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Proxy Wars: The Deutsches Museum and the Peaceful Atom

In 1952, the Deutsches Museum acquired an exciting artifact. It was a wooden table that had witnessed a key moment in the history of science. In 1938, Otto Hahn, Lise Meitner and Fritz Straßmann had stood at this table, then at the Kaiser Wilhelm Institute for Chemistry in Berlin, to conduct the experiment that led to the discovery of nuclear fission. Fourteen years later, the institute was under the auspices of the Max Planck Society and located in Mainz, but it still had the table and felt that the object, along with some of the equipment, deserved a place in Germany's leading museum of science and technology. The artifact had its share of controversies. Equipment had moved over the course of 14 years and probably was not even original, and the designation as "Otto Hahn's table" ignored the contribution of Meitner, a woman and émigré from Nazi Germany. Nonetheless, it seemed like the perfect "'aura'-object" for a display on nuclear power.[1] But that was not where it went.

Otto Hahn was a chemist and wished to have it on display in the museum's chemistry division, and that is where the table received a prominent spot with a marble plaque. When it was moved temporarily into the nuclear physics section in the mid-1960s, it did not fit the general design and was moved next to Marie Curie's equipment for lack of a more inspiring idea.[2] In 1998, the table went to the Deutsches Museum Bonn, an offshoot of the Munich-based museum that specializes in contemporary science and technology. It found a new place in Munich in 2012 when it became part of the exhibition on the history of the Deutsches Museum.[3] Between 2014 and 2016, it was on display in the special exhibit on the anthropocene, whose catalogue raved about "an experiment that changed the world".[4] As museum objects go, the "Otto Hahn table" was remarkably versatile, and its journey made it the perfect symbol for the history of nuclear power at the Deutsches Museum. There was a close connection between museum displays and the development of nuclear technology in the early years, but social and cultural factors grew in importance in the 1970s. Events at the Deutsches Museum developed a life of their own, culminating in conflicts in the late 1980s that were only tangentially related to technological artifacts. Originally a new technology that required explanation and contextualization in appropriate museum displays, nuclear power turned into an anchor for social conflicts. While the article focuses on the Deutsches Museum, there is reason to suspect that the museum's journey mirrored a general transition in the German conflict over nuclear

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1 Vgl. Susanne Rehn, "75 Jahre Kernspaltung," Kultur & Technik 37:3 (2013), pp. 18-23; Jürgen Teichmann, Annette Noschka-Roos, Traudel Weber, "Das Museum als öffentlicher Raum: Wirkungsdimensionen zwischen Anspruch und Wirklichkeit," Wilhelm Füßl, Helmuth Trischler (eds.), Geschichte des Deutschen Museums: Akteure, Artefakte, Ausstellungen (Munich, 2003), pp. 363-395; p. 392.

2 Karen Königsberger, „Vernetztes System"? Die Geschichte des Deutschen Museums 1945-1980 dargestellt an den Abteilungen Chemie und Kernphysik (Munich, 2009), p. 179, 273n. While the interpretation in this essay is my own, I am greatly indebted to Königsberger's pioneering study.

3 Rein, 75 Jahre Kernspaltung, p. 23.

4 Nina Möllers, Christian Schwägerl, Helmuth Trischler (eds.), Welcome to the Anthropocene: The Earth in Our Hands (Munich, 2015), p. 157.

power. The museum's nuclear odyssey was a microcosm for the nuclear history of West Germany.

In German historical research, nuclear power has emerged as a defining topic at the crossroads of environmental history, the history of technology and social movement history in the four decades since Joachim Radkau's path-breaking study of 1983.[5] As a result, the literature is richer and more diverse than that on the nuclear history of other European countries, though a mushrooming array of case study also makes for a somewhat fragmented narrative. The rise of a civic anti-nuclear movement continues to attract attention, including comparisons with less consequential movements in other countries.[6] Recent monographs by Hendrik Ehrhardt and Christoph Wehner have shed light on specific aspects of corporate decision-making, though the pro-nuclear camp has received somewhat less attention than anti-nuclear activism.[7] While RWE commissioned a critical assessment of its nuclear journey upon its 100-year anniversary[8], the trajectory of Germany's defining producer of nuclear reactors, Siemens-KWU, remains largely unexplored.[9] Siemens is a major player in the following narrative, and while this article focuses on assessing the company's maneuvers on a specific issue, there is reason to suspect that the largely unconstrained corporate power of Siemens remains one of the underappreciated aspects of Germany's nuclear history.[10]

The following discussion also extends into the 1980s, which has received less scholarly attention than the previous decade. The 1970s where the transformative years of nuclear power in West Germany due to the boom of construction and the sudden rise of a vibrant civic movement. Interest in the nuclear 1980s is growing, but the first book-length studies have focused on outstanding events such as the Chernobyl disaster and the Wackersdorf conflict.[11]

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5 Joachim Radkau, Aufstieg und Krise der deutschen Atomwirtschaft 1945-1975: Verdrängte Alternativen in der Kerntechnik und der Ursprung der nuklearen Kontroverse (Reinbek, 1983).

6 For some of the latest studies see Natalie Pohl, Atomprotest am Oberrhein: Die Auseinandersetzung um den Bau von Atomkraftwerken in Baden und im Elsass (1970–1985) (Stuttgart, 2019); Stephen Milder, Greening Democracy: The Anti-Nuclear Movement and Political Environmentalism in West Germany and Beyond, 1968–1983 (New York, 2017); Andrew S. Tompkins, Better Active than Radioactive! Anti-Nuclear Protest in 1970s France and West Germany (Oxford, 2016).

7 Hendrik Ehrhardt, Stromkonflikte: Selbstverständnis und strategisches Handeln der Stromwirtschaft zwischen Politik, Industrie, Umwelt und Öffentlichkeit (1970–1989) (Stuttgart, 2017); Christoph Wehner, Die Versicherung der Atomgefahr: Risikopolitik, Sicherheitsproduktion und Expertise in der Bundesrepublik Deutschland und den USA 1945–1986 (Göttingen, 2017).

8 Joachim Radkau, "Das RWE zwischen Braunkohle und Atomeuphorie 1945–1968," Dieter Schweer, Wolf Thieme (eds.), "Der gläserne Riese": RWE – ein Konzern wird transparent (Wiesbaden, 1998), pp. 173–196; Joachim Radkau, "Das RWE zwischen Kernenergie und Diversifizierung 1968–1988," ibid., pp. 221–244.

9 For the in-house narrative, see Hans-Heinrich Krug, Siemens und Kernenergie: Über 40 Jahre innovative Technologie-Entwicklung für eine zukunftssichere Energieversorgung, Duisburg 1998. For a recent exploration of a specific aspect see Sascha Brünig, "Performing Diligence. Nuclear Labour, Reactor Safety, and Public Relations in the West German Nuclear Industry in the 1980s," Mark Jakob, Nina Kleinöder, Christian Kleinschmidt (eds.), Security and Insecurity in Business History: Case Studies in the Perception and Negotiation of Threats (Baden-Baden, 2021), pp. 229–252.

10 A recent study on nuclear exports, where the German government showed extremely willing to enable deals even if they jeopardized non-proliferation efforts, underscores this contention: Stephan Geier, Schwellenmacht: Bonns heimliche Atomdiplomatie von Adenauer bis Schmidt (Paderborn, 2013).

11 Cf. Melanie Arndt, Tschernobylkinder: Die transnationale Geschichte einer nuklearen Katastrophe (Göttingen, 2020); Janine Gaumer, Wackersdorf: Atomkraft und Demokratie in der Bundesrepublik 1980-1989 (Munich, 2018).

This article seeks to draw attention to the tectonic shifts in the nuclear discourse during the 1980s, most prominently a shift to an identity-based opposition to nuclear power that differed from the activist mode of the 1970s. A microhistory approach seems particularly helpful to study this discursive shift. The proxy war at the Deutsches Museum was not significant in the grand scheme of things, but it was a moment that revealed how the meaning and the place of nuclear issues was changing in the 1980s.

The Deutsches Museum was almost half a century old when Hahn's table went on display, and the first section of this essay situates the issue of nuclear power in the general history of the museum. It devotes particular attention to the multitude of stakeholders, weak leadership structures, and the enormous size of the museum that made it impossible to ignore. The next section traces discussions and displays on nuclear power from 1955 to the 1970s. It shows a lack of continuity and a strong reliance on pro-nuclear outsiders, but from a contemporary perspective, the main problem of the resulting exhibit was incoherence rather than bias. That changed in the 1970s when museum debates resumed under the influence of a divisive public debate over nuclear power. The third section shows how pressure from the nuclear community led to a highly partisan but ineffectual display that was opened in 1978 and unceremoniously closed after a grace period. The following discussion focuses on Franz Josef Strauß, whose attacks on critical readings and the Manichaean juxtaposition between technological optimists and skeptics of progress set the scene for a clash in 1986/87 that made national headlines. A coda offers some thoughts on the practical and intellectual challenges that leading a museum of science and technology implied since the 1970s. The nuclear conflict was a harbinger of a new age where the Deutsches Museum was invariably forced to find its role in wider social and political conflicts.

The Big, Fat, Rudderless Museum

The Deutsches Museum was founded in 1903, and its history resonated in the debates over nuclear power. It was a pantheon of German science and technology, the place where, in the words of the museum's full name, "masterpieces from the natural sciences and technology" were on display. The original museum understood progress in the way that scientists and engineers viewed it in the late nineteenth century: it was something to be publicized and celebrated. The museum was not in the business of selling things, and its exhibitions always showed a greater awareness of context than trade shows, but when all was said and done, it was understood that the artifacts on display had help to make the world a better place.[12]

The museum's founder, Oskar von Miller, was a trained engineer who played a major role in the development of electric power in the late nineteenth and early twentieth century.[13] His

[12] Cf. Wilhelm Füßl, Helmuth Trischler (eds.), Geschichte des Deutschen Museums: Akteure, Artefakte, Ausstellungen (Munich, 2003).

[13] Wilhelm Füßl, Oskar von Miller 1855-1934: Eine Biographie (Munich, 2005).

personal predilections did not limit the museum's scope: the Deutsches Museum always aimed for encyclopedic breadth. This effectively made it into a patchwork of mini-museums that allowed visitors to choose their own path. Of course, the range of scientific and technological fields was always greater than available space on the museum's island home, and choices between topics and focal points were among the most momentous that the museum's leaders could take. A running theme was to stay abreast with the development of science and technology, and that inevitably brought up the issue of nuclear power. Given the enigma of the "peaceful atom" in the post-war years, it was hard to imagine that the museum would duck the issue. Characteristically, discussions within the museum began in 1955, exactly the year when West Germany regained sovereignty and created a new Federal Ministry for Nuclear Affairs. Ever since, the defining question was how the museum should deal with nuclear power, rather than whether it should deal with it at all.

Oskar von Miller's vision struck a nerve among scientists and engineers from the beginning. The success of the Deutsches Museum hinged on support from eminent researchers, academic and professional societies, and industrial companies. Otto Hahn's table was one of many artifacts that were donated to the museum, eminent people came to give lectures and advised the museum on curatorial matters, and societies held their meetings in a large congress hall that was conceived as part of the museum from its inception. A large circle of friends helped to allocate the enormous resources that allowed the Deutsches Museum to thrive, but these friends expected the museum to stand on its side. The story of nuclear power at the museum showed that this was an opportunity as well as a liability.[14]

The Deutsches Museum retained a measure of independence in intellectual terms. The museum's staff enjoyed protection from Germany's strong labor laws, and their writings, both internal and published, showed an open mind. Things looked more ambiguous with a view to finances. In a nutshell, the nuclear exhibit hinged on money from vested interests: the museum's budget did not allow self-funding to any significant extent. Needless to say, money was less of a problem on the side of the funders, as the expenses for an exhibit were minuscule in comparison with the expenses for research institutes and reactors, but that did not prevent the government and large corporations to voice demands in no uncertain terms.

Intellectual and financial dependencies were exacerbated by a byzantine institutional structure. The Deutsches Museum had a leadership vacuum ever since Oskar von Miller, the founder and towering figure during the first three decades, left the helm. During the Third Reich, short-sighted decisions left the museum rudderless and defenseless in the face of an attempted takeover from Nazi careerists that only failed due to sheer luck.[15] In the post-war years, museum staff were obliged to collaborate with powerful figures from the nuclear sector,

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[14] Cf. Füßl and Trischler, Geschichte, and Ulf Hashagen, Oskar Blumtritt, Helmuth Trischler (eds.), Circa 1903: Artefakte in der Gründungszeit des Deutschen Museums (Munich, 2003).

[15] Cf. Frank Uekötter, "Expansionsgelüste an der Isar. Das Deutsche Museum und die Führung des Dritten Reichs: Adolf Hitler, Fritz Todt und die Pläne für ein Haus der deutschen Technik," Elisabeth Vaupel, Stefan Wolff (eds.), Das Deutsche Museum im Nationalsozialismus: Eine Bestandsaufnahme (Göttingen, 2010), pp. 193-241.

a relationship that was always difficult and became conflictual in the wake of the public controversy over nuclear power since the mid-1970s.

At the same time, the Deutsches Museum had one strategic asset: it was big, well-known, and without parallel inside Germany. In other words, it was hard to get around the museum when it was about showcasing the latest in science and technology. This became clear upon the foundation of an "Association 'Atoms for Peace'" (*Verein "Atom für den Frieden e.V."*) in Munich in the summer of 1958. The new association had powerful backers. The founding members were the Federal Ministry for Nuclear Affairs, the Bavarian Ministry of Economic Affairs and Traffic, and a number of industrial companies; the sitting federal minister, Siegfried Balke, served as the association's honorary president.[16] But when the city council came to vote on joining the new association and supporting its work with 10,000 DM, councilman Walther von Miller voiced his objection. He mentioned that the Deutsches Museum was working on an exhibit on nuclear power, and it would be inopportune "to realize both endeavors without the necessary mutual cooperation". He also declared who should be the senior partner: "The Deutsches Museum has absolute priority for holding such an exhibition." If the new association were to create a travelling exhibition, the Deutsches Museum should be the first stop "in order to make sure that interesting models will remain with the Deutsches Museum after the conclusion of the exhibition's travels."[17]

Walther von Miller's objections were surely colored by a personal connection: he was Oskar von Miller's son. However, Munich's city council felt that he had a point. The vote was postponed in order to give the new association a chance to talk to the Deutsches Museum.[18] A few days later, the chair of the new association, Hermann Römer, met with the board (*Vorstand*) of the Deutsches Museum and stressed "that the word 'museum' will not be used for the purposes of this association in the future and that it is crucial to avoid creating a competition for the Deutsches Museum under any circumstances".[19] The initiative did not produce tangible results, and the association merged into the national umbrella organization for nuclear public relations, the *Deutsches Atomforum*, a few years later, but the episode provides a glimpse at the power relations in Munich.[20] When it came to showcasing nuclear power in Munich, there was no way around the Deutsches Museum. It was simply too big and too hegemonic to be ignored. Whether it was also able to fulfill its mission and communicate nuclear issues in a satisfactory way remained to be seen.

Fudging Nuclear Power

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16 Archiv des Deutschen Museums, Munich, VA 0323/1, clipping from Münchener Merkur of July 17, 1958.
17 Ibid., memorandum of July 16, 1958.
18 Ibid.
19 Archiv des Deutschen Museums, Munich, VA 0323/1, extract from the minutes of the Vorstandssitzung on July 25, 1948, point 4.
20 Königsberger, Vernetztes System, pp. 252-254.

The nuclear odyssey of the Deutsches Museum began in 1955. The United States Information Agency had developed a travelling exhibit in order to broadcast president Eisenhower's "atoms for peace" initiative, and Munich hosted it from October 17 to November 6, 1955. For three weeks, visitors could learn about the promise of nuclear energy. According to the press booklet, the exhibition's highlights were the model of a graphite-moderated reactor – the original was in Oak Ridge, Tennessee –, a model of the new Shippingport pressured-water reactor, a model of the nuclear-powered merchant ship "Atomic Mariner" and a set of "magic hands", a mechanic device that allowed for the safe handling of radioactive material behind a thick window. Along with plenty of information material and a film, the exhibition included a demonstration of the magic hands by a "pretty young lady" who opened and closed bottles and wrote postcards.[21] It was an enthusiastic exhibit even by the generous standards of the Deutsches Museum: the booklet had a chapter headline invoking the "blessings" of atomic energy (*"segenspendende Atomenergie"*), and it proclaimed that nuclear power would be the main propellant of airplanes in twelve to 20 years and that these airplanes would fly with three times the speed of sound.[22] Visiting "Atoms for Peace" was free, at least for those who used the special entrance. Only visitors who wanted to see the rest of the museum as well had to pay the normal rates.[23]

The museum had no curatorial control over the "Atoms for Peace" exhibit, but it made the first steps towards an exhibit of its own when it hired Eduard Maurer as the new curator for physics in August 1955. The nuclear exhibit was one of several division that he oversaw and developed until his death in 1970, but Maurer could not act on his own account. Museum rules obliged Maurer to work with a consultant (*Referent*), an eminent figure in the emerging field of nuclear research. These men were typically busy, and the first two consultants, Heinz Maier-Leibnitz and Max Pollermann, served only for brief periods. In 1961, Wolfgang Finkelnburg, head of the reactor division at Siemens, accepted the assignment and worked with the Deutsches Museum until his death in 1967.[24] Siemens had its headquarter in Munich, but the reactor division was in Erlangen, and Maurer had to travel to the north of Bavaria to discuss the plans for the exhibition. It was not the only complication. The field was emerging, and Finkelnburg was concerned that objects would date quickly. He suggested to show objects "in a rather provisional fashion" when they were "the latest at the moment but when nobody could say today whether they would later qualify as 'masterpieces of natural sciences and technology'".[25]

As museum issues go, nuclear technology was one of the more challenging. The core process of nuclear fission was invisible, and radioactive objects imposed limits on the museum's hands-

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[21] US-Informationsdienst München, Amerikanisches Generalkonsulat (ed.), "Atom-Kraft für den Frieden". Sonderschau im Deutsche Museum München. 17. Oktober bis 6. November 1955. Veranstaltet vom Kuratorium der Ausstellung "Atom". Presse-Buch (Munich, 1955), pp. 10n, 16n. Quotation p. 16.

[22] Ibid., pp. 27 (quotation), 43.

[23] Archiv des Deutschen Museums, Munich, VA 0323/1, The Foreign Service of the United States of America, US Information Center Munich to Verwaltungsdirektor Baessler, Deutsches Museum, September 2, 1955.

[24] Cf. Königsberger, Vernetztes System, pp. 262-267.

[25] Archiv des Deutschen Museums, Munich, VA 1565/1, report on a visit to Prof. Finkelnburg in Erlangen on September 7, 1961.

on tradition. It showed in the discussion over models of nuclear reactors, the most significant investment that the museum made for the nuclear exhibit in the early 1960s. Faced with a proposal to simulate a change of nuclear fuel rods in a reactor model, Finkelnburg was skeptical: such a simulation could leave visitors "with the wrong impression as if this process was about the essence of the reactor's function".[26] Negotiations also showed a whiff of technological nationalism: federal officials vetoed a model of the Kahl Nuclear Power Plant "because this reactor is entirely an American design".[27] The Deutsches Museum insisted on high-quality models that took a year to plan and design, which brought further delays.[28] All that made the nuclear exhibit a slow-moving construction site, and the result was half-baked at best when the ministry cut its payment to the Deutsches Museum in the mid-1960s and Maurer focused on other issues.[29] It matched the trajectory of public interest, which was clearly on the decline after the frenzy of the 1950s. Joachim Radkau has suggested that the nuclear industry did not mind a lower public profile, as it had gained the huge initial investments and was now focused on getting things done.[30] Be that as it may, nuclear power was essentially dormant within the walls of the Deutsches Museum since the mid-1960s, and when it reemerged ten years later, nuclear power had turned into a political hotbed.

In Search of a Bulwark

"It is no coincidence that Bavaria had the first research reactor at Garching, the first experimental power plant at Kahl and the first commercial reactor at Gundremmingen."[31] Those were the words of Alfred Dick, Bavaria's Minister for the Environment, in a speech to representatives of the German energy industry in January 1984. It was about more than the customary claim of Bavarian eminence that is a staple of German federalist rhetoric. Dick spoke about a nuclear reprocessing plant in Wackersdorf that his state government sought to build in the face of vigorous protest, and this plant was more than an integral part of the nuclear fuel cycle. It was about a symbol, a demonstration that Bavaria still had a "positive attitude towards technological innovation" that it had shown many years earlier with the first German railroad and the first long-distance transfer of electrical energy.[32] For conservatives like Dick, the

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[26] Archiv des Deutschen Museums, Munich, VA 1566/2, Deutsches Museum to Bundesministerium für Atomkernenergie, May 11, 1962, p. 2.

[27] Archiv des Deutschen Museums, Munich, VA 1565/2, letter to AG, Abteilung Kernenergie-Anlagen, of December 28, 1961.

[28] Ibid., Deutsches Museum München, Der Aufbau der Abteilung Kernphysik und Kerntechnik des Deutschen Museums, April 1961, p. 5n.

[29] Königsberger, Vernetztes System, p. 270n.

[30] Radkau, Aufstieg, p. 412.

[31] Bayerisches Hauptstaatsarchiv Munich Nachlass Dick, Alfred 104, Wiederaufarbeitungsanlage Wackersdorf als Beitrag zur Entsorgung von Kernkraftwerken. Rede von Herrn Staatsminister Dick anläßlich der Besprechung mit Repräsentanten der deutschen Energiewirtschaft der Bayerischen Landesbank on January 23, 1984, S. 2.

[32] Ibid.

conflict over the Wackersdorf nuclear reprocessing plant would show whether Germans were still committed to technological progress. The conflict was bound to escalate as Wackersdorf, which was nothing but a blueprint in 1984, turned into a built reality, and the confrontation meshed with the aftermath of the Chernobyl nuclear disaster in 1986. In due course, the Deutsches Museum became one of the battlefields.

Nuclear power was a national project in West Germany, but Dick's speech also provides a glimpse at the regional dynamism in play. It was about material commitments: Bavaria's main utility, the Bayernwerk, invested heavily in commercial reactors, partly because the state had only limited coal deposits. As a result, nuclear reactors were the most important source of electric power in Bavaria from 1980 onwards: they produced 57 percent of Bayernwerk's total electricity in 1987/88.[33] It was also about the state's can-do mentality. Whereas other states were reluctant to push nuclear projects, Bavaria sought to make a point by building irrespective of opposition. The prime minister of Lower Saxony, Ernst Albrecht, famously cancelled a reprocessing project in his state in 1979 because he feared a civil war.[34] Wackersdorf saw scenes reminiscent of civil war after construction started in 1985 – the project was cancelled in 1989 –, but the government's battle mood was more reminiscent of a *Kulturkampf*: a struggle for cultural hegemony.[35]

The conflict over nuclear energy grew into a defining political issue in the 1970s. Bavaria saw its share of protests, but it was more of a backwater before Wackersdorf. Ute Hasenöhrl has pointed out that demonstrations at two Bavarian power plants, Gundremmingen and Grafenrheinfeld, had relatively meager attendance with 8,000 and 10,000 participants respectively. Contemporary demonstrations in Brokdorf, Hanover and Bonn drew much bigger crowds.[36] It played a role that Bavaria's leading conservation organization, the Bund Naturschutz, had welcomed nuclear power in the 1950s and 1960s because it provided an alternative to the development of water power in the state. The Bund Naturschutz changed its stance from a clear yes (before 1972) to a conditional yes (1972-75), a conditional no (1975-79) and a principled no (since 1979).[37] Bavaria's nuclear power plants also kept their distance from the state capital, Munich, and Upper Bavaria, by far the most populous province in the state of Bavaria, did not have a commercial reactor within its borders while neighboring provinces did. It did not go unnoticed in the rest of the state. In a public discussion over a reactor project in Pleinting on the Danube, residents of Lower Bavaria inquired why they should welcome a project whose electricity would go to the large urban centers.[38]

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[33] Manfred Pohl, Das Bayernwerk: 1921 bis 1996 (Munich, 1996), S. 397.

[34] Frank Uekötter, Deutschland in grün: Eine zwiespältige Erfolgsgeschichte (Göttingen, 2015), p. 132.

[35] Cf. Gaumer, Wackersdorf.

[36] Ute Hasenöhrl, "Anti-Atomkraftbewegung," available online at https://www.historisches-lexikon-bayerns.de/Lexikon/Anti-Atomkraftbewegung#Kennzeichen_der_bayerischen_Anti-Atomkraftbewegung (last retrieved November 22, 2019).

[37] Ute Hasenöhrl, Zwischen Honoratiorenverein und moderner Umweltlobby – Der Bund Naturschutz in Bayern 1945-1980, in: Bund Naturschutz Forschung 10 (2013), S. 61-99; S. 82.

[38] Stadtarchiv Munich Presseamt Nr. 16, "Schon zu spät für den 'Sprung vom Tiger'?" Passauer Neue Presse of November 10, 1975.

With that, Munich was a bit removed from the nuclear conflict in West Germany in the mid-1970s, but it was no island of calm. Discussions over the nuclear exhibit at the Deutsches Museum were anchored in a public sphere shaped by protests and widespread skepticism. In fact, the renewed interest in the museum was first and foremost due to the perceived need in pro-nuclear circles to respond to the groundswell of criticism. When Herberg Berg, the museum's chairman of the board (*Vorstandsvorsitzender*) opened the inaugural session of the advisory board (*Fachbeirat Kerntechnik/Kernphysik*) on June 30, 1975, he pointed to "the great sociopolitical significance of the topic" by way of justification.[39] Thanks to energetic support from the nuclear community, the new exhibition became a reality with amazing speed, and it was opened on March 16, 1978. Unfortunately, it was an unmitigated disaster.[40]

In his opening remarks, Berg had stressed how the Deutsches Museum offered "the opportunity of a presentation devoid of ideology and prejudices".[41] But later in the meeting, the committee set up subcommittees chaired by some of the leading figures in the nuclear community. Rudolf Schulten, the father of the gas-cooled pebble-bed reactor, became chair of the subcommittee on reactor technology, Heinrich Mandel of RWE ran the energy industry subcommittee, and the chair of the subcommittee on the nuclear fuel cycle was meant to go to the boss of NUKEM, a company in the nuclear fuel business. Giving museum decisions into the hands of an embattled industry was bound to produce a biased exhibition. It even showed in the committee minutes: in January 1976, the discussion of a proposal from the energy industry subcommittee found that one "should convey a reason to the visitor why the use of nuclear energy is necessary".[42] The exhibition was also a disaster in design terms, as the subcommittees worked with a great measure of independence and even failed to agree on a designated path for the visitor. An internal memorandum of the museum noted that the exhibit "has the style and the character of a trade fair display".[43]

Karen Königsberger has shown that the disaster unfolded in the face of repeated warnings from the museum's rank and file, which called for a more sophisticated and balanced approach.[44] But did the nuclear community get the message? The vested interests sought to brush up the exhibition in preparation for the World Energy Congress in Munich in September 1980, and museum staff was aghast to see the same people and the same approach again. And, besides, would an illuminated board and three additional models – the suggested changes – really make a difference? "There seems to be no expert involved who understands the significance of the concerns raised", the memorandum declared.[45] Unable to educate industry bigwigs, the museum closed the nuclear exhibit after a grace period and opened a new "energy

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[39] Archiv des Deutschen Museums, Munich, VA 7401, Protokoll über die konstituierende Sitzung des Fachbeirates Kerntechnik/Kernphysik on June 30, 1975, p. 1.

[40] For the full story see Königsberger, Vernetztes System, pp. 290-311.

[41] Archiv des Deutschen Museums, Munich, VA 7401, Protokoll über die konstituierende Sitzung des Fachbeirates Kerntechnik/Kernphysik on June 30, 1975, p. 1

[42] Ibid., Protokoll über die zweite Sitzung des Fachbeirates Kerntechnik/Kernphysik on January 19, 1976, p. 3.

[43] Archiv des Deutschen Museums, Munich, VA 2336, memorandum of February 8, 1979, p. 1.

[44] Königsberger, Vernetztes System, p. 295.

[45] Archiv des Deutschen Museums, Munich, VA 2336, memorandum of February 8, 1979, p. 2.

technology" division in 1983 where nuclear power shared space with coal, oil, natural gas, and water power.[46] It was not a display that the museum was proud of: the director general (*Generaldirektor*) of the Deutsches Museum, Otto Mayr, later called it "timid and fearful" (*schüchtern und ängstlich*).[47] But interventions from the nuclear community did not end, and they need to be understood against the backdrop of the reign of the new prime minister that Bavaria had since 1978: Franz Josef Strauß.

About Strauß

More than 30 years after his death, Franz Josef Strauß is an established subject of scholarly research, and yet he remains an enigma. In a political life that spanned four decades, Strauß ran three federal ministries, was chairman of the Christian Social Union in Bavaria from 1961 until his death in 1988, served as Bavaria's prime minister, and ran as the conservative candidate for chancellor in the federal election of 1980. That made for a multitude of roles, but formal positions barely capture the essence of his reign. He was a unique figure with a peculiar style, and he dealt with a broad range of issues. Nuclear power was one of them.[48]

Strauß was the first Minister for Nuclear Affairs in the Federal Republic of Germany, but he was no unabashed apologist of nuclear power. He was keenly aware of the ambiguities of nuclear power, and he rarely failed to mention in public that there were moral issues in play.[49] In a speech during his tenure, Strauß proclaimed, "We have to show to humanity through our work that nuclear fission can be not only a curse but also a blessing, and it all depends on the free will of humans."[50] However, the Ministry for Nuclear Affairs was a mere stepping stone in Strauß's career, and he left for the Ministry of Defense after one year. His tenure left no trace in the nuclear history of the Deutsches Museum, rather unlike his time as Bavaria's prime minister. The Bavarian government was among the funders of the Deutsches Museum, and the Wackersdorf nuclear reprocessing plant was widely seen as his personal project. It is beyond debate that Strauß was in favor of nuclear power, but the nature of his commitment is open to debate.

His leading biographer, Peter Siebenmorgen, has offered an ambivalent assessment. He mentions Wackersdorf along with Munich's new airport and the Rhine-Main-Danube Canal as "pet projects" (*Herzensthemen*) that Strauß pursued as Bavaria's prime minister, and he was adamant about his support while "even conservative circles held open discussions on the

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46 Königsberger, Vernetztes System, p. 313n.

47 Archiv des Deutschen Museums, Munich, VA 10347, Notiz über Telefoninterview mit der SZ on January 14, 1987, p. 5.

48 Cf. Peter Siebenmorgen, Franz Josef Strauß. Ein Leben im Übermaß (Berlin, 2015); Horst Möller, Franz Josef Strauß: Herrscher und Rebell (Munich, 2015).

49 Möller, Franz Josef Strauß, p. 165.

50 Archiv für Christlich-Soziale Politik, Munich, Nachlass Franz Josef Strauß Fam 658, Redemanuskript 1955/1956, p. 2.

projects' dubious environmental merits". But at the same time, Siebenmorgen insists that Strauß was not among the dwindling cadre of nuclear faithfuls who believed in a nuclear renaissance.[51] It was certainly not seen as a defining issue by those around him. When Friedrich Zimmermann compiled a book upon Strauß's 65th birthday in 1980, it included only one article on nuclear power, and the author, Heinz Maier-Leibnitz, showed forgiveness for a lack of enthusiasm. Comparing the atmosphere in the 1950s with the time around 1980, Maier-Leibnitz declared that "it is not easy to understand the attraction of the atom for politicians nowadays".[52] Max Streibl, who would succeed Strauß as Bavaria's prime minister, offered a lackluster defense of Wackersdorf and nuclear reactors in his 1985 book *Modell Bayern*. His comments ran under the title "no alternative to nuclear power" (*Kernenergie ohne Alternative*) – hardly a passionate stance.[53]

Streibl's line of reasoning was remarkably similar to that of Strauß when nuclear power was on the defensive after the Chernobyl disaster of April 1986. Strauß assembled a circle of experts for a high-profile hearing and went on to give a major address (*Regierungserklärung*) to the Bavarian Parliament on "energy policy after Chernobyl" in July 1986 that Horst Möller, an adoring biographer, has called "one of the great speeches by Strauß".[54] It was a defense of nuclear power, but it was lukewarm: the running theme was the absence of other options. The Wackersdorf project came up only late in his speech, the breeder reactor received only a fleeting mention even though, in technological terms, it was the crucial corollary to reprocessing, and the vision of the peaceful atom was a fading echo at best. He even devoted a part of his speech to the quest for renewable sources of energy and bragged about innovation made in Bavaria. In short, it was the speech of a politician who took stock of things, realized that nuclear power would be around for a while, and tried to make the best of it.[55]

However, his sober approach went parallel with scathing attacks on political opponents. He lashed out against "fanaticism" and an "ideological-superstitious obsession" among social democrats, against the "demonization" of the Wackersdorf project, and suggested a proximity of anti-nuclear activists to "violent protesters and unscrupulous terrorists".[56] There was always a Jekyll and Hyde quality to Strauß, a seamless switch from clear and principled reasoning to vicious rhetoric and back, and the latter defined his public persona. Leftists seized on his attacks and responded in kind, and that made his pro-nuclear stance larger than life. Strauß looked vulnerable on this issue, and anti-nuclear protest gained a new, symbolic quality as a result: it was now about challenging the towering figure of Bavarian politics and German conservatism, or at least needling him. It did not seem to bring him down: Strauß won a 55.8 percent majority

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51 Siebenmorgen, Franz Josef Strauß, pp. 649 (quotations), 651.

52 Heinz Maier-Leibnitz, "Atomminister für ein Jahr," Friedrich Zimmermann (ed.), Anspruch und Leistung: Widmungen für Franz Josef Strauß (Stuttgart-Degerloch, 1980), pp. 33-49; p. 35.

53 Max Streibl, Modell Bayern. Ein Weg in die Zukunft (Munich, 1985), p. 246.

54 Möller, Franz Josef Strauß, p. 672.

55 Franz Josef Strauß, "Energiepolitik nach Tschernobyl – Handeln aus Verantwortung," Franz Josef Strauss, Auftrag für die Zukunft. Beiträge zur deutschen und internationalen Politik 1985-1987. Ausgewählt eingeleitet und herausgegeben von Wilfried Scharnagl (Percha am Starnberger See, 1987), pp. 315-363.

56 Ibid., pp. 341, 350, 360.

in a state election just a few months after Chernobyl. But for left-of-center intellectuals, it was gratifying enough to see Strauß on the defensive, to see him stumble if not fall. Bavarian politics being what it was, it did not get any better.

Strauß fought with passion in a nuclear struggle that was about cultural hegemony, and when it came to upholding the faith in scientific and technological progress, he had his eyes on the Deutsches Museum. When Strauß came for the opening of the new air and space exhibit in May 1984, he did not leave it at friendly words on an industry that had flourished around Munich in the post-war years. He lashed out against presumed skeptics of progress and specifically at Maria Osietzky, who had published an article on "the delicate legacy of Oskar von Miller" (*Oskar von Millers schwieriges Erbe*) in Munich's leading newspaper, the *Süddeutsche Zeitung*, a month before his visit. Strauß warned to underestimate the potency of "a mood that is spreading among young people": a negative stance towards technological progress and economic growth would jeopardize Germany's future, and it would showcase "ideological delusion" and a "mental flight from the modern world".[57] Osietzky was affiliated with the Deutsches Museum at the time, and Strauß's comments served as a stark warning not to go down that path. The museum was supposed to focus on the hardships that humans encountered in the quest for technological progress and how humans fulfilled the Lord's *dominum terrae* mandate.[58]

Two years later, Strauß came for the inauguration of the new automotive section (*Autohalle*). He felt that it was time for a reminder: "Two years ago, I came here and took a stance against a criticism of technology that works according to the formula: either a healthy environment and peace – or technological progress and war."[59] Interestingly, Strauß did not jump towards a passionate defense of the automobile. "Cars are trouble, too", Strauß declared. He even suggested somewhat erroneously that the automobile's aura as a symbol of affluence was slowly fading, "and that is good".[60] But once again, there was a moment when Strauß switched into battle mode, this time zooming in on a recent exhibition in Munich's *Stadtmuseum*. The municipal museum had run a special exhibit entitled "the car, a nightmare" (*Alptraum Auto*), which showed, in Strauß's scathing judgment, "what humans come up with when they keep their minds free of geographic, scientific and technological information".[61] Once more, Strauß offered a Manichaean contrast between the ideologists who longed for a romantic past and those who, like him, worked towards a better future.

One year on, Strauß returned to the museum and his favorite theme when he spoke at the *Deutscher Ingeniertag*, an event organized by the Association of German Engineers (*Verein*

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[57] Archiv für Christlich-Soziale Politik, Munich, Nachlass Franz Josef Strauß Sgl. Kray RA 84/20, Ansprache des Bayerischen Ministerpräsidenten Franz Josef Strauß beim Festakt aus Anlaß der Eröffnung der Luft- und Raumfahrthalle im Kongreßsaal des Deutschen Museums on May 6, 1984. Quotations pp. 2, 3, 5, 6.

[58] Ibid., pp. 7c, 12.

[59] Archiv für Christlich-Soziale Politik, Munich, Nachlass Franz Josef Strauß Sgl. Kray RA 86/56, Grußwort des Bayerischen Ministerpräsidenten Franz Josef Strauß anläßlich der festlichen Jahreshauptversammlung mit anschließender Eröffnung der neuen Autohalle on May 7, 1986, p. 8.

[60] Ibid., pp. 17, 23.

[61] Ibid., p. 9.

deutscher Ingenieure). Once again, it was the spirit of science and technology against dreams of a "simple life", but Strauß added a twist: "We can observe with relief that the 'drop-out mentality' (*'Null-Bock-Mentalität'*) has not prevailed."[62] Perhaps he was thinking of the recent state election, where he had prevailed in spite of Chernobyl. Be that as it may, Strauß came back to his familiar horror scenario later in his speech, where he admonished the engineers not to relent in the quest for scientific and technological progress: "Alternative lifestyles and alternative workplaces (keywords: 'soft path', 'rebuilding industrial society') are not passable paths towards the future – quite the contrary, the consequences would be disastrous."[63] Strauß was not in for surrender in the battle for progress.

Against this backdrop, it was perhaps inevitable that the battle over Wackersdorf would come to the Deutsches Museum, and nuclear technology became an anchor for conflicts in society at large. The precise actors are hard to pin down in the paper trail that the archives make available at this point. The state government was involved, as was Hans Moll, then chair of the museum's governing board (*Verwaltungsrat*) and CEO of the mechanical engineering company MAN, and Bernhard Plettner, member of the governing board and former CEO of Siemens. But powerful men did not need to write letters to make themselves heard, and the extent of phone calls and grumblings behind the scenes remains anyone's guess. Perhaps most crucially, Strauß and his entourage defined a certain testosterone-fueled style of action: they had a mission – Wackersdorf –, the political will to build, and the network and the means to get their way. There was nothing in their realm that suggested a need for discussions, for engagement with other perspectives, or simply a need to think with an open mind. The strength of these men – and yes, they were all men – went along with a poverty of words.[64]

The museum's designated curator for nuclear affairs was a woman, Sylvia Hladky, whose political assets were limited to a sound knowledge of the topic and the privileges of a German civil servant (*Beamtenstatus*). It does not seem that either left an impression on a nuclear community with an overbearing sense of self-confidence: if there was a battle plan at all, it implied that she would not be a problem. In all innocence, Hladky was invited to Wackersdorf in the Spring of 1986. In addition to the terrifying fortifications around the construction site, Hladky saw the information center that had been commissioned by the plant's builder, the *Deutsche Gesellschaft zur Wiederaufarbeitung von abgebrannten Kernbrennelementen* (DWK). Hladky was not impressed by the "fair weather exhibit" (*Schönwetter-Ausstellung*) and told the men so. She also suggested that a future museum board should include Günter Altner from Freiburg's Institute for Applied Ecology (*Öko-Institut*), a renowned critic of

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[62] Archiv für Christlich-Soziale Politik, Munich, Nachlass Franz Josef Strauß Sgl. Kray RA 87/92, Keine lebenswerte Zukunft ohne technischen Fortschritt. Zur modernen Industriegesellschaft gibt es keine vertretbare Alternative. Rede des CSU-Vorsitzenden und Bayerischen Ministerpräsidenten Franz Josef Strauß auf dem deutschen Ingenieurtag on May 26, 1987, p. 4.

[63] Ibid., p. 31.

[64] This became evident when the critics of Hladky's book finally produced a detailed critique. It arrived months after the fact, and the points raised did in no way back up the initial criticism. See Archiv des Deutschen Museums, Munich, VA 10349, memorandum of March 10, 1987, and Sylvia Hladky, Stellungnahme zur Kritik am Band „Kernenergie", June 22, 1987.

nuclear power.[65] It was a reasonable demand for a curator who aimed for a balanced exhibit on a polarizing topic, but it did not endear her to an embattled nuclear community.

The matter rested for a few months, perhaps due to the Chernobyl disaster that consumed everyone's attention. However, the Bavarian Ministry for the Environment returned to the museum with a letter of September 26, 1986, five months to the day after the fateful explosion in Ukraine. The ministry pointed to intensified public relations work and essentially called on the Deutsches Museum to do its duty. It specifically urged the museum to speed up work on a revised display that explained nuclear reprocessing "in a technically correct manner" (*in fachlich akzeptabler Weise*), and as an aside, the letter criticized a booklet on nuclear energy that Hladky had written: the ministry found the publication "unbalanced and biased" (*tendenziös*).[66] In light of the experiences of the 1970s, one would expect another round of industry-led museum design whose merits were dubious at best, but things took a different turn. The incidental remark on Hladky developed a life of its own.

Getting Personal

Controversies over publications were not something new at the Deutsches Museum. The early issues of *Kultur & Technik*, the museum's journal since 1977, drew criticisms in some conservative circles because it allegedly smacked of "Vulgar Marxism" (*Vulgärmarxismus*), an assessment that spoke less about the articles than about the readers.[67] But by the standards of the Deutsches Museum, publications were a realm of freedom. They offered more space and hence allowed for more context than commentaries for displays. They were also relatively cheap, particularly compared to new exhibits, and authors did not need to keep the sensitivities of generous donors in mind. Furthermore, publications allowed collaborations with scholars beyond the museum. In the 1980s, the museum attracted a circle of renowned authors to write for its popular paperback series with Rowohlt, the *Kulturgeschichte der Naturwissenschaften und Technik*. On a history of technology book market awash with trivia, publications from the Deutsches Museum stood out for quality, and then there was the cultural mystique of author privilege. It invariably smacked of censorship when powerful people teared into a book. That was something that Fascists of Socialists would do, or the erstwhile Catholic Church with its infamous *Index Librorum Prohibitorum*. It was simply unbecoming of an open society. But nobody told that to the governing board of the Deutsches Museum.

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[65] Archiv des Deutschen Museums, Munich, VA 10347, Evelyn Roll, Deutsches Museum – beim Thema Atomkraft unter Druck. Süddeutsche Zeitung of January 19, 1987.

[66] Archiv des Deutschen Museums, Munich, VA 10349, Bayerisches Staatsministerium für Landesentwicklung und Umweltfragen to the Vorsitzender des Verwaltungsrates des Deutschen Museums, Hans H. Moll, September 26, 1986. Quotations pp. 2, 3. The book was Sylvia Hladky, Kernenergie: Atombau, Kernspaltung, Atombombe, Kernreaktor (Beiträge zur Technikgeschichte für die Aus- und Weiterbildung, Munich, 1985).

[67] Königsberger, Vernetztes System, p. 156.

On November 18, 1986, Sylvia Hladky received a message from museum superiors. She learned that she was supposed to write a new edition of her book on nuclear energy and that the book was no longer available for sale at the museum's bookshop. Remaining issues of the book – it was already out for a year – were moved into storage.[68] It quickly dawned that this was only part of the news: Hladky was also supposed to relinquish curatorial control over nuclear issues to a new staff member, Robert Schwankner, who had just joined the museum. She reacted immediately and inquired with director general Otto Mayr about the reasons for these steps.[69] On the same day, 39 staff members signed a letter of protest to Otto Mayr: "We ask you urgently to inform us in full about these events, particularly as to the causes and motives for a decision that is of grave importance for the entire house and its staff." The move seemed to have "serious consequences for the reputation of the Deutsches Museum – the autonomy of forming and expressing opinions would be in doubt."[70]

It took Mayr 15 days to draft a response, and when it came, Mayr was evasive: things were "still in flux and not suitable for a public discussion." He also declared that "I cannot comment on rumors."[71] Ten days later, Mayr told Hladky that the book was back on sale.[72] With that, the remaining issues were about the internal organization of the museum and a potential second edition of a small book, and neither was sure to excite the wider public. However, the social democratic politician Hans Kolo, a member of Bavaria's state parliament and one of the leading anti-nuclear figures in his party, got wind of the affair, and the *Süddeutsche Zeitung* published a critical article on January 19, 1987.[73] It would have been a delicate situation even in the absence of a federal election later that month.

Hans Kolo found that the independence of the Deutsches Museum was under threat. He recorded fears that "in the future, the political opinion of the state government will play a significant role in the work of the Deutsches Museum – not just on the question of nuclear energy". Kolo singled out Strauß, who allegedly sought "a pro-industry mood" in the museum. But as a politician, he knew that colorful formulations would fly with the media, and he delivered: "A radioactive worm gnaws within the walls of the Deutsches Museum." Towards the end, Kolo suggested that influence from the nuclear industry would spell "the end of the Deutsches Museum". It was bound to turn into "a mausoleum of nuclear megalomania".[74]

Over the following months, the Deutsches Museum found itself at the center of a shitstorm that unfolded with the leisurely speed of the pre-digital age. Journalists looked into the matter with different temperaments and styles, and reports typically mirrored a concern about the venerable institution. Coverage was regional and national, and the museum was confronted with

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68 Archiv des Deutschen Museums, Munich, VA 10349, Maurice to Hladky, November 18, 1986.
69 Ibid., Hladky to Mayr, November 20, 1986.
70 Ibid., letter to Generaldirektor Otto Mayr, November 20, 1986.
71 Ibid., letter of Generaldirektor Otto Mayr, December 5, 1986.
72 Ibid., Mayr to Hladky, December 15, 1986.
73 On Kolo's role see Gaumer, Wackersdorf, p. 148.
74 Archiv des Deutschen Museums, Munich, VA 10349, Hans Kolo to Bayerischer Staatsminister für Wissenschaft und Kunst, January 16, 1987.

critical questions in venues as different as *Münchner Merkur*, *Bayerischer Rundfunk*, *Nürnberger Zeitung*, *Stuttgarter Zeitung*, *Deutsches Allgemeines Sonntagsblatt*, *Stern*, and *Die Zeit*.[75] An environmental organization, the Bund für Umwelt und Naturschutz Deutschland (BUND) made itself heard, as did the Munich division of the social democratic party's women's section (*Arbeitsgemeinschaft Sozialdemokratischer Frauen*), the peace initiative *Kulturwissenschaftler für Frieden und Abrüstung in Ost und West*, the *Stadtbund Münchener Frauenverbände*, the Munich branch of the union *Gewerkschaft Erziehung und Wissenschaft*, and the cultural politics branch of the German Trade Union Federation (*Deutscher Gewerkschaftsbund*). Frederic Vester cancelled his membership of the Deutsches Museum, and the vice president of Bavaria's parliament, Helmut Rothemund, took the same step. In Bonn, Volker Hauff, formerly Federal Minister for Research and Technology, wrote to the Federal Minister of the Interior Friedrich Zimmermann. A protest letter circulated among employees at other German museums, and over the months, signed copies arrived from the *Westfälisches Industriemuseum*, the *Museum für Kunst und Kulturgeschichte der Stadt Dortmund*, the *Kieler Stadt- und Schiffahrtsmuseum*, the *Ruhrlandmuseum*, the *Museum Folkwang*, the *Museum der Arbeit Hamburg*, the *Naturwissenschaftliches Museum Osnabrück*, the *Museum für Hamburgische Geschichte*, the *Landesmuseum für Technik und Arbeit* in Mannheim, the *Altonaer Museum Hamburg*, the *Centrum Industriekultur Nürnberg*, the *Historisches Zentrum Wuppertal*, the *Historisches Museum Frankfurt*, and the *Deutsches Schiffahrtsmuseum Bremerhaven*.[76]

The massive response suggests that protest was anchored in basic beliefs. The shenanigans at the Deutsches Museum were a good opportunity to assert one's intellectual independence. For journalists and museum curators, where dealing with pressure from vested interests was the daily bread, it was a perfect opportunity to gain some elbow room. Politicians seized on the opportunity because it looked like a winning issue, which was as close as they could get to a win in conservative Bavaria. Characteristically, they were glad to implicate Strauß personally, though this was clearly an affair driven by underlings in his government. According to the BUND, the leading critic of Hladky's book was Josef Vogl, an high-ranking official (*Ministerialdirigent*) at the Bavarian Ministry for the Environment.[77]

All that turned a museum affair into a symbolic conflict that was viewed and dealt with as such. While the specifics were of little significance beyond a small group of individuals, the defining theme – the independence of a venerable cultural institute – resonated far and wide. Independence had obvious significance for personal and professional identities, and one should read the conflict as a proxy war over individual and collective identities; in fact, it is difficult to understand the debate's vigor without these overtones. This is also the reason why the events at the Deutsches Museum matter beyond a local context.

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[75] See the collection of articles in Archiv des Deutschen Museums, Munich, VA 10347.

[76] Cf. Archiv des Deutschen Museums, Munich, VA 10347 and 10348.

[77] Archiv des Deutschen Museums, Munich, VA 10347, Bund für Umwelt und Naturschutz Deutschland (BUND) to Deutsches Museum, January 19, 1987, p. 1.

A Microcosm of Nuclear History

The events at the Deutsches Museum provide a window into the subliminal transition that anti-nuclear activism underwent in the 1980s. The bitter conflict over the Wackersdorf project has obscured how the nuclear controversy gained a new quality during the decade. On first glance, the clash between anti-nuclear protesters and the police looked eerily familiar for those who knew the conflicts of the 1970s. However, many people never bothered to go to Wackersdorf or any anti-nuclear demonstration and nonetheless held firm views on the matter. An anti-nuclear stance was no longer something that individuals had to prove by taking to the streets. It could be absorbed and displayed in everyday life, down to the increasingly pervasive use of the word "GAU" (*Größter Anzunehmender Unfall*) – a formerly technical term for the maximum credible accident in nuclear power plant that came to designate a major calamity.[78] Taking a stand against nuclear power was increasingly a matter of identity, a marker of a critical left-of-center mind. It helps to explain the resilience of anti-nuclear sentiments even in the absence of new nuclear projects. It felt good to be against the atom.

On first glance, the motives on the pro-nuclear side were of a more tangible nature. The Wackersdorf project called for a powerful defense, and after a life at Siemens, Plettner knew what it meant for the company's power plant branch that orders for new reactors had become scarce. But maybe there was a symbolic dimension on the pro-nuclear side as well? When Plettner wrote a brochure on Wackersdorf in the months after Chernobyl, his opening statement echoed the Manichaean juxtaposition that Strauß had presented in his speeches at the Deutsches Museum: "since the end of the 1960s, we have an ongoing dispute between industry and the opponents of technological progress in the Federal Republic."[79] Furthermore, Strauß, Plettner and Moll were all in the sunset phase of their careers, where getting things done was no longer enough: they sought confirmation that they had done the right thing.[80] An interest in history was natural in that stage of life, all the more when people felt that they had made a good part of it, and it was logical that they set their eyes on the Deutsches Museum. On matters of science and technology, the Deutsches Museum was the ultimate ratification machine, or that is what it seemed to be for innocent observers. The history of the nuclear exhibit shows that the museum lacked the type of independence and the orderly structures that an authoritative voice would have required. In reality, the Deutsches Museum was a ratification machine with a back door

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78 Joachim Radkau, "Der 'Größte Anzunehmende Unfall'," Frank Uekötter (ed.), Ökologische Erinnerungsorte (Göttingen, 2013), 50-60.

79 Bernhard Plettner, Wackersdorf: Symbol des Fortschritts? Übermut der Technik? (Munich, 1986), p. 3.

80 Characteristically, Plettern's Wackersdorf brochure was not singular: see Bernhard Plettner, Kernkraftnutzung nach Tschernobyl? Tatsachen, Überlegungen und Betrachtungen (Munich, 1986); Bernhard Plettner, Das Kernkraftwerk: Verkappte Bombe? Handhabbar? Verantwortbar? Wirtschaftlich und sicher? (Munich, 1987); Bernhard Plettner, Strahlen, Strahlung: Gesetzmäßigkeiten. Wirkungen. Gefahren (Munich, 1987); Bernhard Plettner, Nutzung der Wind- und Sonnenenergie: Der Königsweg der Energiewirtschaft? (Munich, 1987).

that was wide open for those who sought to temper with the rules. Perhaps that made it even more attractive for powerful men.

In the midst of the mayhem, Otto Mayr was notably silent. A press release was prepared on January 22, 1986, but it was not published. That was probably a good idea, as the draft was brief and unclear on all the crucial points.[81] In light of the museum's institutional framework, Mayr could easily burn his fingers. He was bound to heed the decrees of the governing board, and it would have been suicidal for the museum to snub powerful corporate leaders. His clearest statement was a response to a letter from Ulrich Borsdorf of Essen's *Ruhrlandmuseum* of April 24, 1987, where Mayr stressed his commitment to an independent, impartial, and critical museum.[82] But that was a semi-private letter to a person that had Mayr's trust. As to the public, he obviously felt that taking sides was bound to make matters worse. Mayr tried to calm the waves to the best of his abilities, limited as they were, and hoped that time would go on. Characteristically, his most noteworthy line in public was about the speechlessness of his institution: "how to say critical things in a way that those under criticism accept it – that's a skill that we still have to learn."[83]

The conflict never had a conclusion that was visible to the public.[84] It merely petered out as reporting died down and the last museum employees filed their solidarity letter. Chairs were moved and lawsuits filed, but the net result was an awkward silence rather than clarity on the museum's proper role. This outcome was not surprising in a conflict that was created and fueled by clashing identities. Affirmation is crucial for personal and collective identities, but they are awkward topics for an actual conversation. Once people had taken their sides, there was not much more that needed to be said; in fact, any further debate might foster doubts on the individual's commitment to the cause. Once more, the Deutsches Museum provides a window into an ongoing transition of the nuclear discourse. The anti-nuclear activists of the 1970s were voracious debaters, but the conversation died down in the 1980s. Once nuclear power was a matter of identity, it did not take many words to mark one's stance.[85]

To the credit of the Deutsches Museum, the nuclear community did not emerge victorious from the clash of 1986/87. There was no return to the partisan exhibit of the 1970s, little if anything was changed in existing displays, and Schwankner left the museum in March 1988. The nuclear industry cancelled the Wackersdorf project a year later, which provides an ironic endpoint to the entire affair. Or maybe it had been petty to begin with? A booklet might appear as a minuscule issue for corporate captains that commanded millions, particularly in light of an

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81 Archiv des Deutschen Museums, Munich, VA 10349, Presseerklärung of January 22, 1987.

82 Archiv des Deutschen Museums, Munich, VA 10348, Mayr to Borsdorf, April 24, 1987.

83 Archiv des Deutschen Museums, Munich, VA 10347, Evelyn Roll, Deutsches Museum – beim Thema Atomkraft unter Druck. Süddeutsche Zeitung of January 19, 1987.

84 A belated conclusion of sorts was the revision of the section "energy technology" that Sylvia Hladky managed in the 1990s. It covered solar and nuclear energy and opened in 1996. (Walter Bube u.a., Die Ausstellung Energietechnik im Deutschen Museum: Eine Handreichung zum Physikunterricht in der Jahrgangsstufe 10 [Munich, 1997]).

85 I elaborate on these matters in my Atomare Demokratie: Eine Geschichte der Kernenergie in Deutschland (Stuttgart, 2022).

enormous volume of anti-nuclear literature since the 1970s. But when it came to the Deutsches Museum, significance was a difficult category.

Coda: Nuclear History In and Beyond the Museum

Otto Hahn's table was a spectacular object. But was it really significant? The question has no obvious answer, for Hahn's fame was open to debate even in expert circles. When he led the West German delegation to the Geneva Conference on the Peaceful Uses of Atomic Energy in 1955, a bemused Otto Hahn found that many of the new specialists had never heard his name.[86] Visitors enter museums with their own ideas, and that was not much of a problem for the Deutsches Museum as long as it was confident that one perspective, that of the engineers and scientists, mattered the most. But technological optimism was always a shaky foundation, and it washed away in the 1970s – one of numerous intellectual casualties in a decade that Tony Judt has called "the most dispiriting decade of the twentieth century".[87] The Deutsches Museum has struggled to come to terms with this change of tide ever since.

What do you do with a pantheon of German science and technology when the underlying faith evaporates? The Deutsches Museum was grappling for words in the 1980s, and it moved from an emphatic language to a multitude of languages, which effectively meant, as far as the voice of the institution was concerned, no language at all. This was in part due to a set of byzantine rules and strong allegiances to corporations with money: the museum was institutionally and financially unable to push back with force against vested interests. The museum was rudderless long before the 1970s, but it was a second-rate problem as long as dealing with the material legacies of war was the defining challenge. Repairs took decades, and they claimed resources and minds: as late as 1974, the museum's director general, Theo Stillger, felt the need to declare in an internal meeting "that the time of rebuilding after the war is more or less over".[88] It sounded as if Stillger expected calmer days ahead, but in reality, the museum entered rough waters over the following years, and few things are more troubling in rough waters than the lack of a rudder.

The Deutsches Museum was no longer sure about what was significant, but that was different for the people in and around it. That was why busy people like Schulten and Mandel dedicated precious time to the nuclear exhibit and why Plettner, Moll, and Vogl sought to intervene. That was also why Hladky pushed back: she felt that a measure of independence and room for criticism were crucial for the museum, and the uproar in and beyond Munich showed that she was not alone with that stance. The museum possessed and dispensed symbolic capital, but it did not really control these assets. It was merely a platform for negotiations and conflicts: the

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86 Maier-Leibnitz, Atomminister, p. 35.
87 Tony Judt, Postwar: A History of Europe Since 1945 (New York, 2005), p. 477.
88 Archiv des Deutschen Museums, Munich, VA 0429/1, Protokoll über das Kolloquium on June 11, 1974, , p. 2.

attacks on Hladky's book were arguably petty and ultimately counterproductive for the nuclear community, but the underlying fault lines were the inevitable price of running a museum of science and technology in a pluralistic society. The conflict of 1986/87 was painful for Otto Mayr and his staff, but more than 30 years later, it may be time for a different perspective. The Deutsches Museum has acquired a long legacy of interventions and conflicts, and perhaps that is an asset in its own right.

During the Hladky affair, critical observers noted that the Deutsches Museum should be independent and neutral. But maybe that approach was doomed to fail because nuclear power was not an independent issue to start with? A multitude of visions and interests was in play from the start, and nuclear power remains politically volatile even at a time when the end of nuclear energy in Germany was near. For example, Horst Möller evoked the Strauß speech of 1986 in his biography to take a swipe at the intellectual poverty of Merkel's reasoning after Fukushima.[89] For the time being, it seems pointless to hope for an omega point where everything comes together, and we can write more exciting histories if we come to accept the inherent messiness of nuclear history. Anti-nuclear protesters made for spectacular picture, but the conflict was about far more than the pros and cons of atomic energy.

In his landmark study of nuclear power in Germany, Joachim Radkau wrote that "a historical perspective offers a chance to refocus the controversy on the core issue, on the problems of nuclear power".[90] Studying technologies as anchors for social conflicts allows for an important addendum. It illuminates how conflicts over technological matters were also about symbols and proxy wars over wider social and political issues. Even more, it suggests that these connotations are deserving topics in their own rights, rather than impurities that need to be swept aside to see the real story. The history of nuclear power is not a history of science and technology with various overtones. It was a multidimensional history from the start, and rather than prioritizing some of these dimensions, we should look into all of them and follow how they intertwined. Cacophony may be a tough sell in museum design, but untangling a discordant choir may be the path towards a richer history of science and technology. In a twenty-first century marked by a bewildering mix of voices, it may even become the only type of history writing that makes sense.[91]

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89 Möller, Franz Josef Strauß, p. 673.

90 Radkau, Aufstieg, p. 14.

91 For an idea of such a nuclear history in a global context see Frank Uekötter, Im Strudel: Eine Umweltgeschichte der modernen Welt (Frankfurt, 2020), pp. 567-580.