Vereinigung Deutscher Wissenschaftler," pp. 59–67.

61. *Participants in the Pugwash Conferences on Science and World Affairs*, pp. 40, 53, 69.

62. Vereinigung Deutscher Wissenschaftler e.V., *Ziviler Bevölkerungsschutz heute* (Frankfurt: Mittler und Sohn, 1962). Supplemented by a statement on the draft emergency legislation of November

war in Central Europe and the preconditions for protective and reconstructive measures," generously funded by the Volkswagen Foundation.[63] The research resulted in an influential report edited in 1970 by Weizsäcker and known as the "effects of a nuclear war study."[64] Because of the acquisition of this long-term, well-funded research project, the VDW was able to open a research office in Hamburg in 1964 that operated alongside the existing administrative office but was dedicated exclusively to research. The first director of the research office was Weizsäcker, who presided over it until 1970, and Afheldt was its first employee. The office subsequently became the hub for a growing cadre of researchers as the VDW expanded its portfolio of research activities in the second half of a decade still gilded by the FRG's economic miracle.[65]

The new research office engendered closer connections between the VDW and Pugwash. Weizsäcker's team of junior research assistants, some of whom were active in Pugwash, afforded Weizsäcker a vital conduit to Pugwash, providing a means, if needed, to wield influence, while also providing a permanent window onto its activities and developments at meetings. As a leading figure in both the VDW and the MPS, he was increasingly well-placed in regard to Pugwash. This arrangement was politically convenient insofar as Pugwashites at the VDW were operating under the watchful eye of Weizsäcker, while he himself maintained a comfortable distance from Pugwash. Moreover, Weizsäcker could and did participate in Pugwash activities himself, albeit typically in ways and on terms that furthered his own career and professional interests or the interests of the MPS or the government in Bonn. In 1967, for example, he attended the Pugwash meeting in Mariánské Lázně, Czechoslovakia, acting on behalf of the VDW and Kurt Georg Kiesinger's foreign minister, Willy Brandt, and taking part in delicate discussions about nuclear disarmament and the Non-Proliferation Treaty (NPT).[66]

By the mid-to-late 1960s, Weizsäcker was uniquely positioned at the heart of the scientific-political nexus within West Germany. He was a member of the MPS, but with one foot outside it, and a key figure within the VDW and able also, whenever it suited him, to sit at the Pugwash table, while privy

1962, the paper was reissued in 1963, again with a preface by Hahn, Heisenberg, and Weizsäcker. See Kraus, "Die Vereinigung Deutscher Wissenschaftler," pp. 64–65.

63. The amount given by VW was 400,000 DM—in those days an enormous sum of money.

64. Carl Friedrich von Weizsäcker, ed., *Kriegsfolgen und Kriegsverhütung* (Munich: Carl Hanser Verlag, 1971).

65. On the history of that research office and the numerous conflicts, see Bieber's detailed reconstruction, "Die VDW zwischen Gründung und Schließung ihrer Forschungsstelle."

66. Constanze Eisenbart, "Nichtverbreitung von Atomwaffen: Die NPT-Debatte," in Albrecht et al., eds., *Wissenschaft—Verantwortung—Frieden*, pp. 285–293.

at all times to its activities. Having carved out a role as a nodal point linking different networks, he was strategically placed as the pivotal link between the MPS and the VDW and between both entities and Pugwash. Crucially, he was able to wield influence in all three.

The MPS in the 1960s: New Directions in a Changing Political Landscape

In 1960, the biochemist and Nobel laureate Adolf Butenandt succeeded Hahn as president of the MPS. Butenandt was a veteran of the MPS (and the Leopoldina) and a member of the VDW. Conservative and politically astute, he had refused Russell's invitation to the Nova Scotia meeting and subsequently never attended a Pugwash meeting, nor was he among the "Göttingen Eighteen." During his twelve-year tenure, Butenandt oversaw a considerable expansion of the MPS, creating a dozen new MPIs, aided by growing educational and science policy opportunities made possible by the FRG's prosperity. Butenandt also steered the MPS in new policy-oriented directions—a shift influenced in part by developments in the United States, where the Sputnik crisis of 1957 had spurred the creation of various science and technology advisory roles and policy-oriented institutions closely linked to the White House and serving the president. Butenandt proved receptive to these innovations and sought to import them into the FRG as part of a strategy geared to strengthening the advisory and policy-oriented role of the MPS.[67] Weizsäcker was also interested in the question of how scientists could feed into and shape science- and technology-related policy and was especially intrigued by the concept of the think tank. This line of thinking dovetailed with developments in Bonn, where there was a growing view of science, and the scientific workforce, as valuable resources. This changing dynamic came with the end of the "Adenauer state" in 1963, the Grand Coalition of the CDU and SPD in 1966 under Chancellor Kiesinger, followed by the SPD-Free Democrat (FDP) coalitions from 1969 onward with the consecutive SPD chancellors Brandt (1969–1974) and Helmut Schmidt (1974–1982). The change was in part, too, a pragmatic response to the shifting relationship between science and politics. The implications of science and technology for national security made it imperative that governments, including the West German, be able

67. Stoff, "Adolf Butenandt und die Nachkriegszeit."

to call readily on their scientific workforce for advice, and in the FRG this prominently meant the MPS.[68]

The records of a high-level meeting in Munich in January 1967 convey some sense of Butenandt's and Weizsäcker's efforts to develop new science advisory bodies and to think about the future MPS's role in policymaking—and also how this provided a basis for new cooperation with Bonn.[69] They also reveal how the FRG looked to the United States for examples in these areas. Butenandt and Weizsäcker were impressed by the President's Scientific Advisory Committee (PSAC) created in 1958 by Dwight Eisenhower and MIT President James Killian, by the concept of the think tank, and by other innovations such as the RAND Corporation, founded in 1948. Included among the 23 delegates in Munich were Henry Kissinger, leading U.S. scientists Isidor Rabi and Paul Doty, and, on the West German side, several MPI directors, including Nobel laureates Heisenberg, Manfred Eigen (MPI for Physical Chemistry), and Feodor Lynen (MPI for Cell Chemistry), CDU Bundestag member Kurt Birrenbach, the philosopher and best friend of Weizsäcker Georg Picht (University of Heidelberg), and Butenandt and Weizsäcker.[70] The report summarizing the meeting reveals a concern on the FRG side about a potentially damaging "gap" between scientists and the state in West Germany and a commitment on both sides—the participating scientists and the politicians—to work together to address this problem. Potential solutions included strengthening the activities of the VDW, establishing an organization similar to PSAC, and the creation of a new post, that of scientific adviser, to work directly with the chancellor.[71] This meeting in Munich is of interest more broadly for the light it sheds on growing cooperation in the science and technology sphere between the United States and the FRG and the key role played by MPS members in building this relationship.

68. On the history of planning sciences in Germany, see Gabriele Metzler, *Konzeptionen politischen Handelns von Adenauer bis Brandt: Politische Planung in der pluralistischen Gesellschaft* (Paderborn: Schöningh, 2005); Ariane Leendertz, *Ordnung schaffen: Deutsche Raumplanung im 20. Jahrhundert* (Göttingen: Wallstein Verlag, 2008); and Ariane Leendertz, *Die pragmatische Wende: Die Max-Planck-Gesellschaft und die Sozialwissenschaften 1975–1985* (Göttingen: Vandenhoeck & Ruprecht, 2010).

69. "Report on Science and Science Policy Meeting," Munich, 20–21 January 1967, in Bundesarchiv Koblenz, Picht Papers, N1225/110.

70. In all, eight of fourteen German participants were MPS members. The remaining six came from other scientific and political institutions.

71. "Report on Science and Science Policy Meeting," Munich, 20–21 January 1967. See Wilfried Rudloff, "Die Verwissenschaftlichung der Politik? Wissenschaftliche Politikberatung in den 1960er Jahren," in Peter Collin and Thomas Horstmann, eds., *Das Wissen des Staates: Geschichte, Theorie und Praxis* (Baden-Baden: Nomos, 2004), pp. 216–257.

The period of tense relations between the MPS and Bonn in the wake of the Göttingen Declaration gave way under Butenandt to a new kind of engagement, forged in part from a concern on both sides to build closer relations between scientists and the state. More broadly, Butenandt had also to contend with major changes in the domestic and international political landscape. The emergence of a Grand Coalition government in 1966 with Brandt as foreign minister engendered, along with Brandt's *Neue Ostpolitik*, a softening attitude in Bonn toward East Germany. The resulting abatement of tensions smoothed the path to collaboration between scientists across the East-West divide; for example, at the European Nuclear Research Center in Geneva and later at the Deutsches Elektronen-Synchrotron national research center in Hamburg—developments with which the MPS was involved.[72] The late 1960s were a critical period in ongoing international negotiations on nuclear disarmament in which the NPT had become by far the most important issue. The treaty was also deeply controversial in the FRG because of concerns about its implications for the country's security. Whether the FRG would sign the treaty remained unresolved, with the political parties and public opinion sharply divided on the issue.[73] For the CDU, the NPT would deny the country the most modern weapons. The party vilified it as a "Versailles of cosmic dimensions" and a belated implementation of the Morgenthau Plan.[74] By contrast, Foreign Minister Brandt and the SPD favored its adoption. In navigating these stormy waters, Brandt turned to Weizsäcker for assistance. The two men were forging a close relationship, which continued when Brandt became chancellor in 1969. Weizsäcker was happy to oblige, adding another dimension, that of powerful political circles in Bonn, to his network of connections. He turned to Pugwash, traveling in May 1967 to the meeting of two working groups—one

72. Günter Wendel, "Forschungen zur Geschichte der Kaiser-Wilhelm-/Max-Planck-Gesellschaft in der DDR: Persönliche Erfahrungen," in Bernhard vom Brocke and Hubert Laitko, eds., *Die Kaiser-Wilhelm-/Max-Planck-Gesellschaft und ihre Institute: Studien zu ihrer Geschichte: Das Harnackprinzip* (Berlin: De Gruyter, 1996), p. 71; Dieter Hoffmann, "Europäisches Organ der Festkörperforschung und DDR-Devisenbringer: Die Zeitschrift Physica Status Solidi im Kalten Krieg," in Christian Forstner and Dieter Hoffmann, eds., *Physik im Kalten Krieg: Beiträge zur Physikgeschichte während des Ost-West-Konflikts* (Wiesbaden: Springer Spectrum, 2013), pp. 125–146; and Thomas Naumann, "Teilchen ohne Grenzen," in Forstner and Hoffmann, eds., *Physik im Kalten Krieg*, pp. 57–66.

73. On the role of the West German army in NATO's strategic planning, see Bruno Thoß, "'Je mehr Bundeswehr, desto weniger Atombomben': Deutsche militärische Führungseliten und Atomkriegsplanungen 1948–1968," in Patrick Bernhard and Holger Nehring, eds., *Den Kalten Krieg denken: Beiträge zur sozialen Ideengeschichte* (Essen: Klartext, 2014), p. 128. West Germany was in a difficult position and under pressure on the NPT insofar as the Harmel Report had paved the way for the NATO strategy of flexible response and thus a "repoliticization of Alliance strategy."

74. Citations of Heinrich von Brentano and Adenauer in Susanna Schrafstetter, "The Long Shadow of the Past: History, Memory and the Debate over West Germany's Nuclear Status, 1954–69," *History and Memory*, Vol. 16, No. 1 (Spring/Summer 2004), pp. 132, 134–135.

on biological warfare and the other on the study of security issues—in Mariánské Lázně, Czechoslovakia, to make Brandt's favorable position on the NPT known to those gathered for Pugwash, including Kissinger, whom he had recently met in Munich.[75]

Mariánské Lázně was Weizsäcker's first Pugwash meeting since Baden in 1959. The NPT had been a topic of discussion at the Pugwash conference in Sopot in 1966 and was again on the table in Mariánské Lázně.[76] The presence of a senior MPS figure at Pugwash was unusual. Weizsäcker's trip was a matter of high politics and sensitive diplomacy. He was acting, in effect, as an informal emissary of Brandt and was also the bearer of a communiqué from the VDW supporting the NPT. Kissinger was by now something of a Pugwash veteran, having already been part of the U.S. delegation at half a dozen conferences—testimony to the importance the United States attached to Pugwash, as well as to the conferences' growing stature on the international stage. Weizsäcker engaged with Pugwash on his own terms: his appearance at Pugwash in Mariánské Lázně was partly a favor to a powerful political ally, while also acting on behalf of the VDW. But this moment in Czechoslovakia has broader significance in its implied recognition of the value of Pugwash meetings as a site of second-track diplomacy, a value rooted in the unique transnational channels of communication it offered. Weizsäcker was cognizant of the value of Pugwash meetings as a site of international diplomacy at which important and politically sensitive business could be transacted.

If Weizsäcker's attendance in Mariánské Lázně was prompted by the specific and highly sensitive matter of the NPT, West German representation at Pugwash was important. In one way or another, the wider "German problem" was a key, ongoing topic of discussion at Pugwash conferences and within its various study groups. The "problem" included relations between East and West Germany (although recognizing the division, Pugwash continually sought to bring the two together around its table) and the question of

75. Eisenbart, "Nichtverbreitung von Atomwaffen: Die NPT-Debatte," pp. 292–293. On the West German NPT debate and its perception by NATO allies, see Joachim Radkau, "Die Kontroverse um den 'Atomwaffensperrvertrag' aus der Rückschau," in Constanze Eisenbart and Dieter von Ehrenstein, eds., *Nichtverbreitung von Nuklearwaffen: Krise eines Konzepts* (Heidelberg: FEST, 1988), pp. 63–89; and Susanna Schrafstetter and Stephen Twigge, *Avoiding Armageddon: The United States, Western Europe and the Struggle for Nuclear Non-proliferation, 1945–1970* (New York: Praeger, 2004).

76. See, for example, Charles F. Barnaby, ed., *Pugwash: Preventing the Spread of Nuclear Weapons*, Pugwash Monograph 1 (London: Souvenir Press, 1969), pp. 52–62; Joseph Rotblat, *Pugwash—The First Ten Years: History of the Conferences of Science and World Affairs* (New York: Humanities Press, 1968), pp. 55–57, 200–208; and Joseph Rotblat, "The Pugwash Movement in European Affairs," n.d. [ca. 1975], Churchill Archives Centre (CAC), Churchill College, University of Cambridge, Rotblat Papers, RTBT G75.

European security. The geopolitical significance of the divided Germany ensured that it was a fundamental element in nuclearization and denuclearization debates, exemplified by the NPT. At the Pugwash conferences in Stowe, Vermont in September 1961, which took place shortly after the Berlin Wall had been put up, an idea was put forward to establish an intercontinental science center in the "astute location" of Berlin, which might have "extraordinary significance" in alleviating tensions.[77] East German participation in Pugwash became more regular after 1963, facilitated by Adenauer's retirement.[78] Thus, the discussions taking place at Pugwash in the 1960s frequently were of direct relevance to the FRG. Burkhardt (until 1969) and his more junior colleagues at the VDW, notably Afheldt, ensured West German participation in those discussions, but the MPS consistently maintained its distance from Pugwash.

Weizsäcker in the Late 1960s: New Directions

By the late 1960s, Weizsäcker was moving in new directions. The Munich and Mariánské Lázně meetings revealed his growing interest in policymaking and scientific advisory roles. By this time, he was already conceptualizing a new research institute—to be called, somewhat awkwardly, the "MPI for Research into Life Conditions in the Scientific and Technological World" (MPI-L) and based in Starnberg near Munich. In February 1968, Butenandt as MPS president commissioned six reports to explore Weizsäcker's concept for his planned MPI-L. One of the evaluators was Kissinger. He responded positively, suggesting as a model the RAND Corporation, which, in his view, "could provide a focus for contact between American institutes and Germany," and he was enthusiastic about Weizsäcker as a director for such an institute.[79] Kissinger, an intellectual Cold Warrior and soon-to-be policymaker, perhaps could not or did not grasp the holistic breadth of Weizsäcker's philosophical aspirations, especially his thinking on the conditions of possibility for a future *Weltinnenpolitik* (global domestic policy). Weizsäcker was perhaps the last of what Fritz Ringer called the "German Mandarins"—he would retreat to his mountain cabin in East Tyrol for weeks at a time to ponder issues at the border of physics and philosophy. He was therefore hardly well qualified

77. Rotblat, "The Pugwash Movement in European Affairs," p. 6.

78. Ibid., pp. 1–3.

79. Kissinger to Butenandt, 21 February 1968, in MPA, II/1A-IB, IL1 Lebensbedingungen-Allg.

to direct an institution analogous to RAND.[80] To be sure, the MPS, dedicated to "basic research" (whatever that meant in the aftermath of World War II), did not provide a suitable framework for an institute supporting policymakers and offering scientific consultancy services (or what Nils Gilman has referred to as "first-order Cold War social science").[81] What the new institute did offer were Weizsäcker's skeptical philosophical deliberations on universal peace combined with his connections in the SPD–FDP government. Weizsäcker also had the perfect counterpart, Afheldt, who—with his personal connections to the Bundeswehr (federal armed forces)—might have been the only person in Starnberg comparable to the détente-minded pioneers of Soviet studies in the United States after 1945 (intellectual Cold War social scientists, as David Engerman has described them).[82] Finally, Gottstein was an energetic organizer of Pugwash meetings and other high-level international scientific conferences on the disarmament and détente issues of the day. For these reasons, in the early days of the MPI-L, it was possible, albeit unlikely, that the institute could become the intellectual home of West German Pugwashites and contribute to reinforcing relationships between the MPS and Pugwash.

However, things were to turn out differently. Not everything was going smoothly for Weizsäcker, who by now was juggling an ever-expanding repertoire of roles, including his various commitments in Hamburg. The VDW began to present him with difficulties that tested his managerial skills to the fullest. The politically conservative hue of the VDW began to change in the mid-1960s following an influx of young leftwing sociologists and political scientists, some of whom had close ties to the student protest movement sweeping the country. Their influence was especially strong at the Hamburg research office, which gained a reputation for radicalism, miring it and the VDW in controversy.[83] Weizsäcker remained skeptical of these radical viewpoints, which he held to be naïve but nevertheless tolerated for some time.

80. Fritz Ringer, *The Decline of the German Mandarins: The German Academic Community, 1890–1933* (Cambridge, MA: Harvard University Press, 1969). For a recent usage of the term "mandarin," see Nils Gilman, *Mandarins of the Future: Modernization Theory in Cold War America* (Baltimore: John Hopkins University Press, 2007).

81. Nils Gilman, "The Cold War as Intellectual Force Field," *Modern Intellectual History FirstView Articles*, 3 October 2014, pp. 9–10.

82. David Engerman, *Know Your Enemy: The Rise and Fall of America's Soviet Experts* (Oxford, UK: Oxford University Press, 2009). However, Afheldt's research projects were neither commissioned nor financed by the West German government or military.

83. On the history of that research office and the numerous conflicts, see the detailed reconstruction in Bieber, "Die VDW zwischen Gründung und Schließung ihrer Forschungsstelle."

However, this situation came to pose serious challenges even for the politically experienced Weizsäcker.[84]

The VDW was not immune to the general atmosphere of discontent and protest prevailing around 1968. In what the radical leftist Joschka Fischer called that "magical year," West Germany experienced profound social and political upheaval and increasingly violent student protests against the Vietnam War and against the Kiesinger-led government's support for the U.S. prosecution of this war.[85] Fierce criticism arose of the development policies used by rival powers to compete for influence in the Third World.[86] Intergenerational conflict was also evident in criticism of the nature of democracy in the FRG, including the lack of a far-left political presence in West German politics and calls to confront more fully the Nazi past.

Nor did the new generation fully share the views about scientific responsibility advanced by the founding generation of the VDW. Within the VDW, conflicts emerged about different styles of academic work and research topics and the kinds of links that ought to pertain between science and politics. Critics, some within the MPS, charged Weizsäcker with losing control of the VDW. In a sobering verdict, he later concluded that both he and the VDW had been damaged by their association: The VDW had struggled to build a strong identity and disseminate a clear message to the public, and the organization had been, he felt, detrimental to his academic standing.[87] If Weizsäcker managed to turn the crisis at the VDW into a new professional opportunity—his return to MPS as an MPI director—it also created a serious problem for the VDW, which not only lost its most prominent figurehead but also saw its relationship to MPS weaken, as the latter organization increasingly sought to distance itself from the VDW. For the historian Hans-Joachim Bieber, the

84. Carl Friedrich von Weizsäcker, *Der bedrohte Friede: Politische Aufsätze 1945–1981* (Munich: dtv, 1983), pp. 198–199. Critical comments on Weizsäcker's leadership style are made by, among others, Klaus Michael Meyer-Abich, "Wege 'in' der Gefahr," in Bartosch and Braun, eds., *Perspektiven und Begegnungen*, p. 175; and Klaus Michael Meyer-Abich, "Das VDW-Projekt 'Die Sozialverträglichkeit von Energiesystemen,"' in Albrecht et al., eds., *Wissenschaft—Verantwortung—Frieden*, p. 315.

85. Burns and van der Will, *Protest and Democracy*; A. Dirk Moses, "The State and the Student Movement in West Germany, 1967–1977," in Gerald G. DeGroot, ed., *Student Protest: The Sixties and After* (New York: Addison Wesley Longman, 1998), pp. 139–149; Michael A. Schmidtke, "Cultural Revolution or Cultural Shock? Student Radicalism and 1968 in Germany," *South Central Review*, Vol. 16/17 (Winter 1999/Spring 2000), pp. 77–89; and Nick Thomas, *Protest Movements in 1960s West Germany: A Social History of Dissent and Democracy* (Oxford, UK: Berg, 2003).

86. In 1971, some members of the VDW itself also criticized the Cahora Bassa Dam project in Mozambique after the Portuguese colonial power awarded this contract to a West European consortium including Siemens, an important sponsor of both the MPS and the VDW. See Bieber, "Die VDW zwischen Gründung und Schließung ihrer Forschungsstelle," pp. 180–189.

87. Weizsäcker, *Der bedrohte Friede*, p. 198.

crisis typified the generational conflict commonly labeled "1968." The radical and leftist elements at the VDW wasted scarce funding resources, spread Marxist ideologies, sullied the aura of science, and drove away older natural scientists.[88] Intense internal wrangling threatened to break the VDW apart irrevocably in 1974–1975, difficulties stemmed only by the closure of the research office in 1975.[89]

Weizsäcker finally ended his decade-long association with the VDW in 1970 when he left Hamburg to take up his position as director of the newly founded MPI-L in Starnberg. This move was made possible by Heisenberg and other MPS colleagues who supported the creation in 1970 of the new institute, which became known as the "Starnberg Institute." The new institute was, in effect, created so that Weizsäcker could pursue research into his ideas for *Weltinnenpolitik* and other policy-oriented themes that fell under the rubric of "basic research"—for example, the problem of how to build a stable, durable peace and the possibility for a "federal global state," which he saw as the only conceivable "model of secure global peace."[90]

West German Pugwash in the 1970s: From Hamburg to Starnberg

Under Weizsäcker, the new institute became a stronghold of research into nuclear-related issues, while also developing a strong record in policy-oriented activity and philosophical topics. Important in the early development of both was Afheldt, who moved with his mentor to Starnberg. Now recognized as a pioneering thinker on disarmament policy, with expertise in civil defense and in developing models of the effects of nuclear war, Afheldt continued with this work in Starnberg.[91] He also set about building links with the FRG Ministry of Defense and military advisers, a starting point for the institute's policy-oriented and scientific advisory work. Weizsäcker took on a new role as chair of a consultative committee in the Federal Ministry of Research and Technology (FMRT)—a short-lived, not entirely successful episode of official

88. Bieber, "Die VDW zwischen Gründung und Schließung ihrer Forschungsstelle," pp. 243–245.

89. For an elaboration of these points, see Bieber, "Die VDW zwischen Gründung und Schließung ihrer Forschungsstelle," pp. 92–101, 148–156, 159–193, 222–242.

90. Weizsäcker, *Der bedrohte Friede*, pp. 207–210; and Carl Friedrich von Weizsäcker, "World Order Models Project: A Sceptical Contribution," in Saul H. Mendlovitz, ed., *On the Creation of a Just World Order: Preferred Worlds for the 1990s* (New York: Free Press, 1975).

91. Weizsäcker, *Der bedrohte Friede*, pp. 201–206.

scientific consultancy on the part of the institute. (The consultancy ended in 1977 following a ministerial reshuffle.)[92] In 1974, Heisenberg's former student Gottstein joined the MPI-L. Gottstein had been a member of the MPI for Physics and Astrophysics since the early 1960s, but starting in 1971, with the backing of MPS President Butenandt, he spent three years at the FRG embassy in Washington as a scientific attaché. At MPI-L he was involved with advisory and policy-related work—for example, assisting Weizsäcker in his role at the FMRT—and like Afheldt was able to combine research on disarmament and peacekeeping with consultancy work for the federal government and an active role in the West German Pugwash group.[93]

With the VDW in crisis, the presence of committed Pugwashites on the staff of the Starnberg Institute meant that it became the intellectual hub of the West German Pugwash group. On moving from Hamburg, Afheldt continued his by now long-standing commitment to Pugwash, and when Gottstein arrived in 1974 he proved to be an energetic organizer of Pugwash workshops and symposia in the FRG, notably the 1977 Pugwash conference in Munich, as well as other high-level international scientific conferences on the disarmament and détente issues of the day.[94] He established a study group that brought together the West German Pugwash activities under the roof of the Starnberg Institute and attended more than 40 Pugwash meetings, serving from the mid-1970s onward as a public face of the West German Pugwash group. He was also asked to represent the MPS at Pugwash events by Reimar Lüst when Lüst succeeded Butenandt as MPS president in 1972.[95] The MPI-L in Starnberg thus became something of a stronghold for Pugwash in the FRG. Elsewhere in the MPS, however, the long-standing strategy of engagement at a distance remained unchanged. Paradoxically, for all the support

92. Klaus Gottstein, interview, Munich, 11 November 2011; *MPG-Spiegel: Aktuelle Informationen für Mitarbeiter und Freunde der Max-Planck-Gesellschaft*, Vol. 2 (April 1974), p. 20, in MPA, II/9/20; "Beratungsplan des Bundesministeriums für Forschung und Technologie," 1974, in MPA, II/9/20; Gottstein to Weizsäcker, 24 June 1974, in MPA, II/9/20; Weizsäcker to Gottstein, 1 July 1974, in MPA, II/9/20; "Einige Bemerkungen zum Arbeitsgebiet 'Politikberatung,'" 30 April 1976, in Gottstein personal archive; and "Politikberatung als Aufgabe und Ziel am Beispiel des Beratenden Ausschusses für Forschung und Technologie (BAFT) unter dem Vorsitz von C. F. v. Weizsäcker" (paper presented at the Carl-Friedrich von Weizsäcker-Kolloquium, Niederpöcking, 23 June 2007), manuscript, in Gottstein personal archive.

93. Klaus Gottstein, "Words of Thanks and Appreciation," Munich, 5 May 2009, in Gottstein personal archive.

94. Gottstein, "Erinnerungen an Pugwash"; and Götz Neuneck, "Die Deutsche Pugwash-Gruppe und die Pugwash-Konferenzen: Ursprünge, Arbeitsweise und Erfolge: Das Ende des Kalten Krieges und die Herausforderungen der Zukunft," in Albrecht et al., eds., *Wissenschaft—Verantwortung—Frieden*, pp. 377–392.

95. Lüst to the author, 18 September 2012.

given to Afheldt's and Gottstein's Pugwash activities, interest in Pugwash and its agenda of transnational peace activism was waning within the wider MPS membership during this period.

Within the MPS some experts were uneasy about aspects of the work of Weizsäcker and his team in Starnberg and were particularly critical of its wide founding remit, which encompassed research into the effects of nuclear war, world nutrition problems, the philosophical challenges posed by quantum mechanics, and the preconditions of a federal global state as the only guarantee for world peace.[96] Some especially disliked Afheldt's research on military science, work that was read in the circles of transatlantic peace and disarmament policy debates and even picked up by the Soviet Union.[97] Nor did the pro-Pugwash stance of the MPI-L herald closer links between Pugwash and the MPS more generally. Moreover, Weizsäcker's own star had been waning since shortly after his arrival in Starnberg. Around this time, he had been a candidate to succeed Butenandt as MPS president, only to withdraw from the process for reasons that remain unclear. Instead, in 1972, Lüst—a former student of Weizsäcker—succeeded Butenandt, a decision in which Heisenberg, the crucial kingmaker, had a hand.[98] During the Lüst era, neither Weizsäcker nor the Starnberg Institute would, as had once seemed certain, play a major part in the continuing development of the MPS's policy and advisory roles. The future of the MPI-L began to be in doubt. At the same time, despite the efforts of Afheldt and Gottstein, Pugwash was increasingly sidelined by the MPS.

The MPS in the 1970s: Forging an Internationalist Future

The change of presidency at the MPS in 1972 took place against a backdrop of dramatic political change in the FRG as the effects of Brandt's *Ostpolitik*

96. "Protokoll der Sitzung des Wissenschaftlichen Beirats," 28 June 1974, in MPA, II/9/2; and Jauch to Mayntz-Trier, 24 July 1974, in MPA, II/9/2.

97. Afheldt, "Kalter Krieg," pp. 303, 306. Evangelista, *Unarmed Forces*, pp. 187–192, mentions seminars for diplomats, including Soviet diplomats in the Protestant Academy at Loccum (Lower Saxony), sponsored by the West German Foreign Office, where Afheldt and Lutz Unterseher of the independent Study Group on Alternative Security Policy presented their ideas. See Studiengruppe Alternative Sicherheitspolitik, ed., *Strukturwandel der Verteidigung: Entwürfe für eine konsequente Defensive* (Opladen: Westdeutscher Verlag, 1984); and Ralph Ströber-Fassbender, *The Study Group on Alternative Security Policy and the Concept of Confidence Building Defense* (Mosbach: AFES-Press, 1989).

98. For the decision on Butenandt's successor, see Reimar Lüst and Paul Nolte, *Der Wissenschaftsmacher: Reimar Lüst im Gespräch mit Paul Nolte* (Munich: Beck, 2008), pp. 179–180; and Reimar Lüst, "Carl Friedrich von Weizsäcker: Ein Doktorand erinnert sich," in Bartosch and Braun, eds., *Perspektiven und Begegnungen*, p. 172.

came to be felt more fully. This unprecedented political transformation saw acceptance of the Oder-Neisse line as Poland's western border and recognition of the GDR in international law. The NPT and the Conference for Security and Cooperation in Europe, pushed for in the East, were approved in principle.[99] Brandt's new policy came to define a new era in international relations, transforming the political landscape of the Cold War generally and relations between the two Germanys in particular.

By the 1970s, West Germany had become a leading partner in the Western alliance, and World War II was receding into the more distant past. West German scientists by then had become an integral part of the international scientific community. The successful process of institution-building at the MPS initiated under Hahn and consolidated under Butenandt meant that Lüst inherited a scientific institution that was respected both within West Germany and internationally. In a process begun under Butenandt, the MPS had carefully adjusted the scope of its activities, developing a stronger policy and advisory role and forging closer ties with Bonn. The process intensified under Lüst, who developed a well-defined concept of the MPS's role in national and international politics but left no room for transnational peace activism à la Pugwash.

Lüst's appointment as MPS president brought in a representative of the generation that had been socialized during the Nazi period. He had begun his studies in 1943 in the United States while still a prisoner of war, before returning to West Germany where he studied under Weizsäcker. Guest professorships at key U.S. space-research locations enabled him to prove his mettle as a transatlantic scientist, and as director of the European Space Research Organization he also emerged as a senior figure in European science. With experience in science policy, and highly ambitious, Lüst was ideally suited to the task of leading the MPS in the 1970s.[100] As always, the political landscape was changing, within and beyond West Germany, creating problems and difficulties with which he had to contend. In the 1970s, the climate of new beginnings engendered by both Brandt's *Ostpolitik* and his policy of "mehr Demokratie wagen" (daring more democracy) was followed by the "leaden years" of Realpolitik and a political landscape profoundly shaped by the legacy of "1968." Brandt's successor in 1974 as federal chancellor, Helmut Schmidt, faced a swathe of domestic problems, including structural reforms at home, the battle against

99. William Glenn Gray, *Germany's Cold War: The Global Campaign to Isolate East Germany, 1949–1969* (Chapel Hill: University of North Carolina Press, 2003).

100. Lüst and Nolte, *Der Wissenschaftsmacher*.

the Red Army Faction and other terrorist groups, and the controversial development of civil nuclear energy. Schmidt also had to contend with an international situation dominated by thorny problems, not least the European Monetary System and the NATO double-track decision of 1979. Lüst's presidency started as the oil crisis of 1973–1974 was rousing the FRG from its "short dream of perpetual prosperity."[101] Budget negotiations with the federal government and the *Länder* were becoming tougher, with implications for the future of existing MPIs and the creation of innovative new institutes.[102]

From the beginning, Lüst's tenure was marked by tough decisions—which he was not afraid to take. Among these was the decision in the late 1970s to close the institute of his former doctoral advisor, Weizsäcker.[103] Several factors were at play, some of which had been developing over time. Afheldt suspected that his research on Cold War military strategy and his links with the West German military, which generated unease and was disliked by some within the MPS, was another nail in the coffin of the MPI-L. As he later put it:

> It gave "experts" . . . the opportunity to say that the institute should be closed. . . . We ought instead to discuss "general and total disarmament" across the world. . . . It was not the task of the Max Planck Society to kill people.[104]

Weizsäcker's critics within and outside the MPS disliked what they saw as his failures in managing the problems at the VDW and charged him with having imported those problems into the MPI-L and, by extension, the MPS.[105] In fact, the Starnberg Institute had been targeted by the then-dominant conservative FRG daily newspapers from the start, and the institute also faced competition from numerous initiatives to institutionalize the new planning sciences inside and outside university contexts.[106] Especially damaging to the

101. Burkhart Lutz, *Der kurze Traum immerwährender Prosperität* (Frankfurt: Campus, 1984).

102. Through 1984 Lüst had overseen an increase in the number of institutes by six.

103. On the closure of the Starnberg Institute, see Lüst and Nolte, *Der Wissenschafismacher*, p. 190; Lüst, "Carl Friedrich von Weizsäcker," p. 173; and Leendertz, *Die pragmatische Wende*, pp. 14–49.

104. Horst Afheldt, "Kalter Krieg, Rüstung, Rüstungskontrolle und die Vereinigung Deutscher Wissenschaftler: Ein (sehr subjektiver) Blick zurück," in Albrecht et al., eds., *Wissenschaft—Verantwortung—Frieden*, p. 307 n. 11.

105. "Wortprotokoll der Sitzung der Geisteswissenschaftlichen Sektion," 11 February 1969, in MPA, II/1A-IB, IL1/Lebensbedingungen.

106. This became apparent in the debates on results published by the working group on "science studies." See MPA II/9/13, Dieter E. Zimmer, "Verschwörung gegen die Wissenschaft? Das Starnberger Max-Planck-Institut plant angeblich das Ende freier Forschung—Ein Vorwurf und eine Antwort," *Die Zeit*, No. 17 (16 April 1976), pp. 32–33; and Renate Schostak, "Widerspruch aus der Wissenschaft: Gegen Ideologie und Bürokratie," *Frankfurter Allgemeine Zeitung*, 25 March 1976, in MPA, II/1A-IB Lebensbedingungen 72–78.

Starnberg Institute's prospects of survival in a period of growing financial austerity were the misgivings of high-ranking international evaluators. Their concerns were not offset by the appointment of the highly respected Jürgen Habermas as co-director in 1972.[107] The closure of the MPI-L in 1980–1981 met with outrage in the now dominant left-liberal West German media, but—although it may temporarily have tarnished the public image of the MPS—it by no means disrupted the society's relationship with national and international political organizations.

The parameters of MPS action in domestic and, especially, foreign policy had long since been recalibrated. Consecutive SPD-FDP governments up to 1982, first under Brandt and then under Schmidt, actively sought policy advice on scientific issues. Lüst seized the opportunity to strengthen the policy and advisory role of the MPS. He also worked hard to ensure that the MPS became the West German partner in the international science projects that flourished in the 1970s. If, by training, experience, and disposition Lüst was eminently qualified for this role, the close relationship he forged with Chancellor Schmidt was also useful. Schmidt, a battery commander during World War II, found a congenial partner in Lüst, a former navy lieutenant. In effect, Lüst became for Schmidt what Weizsäcker had been for Brandt.

Bolstered by close and productive relations with Bonn, the MPS under Lüst emerged as a newly confident institution, asserting its place in scientific policymaking and embracing an advisory role, both in Bonn and, especially, internationally. Buoyed by his close relationship with Schmidt, whom he accompanied on several trips abroad, Lüst greatly strengthened the MPS's international connections. He looked beyond the West, focusing his efforts on the Soviet Union and China. These two competing powers of global Communism were now, encouraged by Richard Nixon and Kissinger, becoming more receptive to exchanges with outside bodies, including between their own academies of science and the MPS. Lüst was active in fostering these relations, which served to enhance the status and profile not only of the MPS but of West German science in general. As early as 1970, he traveled, in his capacity as chairman of the German Council of Science and Humanities, the FRG's highest research advisory board, to the Soviet Union to gather information about the State Planning Committee (Gosplan). In 1974, even with Mao Zedong's Cultural Revolution still under way, Lüst traveled—now as MPS president—to China with the entire MPS board to argue, successfully, that

107. "Protokoll der Sitzung des Wissenschaftlichen Beirats," 28 June 1974, in MPA, II/9/2; and Jauch to Mayntz-Trier, 24 July 1974, in MPA, II/9/2. See also Leendertz, *Die pragmatische Wende*, pp. 14–49.

the MPS must work with researchers from both the People's Republic and Taiwan.[108] He thus successfully fashioned a role as a kind of "foreign minister of German science," engaging with science policymakers and scientists around the world to develop new forms of international scientific cooperation.[109]

Lüst's mode of engagement with Pugwash continued to align with the MPS's well-established tradition of engagement at a distance. Not only did Lüst and his staff extend this tradition; they increased the distance between the MPS and Pugwash. The more they succeeded in establishing the MPS as a national and international actor in foreign cultural policy, the less they were interested in using Pugwash and its transnational channels as a means for reintegration into and communication with the international scientific community. Nonetheless, the MPS continued to fund the ardent Pugwashites Afheldt and Gottstein and their study groups for another decade after Weizsäcker's institute had been dissolved, until the two men retired.[110] But the lack of interest in their activities on the part of both Lüst and the MPS is suggested by the fate of the regular and detailed reports on Pugwash conferences and other high-ranking international scientific events around disarmament, security, and détente policy, filed over many years by Gottstein, which landed without comment in the archives of the MPS president.[111] Lüst and the MPS management seem to have regarded Gottstein's study group as little more than a transnational "talking shop."[112] Again, the strategy of engagement at a distance toward Pugwash was apparent—albeit now underpinned by a different rationale. Pugwash was declining in significance in a context of burgeoning bilateral and international scientific cooperation projects, which Lüst seized on to forge international networks and advance the institutional interests of the MPS and to bolster his own role as "foreign minister of German science." Drawing on his political connections with Bonn, not least with Helmut Schmidt, Lüst

108. Memorandum Lüst, "Wissenschaftliche Beziehungen zur Sowjetunion," n.d., in MPA, ZA 53–37; Lüst and Nolte, *Der Wissenschaftsmacher*, pp. 177, 196; and Nickel, telephone conversation, 16 September 2012.

109. Lüst was first described as the "foreign minister of German science" by his interlocutor Paul Nolte. See Lüst and Nolte, *Der Wissenschaftsmacher*, pp. 177–197.

110. Afheldt's and Gottstein's study groups within the MPS existed until 1989 and 1992, respectively.

111. See Lüst's papers in MPA, ZA 53-228 and 53-229. Gottstein's experiences continued into the late 1980s, when he tried—again unsuccessfully—to persuade the next MPS president, Heinz Staab, to engage with the non-public Amaldi Conferences for international scientists, initiated by the U.S. National Academy of Sciences' Committee on International Security and Arms Control. See Klaus Gottstein, *The Amaldi Conferences: Their Past and Their Potential Future*, Preprint 431 (Berlin: Max-Planck-Institut für Wissenschaftsgeschichte, 2007).

112. As relayed by the former section head in the MPS general administration, Dietmar Nickel, in a telephone conversation with the author, 16 September 2012.

was steadily integrating the MPS into national and international détente policy.[113] Under Lüst, the MPS asserted itself as an important actor in foreign cultural policy at bilateral, European, and international levels, creating for itself space, opportunities, and funding of international cooperation in cutting-edge research.

Within 25 years of the Russell-Einstein Manifesto and the entry of the FRG into NATO, the country and the MPS had undergone a transformation, and the contours of the Cold War had changed dramatically. The FRG had become a powerful and respected player in European and international politics, and its flagship scientific institution, the MPS, widely recognized for its research excellence, was an important part of the international scientific community. Enjoying close and congenial relations with Bonn, the MPS was a trusted adviser in matters relating to science and technology policy, as well as cultural foreign policy, both in West Germany and beyond. Simultaneously and accelerating since the 1970s with the changing modes of engagement of successive presidents from 1948 to 1984, the MPS—slowly, subtly, but surely—marginalized transnational anti-nuclear activism and the 1950s postulate of scientific responsibility that had underpinned it.

113. For example, in 1982 they welcomed GDR Minister for Research Herbert Weiz to the MPS headquarters in Munich, and in 1983 they continued conversations on scientific cooperation in East Berlin. See Henning and Kazemi, *Chronik der Kaiser-Wilhelm-/Max-Planck-Gesellschaft*, pp. 569–570.