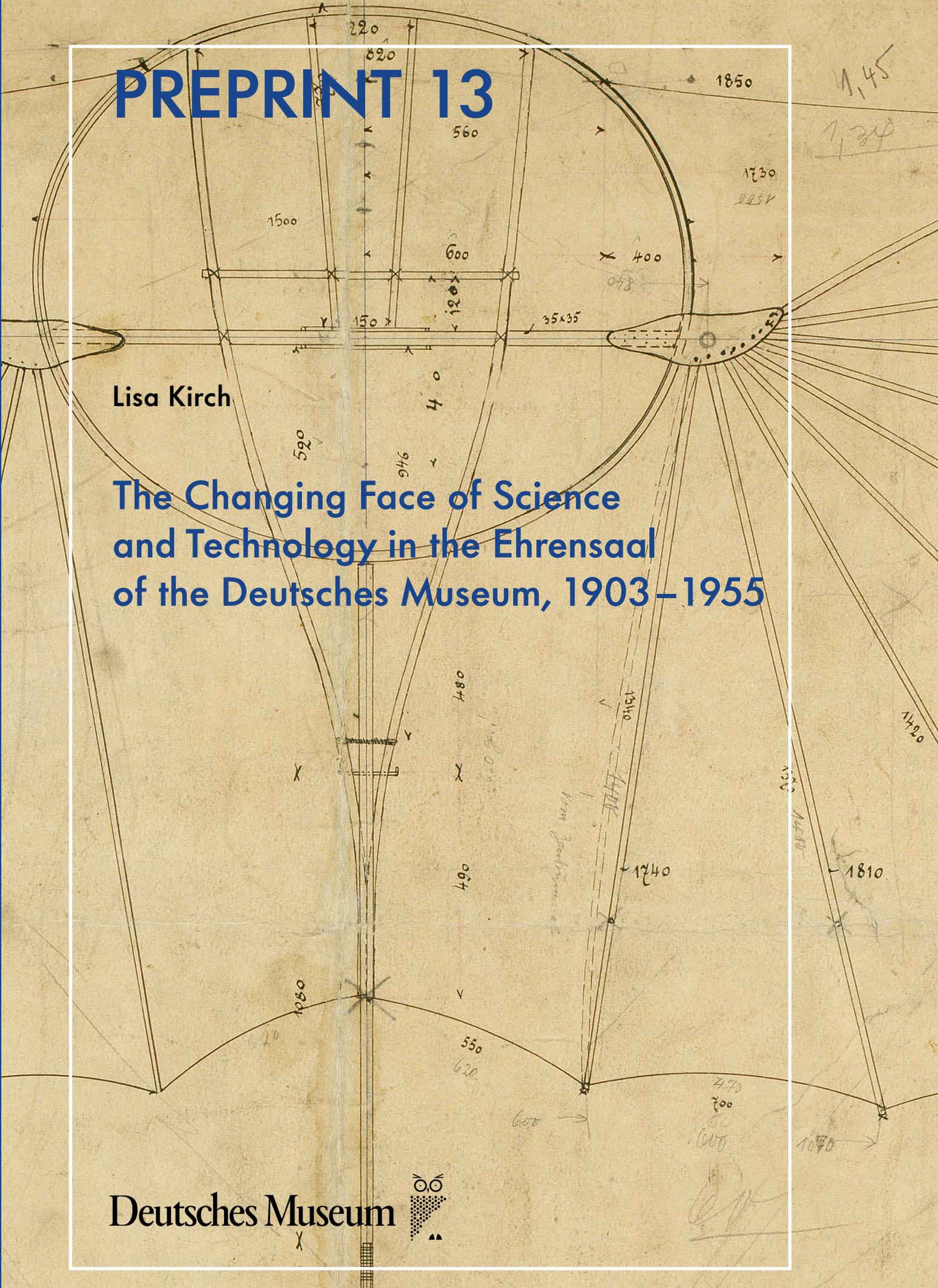


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Lisa Kirch

The Changing Face of Science  
and Technology in the Ehrensaal  
of the Deutsches Museum, 1903–1955

Deutsches Museum



The Changing Face of Science and Technology  
in the Ehrensaal of the Deutsches Museum, 1903–1955

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## **Abstract**

Der Ehrensaal (Hall of Honour) ist der zentrale Repräsentationsraum des Deutschen Museums und sollte nach den Wünschen der Museumsgründer als gleichzeitig ideologischer wie unpolitischer Ort fungieren, ein Widerspruch, den die vorliegende Studie anhand von Archivalien aus dem ersten Jahrhundert des Museums untersucht.

Am Anfang diente der Ehrensaal als Stütze des Arguments des Museums, dass Wissenschaftler und Ingenieure ebenso kreativ und verehrens-wert wie Künstler seien. Versuche, den Ehrensaal zu einem neutralen und künstlerisch überwältigenden Raum zu machen, endeten mit dem Ersten Weltkrieg, und der Raum wurde ständig in Entwicklungen außerhalb des Museums verstrickt, die seinen Inhalt und seine Bedeutung veränderten. Politische Unruhen und Hyperinflation nach dem Krieg, der Aufstieg und Zusammenbruch des Nazi-Staats, Zerstörungen während des Zweiten Weltkriegs und die Einteilung Deutschlands in zwei feindliche Staaten zu beiden Seiten des Eisernen Vorhangs – dies alles trug zur Gestaltung des Ehrensaals und seiner Darstellung der Geschichte bei.

Wie es so oft bei öffentlichen Denkmälern der Fall ist, war die im Ehrensaal dargestellte Vergangenheit eigentlich immer eine Auseinandersetzung mit der Gegenwart. Fallstudien von bestimmten Porträts und die Vorgänge, durch welche sie in den Ehrensaal gelangten, belegen diese Tatsache.



## Introduction

Before going back, let us begin in the present and in the Ehrensaal (Hall of Honour) that is simultaneously everywhere and nowhere. Today's virtual visitor to the Ehrensaal of the Deutsches Museum actually finds two different rooms. One, the German-language Ehrensaal, receives this introduction:

The Ehrensaal of the Deutsches Museum was opened simultaneously with the dedication of the new building on the Museum Island in 1925. The Ehrensaal was supposed, according to the intention of the founding fathers, to awaken visitors' awe at the outstanding creators of the "masterpieces of science and technology". The busts and paintings of German scientists, inventors, engineers, and industrial leaders therefore dominated the image of the Ehrensaal. *(Mit der Einweihung des Neubaus auf der Museumsinsel im Jahr 1925 wurde zugleich auch der Ehrensaal des Deutschen Museums eröffnet. Der Ehrensaal sollte bei den Besuchern – so die Intention der Gründungsväter – Ehrfurcht wecken vor den herausragenden Schöpfern der "Meisterwerke aus Naturwissenschaft und Technik". Die Büsten und Gemälde deutscher Naturwissenschaftler, Techniker, Ingenieure und Industrieller beherrschen daher das Bild im Ehrensaal.)*<sup>1</sup>

The text then names famous German scientific figures, each man a Nobel laureate, and briefly sketches the later history of the room. It was "artistically reconfigured" (*"künstlerisch umgestaltet"*) after the Second World War and in the 1990s began displaying portraits of "foreign" (*"ausländischen"*) scientists. Although not a quotation as such, the word, "foreign", nonetheless lies within quotation marks in the original, scare quotes intended to distance the text from a term that carries a strongly negative overtone in today's Germany. A related distancing occurs in a subsequent paragraph stating that some portrait inscriptions in the Ehrensaal were "very literarily formulated" (*"sehr literarisch formuliert"*). A quotation from the effusive 1925 official guide illustrates the type of language to which the text refers. The line says, in the web page creators' translation, "The task set before us was to create here a pantheon in thankful memory of the most outstanding scientists, inventors, engineers, and industrialists that is worthy of the so immeasurably beneficial magnificent achievements of these intellectual heroes" (*"Galt es doch hier in dankbarem Gedenken an die hervorragendsten Forscher, Ingenieure und Industrielle eine Ruhmeshalle zu schaffen, würdig der für die Menschheit so unendlich segensreichen [sic] Großtaten dieser Geistesheroen"*). Additionally, the creators of the web page supply each carved or painted portrait with the name and life dates of the figure it represents, factually, as though the object, created by an artist, were an equally objective document of the sitter's existence. Aside from a transcribed inscription, the viewer receives no written information: no naming of the artist, no date on which the portrait entered the gallery, no name of its donor, all facts that would permit the viewer to set the portrait in its historical frame as a work of art. Yet the portraits are as artificial in their way as the flowery inscriptions.

Finding the English-language virtual Ehrensaal is not easy for anyone who does not already know its German name,<sup>2</sup> but the eventual viewer reads this opening:

<sup>1</sup> <http://www.deutsches-museum.de/ausstellungen/museumsinsel/ehrensaal/> (accessed 31.07.2016). If not otherwise stated, all translations – roman – from the original – (italic) – are by the author. Double quotation marks indicate citations already in quotation marks in the original source.

Visitors to the Deutsches Museum will find busts, portraits, display boards and labels in many of the exhibitions and in the library reading room which document the achievements of natural scientists, engineers, inventors, and industrialists.

The Hall of Fame located above the entrance features important figures of great importance for their discipline. The concept of the room is based on a conception of history dating from the 19<sup>th</sup> century which can best be described with the core statement “Men make History”.<sup>3</sup>

The English is not a translation of the German web page, but a mostly new text that downplays the Ehrensaal’s original nature as it introduces an international audience to the room. The “Hall of Honour” becomes the “Hall of Fame”, a name with a less reverential character. The page states that Ehrensaal is only one of numerous spaces in the Deutsches Museum that “document [...] achievements”. No figure is named, nationality goes unmentioned, and the room’s history is elided with reference only to an archaic historical concept, the Great Man theory positing that outstanding individuals shaped history. True, the text also includes a modified version of a line I have translated above: “The founding fathers intended the Hall of Fame to inspire awe among visitors before the outstanding originators of the ‘outstanding achievements in natural science and technology’”. But the “very literarily formulated” inscriptions become “very scholarly”, and only the translated 1925 text cited above gives the reader a hint of how breathless the Ehrensaal inscriptions can be. Although the quotation appears under the subheading, “Inscriptions and Labels”, the web page continues with the disclaimer, “Because of the very special character and style of the inscriptions we did not translate them to English”. The visitor to this page also cannot see the portraits that the inscriptions accompany. A hyperlink opens an Ehrensaal panorama, but to see individual portraits, some of them severely cropped, blown up, and slightly blurry, the virtual visitor must move to the German web page.

As fraternal, not identical, twins, the Internet versions of the Ehrensaal represent an awareness of audience on the part of the web page creators that despite its postmodern self-consciousness would not have been so terribly alien over a century ago, when the museum was founded by engineer Oskar von Miller (1855–1934) and his colleagues, later Nobel laureate Carl von Linde (1842–1934), and rector of the Munich polytechnic, mathematician Walther von Dyck (1856–1934). They envisioned the Ehrensaal as the museum’s ideological centre, a pantheon that derived its power from its presentation within a unified, enveloping, and finally overwhelming work of art. The Ehrensaal was supposed to highlight scientists and engineers whose work possessed permanent value as the politically neutral product of creative genius. The figures to be honoured in the room appeared on a list very early in the museum’s development but, as this essay will show, history proved malleable. The Ehrensaal gave it different shapes in direct response to the museum’s need to appeal to changing audiences over time. In so doing, the room posed answers to difficult, sometimes philosophical but always current and far from apolitical questions.

The Ehrensaal’s responsiveness to audiences and current events comes into clear focus during its first fifty years, 1903 to the mid–1950s. Case studies drawn from discussions of decorations and of individual portraits break the room’s history into more or less discrete periods. During late Wilhelmine Germany the first Ehrensaal served as a placeholder in the museum’s temporary home in the

<sup>2</sup> I thank my colleague at UNA, Dr Lesley Peterson, for this observation.

<sup>3</sup> <http://www.deutsches-museum.de/en/exhibitions/museum-island/hall-of-fame/> (accessed 31.07.2016).

Altes Nationalmuseum. There its portraits laid out an argument for the origins of Germany's late-blooming industrialisation. As the English-language web page states, the room expressed a belief in the creative genius of scientists and engineers, but this conviction was tempered by defensiveness that appeared largely behind the scenes, in discussions about candidates for the room. Both attitudes – conviction and defensiveness – again found expression in the second Ehrensaal, a very large rotunda in the museum's new home, where it commemorated figures within an artistic architectural setting intended to rival other opulent public spaces in Munich. The room was completed during the First World War and early Weimar Republic, during which its message shifted into strident nationalism and then took a turn towards the practical, changes in course that redefined who deserved commemoration. Nationalism and the question of whom to honour became still more pronounced in the room during the Third Reich, and damage caused in the Second World War necessitated not redecoration, but reconstruction in the 1950s. This third Ehrensaal, born with the Federal Republic of Germany, was meant both physically and conceptually as an up-to-date space. Like its predecessors, it was deeply rooted in the present, and it contained messages about the great men of science and technology that emerged from life that had moved with only the briefest interruption from the Third Reich to the Cold War.

### Fitting into the Cultural Landscape

The museum's first board of directors, Miller, Linde, and Dyck, meant the Deutsches Museum and its Ehrensaal to combat a prejudice against science and technology common to the humanistically educated elite of the time, dubbed "mandarins" by Fritz K. Ringer for their cultural dominance and political power.<sup>4</sup> The prejudice took on a sharper edge in Bavaria, where industrialisation had come late, and in Munich, known in the early 20<sup>th</sup> century less for science and industry than for art, a reputation due in part to its museums and galleries. The mandarins spent time in museums and art exhibitions, and they set the example for others to follow. Moreover, they occupied state and government positions and exercised professions that enabled their financial support of cultural institutions, but they were little inclined to take a museum of science and technology seriously. They had after all learnt and believed that art, like other creative products, uplifted. It called to humanity's purest emotions, and the superhuman geniuses who made the greatest art received inspiration from a higher plane. Those who contributed to science and technology, on the other hand, worked in laboratories and shops, where by dint of manual labour they made discoveries and produced objects that, useful and even lifesaving as they undoubtedly were, contributed nothing to the human spirit.

Among the numerous sceptics was the anonymous author who published a tongue-in-cheek list of the "masterpieces of science and technology" that would be on display in the new museum.<sup>5</sup> The list appeared in 1904, shortly after the announcement of the museum's founding, in the popular and innovative cultural magazine *Jugend*, published in Munich but circulated throughout Germany. The list included "a mug of beer filled to the rim" ("*eine voll eingeschenkte Maß Bier*"), as well as some inventions less specific to Munich. "[T]he development of voting-district geometry" ("*die Entwicklung der Wahlkreisgeometrie*") and "the tax vise" ("*die Steuerschraube*"), two further "masterpieces", were then

4 Ringer, *Decline*, 1969.

5 Anonymous, In München, in: *Jugend* 9 (14.07.1904), no. 29, p. 596, [http://www.jugend-wochenschrift.de/index.php?id=24&tx\\_lombkswjournaldb\\_pi1%5Bissued%5D=2986&tx\\_lombkswjournaldb\\_pi1%5Baction%5D=showIssuePages&tx\\_lombkswjournaldb\\_pi1%5Bcontroller%5D=YearRegister&cHash=aad7c52769112b794e3b2de057941520](http://www.jugend-wochenschrift.de/index.php?id=24&tx_lombkswjournaldb_pi1%5Bissued%5D=2986&tx_lombkswjournaldb_pi1%5Baction%5D=showIssuePages&tx_lombkswjournaldb_pi1%5Bcontroller%5D=YearRegister&cHash=aad7c52769112b794e3b2de057941520) (accessed 04.10.2016).

and now both known and applied with vigour around the world. The humour and satiric sting of the piece come from the reader's immediate recognition not only of the items on the list but also of their ignoble practicality, an estimation that could be transferred to the real objects the museum would display and to the men responsible for them.

A few years later *Jugend* came around to Miller's side. Coinciding with the museum's 1909 annual assembly it published a short play in verse that was performed at the gathering and had been discussed months in advance.<sup>6</sup> Suggested and written by Fritz von Ostini (1861–1927), *Jugend's* editor-in-chief, the piece explains how the Muses now accept Technology as their tenth sister.<sup>7</sup> Euterpe initially calls Technology a “man-woman [...] never kissed by the Graces” (“*ein Mannweib [...] nie von Grazien geküßt*”), but she and the other Muses are eventually convinced by the eloquent pleas of Technology and the engineer appearing as her advocate. Here, too, the polarity between art and science/technology is a theme, with Technology asking the Muses if they really believe that her creations have nothing to do with beauty and are only the products of manual labour, unrelated to art. The piece and its performance at a museum function illustrate a widespread understanding that proponents of technology should “legitimate their professional work in terms defined by the mandarin culture of the humanists”.<sup>8</sup> The Graces and the Muses in the play announce the Ehrensaal's classicising theme, underlining the well-earned place of the Deutsches Museum among cultural institutions.

Collaborating on the decorations for the play were architect Emanuel von Seidl (1856–1919) and artists Rudolf von Seitz (1842–1910) and Otto Hierl-Deronco (1859–1935). The festivity they helped stage would not have struck Munich natives as out of place. Here – not for the last time – the museum borrowed from the culture of the very large, local art community, which was beloved for the fancy-dress celebrations it put on in public spaces.

Adapting such familiar traditions was one means by which the Deutsches Museum helped to establish itself, and Oskar von Miller applied his considerable gifts of organisation in enlisting leading members of Munich's art community in his efforts. Serving among others as advisers were the last of the painter-princes, Franz von Stuck (1863–1928) and Friedrich August von Kaulbach (1850–1920), and their colleagues, Rudolf von Seitz and Felix von Ende (1856–1959), brother of Margarethe Krupp (1854–1931); architect Friedrich von Thiersch (1852–1921); and sculptors Adolf von Hildebrand (1847–1921) and Ferdinand von Miller (1842–1929), Oskar's older brother and director of the Academy of Fine Arts. The artistic advisory committee (“*Künstlerausschuss*”) was supposed to guarantee the high quality of all work done for the museum so that it would fulfil the goal of being a masterpiece holding masterpieces. These men were influential in Munich and at the museum, inspecting and discussing designs for its permanent structure and the paintings and sculptures that were to decorate it. They would play an important role in the Ehrensaal.

<sup>6</sup> Minutes of directors meetings, 07.07.1909 and 02.–03.09.1909, Deutsches Museum Archiv (abbreviated below as DMA), Verwaltungsakten 3969 (abbreviated below as VA), p. 2. See also Füll, Miller, 2005, p. 280.

<sup>7</sup> Ostini, Muse, in: *Jugend* 14 (14.10.1909), no. 42, pp. 993–994, [http://www.jugend-wochenschrift.de/index.php?id=24&tx\\_lombkswjournaldb\\_pi1%5BissueId%5D=3261&tx\\_lombkswjournaldb\\_pi1%5Baction%5D=showIssuePages&tx\\_lombkswjournaldb\\_pi1%5Bcontroller%5D=YearRegister&cHash=c2308fa778449736de418c4af65f2f8f](http://www.jugend-wochenschrift.de/index.php?id=24&tx_lombkswjournaldb_pi1%5BissueId%5D=3261&tx_lombkswjournaldb_pi1%5Baction%5D=showIssuePages&tx_lombkswjournaldb_pi1%5Bcontroller%5D=YearRegister&cHash=c2308fa778449736de418c4af65f2f8f) (accessed 04.10.2016).

<sup>8</sup> Herf, *Modernism*, 1984, p. 157; cf. Mayring, *Porträt*, in: Hashagen / Blumtritt / Trischler (eds.), *Circa*, 2003, pp. 59f.



Figure 1 Ehrensaal exterior, general view.

This space, more than any other in the museum, emerged from and lent itself to ideological arguments, as Miller and his colleagues were aware. While combating prejudice that claimed the intellectual and spiritual inferiority of science and technology, Miller declared repeatedly for decades that both his institution and especially its Ehrensaal were neutral ground. He drew upon the common attitude in the scientific and engineering communities that their work was apolitical because unconnected to the goals of any party. The belief now appears either disingenuous or naive, depending on one's point of view, but actually confirms Miller's thorough absorption of mandarin ideals. However, as Philip Forman has argued, nationalism informed such thinking, not just in Germany.<sup>9</sup> Because international standards determined the degree of one's achievement, they necessarily implied competition among nations; certainly the recognition and prestige proceeding from achievement attached to the nation as much as to the individual. The attitude shows in some of the code names given to ensure the blind review of initial museum designs.<sup>10</sup> In using the name of a famous ancient Greek, "Archimedes" echoed the museum's sensitivity towards the humanist critique of technology. "*Et audiatur altera pars*" ("Let the other side be heard"), a legal term, referred to the case for legitimacy that the museum would plead. The names were not neutral, but they were not as overtly political as others. Nationalism rang in names such as "Shrine of the German Sons of God" (*Heiligtum deutscher Gottessöhne*) and "Germany first" (*Deutschland voran*). By the standards of the time, those names connected to overarching, patriotic concepts acceptable to representatives of many different political directions. Still, the question of political and national neutrality in the Ehrensaal formed the subject of many heated discussions within the museum's administration during the first decades.

Plans for the new museum gave the Ehrensaal great prominence, as passersby and museum visitors still see upon entering the courtyard (Figure 1).

<sup>9</sup> Forman, Internationalism, in: *Isis* 64 (1973), no. 2, pp. 153–165. For a different, more recent perspective that pushes consideration into a later period, see Carson, Models, in: *Historical Studies in the Physical and Biological Sciences* 30 (1999), no. 1, pp. 127–130.

<sup>10</sup> Minutes of meeting to discuss museum models, 22.10.1906 (see n. 6).



**Figure 2** Gabriel von Seidl, Design for Ehrensaal with paintings of Gauss and Leibniz.

The section holding the Ehrensaal projects outward into the courtyard and is the most ornamental part of the façade, marked by large windows and sculptures that differentiate it from the rest of the building.<sup>11</sup> The very location of the room in the museum's final plan further announces its character. The Ehrensaal stands one floor directly above the main entrance; above the Ehrensaal is the planetarium. The sequence of spaces, one atop another, was programmatic, and the cosmic theme of the Ehrensaal was meant as a conceptual connector between it and the innovative display above it. Figures commemorated in the Ehrensaal had harnessed the forces of the cosmos, earning apotheosis, understood as being lifted into the realm of the gods, above the mortal sphere. Through another application of natural power, guided by scientific understanding, planetarium visitors would have a virtual experience of the heavens, the physical region that provided the metaphor upon which the Ehrensaal's message relied. The cosmic implications would have been lost on most museum visitors, but certainly those with a classic humanistic education would have understood them.

A large, high, oval room capped with an enormous painted and gilded ceiling, the Ehrensaal went through many changes in its design, as surviving letters and sketches demonstrate. Although Carl von Linde also contributed to the discussion about the Ehrensaal decoration, the bulk of the material consists of correspondence of various figures with Oskar von Miller. He was determined that the room would combine beauty and science, and he did not shrink in the least from instructing artists in their business. Indeed, Miller's marked tendency to interfere helped drag out the Ehrensaal's completion. Two artists, painter Ludwig von Herterich (1856–1932) and sculptor Fritz Behn (1878–1970), withdrew in frustration, while a third, painter Fritz Erler (1868–1940), refused even to submit a de-

<sup>11</sup> Schickel, Bauten, in: Hofer (ed.), Gabriel, 2002, p. 149.

sign. Miller's deep involvement in designing the room is at odds with assertions that he was not interested in the Ehrensaal,<sup>12</sup> and sketches hint not only at ideas for the room, but also at its decorative evolution in response to Miller's changing desires. As the heart of the museum, the Ehrensaal was originally designed as a showy space with the darkly glittering, overloaded opulence of the classicising Villa Stuck of 1898.

One sketch shows the room with bull's-eye windows below its vault, which would spring from a cornice of black marble (Figure 2).<sup>13</sup> Museum visitors to this room would be able to look down into the room from galleries on its east and west sides. They would see a patterned floor of highly polished marble and granite in different colours. The walls would be partially sheathed in gilded copper, and gilded copper pilaster strips arranged between the windows on the Ehrensaal's outside wall would support gilded allegorical figures, the genii of Science and Technology. The genii would appear across from painted portraits, recognisable in the sketch as those of Carl Friedrich Gauss (1777–1855) and Gottfried Wilhelm Leibniz (1646–1716), commissioned in 1904. Viewers looking up to the vault of the room would see a ceiling painted with mythological figures in a central oval, surrounded by stylised stars and comets. The design is less elaborate than another and probably postdates it.



**Figure 3** Gabriel von Seidl, Design for Ehrensaal with winged figure.

<sup>12</sup> Diemel, *Ideologie*, in: Deutsche Gesellschaft für Geschichte der Medizin, Naturwissenschaft und Technik, *Ideologie*, 1991, p. 108; Duffy, *Spannungsfeld*, in: Füßl/Trischler (eds.): *Geschichte*, 2003, p. 116.

<sup>13</sup> Unfortunately, the sources of images presented here rarely provide information about technique, materials, dimensions, and in the case of the DMA whether an original object is still extant among museum holdings.

The ceiling in this earlier sketch depicts Apollo in his chariot – or perhaps, being winged, the chariot driver is Victory (Figure 3). The chariot races across the heavens, escorted by symbols of the zodiac, each in a separate roundel. Occupying the spaces between the windows are figures based on ancient Roman grotesques, while the cockleshells and rocaille used elsewhere recall a much later period, the eighteenth century. The style of this Ehrensaal would have tied it closely to some of southern Germany's most important buildings, such as the Wies Church (1745–1754) with which Bavarians strongly identified.<sup>14</sup> The connection to the liberal arts was also quite clear in the design, which foresaw an inscription over the entrance from the room to the museum that announced its dedication “to the arts and sciences” (*ARTIBUS SCIENTIIS*).

The mythological figures in the sketches express that the ceiling painting depicted “a symbolic representation of the cosmos with its creative powers, which have been discovered and made useful to humanity by the researchers immortalised in the Ehrensaal” (*“eine symbolische Darstellung des Weltalls mit seinen schöpferischen Kräften, die durch die im Ehrensaal verewigten Forscher entdeckt und der Menschheit dienstbar gemacht wurden”*).<sup>15</sup> This is the overblown, emotional language that German engineers commonly used in the early 20<sup>th</sup> century to plead their cultural contributions to a hostile public, as Jeffrey Herf argues.<sup>16</sup> Visibly elevating these professionals in the Ehrensaal would be their mythological alter ego, a sculpture of Prometheus, the self-sacrificing Titan who defied the gods and changed humanity through his gift of fire. Among the artists interested in designing this figure was Franz von Stuck,<sup>17</sup> and Carl von Linde suggested that Prometheus, presumably over life-sized, could be a gilded bronze placed in an azurite-clad niche.<sup>18</sup>

The sculptures of Prometheus and the genii demonstrate how deeply the room's planners had absorbed classicism as a signifier of high culture, while the rich colours would transform the Ehrensaal into a temple-like space. Moreover, the ceiling would secularise and modernise a type of Baroque church decoration, like that in the Wies Church, for which southern Germany was already famous. The overtones of worship were deliberate, and the Ehrensaal was supposed to be flanked by “chapel-like” (*“kapellenartige”*)<sup>19</sup> rooms that would eventually house monuments for which there was no longer any space in the original pantheon.

## On Making Choices for the Ehrensaal

The authority to nominate scientists and inventors, engineers and industrialists for representation in the Ehrensaal lay with the museum's governing bodies, the board of directors (*“Vorstand”*) and board of trustees (*“Vorstandsrat”*). The final vote to honour a figure would lie with the museum committee (*“Museumsausschuss”*), a much larger body made up of major donors. No one directly connected to any person commemorated in the room could have any involvement with the processes of nomination and election, and relatives and business associates could not pay for a portrait in the Ehrensaal. Neither private persons nor businesses could donate portraits; only rulers and public institutions were to function as sponsors for portraits.<sup>20</sup> The Ehrensaal would not bear the taint of commercial interests, and it would visibly not yield to personal sentiment.

14 Bommersbach, Gabriel, in: Hofer (see n. 11), pp. 51–82.

15 Miller to Diez, 27.06.1916, DMA, VA 0377/3.

16 Herf (see n. 8), pp. 157–159.

17 Seidl to Miller, 23.10.1919; Miller to Seidl, 06.11.1919, DMA, VA 0383/2.

18 Linde to Seidl, 05.12.1916 (see n. 16).

19 Minutes of meetings of the building commission, 29.09.1909, and directors, 29.06.1912 (see n. 6).

Related to those concerns, the museum established a rule that ten years had to pass between an honouree's death and his nomination. Walther von Dyck moved for passage of the rule in 1926, when the museum committee was first presented with the idea of commemorating Wilhelm Conrad Röntgen (1845–1923) in the Ehrensaal.<sup>21</sup> The temptation to honour Röntgen quickly was strong, for ties of acquaintanceship, gratitude, and respect bound the museum directors and trustees to him. The first Nobel laureate in physics had been voted a lifetime honorary membership in the museum for his scientific achievements and for his service to the museum since its early days. He had headed its board of trustees; Röntgen had also delivered the address upon the ceremonial laying of the cornerstone in 1906. Still, when Röntgen's name came up again for nomination to the Ehrensaal in 1931, so did the ten-year rule.<sup>22</sup> Röntgen was eventually and unanimously voted into the room – ten years after his death.<sup>23</sup> His portrait was a gift of the University of Würzburg, the institution at which he had discovered X-rays.

The Röntgen portrait typified the museum's simple yet brilliant strategy for finding portrait donors, one related to that with which it identified donors for other areas. The perfect donor was a person or organisation that would see an obvious but nonetheless flattering connection to the Ehrensaal honouree. Grand Duke Friedrich of Baden (1826–1907) funded the 1905 portrait of Robert Bunsen (1811–1899), once a professor in Heidelberg, whereas Grand Duke Ernst Ludwig of Hesse (1868–1937) paid for that of Justus von Liebig (1803–1873), a Darmstadt native, commissioned in the same year.<sup>24</sup> These very early donations indicated the respect that the leaders of a brand-new, bourgeois institution felt for established political tradition, but it also displayed rulers' support for their efforts. Other bodies might be persuaded that they wished to forge ties to the museum through a figure honoured in the Ehrensaal. Thus the museum invited the University of Göttingen, where Friedrich Wöhler (1800–1882) had been a professor, to sponsor his portrait in oil<sup>25</sup> and the collegiate and cathedral chapter of Warmia to donate the painting of its most famous member, Nikolaus Copernicus (1473–1543).<sup>26</sup> The reflected glory even more than their generosity tied such donors to the museum<sup>27</sup> and gave them a sense of having contributed to its mission.

Further donors were found through social networks, again the method that raised money and obtained objects for the other parts of the museum. Miller, Linde, Dyck, and members of the board of trustees often identified donors among people they knew. Alternatively, they sent acquaintances as go-betweens to potential donors. The latter tactic resulted in the donation of a 1930 portrait of Athanasius Kircher, S.J. (1602–1680), curator of the celebrated Museum Kircherianum in Baroque Rome, a distant ancestor of the Deutsches Museum. Perhaps the only Ehrensaal portrait to have been a foreign donation, Kircher's terracotta likeness was the gift of a Jesuit institution in the United States and the country's oldest Catholic university, Georgetown University in Washington, D.C.<sup>28</sup> The intermediary for the donation was Sofie Nordhoff-Jung (1864–1943), a German-American physician who with her husband had opened an American Red Cross field hospital in Munich at the beginning of the First World War. Nordhoff-Jung later became the first female faculty member at Georgetown's medical school, but her ties to Munich remained strong. She was the ideal intermediary between the

20 See the discussion about a sponsor for a portrait of Heinrich Hertz (1857–1894), 26.05.1913 (see n. 6), p. 4.

21 Minutes of trustees meeting ("Vorstandsratssitzung"), 06.05.1926, DMA, VA 3972.

22 Minutes of trustees meeting, 09.03.1931 (see n. 20).

23 Minutes of museum committee meeting, 07.05.1933, p. 5 (see n. 20).

24 VA 2178.

25 DM to rector, Friedrich Neumann, 07.08.1935 (see n. 23).

26 Minutes of directors and trustees meeting, 06.05.1926, agenda, p. 5 (see n. 20); see also Exner, Ehrensaal, 1930, p. 48.

27 Mayring (see n. 8), p. 73.

28 Nevils to Miller, 24.08.1929, DMA, VA 2167. See also Finding Aid of the Sofie Nordhoff-Jung Papers, Georgetown University, Washington, D.C., <https://m.repository.library.georgetown.edu/bitstream/handle/10822/559250/GTM.GAMMS91.html?sequence=1&isAllowed=y> (accessed 08.08.2016).

museum and Georgetown; in fact, so reliant was the donation on knowledge of the university's background that Nordhoff-Jung may have first suggested it as a potential donor.

The far-flung donors helped to legitimate the museum through their gifts of portraits, and the museum ensured that they did not remain anonymous. Donors' names were announced at gatherings of the museum's boards and committee. A wide public saw them mentioned in printed copies of yearly museum reports, and a still greater public read their names in official guidebooks to the Ehrensaal. The official announcement of a donation included a speech by either the donor or a representative. Portrait unveilings were formal ceremonies with speeches and musical accompaniment. They took place before a large crowd of invited guests who often included the honouree's family members, and stories about them ran in newspapers and in trade and professional journals. Once a portrait had been installed, its donor figuratively remained with it in the Ehrensaal as a name in an ornately bound commemorative book.<sup>29</sup> Cash donors received their status enhancement in another form, made explicit in a list of desired potential donors. The entry next to the name of industrialist Hugo Stinnes (1870–1924) says crassly, “elect him to the [museum] committee if he does something” (“*in den [Museums-]Ausschuß wählen wenn er was tut*”).<sup>30</sup>

Portraits funded by entities from across Germany underlined that the museum truly was a national institution, but the portraits could forge rather less visible ties to the families of those honoured in the Ehrensaal. Attempts to make likenesses as authentic as possible often led to correspondence with family members. When sculptor Theodor Georgii (1883–1963) received the commission for a bronze relief of Otto Lilienthal (1848–1896), the museum not only provided him with photographs but also pointed out which picture his widow, Agnes Fischer Lilienthal (1857–1920), liked best for showing Lilienthal's “sunny and cheerful nature” (“*sonnige und fröhliche Natur*”).<sup>31</sup> The family member of another honouree actually helped create his portrait. Although sculptor Erwin Kurz (1857–1931) executed the stone herm of Heinrich Hertz (1857–1894), he worked from a design by the scientist's daughter, Mathilde Hertz (1891–1975).<sup>32</sup> The notation of her name in a readily available book on the Ehrensaal assured that the public would see the statue as an especially accurate likeness. The public would not realise that the supposed accuracy rested on what could only have been fragmentary memories, since her father had died when Mathilde was a very small child. Her name publicised the real support that the museum found even on personal levels, but its glimpse into the museum's zeal for authenticity was illusory.

The question of portraiture's authenticity, however, is problematic even for sophisticated viewers. In a gallery of famous figures such as the Ehrensaal, viewers expect that although a work of art, a portrait will conform to reality. But on which reality does an artist model the likeness? As the case of the Lilienthal portrait shows, even photographs, which capture an instant of reality, are not all equally good representations of the individuals to whose momentary appearance they lend permanence.<sup>33</sup>

Museum officials were aware that portraits posed issues of choice, as is evident in the decision to recommend as a model the photograph that Mrs Lilienthal preferred. The difficulty comes into sharp focus in plans for the portrait of telephone inventor Philipp Reis (1834–1874). The records explicitly discuss how hard it was to get a good likeness of Reis. Most photographs reproduced his appearance as illness had altered it towards the end of his short life, resulting in portraits so accurate as to be unacceptable. In order to provide the artist with a better model, the museum had to locate a very rare early image and consult Reis's children and former students.<sup>34</sup>

29 Kraus, *Repräsentation*, 2013, p. 53.

30 Stinnes was supposed to contribute to a project related to the Ehrensaal, a book of portraits on solid silver pages to be given to the Imperial Institute for Physics and Technology (Physikalisch-Technische Reichsanstalt, PTR) to celebrate Werner von Siemens's centenary in 1916 (see n. 23).

31 DM to Georgii, 01.09.1916, DMA, VA 0378/5.

32 Minutes of trustees meeting, 08.05.1916, p. 6 (see n. 20); Exner (see n. 25), p. 63.

33 Brilliant, *Portraiture*, 1991, p. 23.

34 Minutes of directors meeting, 20.11.1916, *Verwaltungsbericht über das 13. Geschäftsjahr 1915–1916*, p. 27.

And there were other difficulties. The Ehrensaal held a portrait of Albertus Magnus (c. 1200–1280), whom no artist ever portrayed from life. He and his contemporaries would have been befuddled by the idea that a reproduction of his physical features could reveal anything important about him. No image of Albertus Magnus can purport to show more than how an artist imagined he might have looked. The original Ehrensaal portrait of Copernicus presents a related but more complex solution to the problem. The painting figured in a centuries-long line of copy after copy, each successive image curiously validating itself as well as its predecessors by its faithfulness to them.<sup>35</sup> But even here accuracy could be called into doubt, for the likeness ultimately descended from a painting made long years after the astronomer's death, supposedly after a lost self-portrait. The appearance Copernicus had in real life was no longer relevant; what had come to matter was only the extent to which any given portrait of him matched its brothers. The portrait substituted for reality, echoing the riposte of Michelangelo (1475–1564) to quibbles about the lack of likeness in his portraits of the Medici dukes (1526–1533, New Sacristy, San Lorenzo, Florence) and centuries later of Pablo Picasso (1881–1973) to a similar complaint about his painting of Gertrude Stein (1847–1946) (1905/06, Metropolitan Museum of Art, New York). What did it matter how the figures had once looked, the artists both said; one day, their appearance would be the one the artists had given them. For the same reason, Copernicus might as well have looked like his portraits, for not until the 21<sup>st</sup> century could the images be compared with the man's newly discovered remains.<sup>36</sup>

Moreover, when every Ehrensaal portrait was first made, comparing it with its sitter was already impossible, for the room was a gallery of the dead. Its portraits were all drawn from other, older images, as in the bust of Hermann von Helmholtz (1821–1894), a copy by Erwin Kurz of an 1891 portrait from life by the scientist's close acquaintance, Adolf von Hildebrand. Testimony from the deceased's family and friends sometimes expanded the information that portrait sources such as photographs offered.

Returning to Copernicus, let us suppose – correctly, as it turns out – that the portrait in the Ehrensaal descended from an image that actually did record the appearance he had at some point in life. It still did not represent him as the aged, dying Copernicus who published the book that made him immortal. Rather, the portrait made him identifiable, and was thus accurate in a way very different from portraits of those whose image survived in photographs and living memory. Yet in its descent from a canonical image, the Copernicus portrait differed in another respect from its companions in the Ehrensaal. Most tended to depict figures during an older stage of life, once they had become well known. The portrayed wrinkles, sagging skin, receding hair, and coarsened features of older men reinforced the association of greatness with age, an association well known to anyone familiar with Roman portraits of sages.<sup>37</sup>

The concern with obtaining accurate portraits was not mere pedantry but went hand in hand with collecting luminaries' other documents. The museum had begun systematically forming an archive of images that included photographs and film footage, the latter a problem due to its instability, and by 1918 was also collecting "voice portraits" (*"Stimmporträts"*).<sup>38</sup> The material was supposed to complement the portraits, giving viewers a means of seeing and hearing scientists and engineers as they had been in real life. The access even through reproductions mattered because of the widespread belief that images from life conveyed a person's character along with his or her physical features.

<sup>35</sup> See Kühne / Kirschner, *Copernicus-Bildnisse*, pp. XVI–XXVI, and Metzke, *Katalog*, pp. 329–415, in: Kühne / Kirschner (eds.), *Biographia*, 2002; Metzke, *Entwicklung*, Ph.D. dissertation Munich 2004, <https://edoc.ub.uni-muenchen.de/6796/> (accessed 01.10.2016).

<sup>36</sup> See Badanowicz / Allen / Branicki / Lembring / Gajewska / Kupiec, *Genetic Identification*, in: *PNAS* 106 (2009), no. 30, doi: 10.1073/pnas.0901848106 (02.09.2016).

<sup>37</sup> See Zanker, *Mask*, 1995.

<sup>38</sup> Minutes of trustees meeting, 21.10.1918, p. 15, *Verwaltungsbericht über das 15. Geschäftsjahr 1917–1918*.

Character at least as much as native intelligence and manual or technical dexterity contributed to that person's success. This internal aspect, written on the person's face and body, was an object of study more important than simply committing facial features to memory for later recognition. That at least Oskar von Miller subscribed to that concept emerges from his attitude to the "voice portraits". He came to believe that they did not contribute to any understanding of character, and he soon decided that they and unstable films would not be archived.<sup>39</sup>

### Populating the Ehrensaal 1: Wilhelmine Germany

The portraits were displayed in the first Ehrensaal in the museum's temporary home, the Altes Nationalmuseum, beginning in 1906 (Figure 4). Emphasising the room's significance was its location, a large, central space around which the smaller exhibition galleries were arranged. Portraits that commemorated well-known figures thus occupied the core of the museum, physically accentuating their centrality and the ways in which innovations develop from and build on one another, an organisational principal on which Miller placed great value.

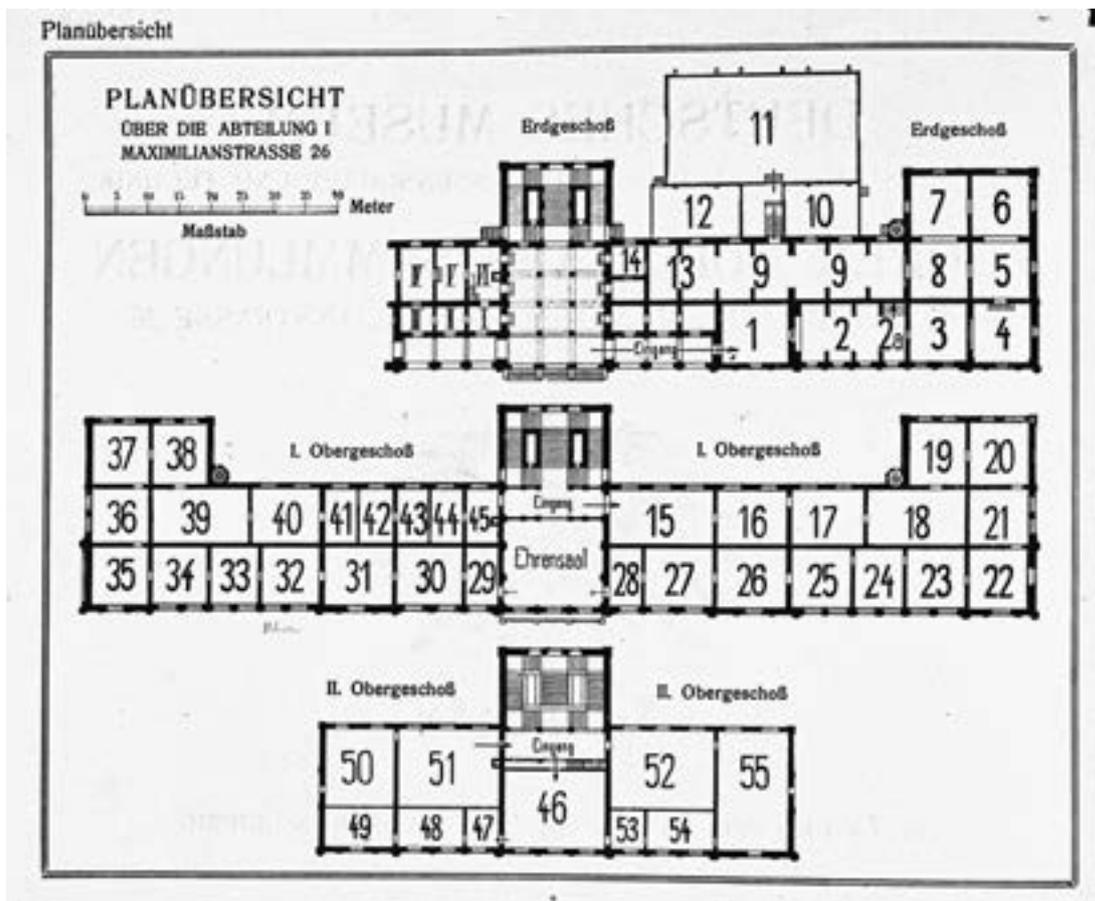


Figure 4 Floor plan of the provisional Deutsches Museum showing the central location of the Ehrensaal.

<sup>39</sup> Minutes of directors meeting, 29.12.1921, p. 3. DMA, VA 3970.

The room was deliberately kept dark at the suggestion of Emanuel von Seidl, then a consultant on the Ehrensaal. The low light in the room would communicate to visitors that it did not display objects to study, taking in their every detail. Rather, the lighting encouraged the viewer to gaze upon the portraits while contemplating their significance. The viewer could then internalise the room's message that the portraits depicted the Great Men, worthy of respect and emulation, whose ideas or whose labour had led to many of the masterpieces on display in the museum's galleries.

But the room was not another Bavarian hall of fame.<sup>40</sup> Instead of looking to examples such as the Walhalla (1830–1842), the designers of the Ehrensaal followed a common convention of art museums, including the Munich Glyptothek (1816–1830) and the Alte Pinakothek (1826–1836), which were adorned with portraits of famous artists. Replacing artists with scientists and engineers, the Ehrensaal set up a new canon of creativity. As in art museums, these figures would be chosen for their obvious merit.

But whose merit was so obvious? This question arose in the first meeting of the museum's trustees in 1904 and returned in the following years, unsettled in part because the board of directors possessed three distinct voices. Oskar von Miller had a clear supranational vision, whereas Carl von Linde and Walther von Dyck were strong nationalists. Dyck was also the board's resident historian and occasional devil's advocate.<sup>41</sup> The directors and trustees agreed on several points, though. Portraits in the Ehrensaal should display to viewers the scientists and engineers who had changed the world for the better. Museum visitors would connect the portraits to displays in other parts of the museum, gaining a firmer grasp of people who had positively influenced their lives. Ideally, the viewer's new knowledge would lead to greater respect for these geniuses, and especially younger museum visitors would feel inspired to enter scientific and technological fields.

Furthermore, as the museum first began working towards realising the Ehrensaal, Linde argued for differentiation into two basic categories. On one side stood those whose contributions had affected only one area of science and technology. On the other side were those whose work had wrought fundamental change. Only the latter should be honoured in the Ehrensaal; portraits in relevant parts of the museum – the halls of fame of individual disciplines – would distinguish figures of less distinction.<sup>42</sup>

Placing extremely well known figures in the Ehrensaal was meant to silence critics who reached a wide, educated audience that welcomed their sceptical message. The museum's defensiveness about this point surfaced in the early deliberation about including Germany's most celebrated and best-loved artist, Albrecht Dürer (1471–1528). Dürer's sculpted likeness, modelled after his long-haired 1500 *Self-Portrait* (Alte Pinakothek, Munich), was a standard fixture in German art museums, and featuring him in the Ehrensaal would have been an overt statement about the Deutsches Museum's inversion of traditional values. The argument for Dürer was based on neither his mathematical studies of proportion nor his contributions to perspective theory, scientific elements of his biography that were also integral to his art. Instead, although the museum officially endorsed the similarity between artists and scientists, the unknown author of the memorandum saw the two areas as so distant from one another that he chose to focus on Dürer's more obscure study of military engineering. As the author wrote, “[Dürer's] significance as an artist has suppressed his outstanding activity in the area of engineering too strongly in today's awareness” (*“Seine Bedeutung als Künstler hat seine hervor-*

40 Mayring (see n. 8), p. 58.

41 For his role in the Ehrensaal, see Hashagen, Walther, 2003, pp. 367–368.

42 Minutes of trustees meeting, 27.06.1904, p. 5 (see n. 6).

*ragende Tätigkeit auf dem Gebiet des Ingenieurwesens in der Kenntnis der heutigen Zeit zu stark zurückgedrängt*).<sup>43</sup> Parallelling the example of Leonardo da Vinci (1452–1519), emphasising Dürer as an engineer in the Ehrensaal might alter popular perception even as the museum appropriated his artistic fame to advance its mission.

As the suggestion of Dürer shows, the most basic criterion for entry into the Ehrensaal was a figure's level of popular recognition. The purpose of the room was not to educate viewers about people of whom they had never heard, and the Ehrensaal would literally enshrine those who were already famous. Much as art museums displayed portraits of artists who were household names, the Ehrensaal would honour candidates "who have intervened fundamentally in the development of science and technology" (*die grundlegend in die Entwicklung der Naturwissenschaft und Technik eingegriffen haben*),<sup>44</sup> Linde stated in 1904. Portraits in museum galleries would honour figures of lesser importance. By 1911 Linde had changed his formulation such that those portrayed in the Ehrensaal would be "of such path-breaking significance [as to] live in the consciousness of our nation" (*von solcher bahnbrechender Bedeutung [...], welche im Bewußtsein unseres Volkes lebt*).<sup>45</sup> Thus the nominations of Johann Beckmann (1739–1811) and Karl Karmarsch (1803–1879) in 1910<sup>46</sup> and Andreas Marggraf (1709–1782) in 1916<sup>47</sup> failed because their names were not widely known.

Starting with their first joint meeting in 1904, the directors and trustees of the museum regularly received lists of candidates.<sup>48</sup> The first list contained sixty names, and Miller noted that only a few of the figures would be represented at first. Other portraits would gradually be added, for the room's contents were intended to change with time.

Seventy-six names that appear on an alphabetical list give insight into where the museum's priorities lay in its first years: figures of the more recent past, many involved in Germany's late but astonishingly rapid industrialisation.<sup>49</sup> The list included men whose portraits had already entered the Ehrensaal. It is undated but must have been compiled around 1908, shortly after the death of Gustav Zeuner (1828–1907), the most recently deceased person on it. Eighty per cent of the listed men had lived in the 19<sup>th</sup> century, and nearly 32 per cent had died in the last decade of the 19<sup>th</sup> or the first decade of the 20<sup>th</sup> century. Local patriotism may have played a part in the high proportion, just under 28 per cent, of native Bavarians or those who had worked in Bavaria, and it certainly accounted for the nomination of brewer Gabriel Sedlmayr (1811–1901). A handful of the potential honourees represented a limited array of the pure and formal sciences. By contrast, civil, electrical, and mechanical engineers made up fully 45 per cent of the list. This group is particularly strong in captains of industry: August Borsig (1804–1854); Gottlieb Daimler (1834–1900); Hermann Gruson (1821–1895); Friedrich Harkort (1793–1880); Alfred Krupp (1812–1887); Joseph Anton von Maffei (1790–1870); Ferdinand Schichau (1814–1896); Johann Sigmund Schuckert (1846–1895); and Werner von Siemens (1816–1892). Following them are chemists, around 12 per cent of the names. Another 12 per cent had lived before 1700. These included the earliest figure on the list, Johannes Gutenberg (c. 1398–1468), Copernicus, and Johannes Kepler (1571–1630). The names of early candidates hint at a weak grasp of more distant history in their low numbers and in one error. Whoever compiled the list mistook composer Martin Agricola (1486–1556) for pioneer mineralogist Georg Agricola (1494–1555). The author also felt it necessary to explain the nomination of instrument-maker Peter Henlein (1485–1542) with a brief note, "pocket watch" (*Taschenuhr*), somewhat annulling Henlein's claim.

<sup>43</sup> List of Ehrensaal candidates, undated but probably from the 1920s (see n. 23).

<sup>44</sup> P. 5 (see n. 41).

<sup>45</sup> Linde's report to the boards, 04.10.1911, p. 36, Verwaltungsbericht über das 8. Geschäftsjahr 1910–1911.

<sup>46</sup> Minutes of directors meeting, 04.06.1910, p. 4, (see n. 6).

<sup>47</sup> Minutes of directors and trustees meeting, 08.05.1916, p. 6 (see n. 20).

<sup>48</sup> Minutes of directors and trustees meeting, 29.04.1904 (see n. 6).

<sup>49</sup> See n. 6.

Many names on the list demonstrate the early flexibility of another criterion for entry into the Ehrensaal, German nationality. Only Germans were to be represented, adding patriotic national pride to the desired reactions the room would foster. Unfortunately, the designation was both anachronistic and slippery alike.

The definition of “German” was broad, at least as far as the early candidates on the list were concerned. “German” could fit foreigners who had lived and worked in German territories for many years, Frenchman Denis Papin (1647–1713) and Massachusetts native Benjamin Thompson, Count Rumford (1753–1814). On the other hand, the reverse situation – having worked outside Germany – did not disqualify native speakers of German such as Sir William Herschel (listed as “Friedrich Wilhelm Herschel”, 1738–1822) and Friedrich König (1774–1833), both of whom first rose to prominence in England. Other native speakers, such as Alsatian Carl August Steinheil (1801–1870), originated in areas that during their lifetime lay outside German borders, while Carl Wilhelm Scheele (1742–1786) was a German-Swede. Some candidates represented the multi-national, extinct Holy Roman Empire. Alois Senefelder (1771–1834) had been born in Bohemia, where Johannes Kepler had worked. Also on the list were an Austrian, Ferdinand Redtenbacher (1809–1863), and a host of German-speaking Swiss: Leonhard Euler (1707–1783); Hans Conrad Escher (1767–1823); Paracelsus (1493–1541); Heinrich Sulzer-Steiner (1837–1906); and Johann Ludwig Werder (1808–1885). For the purposes of the list’s author, “German” was a category that applied to a figure’s language, ethnicity, or location. The foreigners whose careers took place in territories that would belong to Wilhelmine Germany assumed a German identity, which those born as Germans or as native speakers could not lose by working elsewhere.

By the time the list circulated, the earliest likenesses for the Ehrensaal had been completed.<sup>50</sup> Dating to 1904 and 1905, these are eight likenesses of different sizes and media, painting and sculpture. The selection of disparate media and dimensions arose only in part from practicality. Since the portrait gallery would grow over time, it could not contain too many large works, but a collection of small portraits would produce too weak an effect. As affecting the viewer was crucial, examining the differences among the portraits becomes important. The differences reveal that the artists made sophisticated decisions that helped viewers to divide the subjects of the portraits into two more meaningful subgroups, the distant and the recent past.

Painters working in oil produced four large-scale, full-figure portraits depicting Otto von Guericke (1606–1686), Gottfried Wilhelm Leibniz, Carl Friedrich Gauss, and Joseph von Fraunhofer (1787–1826). The viewer sees each man in an interior, wearing archaic period dress, and posed with attributes to show his engagement in activity expressing his work. Two, Fraunhofer and Leibniz, look to the side, deep in thought, but in different directions, Fraunhofer to the left, Leibniz to the right. Guericke and Gauss, on the other hand, look out of the canvas to pierce the viewer with their gaze.

Related distinctions appear in the much more abstract, carved portraits of Alfred Krupp, Robert Mayer (1814–1878), Werner von Siemens, and Hermann von Helmholtz. The more recently deceased honourees are more classical than their painted companions. Their carved portraits are nude and otherwise conform to conventions adopted from ancient Rome. Krupp and Siemens are neck-length profiles in low relief, one looking right and the other left. Mayer and Helmholtz are busts that look out over the space in which they stand.

<sup>50</sup> P. 6 (see n. 41); report of Walther von Dyck, 03.10.1905, pp. 21–22, Verwaltungsbericht über das 2. Geschäftsjahr 1904–1905.

As in the paintings, the portrayed's gaze stimulates varying emotional and physical reactions in the viewer. We know that a portrait is not a real human being, but we nonetheless transfer our lived experience to the inanimate: the portrait that looks out seems to look at us, and we feel drawn to it. On the other hand, portraits that gaze away and in directions opposite from one another encourage a viewer's movement around a gallery. Walking through the Ehrensaal of a century ago the viewer saw long-dead ancestors in oil and their sculpted, more recently deceased descendants, who in turn were the figurative grandfathers and fathers of the first succeeding generations who visited the room.

That initial group of portraits, chosen by Linde<sup>51</sup> but almost certainly in consultation with Dyck,<sup>52</sup> announced the program behind the Ehrensaal portrait gallery. The honourees and their contributions are so well known as to make their choice seem obvious, yet as the group that made the Ehrensaal's opening statement, the portraits represent the conclusion of an argument. Rather than take the choice of portraits as a given, we should instead seek the elements of that argument, mentally reconstructing the idea of the Ehrensaal as it began to take on a physical form. And what the program argued was unity, not disparity. Most basically, the choice showed that the history of German science and technology had begun long before the Industrial Revolution; that its representatives included men who were native to many different parts of modern Germany; that they ranged from highly educated professors to those with little formal education; and that they had enjoyed state support, often as princely patronage. Most of those statements about the past, slightly modified, had a direct applicability to the museum and its present desire for the widespread engagement in and support for science and technology. Placed side by side, the portraits reminded the viewer that science as moderns conceive it emerged from what since ancient times had been considered the highest of the liberal arts, philosophy – natural philosophy, a deep consideration of the world and the rules that formed and bound it. One honouree, Helmholtz, demonstrated in his writings that the venerable tie between science and philosophy remained vitally unbroken well into the modern period. More subtle evidence for that internal continuity lay in the ease with which many of the men had moved between theory and practice, creating literal or metaphorical tools that they handed down for others to use across a vast range of disciplines and industries. Krupp and Siemens in particular had changed how the world looked not simply in theoretical terms, but by means visible and tangible to an extremely broad, even international audience. Yet in all eight cases, change began with an essentially, profoundly intellectual activity: perception. Perception had allowed all eight honourees to see a problem and identify its nature before searching for and finding its solution. The process characterises creativity, which was present to a high degree in the first men the museum presented to visitors as worthy of honour and emulation.

The museum continued the pattern of adding only Germans to the Ehrensaal throughout its first decade, although the topic of voting for foreign representation kept arising. Aware of the dependence on support and cooperation from foreign entities that might feel slighted by the exclusion of their celebrities, Linde pointed out in 1911 that “until now” (*bisber*) only Germans had been commemorated, but that might change in the future.<sup>53</sup> He reminded his audience that the Ehrensaal was not the only place in the museum where portraits were on display and that the museum indeed had monuments to foreigners in those other spaces.<sup>54</sup> These portraits were also donations received with great pomp, as reports on the later installation of a Michael Faraday (1791–1865) portrait demon-

51 Mayring (see n. 8), p. 72.

52 See Hashagen, Ein unbekannter, in: Kultur & Technik 30 (2006), no. 4, esp. p. 40, [http://www.deutsches-museum.de/fileadmin/Content/data/020\\_Dokumente/040\\_KuT\\_Artikel/2006/30-4-43.pdf](http://www.deutsches-museum.de/fileadmin/Content/data/020_Dokumente/040_KuT_Artikel/2006/30-4-43.pdf) (accessed 17.09.2016).

53 (See n. 24).

54 See Schröter, Ehrensäle, in: Deutsches Museum, Sonderdruck aus der illustrierten Halbmonatschrift Das Bayerland (1933), pp. 8–9.

strate. Draped in the English flag, the marble bust entered the Ehrensaal on the shoulders of English students before it was carried into the Room of Honour of Electrical Engineering.<sup>55</sup>

And yet regardless of precedent, and knowing the opposition he would meet, Oskar von Miller still wanted to internationalise the Ehrensaal in the permanent museum building. He seems to have believed that he could eventually convince the museum's other decision-makers to accept portraits of foreigners.

In January 1914, Miller was so confident of his plan that he described it in detail to one of his artistic advisers, painter-prince Franz von Stuck.<sup>56</sup> Miller described the Ehrensaal as a shrine holding twelve busts on columns made either of marble from famous quarries or richly ornate stone such as onyx. The busts would represent one scientist or engineer from each country named in a list included in the letter. These were not merely Western countries, but also their colonies, as well as "Egypt or Turkey". Both designs for the room discussed above feature the columns Miller mentioned and must date to about this time. The second sketch shows the veining in the stone of the columns, which tower over the visitors to the room and rise to at least twice the height of a man. Busts on smaller pedestals flank each column, but even these sculptures are above eye level. The visitor to the room would glide over its mirror-like floor and have to look up to the gallery of immortals from around the world.

Miller could not make so radical a change by himself. Presenting the idea to the museum's board of trustees in May 1914, he explained that the new portraits would be differentiated from the others.<sup>57</sup> The foreign portraits would form a discrete group within the room, unified in both style and placement, but occupying the same space as the Germans whose portraits had already been adopted. If a country on his list had no truly outstanding figure worthy of representation, Miller suggested that the board should consider allowing entry to rulers who had supported science and technology. Linde in particular spoke out against Miller's plan, but finally the board agreed to a compromise. Not all countries on Miller's list should be represented; foreigners could gain entry independent of national considerations and only if their achievements were major.

Miller retold the story of the plan to a journalist in 1930.<sup>58</sup> According to Miller, he had elicited a promise from Kaiser Wilhelm II (1859–1941) to intervene with his fellow rulers, persuading them to donate funds for such exorbitantly luxurious portraits. Miller claimed that the outbreak of the First World War just a few months later had put a violent end to the concept.

His version of the course of events is inaccurate. In fact, by May 1914 Miller was backing away from his own idea in favour of a modified plan that irrespective of nationality would allow any foreigner to be represented in the Ehrensaal, provided he or she was especially distinguished.<sup>59</sup> This was the concept that died during the war, when Swiss nationality barred the formerly eligible Leonhard Euler from consideration.<sup>60</sup>

The museum, now an enormous construction site, found itself in grave difficulty from the beginning of the war. It immediately lost a third of the staff to the military, and it let others go to work in industries connected to the war.<sup>61</sup> The museum pledged to make up the difference of their lower pay,

<sup>55</sup> Anonymous, Festtag, in: *Münchner Neueste Nachrichten* 1932, no. 259, and Anonymous, Ehrung, in: *Münchner Zeitung* 1932, no. 262, both DMA, VA 0987a; see also p. 21, *Verwaltungsbericht über das 29. Geschäftsjahr 1932–1933*.

<sup>56</sup> Miller to Stuck, 15.01.1914, DMA, VA 0382/5.

<sup>57</sup> Minutes of trustees meeting, 09.05.1914, p. 5 (see n. 20).

<sup>58</sup> Anonymous, Oskar von Miller, in: *Münchner Neueste Nachrichten* 212, 06.08.1930, newspaper clippings collection, DMA, VA 0976a.

<sup>59</sup> Minutes of directors and trustees meeting, 09.05.1914 (see n. 20).

<sup>60</sup> Minutes of directors meeting, 08.05.1916, p. 6 (see n. 20).

<sup>61</sup> Summarised here and in the following paragraph is information from the minutes of the directors and trustees meetings in Berlin, 27.–28.10.1915, pp. [3]f., *Verwaltungsbericht über das 12. Geschäftsjahr 1914–1915* and a report on wartime measures ("*Bericht über Kriegsmassnahmen*") (see n. 38).



**Figure 5** Unfinished construction of the Deutsches Museum, Dec. 1917.

a patriotic gesture that cost about 2000 marks a month. By 1915, half of the museum's employees were serving in the military. The German state began confiscating metals for munitions production; the museum lost its brand-new copper roof, and there could no longer be any consideration of copper fixtures, let alone gilded ones, for the Ehrensaal. The planned ceiling painting would in time also be affected by shortages, but the difficulties there were minor. The museum, a very large building, was still little more than a shell, where the lack of labour and material caused construction to slow within two years and to stop altogether by summer 1917 (Figure 5).<sup>62</sup>

A few months after the war had begun, in November 1914, the directors decided that general designs for the Ehrensaal should be proposed by the following February and that the room should be finished between July 1915 and March 1916.<sup>63</sup> Overly confident, the museum also announced finishing work on the room in its 1915 administrative report.<sup>64</sup> Although shortages had halted other projects, this and other decorative work continued, in part because there was no lack of artists seeking employment, but largely as a morale-building effort.

The 1916 administrative report announced that Miller had gained special patrons for the room: Gustav and Bertha Krupp von Bohlen und Halbach (1870–1950 and 1886–1957) (Figure 6). The couple were ideally suited to the task. They figured among the wealthiest people in the world and

<sup>62</sup> Minutes of directors meeting, 21.10.1917, p. 9, Verwaltungsbericht über das 14. Geschäftsjahr 1916–1917.

<sup>63</sup> Discussion of construction deadlines, 18.11.1914 (see n. 38).

<sup>64</sup> See n. 60.



Figure 6 Oskar von Miller and Gustav Krupp von Bohlen und Halbach.

would easily be able to cover the expense of finishing the Ehrensaal. They were also major patrons of cultural institutions, not just in Essen,<sup>65</sup> and their firm had long been a donor to the museum's construction. But what made the project of particular appeal was how it welded together Gustav Krupp von Bohlen und Halbach's wealth, confidence in his judgement, belief in German superiority, and interest in art.

Krupp von Bohlen und Halbach approved of how the museum's mission and message had shifted in response to the war. No longer directing an institution that would unite many diverse nations, Miller and his colleagues now saw their first and foremost duty in helping in the field and on the home front. Efforts included the purchase of war bonds, a donation to care for the wounded, and the establishment with the Red Cross of a sewing shop. Some objects from the collection were turned over to the military for training purposes, and in 1916 the museum defiantly declared

Especially the Deutsches Museum, like hardly any other endeavour, will prove to the whole world that the German nation excels in its courage and proficiency not only in battle, but also in its ability to achieve the greatest when it is needed to raise human culture for the benefit of all nations. (*Gerade das Deutsche Museum wird, wie kein anderes Unternehmen, der ganzen Welt beweisen, daß das deutsche Volk nicht nur im Kampfe durch seine Tapferkeit und Tüchtigkeit hervorragt, sondern daß es vor allem auch das Größte zu leisten vermag, wenn es gilt, zum Nutzen aller Völker die menschliche Kultur zu heben.*)<sup>66</sup>

65 Köhne-Lindenlaub, Private, in: Mai/Pohl/Waetzold (eds.): *Kunstpolitik*, 1982, pp. 55–81.

66 Minutes of directors meeting, 20.11.1916 (see n. 33).

The statement referred to the museum in general but in particular to the Ehrensaal, the nationalistic and potentially militaristic character of which now became pronounced. The war saw the successful nomination of Otto Lilienthal, pioneer of an exciting new technology that had begun demonstrating its military uses.<sup>67</sup> Similarly, the board of trustees in 1917 was urged to consider whether “in view of the great significance of submarines” (*“mit Rücksicht auf die grosse Bedeutung der Unterseeboote”*) to nominate their pioneer, Wilhelm Bauer (1822–1875), for entry into the Ehrensaal.

The wartime need to stress German primacy brought a relatively obscure figure, Philipp Reis, into the Ehrensaal.<sup>68</sup> Reis’s original telephone had formed an early exhibit in the museum, where it was displayed in a footed case, the curly ornament of which visually punned on the shape of the model ear included in the exhibit.<sup>69</sup> His was not a household name, in contrast to other honourees, but in 1916, at the height of the war, Reis’s portrait nevertheless was voted into the pantheon. Placing Reis in the Ehrensaal elevated him and nudged viewers to perceive technological advancement in a more German light. As a museum visitor noted in 1926, many people attributed the invention of the telephone to the world-famous Alexander Graham Bell (1847–1922) because they had never heard of Reis.<sup>70</sup> Oskar von Miller himself had doubts about including Reis in the Ehrensaal, noting more than a decade after the nomination, in 1930, that his work had remained unknown and therefore useless.<sup>71</sup> Miller understood that Reis’s presence in the Ehrensaal violated the original intention of the room, which was not supposed to rewrite history, but to cement it.

The war changed the museum and the Ehrensaal in more concrete ways, as well. Nearly all of the opulent decorative ideas had to be abandoned due to wartime shortages and inflation. Already by the spring of 1915, when Miller asked for estimates for marble panels and trim for the Ehrensaal, quarries replied that they had lost so many workers to military conscription that they lacked the manpower to deliver the order.<sup>72</sup> One sculptor Miller wanted to commission with the *Prometheus*, Bernhard Bleeker (1881–1968), had been called up,<sup>73</sup> and Miller was unsuccessful in his attempt to effect the release from military service of another sculptor, Fritz Behn.<sup>74</sup> The statue would now be cast in iron, not bronze; rather than gilded, it would receive silver plating only on the globe and torch the figure was to carry.<sup>75</sup>

The Ehrensaal would eventually cost the Krupp couple 180,000 marks,<sup>76</sup> but they had already donated 500,000 marks in war bonds to the Deutsches Museum in 1917.<sup>77</sup> Much of the funding they donated came from the gigantic profits the Krupp firm was making during the war, and Gustav Krupp von Bohlen und Halbach urged the directors in 1917 not to delay asking for donations for constructing the planned library. With the arrival of peace, he stated, the rich funds the war had placed at donors’ disposal would dry up.<sup>78</sup> He was right, although he could not have foreseen the economic devastation that peace would bring. It would have a direct impact on the Ehrensaal.

67 The portrait, commissioned from Theodor Georgii, was not completed until 1920 (see n. 30).

68 See n. 40.

69 See Füßl, *Gründung*, in: Füßl/Trischler (see n. 12), p. 100, fig. 10, a photograph of 1907.

70 Report of travel fellowship recipient, Werner Esperstedt, 07.05.1926, (see n. 125), p. 6; see also Dienel (see n. 12), p. 110.

71 Report of Jonathan Zenneck, p. 22, *Verwaltungsbericht über das 27. Geschäftsjahr 1930–1931*.

72 DMA, VA 0375/2; VA 0377/1.

73 Miller to Bleeker, 29.12.1915, DMA, VA 0376/2.

74 Miller to Hendschel (Bavarian Interior Ministry), 17.06.1918, and the postcard reply, 13.08.1915, both DMA, VA 0375/3.

75 Discussion of Miller and artistic advisers, 28.07.1917 (see n. 38).

76 DMA, VA 1033.

77 DMA, VA 166/5 and (n. 75); see also Kraus (see n. 28), p. 31; James, Krupp, 2012, p. 140.

78 Minutes of directors meeting, 09.06.1917 (see n. 20).

### From War through Revolution to Republic: Julius Diez (1870–1957) and the Ehrensaal Ceiling Painting

A ceiling painting was to be the centrepiece of the room, propagating a humanistic message that would disarm the mandarins and show how much at home in Munich's museum landscape the Deutsches Museum was. Its importance meant that the museum had to engage a respected and experienced artist. The board of directors, their artistic advisers, and the patrons in Essen eventually awarded the commission to Julius Diez. His personal style owed much to Arnold Böcklin (1827–1901) and Franz von Stuck, although informed by a nervous line and Rococo sensibility alien to them. No longer well known, Diez was a typical Munich artist, competing with others in a shrinking market. He was not an easel painter, but an artist who turned his hand to many different types of commercial design and decorative work. A staff illustrator and caricaturist for *Jugend* since the magazine's foundation in 1896, he was a professor at the Munich School of Applied Arts and a Secession member. Like most of his colleagues in Munich and his Essen patrons, Diez was implacably hostile to modernist abstraction and subject matter. Equally important for his involvement with the Ehrensaal were his art-historical knowledge and marked talent for listening carefully to his patrons, and yet in his composition for the Ehrensaal Diez reworked elements present in many of his other commissions.

Among those forerunners were the mosaics that Diez designed for the rotunda of Friedrich von Thiersch's Kurhaus in Wiesbaden, opened in 1907 (Figure 7).

**Figure 7** Julius Diez, *Diana*, mosaic for Kurhaus, Wiesbaden, 1907–11.



The Diez mosaics depict the Roman divinities Apollo, Diana, Neptune, and Venus and reveal the influence of Munich turn-of-the-century classicism, with its combination of organic forms, geometry, and rich ornamentation that features gold. In stucco roundels, a thin circular mosaic frame surrounds each deity. They stand or sit on litters borne by fanciful animals or, as in the Venus, by putti, and each group moves across a rigid ground line. Diana in particular prefigures Diez's monumental decorative paintings such as that for the Deutsches Museum. Wrapped in a dark robe that reveals her nude upper body, she raises her left hand, which holds a glittering golden crescent moon surrounded by stars.

Diez had recently expanded his interest in decoration to ceiling paintings when he received the commission from the Deutsches Museum. In 1916 he executed a *Luna* on canvas for ceiling of the music room of Emanuel von Seidl's Schloss Stein (Figure 8).<sup>79</sup> Diez received extra publicity for this work when he exhibited its tempera sketch in the 1917 Glass Palace show.



**Figure 8** Julius Diez, *Luna*, 1916.

<sup>79</sup> Wolf, Deckengemälde, in: *Die Kunst* 32 (1916–1917), no. 9/10, pp. 179–182, [http://digi.ub.uni-heidelberg.de/diglit/kfa1916\\_1917/0197](http://digi.ub.uni-heidelberg.de/diglit/kfa1916_1917/0197) (accessed 01.10.2016).



**Figure 9** Julius Diez,  
*Astronomical Event on  
 New Year's Night*, 1916.

*Luna* is still extant and was recently restored. The personified moon is a tall woman wrapped in a dark robe that has slipped down to reveal her upper body. She holds the lunar disc upright in her right and grasps the reins of her chariot in her left. Two fallow deer are pulling the chariot across a transparent bridge that arches through a deep blue sky. The animals relate to the deer from his *Diana* mosaic in Wiesbaden, but here the goddess has further company. Ringed around her is the zodiac, depicted as symbolic figures and with stars; Sagittarius at the left appears to be shooting at Leo on the right.

*Luna* stands under the influence of the blue-and-gold zodiacal ceiling in the music room of the Villa Stuck and reiterates themes to which Diez repeatedly turned in his work. For example, Diez depicted a nude, striding female figure holding a ball of stars in her outstretched left hand in *Tempus*, a watercolour dated 1913 and shown with the Secession in the Glass Palace in 1914.<sup>80</sup> The question of time and astronomical bodies comes up in a colour illustration in a 1916 issue of *Jugend* that represents a small bowman reaching out from within a circle of stars to shoot a much larger, fish-tailed figure in the throat (Figure 9). That the raging war inspired the work can be seen in its title: *Astronomical Event on New Year's Night: The German Sagittarius Kills the English Aquarius* (“*Astronomische Neujahrsnacht-Erscheinung. Der deutsche Schütze tötet den engl. Wassermann*”).

<sup>80</sup> Kunstaussstellung, 1914, p. 24; see also pl. 22, [http://digital.bib-bvb.de/webclient/DeliveryManager?custom\\_att\\_2=simple\\_viewer&pid=4158360](http://digital.bib-bvb.de/webclient/DeliveryManager?custom_att_2=simple_viewer&pid=4158360) (accessed 01.10.2016).



Figure 10 Julius Diez, *Science*, 1917.

The signs of the zodiac or of the planets appear in several other Diez illustrations for *Jugend*. Sometimes these are lighthearted, such as in his cover design for the first issue of 1925.<sup>81</sup> Diez has turned the archer, ram, triton, fish, and other zodiacal creatures into rides on Time's star-bedecked carousel. The tent-like top of the carousel is painted dark blue, like the sky of *Luna*, and studded with a sun and more golden stars.

A similar concept governs Diez's smaller painting on wood panel for a room in the Munich house of Hermann Anschütz-Kaempfe (1872–1931) (Figure 10). The painting of 1917 also filled a roughly circular space and contained a personification, this time of Science. Diez placed Science in the centre of his composition, representing her as a lone figure fully dressed and crouching before a globe. Framing the image is a stylised compass rose with a playful border. Bird-legged female monsters ride on the back of a sea turtle at E-S, while at E-N a ship confronts the giant claws of a crab so large that its body lies outside the composition. A goggle-eyed octopus grabs a triton at N-W, and at S-W another ship sails away from a sea dragon. W features a sea lion in which Diez combined the physical characteristics of the marine mammal with those of the king of the beasts. This sea lion, complete with mane and crown, is carrying beaked monsters on his back.

Both works are close relatives of that in the Ehrensaal, but they show their relationship in differing ways. *Luna* and *Science* are female personifications, like those in the Ehrensaal. Also like the later figures, *Luna* moves through the zodiac on a transparent, airy bridge. The Anschütz-Kaempfe *Science*, on the other hand, offers a more subtle comparison. The comic scenes Diez painted in the frame encourage the viewer to circle the central image, moving in order to appreciate each vignette and not coincidentally echoing the motion of a compass needle. Painted for the inventor of the gyrocompass, this composition was particularly apt, a masterful demonstration of Diez's ability to connect his work to the patron. The ability would stand Diez in good stead as he worked for Oskar von Miller and Gustav Krupp von Bohlen und Halbach.

Many elements of those works reappeared in Diez's painting for the Ehrensaal. Painted in casein directly on the plaster of the vault, the work measured roughly 1000 × 1600 cm. The painting depicted three female figures and was entitled *Science and Technology Led by Progress* (*“Wissenschaft und Technik vom Fortschritt geführt”*) (Figure 11).<sup>82</sup> It no longer exists, but we can glean information about it from surviving black and white photographs and illustrations, as well as a recently rediscovered sketch in tempera on canvas (Figure 12).<sup>83</sup>

<sup>81</sup> *Jugend* 30 (03.01.1925), no. 1, p. 1, [http://www.jugend-wochenschrift.de/index.php?id=24&tx\\_lombkswjournaldb\\_pi1%5Fvolume%5D=79&tx\\_lombkswjournaldb\\_pi1%5Faction%5D=showVolume&tx\\_lombkswjournaldb\\_pi1%5Fcontroller%5D=YearRegister&cHash=6bebbc51a29564b7bff7bacc5d147781](http://www.jugend-wochenschrift.de/index.php?id=24&tx_lombkswjournaldb_pi1%5Fvolume%5D=79&tx_lombkswjournaldb_pi1%5Faction%5D=showVolume&tx_lombkswjournaldb_pi1%5Fcontroller%5D=YearRegister&cHash=6bebbc51a29564b7bff7bacc5d147781) (accessed 04.10.2016).

<sup>82</sup> Incorrect identification of *Progress* as a male figure: Mayring, *Bilder*, 2008, p. 260; Kaltwasser: *Museumsarchitektur*, in: *Kultur & Technik* 35 (2011), no. 2, p. 46.

<sup>83</sup> Accession number 71035. The work is supposed to have entered the collection in 1950. See Mayring (see n. 81), pp. 260–261, cat. no. 403. Diez created multiple variations of the composition; see Schießl, Julius, 1940, pp. 10 and 12; Braungart, Julius, 1920, unnumbered plate.



Figure 11 Julius Diez, *Science and Technology Led by Progress*, 1919.

Figure 12 Julius Diez, *Tempera sketch for Science and Technology Led by Progress*.



Miller invited Diez to submit a design in late June 1916, and Friedrich August von Kaulbach, who was particularly interested in the project, enthusiastically endorsed him in a letter to Seidl:

I [...] saw Diez's ceiling that he painted for one of your mansions. My first thought was: that is the solution that would be the best and most fortunate for the hall in the museum. [...] No one will be able to make something more suitable for this space. Certainly not I. [emphases in the original] (*Ich [...] sah Diez seinen Plafond den er für eines Deiner Schlösser gemalt hat. Mein erster Gedanke war: das ist die Lösung, wie sie für den Saal im Museum die beste und glücklichste wäre! [...] Niemand [wird] etwas für diesen Raum Geeigneteres machen. Ich erst recht nicht[.]*)<sup>84</sup>

Kaulbach's opinion had great weight, but Angelika Kaltwasser is incorrect in stating that he was solely responsible for making the decision.<sup>85</sup> The artists on the advisory committee did not accept Diez's proposal until January 1917, seven months after he had entered the competition.<sup>86</sup> By the beginning of March 1917, Diez was requesting a larger amount than the 18,000 marks Miller had offered.

Diez had proposed a composition that included astronomical imagery. Originally he envisioned a golden zodiac on a wheel of dark clouds.<sup>87</sup> A bright opening in the clouds would reveal Time lighting the torch of Technology. The design was eventually rejected in favour of a three-figure composition with Progress, Science, and Technology.<sup>88</sup> Further, the constellations of the zodiac would be interspersed with abstract representations of various technological objects. These figures would surround the central image and would be executed in stucco by a specialist following Diez's designs.

Miller overwhelmed Diez with suggestions and illustrations to use as models, insisting on representational accuracy, not artistic liberty. Sometimes he also relayed ideas that Linde or Krupp von Bohlen und Halbach had contributed, for both men remained involved in the project. Linde seems to have enjoyed pondering scientific allegories, while Krupp von Bohlen und Halbach shared Miller's desire to maintain a high degree of control.

Details from Miller's correspondence with the artist comically underline the differences between the backgrounds of the two men, as when Diez thanked Miller for sending the image of a plough. That model, presumably one that accurately illustrated a modern implement, Diez wrote, was "considerably clearer than [my] plough, which derives from a Greek vase painting" ("*wesentlich klarer als der von mir gebrachte Pflug, der einem griechischen Vasenbild entnom[m]en*").<sup>89</sup> He was less willing to yield on the design of a scale; rather than including one based on historical models, Diez explained that this detail would be symbolic and therefore abstract.<sup>90</sup>

The changes that Miller kept demanding meant that by late in the war the ceiling was still not finished. Indeed, Diez had not even begun painting it. Inflation caused Diez again to request more money in September 1918.<sup>91</sup> War shortages also posed difficulties. Diez had agreed to paint his composition in casein on canvas that would be affixed to the Ehrensaal vault, but now he could obtain neither canvas nor glue, he claimed.

<sup>84</sup> Kaulbach to Seidl, 04.08.1916 (see n. 14).

<sup>85</sup> Kaltwasser (see n. 81), p. 45.

<sup>86</sup> Miller to Diez, 27.06.1916 (see n. 14) and 26.01.1917, DMA, VA 0377/2.

<sup>87</sup> Diez to Miller, 29.11.1916 (see n. 12).

<sup>88</sup> Miller to Diez, 26.01.1917 (see n. 12).

<sup>89</sup> Diez to Miller, 21.10.1917 (see n. 12).

<sup>90</sup> Diez to Miller, 30.12.1917 (see n. 85).

<sup>91</sup> Diez to Miller, 23.09.1918 (see n. 85).

As bad as the last months of the war had been, the revolutionary period that followed was worse. In January 1919 the stucco sculptures on the ceiling were finished, but on 8 April, Diez wrote to ask “in consideration of political circumstances” (*“in Anbetracht der politischen Verhältnisse”*) if his contract with the museum was still valid.<sup>92</sup> He meant the Council Republic that had been declared just two days earlier. A terse reply, written on the day that the Communists under Eugen Leviné (1883–1919) took power, stated that the museum would understand if Diez missed a deadline.<sup>93</sup> There was no need to mention widespread starvation, marauding soldiers, and the demonstrations, brawls, beatings, and murders that were taking place in the streets of the city.

The correspondence broke off at this point and picked up again only after the right-wing Freikorps had put down Munich’s Red government. In late June 1919 Miller reluctantly agreed to Diez’s suggestion that he should paint in casein directly on the plaster. Miller stated that he would have preferred a fresco painting,<sup>94</sup> the classic medium for ceiling paintings. Miller did not grasp that Diez’s experience did not include that difficult technique. Nor did he understand how much time that would have added to a work that was already long overdue and that was no longer driven by its patriotic wartime purpose. Diez painted through the rest of the summer and was still continuing the job of gilding into the autumn. The artistic committee approved Diez’s work in October,<sup>95</sup> and yet the rest of the room remained incomplete, with bids for finishing the walls and floors solicited in January and November 1921.<sup>96</sup>

Diez’s battles with Miller also continued. Still resenting the size of his fee, but now intimately acquainted with Miller’s stubbornness and penny-pinching, Diez complained to fellow Munich painter, Felix von Ende, Bertha Krupp’s uncle. Ende forwarded the letter to Miller, who noted Diez’s accusation of having received an “unworthy payment” (*“eine unwürdige Bezahlung”*) and agreed to raise the fee to 40,000 marks in June 1921.<sup>97</sup> The amount approximated what Diez had requested in 1917, although by then inflation meant that it was worth a great deal less.

The painting remained invisible to a wider public until spring 1921.<sup>98</sup> Diez saw this as a problem affecting his future. He was no longer young, and he needed the new, large-scale, lucrative commissions that he hoped the painting would bring.

Diez ensured that his work was advertised in advance through a book lavishly illustrated with reproductions of his sketches and the painting (Figure 13). Published in 1920 and authored by critic Richard Braungart (1872–1963), the monograph made the ceiling painting a special focus. The building in which the painting was located, Braungart wrote, was “this half-finished colossus, standing there like a ruin, silent and sad and awaiting its completion” (*“dieser halbfertige Koloß [steht] wie eine Ruine stumm und traurig da und wartet auf seine Vollendung”*), inadvertently becoming a “symbol of our time” (*“Symbol unserer Zeit”*).<sup>99</sup> No longer a monument to German organisational skills and will to prevail, the Ehrensaal and the Deutsches Museum had transformed into emblems of the utterly new and unfamiliar republic in which Germans now lived. Braungart imagined the astonishment of the visitor to the museum’s “frightening wasteland” (*“schaurige Öde”*) when he suddenly looked up to see the “shining miracle” (*“das leuchtende Wunder”*) of the Ehrensaal ceiling.

92 Diez to Miller, 28.01. and 8.4.1919 (see n. 85).

93 Deutsches Museum to Diez, 12.04.1919 (see n. 85).

94 Miller to Diez, 28.06.1919 (see n. 85).

95 Diez to Miller, 23.10.1919 (see n. 16).

96 Minutes of directors meetings, 10.–11.01.1921 and 21.–22.11.1921 (see n. 6), pp. 9 and (2).

97 Miller to Diez, 23.06.1921 (see n. 85).

98 Clipping from Münchner Neueste Nachrichten 175 (26.04.1921) (see n. 12).

99 Braungart (see n. 82), pp. 97–98.



Figure 13 Julius Diez, *Science and Time*, cartoon for right half of ceiling painting.

The “miracle” to which Braungart referred was an enormous, not quite perfectly symmetrical composition, a blue heaven floating above a room trimmed in faux marble and dominated by grey and gold.<sup>100</sup> The composition read from left to right, paralleling written language. The viewer looking up to the painting saw Technology to the left, Science and Progress to the right. Diez implemented *di sotto in sù*, the distorted perspective of traditional ceiling painting that produces the illusion of three-dimensional figures located directly above the viewer. Seen thus from below, the personifica-

100 Bosch, Museumsneubau, in: *Das Bayerland* 30 (May 1925), no. 10, p. 302.

tions were crossing a transparent, colourless rainbow, one of two arching between rocky promontories. Behind the women, a herd of white horses galloped from the left to the right, symbolising the passage of time. The direction of the horses was the same as that of the women.

Progress, in Diez's sketches his familiar personification of Time, was a fair-skinned nude wearing a winged crown from which her dark curls fell. Striking out with her left leg, she reached back towards Science with her right arm. Science, even fairer skinned and standing in contrapposto, her weight resting on her left leg, looked back towards Technology. She was wrapped in a classicising dark yellow gown, a red drape around her middle and a green undergarment peeking out from the hem of her dress. Her hair was neatly pulled back, away from her face. Her upraised left hand supported a sceptre topped by an owl, a classical symbol of wisdom but also of the Deutsches Museum. Her right arm reached to Technology, lifting the torch from which the last figure lit her own, receiving inspiration, as Braungart wrote, "which is after all the main purpose of this technological museum" ("*was ja auch der Hauptzweck dieses technischen Museums ist*").<sup>101</sup>

Technology, nude except for a billowing blue drape held at her waist with a ribbon, was darker skinned than either of the other figures. Her stance was also markedly bolder, with her right leg angled out behind, her left knee deeply bent. On that thigh she rested the heavy smith's hammer in her left hand, while she thrust her torch high in the air towards Science. Also indicative of her energy was her hair, which slipped from its ties to blow in the wind of her movement.

Although viewers with a classical education would have understood the symbolism of the painting, the significance of the subtle details in the composition appears only on closer study. All of the personifications are women, but the sketch, drawings for, and photographs of the finished painting show that Diez nevertheless gendered them as masculine and feminine. One means he adopted was rooted in art history. Many cultures, such as that of ancient Egypt, depict men as darker skinned than women. Diez's Science had fairer skin than Progress, but Technology was much darker than either of her companions. She is a particularly interesting figure. The colour sketch reveals her reddish tint, gained from exposure to the sun and lending her a masculine cast despite her otherwise female anatomy. Technology's muscular physique and powerful stride, as well as the hammer clutched in her left hand, further signal this masculinity. Diez characterised her in a way fully consistent with humanist ideas, which had already been reflected in her personification as the male-female, would-be Tenth Muse in Ostini's play. Progress, too, is a moving, muscular figure, while Science is a willowy, modestly dressed, girlish figure, her pale skin a sign of her life indoors. Her contrapposto stance means that she alone stands still, in contrast to Technology and Progress and racing time. Her classicising dress places Science firmly within Western tradition and embodies culture even as it emphasises by contrast the raw, elemental nudity of Technology and Progress. Far from signifying erotic power, their lack of clothing is rooted in another classical tradition, that of the heroic. The nude hero stands – or in this case strides – beyond the conventions that govern ordinary life.

The ceiling painting for the Ehrensaal contained more references that would not have been hidden to some in its original audience. Although the painting bore no overt war imagery, it invites comparison with a war caricature by Diez, *America's God (Ceiling Painting in Wilson's Dining Room)* ("*Der Gott Amerikas [Deckenbild in Wilsons Speisesaal]*") (Figure 14). *Jugend* published the caricature in its issue of 3 June 1917, two months after the United States entered the war. Diez drew the caricature

101 Braungart (see n. 82), p. 98.

during the same time period in which he devised the composition for the Ehrensaal. Here another figure with Mercury’s winged helmet, winged sandals, and winged caduceus floats above the Earth in a star-spangled heaven. In contrast to the personifications in the Ehrensaal, the figure is male. He is also neither classically young nor beautiful, but wrinkled and sinewy. His profile wears the aquiline features of the Native Americans in portraits by George Catlin (1796–1872) or, a source that is more germane, of the Indian Head nickel, then a new coin (Figure 15).



Figure 14 Julius Diez, *America’s God* (Ceiling Painting in Wilson’s Dining Room), 1917.



Figure 15 James Earle Fraser (1876–1953), Indian Head nickel, 1913.

The heavy jewels of a barbarian dangle from his ears, encircle his throat and wrists, and load down his fingers. Unlike the female figures in the Ehrensaal painting, he is seated on a throne, not standing or moving vigorously forward. Passive, he lounges on clouds of smoke, not a glassy arch, looking up instead of at the world below, a battlefield littered with corpses. The caption points back to Mercury, traditionally the patron god of trade, in a blasphemous paraphrase of Mark 8:36: “For what shall it profit a man, if he shall gain the whole world and lose his stock exchange!?” (“*Was hülfte es dem Menschen, wenn er die ganze Welt gewönne und nähme doch Schaden an seiner Börse!?*”) The view Diez expressed here is related to polemics against the English, a people characterised with the Americans as lacking in honour and concerned only with material gain. In this they were inferior to cultured Germans, “heroes” fighting the Anglo-Saxon “traders”,<sup>102</sup> in Werner Sombart’s (1863–1941) formulation of the stereotype. Ironically the charges against those wartime enemies were identical to those that mandarin culture levelled against the scientists and engineers honoured in the Ehrensaal.

The majority of *Jugend* readers were not aware of the parallels that would have been obvious to Diez and to a small group of insiders. Once recognised, the similarities and differences between the two compositions deepen the message of the Ehrensaal painting. Its satirical cousin, *America’s God*, rather than adorning a room given over to honouring the creative feats of great minds, is in a room where humans indulge the physical need for food. The contrast Diez has set up is one between body and mind, the unworthy and the noble. The parenthetical statement in the title about the painting’s location – presumably somewhere in the White House – drives the point home. For Diez, his patrons, and the original audience, *Science and Technology Led by Progress* stood by contrast for the eternal values that the German people fostered and the Deutsches Museum and its Ehrensaal proclaimed at

<sup>102</sup> Sombart, Händler, 1915, <https://archive.org/details/hndlerundhelde00sombuoft> (accessed 02.09.2016); the translation is Ringer’s (n. 4); see his discussion, pp. 182–185.

just the moment when culture seemed to crumble in the face of war and the violent paroxysms that followed it.

The story of Diez's ceiling painting opens a view to the role of art at the Deutsches Museum, but it is also a reminder that external events shade artistic and institutional concerns in even the most banal ways. The museum as it had been envisioned at the beginning of the century was now coming into existence at a time of extremely frightening violence, turmoil, deprivation, and uncertainty. Richard Braungart's slightly purple prose gives a sense of the despair that Germans felt, not just in Munich. Many would have felt that despair only grow in the coming years.

## Populating the Ehrensaal 2: Weimar Republic

The museum would feel the effects of Germany's wrecked post-war economy, and these altered the Ehrensaal. The room's decor was severely reduced, and the museum was forced to take less expensive measures than planned to heighten its grandeur. The room was additionally affected by the museum's need to appeal to audiences that had grown mistrustful after seeing or hearing of science and technology at murderous work on the battlefield and in the trenches, as Eve Duffy has explained.<sup>103</sup> Although the same public was fascinated by the still-new technology of flight, Oskar von Miller began to emphasise gallery displays that showcased the uses of technology at home; similarly, displays on public health and hygiene brought attention to contributions that anyone could see as positive. The shifts made the museum seem in greater touch with current interests, but they also opened the door to badly needed new sources for donations, particularly in galleries that still stood largely empty when the museum opened its permanent structure to the public in 1925.<sup>104</sup>

Some of the changes took place under new memberships on the board of directors. Georg Kerschensteiner (1854–1932)<sup>105</sup> replaced 79-year-old Carl von Linde in 1921 and was succeeded by Conrad Matschoß (1871–1942), director of the Association of German Engineers (*Verein Deutscher Ingenieure*).<sup>106</sup> Matschoß took on the role of historian on the board of directors upon the retirement of 74-year-old Walther von Dyck in 1930. Although physicist Jonathan Zenneck (1871–1959)<sup>107</sup> replaced Dyck on the board of directors, the latter chaired the board of trustees for three more years. Still heading the board of directors, Oskar von Miller presided over changes to the Ehrensaal.

When the first museum visitors entered in 1925 they found a foretaste of the Ehrensaal's message in its anteroom. This area was a post-war afterthought designed to underline the importance of the Ehrensaal once it had become obvious that the space would be neither as opulently decorated as planned nor large enough to offer room for expansion.<sup>108</sup>

Coming up the grand staircase, viewers saw an over life-sized sculpture of Johann Wolfgang von Goethe (1749–1832), donated by his birthplace, Frankfurt am Main. Planned as a bronze, the portrait ended up a much less expensive cast after the often-copied statue made by Pompeo Marchesi (1783–1858) for the Frankfurt city library in 1838, itself inspired by Jean-Antoine Houdon's (1741–

103 Duffy (n. 12), p. 105.

104 Duffy (n. 12), pp. 110–115.

105 On his pedagogy in mandarin context, see Ringer (n. 4), pp. 269–273; see also Dienel (n. 12).

106 See König, Distanz, in: Vaupel/Wolff (eds.), *Nationalsozialismus*, 2010, pp. 171–194.

107 See Wolff, Zenneck, in: Vaupel/Wolff (see n. 106), pp. 78–126.

108 Minutes of meetings of Oskar von Miller and the artistic advisers and board of directors, 25.12.1921 and 29.12.1921, resp. (see n. 6).

1828) 1781 portrait of Voltaire (1694–1778). Wrapped in pseudo-classical robes, Goethe relaxes in a classicising chair. His presence in Olympian form outside the Ehrensaal relied upon the received view of him as the German heir to classicism, the poet and deep thinker. To clarify his connection to the museum, one of the grandest mandarins, Adolf von Harnack (1851–1930), was to lecture on Goethe's view of nature at the 1921 fall meeting of the directors and trustees.<sup>109</sup> Paired with Goethe, albeit in a painting, was Alexander von Humboldt (1769–1859), a further representative of the educated elite's open-minded quest for knowledge, that in books and that in the wide world.

Humboldt in turn was flanked by paintings of Frederick the Great of Prussia (1712–1786) and Ludwig I of Bavaria (1786–1868). Viewers could, if they wished, see in the royal portraits the museum's loyalty to the past political order, safely veiled by likenesses of the long dead, not of the more recently deposed. An alternate and more germane rationale for choosing these figures was the progress they had brought to their realms – and, in the case of Ludwig, for his notable museum foundations. Ludwig was not, however, known for supporting industrialisation, and his portrait was not planned from the start for this space. There was no question in discussions about the portraits but that a monument to Frederick the Great should occupy the anteroom, but among the proposed counterparts to the Prussian was an Austrian, Joseph II (1741–1790).<sup>110</sup> The importance of modelling behaviour to potential patrons superseded even Bavarian patriotism and anti-Prussian feeling.

For above other concerns the Deutsches Museum presented the monarchs as role models for future donors.<sup>111</sup> The Weimar Republic had put an end to the princely patronage upon which institutions such as the museum had relied. With the end of the First World War and the onset of hyperinflation, the museum had seen a catastrophic drop in the levels of its donations. The main message of the anteroom, planned at just that time, was that the museum honoured supporters of science and technology – and it invited future donors to step into a place that princely rulers had once occupied, earning equal honour with them.

Providing role models of various kinds seemed more urgent than ever after the war. In his address at a 1921 meeting, Gustav Krupp von Bohlen und Halbach stated,

The museum calls itself “Deutsches Museum” not because it happens to have been built in Germany. Rather, it particularly wants to demonstrate what an immense part our nation has in the achievements of technology and the natural sciences. It is for that reason also especially suited to strengthen German national feeling. That such a strengthening is very necessary is as established as it is a regrettable fact. (*Das Museum nennt sich “Deutsches Museum” nicht etwa deshalb, weil es zufällig in Deutschland errichtet worden ist. Vielmehr will es im besonderen dartun, welcher immensen Anteil unser Volk an den Errungenschaften der Technik und der Naturwissenschaften hat. Es ist deshalb auch im besonderen geeignet, das deutsche Nationalgefühl zu stärken. Daß eine solche Kräftigung sehr nötig ist, ist eine ebenso feststehende wie bedauerliche Tatsache.*)<sup>112</sup>

The Ehrensaal concentrated that message in displaying the portraits of celebrated Germans. One such figure was Count Ferdinand von Zeppelin (1838–1917). The aged airship pioneer had been awarded honorary membership in the museum only a few months before his death, and he made his last public speech in accepting the membership.<sup>113</sup> Zeppelin had long been involved with the muse-

109 Minutes of trustees meeting, 19.03.1921 (see n. 38).

110 See n. 37.

111 See von Dyck, Ehrensaal, in: *Das Bayerland* 30 (May 1925), no. 10, p. 321.

112 Speech of Gustav Krupp von Bohlen und Halbach, minutes of museum committee meeting, Sept. 1921, p. 20, *Verwaltungsbericht über das 16.–17.–18. Geschäftsjahr 1918–1921*.

113 *Verwaltungsbericht über das 14. Geschäftsjahr 1916–1917*, p. 4.

um, having begun a two-year term as chair of the board of trustees in 1909. One of his airships had featured in a design that Carl von Linde had proposed for the Ehrensaal ceiling painting, and Linde made a special point of the zeppelins' military uses in the speech nominating the count for museum membership.<sup>114</sup> But Zeppelin's Ehrensaal candidacy rested on the directors' canny instinct for what was both worthy of commemoration and at the same time appealing to the public. The gigantic but lighter-than-air vehicles that the Zeppelin company made and sent floating above the surface of the Earth engendered an awed passion among the public. People would stop whatever they were doing to stare at a zeppelin, a near miracle that seemed to defy physical laws and to prove German technological prowess to anyone who saw it. The Zeppelin Company had been badly hurt by provisions of the Treaty of Versailles and was just beginning to claw its way back in 1925, when the museum broke its ten-year rule to announce the bronze plaque of Count Zeppelin for the Ehrensaal.<sup>115</sup> The commemoration could not have been more apt, for the museum appeared both prescient and patriotic as the golden age of the zeppelin began to dawn. This was, however, only one Ehrensaal decision made with an eye to attracting museum visitors and future sources of large-scale funding.

Harsh reality outside and inside the museum walls meant that entry to the Ehrensaal was granted to glass maker Johannes Kunckel (1630–1703) and Johann Friedrich Böttger (1682–1719). Böttger's candidacy had been discussed in 1911<sup>116</sup> but did not advance until 1928, and then only after Conrad Matschoß insisted on receiving verification that Böttger actually was the inventor of porcelain.<sup>117</sup> His likeness, made of red stoneware<sup>118</sup> and donated by the Saxon state government, was in the Ehrensaal by 1930, the year in which Kunckel was nominated.<sup>119</sup> Walther von Dyck abstained from voting for Kunckel;<sup>120</sup> and these two men differed from the other innovators in the room. The industries that traced back to Kunckel and Böttger made products in a vast number of forms and with a very wide range of uses, many of them mundane and domestic: glass and porcelain inherently cannot transform the world quite as spectacularly as for example railroading. Furthermore, Kunckel and Böttger's innovations were rooted in alchemy, which neither scholars nor laypeople in the 19<sup>th</sup> and early 20<sup>th</sup> centuries understood, deriding it as fraudulent hocus-pocus in their failure to see it as a forerunner of modern chemistry. That attitude informed the speech given upon the presentation of Kunckel's portrait, stating that he had abandoned alchemical superstition and then had transformed glass making into a scientific process.<sup>121</sup> Such words may have helped Kunckel and Böttger appear more at home to a public that saw them in a room where modern scientists and industrialists surrounded them. The products of the industries the men had spurred, on the other hand, were familiar tools that people used every day.

A related emphasis led to the successful nomination of public health expert Max von Pettenkofer (1818–1901),<sup>122</sup> who had spent most of his life in Munich. World-famous and formerly hailed as "Bavaria's greatest gift to science",<sup>123</sup> he had appeared on candidate lists since before the First World

114 P. 28 (see n. 33).

115 Verwaltungsbericht über das 21. Geschäftsjahr 1923–1925, minutes of committee meeting, 06.05.1925, p. 20; minutes of directors meeting, 25.02.1925, p. 3 (see n. 20).

116 P. 36 (see n. 44).

117 Verwaltungsbericht über das 24. Geschäftsjahr 1927–1928, p. 4.

118 Verwaltungsbericht über das 25. Geschäftsjahr 1928–1929, p. 23.

119 Pp. 22 and 24 (see n. 70).

120 P. 9 (see n. 20).

121 Otto Seeling (1891–1955), Verwaltungsbericht über das 30. Geschäftsjahr 1933–1934, p. 26.

122 For differences in terminology between German and English, see Mackenbach, Kos, in: *European Journal of Epidemiology* 20 (2005), no.10, p. 822.

123 Waller, Leaps, 2004, p. 65.

War, and the museum had displayed his portrait in one of its galleries since at least 1910.<sup>124</sup> The board decided against exhibitions focused on public health until the failure of a planned museum in which Pettenkofer would play a major part.<sup>125</sup> The collapse of that plan now meant that the Deutsches Museum expanded its exhibitions to include public health, a topic of great relevance and wide interest as Germans increasingly moved to work and live in large, growing cities. The museum's decision reached out to a wide public and at the same time dovetailed with discussions and calls to action in academic, medical, and political circles. Voted into the Ehrensaal in 1928, the same year as Böttger, Pettenkofer, too, connected the Ehrensaal to other parts of the museum.

Honouring him in the room also communicated his enduring significance at a time when Pettenkofer's reputation was being visibly shredded. The authority on public health had argued for reforms that saved lives, but his standing as an expert and denier of contagion theory had also killed people. Pettenkofer had recently received new attention in that latter role, for he was represented as the ludicrous, wrong-headed antagonist of the heroic Robert Koch (1843–1910) in American Paul de Kruif's (1890–1971) international bestseller, *The Microbe Hunters*,<sup>126</sup> translated into German in 1927. De Kruif influenced how a huge public saw Pettenkofer, but his book merely popularised a view that was already standard in the medical and scientific communities, where only extreme cranks now disbelieved in the accuracy of contagion theory. The portrait in the Ehrensaal was a late and largely useless acknowledgement of the man to whom an anonymous British author would cruelly apply Lucan's judgement of Pompey the Great: Pettenkofer was “the shadow of a name: *magni nominis umbra*, perhaps, but certainly *umbra*.”<sup>127</sup>

As the example of Pettenkofer demonstrates, the museum was aware of the international public's knowledge of German scientific and technological history. Two years before Pettenkofer's election to the Ehrensaal, the awareness led to the nomination of Georg Agricola, who had long featured on lists of candidates and who had already been honoured with a portrait in another part of the museum. Now, however, Dyck and Matschoß nominated him for the Ehrensaal, where he would be represented in terracotta.<sup>128</sup> Matschoß spurred the successful nomination by pointing out that Agricola's *De re metallica* (1556) had appeared in an English-language translation by the American Hoover and his wife. He meant US Secretary of Commerce and future President Herbert Hoover (1889–1964) and Louise Hoover (1874–1944); Matschoß pointed out that the Hoovers' translation mentioned that it was odd that the book had never been translated into German.<sup>129</sup> In fact, there was an old translation, which the Hoovers called “a wretched work.”<sup>130</sup> What the couple next wrote was more mortifying than Matschoß indicated: “It is a sad commentary on [Agricola's] countrymen that no correct German translation exists.”<sup>131</sup> The Hoovers' observation led to the publication of just such a translation, one example of the ways in which considering a figure for the Ehrensaal could lead to scholarly work. Such publications bolstered the image of the museum as a place that advanced science and technology on the scholarly as well as the popular level.

124 Minutes of directors meeting, 28.09.1910, p. 9 (see n. 6).

125 Duffy (n. 12), p. 111.

126 De Kruif, *Microbe*, 1926, pp. 143–144. His chapter, “Robert Koch, Fighter of Death”, supplied the title for Hans Steinhoff's 1939 movie *Robert Koch, der Bekämpfer des Todes*, starring Emil Jannings (1884–1950) in the title role.

127 Anonymous, Pettenkofer, in: *The British Medical Journal* 2 (14 Sept. 1935), no. 3897, p. 518.

128 Minutes of museum committee meeting, 07.05.1927, *Verwaltungsbericht über das 22. Geschäftsjahr 1925–1926*, pp. 22–23.

129 Discussed in Füßl/Hilz/Trischler, *Forschung*, in: Füßl/Trischler (see n. 12), pp. 327–328.

130 Agricola, Re, Hoover and Hoover (eds. and trans.) 1950 [1912], p. xvi, <https://archive.org/details/deremetallica50agri> (accessed 01.10.2016).

131 Agricola (see n. 130), p. xvii.

### Populating the Ehrensaal 3: Third Reich

Choices for the Ehrensaal responded to external conditions in the 1920s, just as they had during the war, and after 1933 Nazi power and policy could not but affect the room, which by its nature lent itself to ideology. Figures with portraits in the Ehrensaal, such as Guericke, featured in lectures, museum publications, or special exhibitions,<sup>132</sup> drawing attention to the room. Some visitors to the NSDAP's anti-Bolshevist exhibition in the museum library in 1936 may have found a parallel to the Ehrensaal in the "Hall of Honour" (*"Ehrenhalle"*) displaying portraits of Nazis and Fascists allegedly murdered by Communists.<sup>133</sup> Discussion of those episodes testifies to recent scholarly interest in the history of the museum during the Third Reich. The research has begun to reveal the ways in which the Deutsches Museum, like many scientific institutions, sought to limit Nazi influence while benefiting from functionaries' interests, a process that extended to outright support of Nazi policy. But studies of the museum during the Third Reich have only touched upon the Ehrensaal, where developments echoed those in other galleries. Documents in the museum archive also, however, argue for a complex view of Jonathan Zenneck, managing director of the museum after Oskar von Miller's resignation in 1933.

All three bodies responsible for decisions about portraits for the Ehrensaal underwent changes early in the Third Reich.<sup>134</sup> The board of trustees and the museum committee were "purged" of Jews – initially with some exceptions – and of those whose political views were at odds with the regime, and within a short time, each body contained NSDAP members. One was Miller's hand-picked and state-approved replacement as head of the board of directors, publisher Hugo Bruckmann (1863–1941), his friend and relative by marriage and a longstanding, close acquaintance of Adolf Hitler (1889–1945). Bruckmann was a figurehead with one important charge, to gain support for the museum from the Nazis, and his correspondence with Miller shows that he was clearly aware of the role.<sup>135</sup> More direct responsibility for the museum was placed in the hands of Zenneck, assisted in actual day-to-day administration by architect Karl Bäßler (1888–1973). Bäßler, like Bruckmann and unlike Zenneck and Matschoß, was a party member. Much more powerful Nazis joined the museum's leadership when the board was expanded. It then included Albert Pietzsch (1874–1957), director of the Reich Economic Chamber (*"Reichswirtschaftskammer"*), and Hitler's engineer-in-chief, Fritz Todt (1891–1942). When Todt, Bruckmann, and Matschoß died, others who were high in the Nazi hierarchy replaced them. The traditional annual gathering of the museum committee took place according to custom in the Ehrensaal, but among its rituals was a new one, the singing of the *Horst-Wessel-Lied* after the national anthem.<sup>136</sup>

The establishment in power of a party that equated ethnicity with race added to the fundamental difficulty of defining the Germanness of nominees for the Ehrensaal. "German" now expressly meant "Aryan" and soon enough natives of territories outside the former German borders. These radical shifts brought with them renewed and ferocious discussions of who deserved to be commemorated in the room.

Joining the insistence on figures whose work bolstered German national pride was the museum's need to display its international standing. As Frank Uekötter has argued, a certain amount of protection from too much Nazi meddling lay in bringing to the attention of those in power that the

132 Sichau, "Bildung", in: Vaupel/Wolff (see n. 106), p. 350.

133 Benz, Ausstellung, in: Vaupel/Wolff (see n. 106), p. 654.

134 See esp. Duffy, Anpassung, in: Vaupel/Wolff (see n. 106), pp. 66–74.

135 Stöppel, Bruckmann, in: Vaupel/Wolff (see n. 106), p. 141.

136 As reported in the minutes of the committee meeting, 07.05.1934, p. 23 (see n. 121).

Deutsches Museum was respected the world over.<sup>137</sup> The board was also keenly aware that much of the world looked askance and even aghast at the latest political developments in Germany, and some nominations for the Ehrensaal took both concerns into account.

Friedrich König was nominated in 1933, with Conrad Matschoß arguing that König was one of the few German inventors who stood in high regard outside the country.<sup>138</sup> His revolutionary steam press had begun printing in England “for back then he was not yet able to find the necessary support in Germany” (“*da er damals in Deutschland noch nicht die nötige Förderung finden konnte*”),<sup>139</sup> as Matschoß said. Perhaps looking back to the nominations of Böttger and Kunckel, Walther von Dyck argued that the Ehrensaal should be reserved for those whose inventions had not simply been improvements but had, rather, changed the course of history.<sup>140</sup> He and Oskar von Miller convinced all but one member of the board of trustees, who belonged to the Oldenbourg publishing family and doubtless had his own ideas about the historical impact of a fast, inexpensive, and efficient means of propagating texts and images. König was instead honoured in the library, which Miller had pointed out as an apt location for the portrait. The library’s aptness also meant that while König’s presence might call to mind that another nation had been the first to recognise this German’s importance, it would not happen in the Ehrensaal.

More successful was another 1933 nomination made with an eye to the foreign public, that of Nobel laureate, physician, and microbiologist Robert Koch. Koch would be paired with his nemesis, Pettenkofer, in the Ehrensaal, and for this portrait the museum sought an American donor. Such a donation, Oskar von Miller proposed, would document Koch’s continuing “internationally recognised significance” (“*international anerkannte Bedeutung*”),<sup>141</sup> but the museum was responding to recent events both in- and outside Germany. Koch’s famous lecture announcing the discovery of the tuberculosis bacterium had electrified a world audience, establishing “the scientific modernisation of biomedical culture”.<sup>142</sup> 1932 marked the fiftieth anniversary of that lecture, and commemorations had taken place in numerous countries.<sup>143</sup> The United States had stood out in its praise of Koch, whom American physicians held in especially high regard. An American organisation seemed a likely donor, and such a sponsorship for the Koch portrait would demonstrate that the museum could still activate its relationships among the international audience that was paying attention to what was going on in Germany.

The donation went in a different and even more political direction. In the end, the donor of the Koch portrait was the Prussian Interior Ministry, directed by Wilhelm Frick (1877–1946) and represented by Arthur Gütt (1891–1949) at the museum committee meeting of 1935, which took place a month after Hitler’s first visit.<sup>144</sup> Gütt stated “we National Socialists revere” (“*Wir Nationalsozialisten verehren*”) Koch, and he expressed his hope that the portrait would inspire others to move past “the treatment of the sick individual and to strive for true physical and emotional healing of our entire nation!” (“*über das Arzttum am kranken Einzelmenschen hinaus zu ringen und zu streben nach einer wahren körperlichen und seelischen Gesundheit unseres ganzen Volkes!*”).<sup>145</sup> His speech could not have been more different from another held the same day, when physicist Friedrich Harms (1876–1946), acting for the University of Würzburg, officially donated the Röntgen portrait. Harms injected no polemics into his presentation, following the neutral example of most donors by simply sketching the outlines of Röntgen’s claim to fame.

137 Uekötter, *Expansionsgelüste*, in: Vaupel/Wolff (see n. 106), p. 199.

138 Minutes of directors and trustees meeting, 18.03.1933, p. 5, DMA, VA 3971.

139 Minutes of museum committee meeting, 07.05.1933, p. 22 (see n. 54).

140 Minutes of directors and trustees meeting, 18.03.1933 (see n. 138).

141 18.03.1933 (see n. 138), p. 4.

142 Haddad, *Medicine*, in: *Osiris* 14 (1999), p. 120.

143 Haddad (see n. 142), pp. 118–137.

144 Uekötter (see n. 137), pp. 202–203, esp. n. 31.

145 Draft minutes of museum committee meeting, 06.05.1935, p. 12, DMA, VA 3973.

Gütt, a leading Nazi eugenicist, gave a speech that possesses ominous resonance today. We see more clearly than his original audience what Gütt meant with his medical metaphor. In conjuring a future, healthy Germany, Gütt picked up an old image that had taken on new virulence under the Nazis.<sup>146</sup> The analogy now contained an implicit reference to Hitler, who saw himself as another Robert Koch. Eugenics would enable the Koch-like Führer to identify, chase down, and rid a sick Germany of its infection by foreign microbes and parasites, not fellow citizens and human beings who should enjoy an equal right to life and simple dignity. However clichéd the germ-fighting image already was, it did not yet possess the horror with which our hindsight invests it. Its original audience did see, however, that the portrait donation from a powerful ministry and the dedicatory speech by a trained physician tightened the connection between Hitler and Koch, as well as that between the party and the museum.

Nevertheless, the essential idea behind Gütt's speech, that figures in the Ehrensaal should inspire pride and action, was neither new nor specific to the NSDAP. That had been the function of the room since its inception, and the Ehrensaal remained a living space in being shaped and reshaped in response to changing needs. Unavoidably, these now were those of the Nazi state.

Nazi ideology accounted for the failed candidacy of Nobel laureate Adolf von Baeyer (1835–1917), nominated by Carl Duisberg (1861–1935) shortly before his own death and unanimously voted into the Ehrensaal in the same year.<sup>147</sup> Although other scholars have discussed the case and correspondence about it,<sup>148</sup> the letters about it need revisiting and reconsideration. Their content, summarised and quoted at length, testifies to a remaining confusion about who could be stripped of German identity and to outrage within the scientific community that the new laws could apply retroactively to men they admired as heroes. Moreover, the letters uncover the real pitfalls in not knowing who exactly had fallen from grace. The letters also show that if Zenneck did not perform quite the balancing act that he later claimed, he had a public and a private face in his dealings with the new order.

A year after Baeyer's nomination Zenneck received a letter from Matschoß about a conversation with Paul Duden (1868–1954), director of the Association of German Chemists (*Verein Deutscher Chemiker*).<sup>149</sup> Duden had informed Matschoß that the chemists intended to celebrate Baeyer at their assembly in the coming summer. This, according to Duden, was “a manifest duty, [and] not fulfilling it would be cowardice” (*eine selbstverständliche Pflicht, die nicht zu erfüllen eine Feigheit wäre*). Duden expressed himself so strongly because he had just heard a rumour that the Deutsches Museum was refusing to display Baeyer's portrait in the Ehrensaal on the grounds that he was “not Aryan” (*nicht arisch*). Duden then relayed a story about how Magdeburg, reacting to an accusation that long-dead Justus von Liebig was of Jewish descent, had renamed its Liebigstraße for Robert Bunsen. The whole thing, Matschoß explained, had been a ridiculous mistake based on the presence of a very distant Jewish aunt in Liebig's family tree: “Anyway, Liebig, if he were still alive today, would be accepted into the SS with no opposition” (*Jedenfalls wäre Liebig, wenn er heute lebte, ohne Widerspruch in die SS aufgenommen worden*). Matschoß may have been repeating Duden's joke, which turned on a bizarre but enlightening anachronism. Taken by surprise and certain that some misunderstanding had taken place, Matschoß asked Zenneck to clarify the situation.

146 See Weindling, *Health*, 1989.

147 Minutes of directors meeting, 07.03.1935, DMA, VA 3973, p. 9.

148 Trischler/Vaupel/Wolff, *Einleitung*, in: Vaupel/Wolff (see n. 106), p. 33; Wolff (see n. 107), p. 103.

149 Matschoß to Zenneck, 04.02.1936, DMA, NL 053 Zenneck, box 014.

Zenneck's response explained that unfortunately Duden had been correct, and there would be no portrait of Baeyer in the Ehrensaal, but the letter also left his anger in no doubt.<sup>150</sup> Unnamed new members – Zenneck contemptuously referred to these Nazis in scare quotes as “*die jungen Leute*” – attending the meeting came forward after Baeyer's nomination with a story that Jewish ancestry was why Baeyer's son (Hans Ritter von Baeyer, 1875–1941) had been fired from Heidelberg University. Having been reassured by Baeyer's chemist colleagues that the information was incorrect, the board presented the nomination to the museum committee. Its members unanimously voted for Baeyer, largely because “The gentlemen who had previously asserted he was non-Aryan had made no stir” (*Die Herren, die vorher behauptet hatten, er sei nicht-arisch, hatten sich nicht gerührt*). Either they or their agents instead denounced the museum to the authorities. The denunciations precipitated warnings to the museum from two separate ministries of education, that of Baden and that of Bavaria, stating that Baeyer was indeed non-Aryan and that commemorating him in the Ehrensaal was out of the question. After consulting with the would-be donor of the portrait, Zenneck advised Matschoß that the affair should be allowed to die quietly; the nomination of Baeyer should not even appear in the official record. Zenneck pointed out, however, that he had discussed the problem with Hugo Bruckmann, telling him, “[I]f [we] declare people like Adolf von Bayer (sic) as non-Germans, then as a matter of course their inventions and discoveries may also not be presented as German, and in certain circumstances a great many of the achievements in chemistry that until now have been attributed to Germany will be lost after Bayer, [Richard] Willstätter [1872–1942], [Fritz] Haber [1868–1934] have been rejected as Germans” (*wenn man Leute wie Adolf von Bayer [sic] als Nicht-Deutsche erklärt, dann auch selbstverständlich ihre Erfindungen und Entdeckungen nicht als deutsche ausgegeben werden dürften und daß unter gewissen Umständen von den Verdiensten um die Chemie, die man bisher Deutschland zugeschrieben habe, eine ganze Menge wegfällt, nachdem von Bayer, Willstätter, Haber als Deutsche abgelehnt worden sind*). Here Zenneck placed Baeyer in the company of distinguished men with very recent ties to the museum who had suffered as a result of the new laws. Willstätter, one of Baeyer's students and formerly on the University of Munich faculty, had already been the target of anti-Semitic attacks in the 1920s, and he had lost his position on the museum's board of trustees during the recent purge. Haber's example was even more explosive. His contributions to chemical warfare during the First World War had exempted him from the law under which Jewish civil servants were fired, but Haber caused uproar by resigning his position anyway. He donated some of his equipment to the museum shortly before going into voluntary exile, and the memorial held for him in 1935 on the anniversary of his death had been, as Heilbron states, a “successful, if transitory, expression of defiance”<sup>151</sup> of Nazi will.

Zenneck was evoking notorious scandals, and his mention of a superficially unrelated matter is significant. Near the close of the letter he vented his anger that the museum library had been forced to lock up its books by Jewish authors in response to the attempt by a representative of Aryan physics (*“Deutsche Physik”*) to remove the volumes from the holdings.<sup>152</sup> Other scholars have noted Zenneck's resentment at outsider attempts to interfere in museum decisions, but what seems to have offended him more in the library and the Ehrensaal was the intention by people he despised to rewrite science and its history along what he saw clearly as pseudo-scientific racial lines that would damage German science and its international standing. In the interests of preserving objectivity and science from fa-

150 Zenneck (unsigned) to Matschoß, 06.02.1936 (see n. 149).

151 Heilbron, *Dilemmas*, 2000 [1996], p. 162. Eckert, *Society*, in: Hoffmann/Walker (eds.), *German*, Hentschel (tr.), 2012, p. 108, debunks some of the myths that have sprung up around the event.

152 Wolff (see n. 107), p. 95; Stöppel (see n. 135), pp. 161–162; Hiltz, “Bildungsanstalt”, in: Vaupel/Wolff (see n. 106), pp. 274–277.

natics, Zenneck was entirely capable of setting aside his own casual, nearly reflexive anti-Semitism, amply documented by Stefan L. Wolff. He was even able to enlist Bruckmann in the endeavour, and Bruckmann in turn succeeded in getting Nazi functionaries to put a stop to the attack.

Unswayed by Zenneck's logic with regard to Baeyer's nomination, Matschoß felt compelled to bring up the topic at the meeting of the directors with the trustees, but his report there was face-savily dishonest.<sup>153</sup> He told the assembled members that Baeyer's genealogy was still unclear and that the museum had decided to table the question of putting his portrait in the Ehrensaal. He found support for this announcement in the presence at the meeting of a high-ranking Nazi bureaucrat, Karl August Fischer (1885–1975), representing the same arm of the government, the Bavarian Ministry of Education, that had forbidden the portrait. The affair set an example for Paul Duden's organisation, which abruptly determined that perhaps it was not cowardly after all to back away from its plan to honour a high-achieving chemist with the Baeyer commemorative medal that summer.<sup>154</sup>

The museum yielded to politics by passively accepting that Baeyer would be banned for racial reasons, but officials could also be more active in supporting Nazi policy in the Ehrensaal. The support was implicit in the Koch portrait but much more open in 1939, when a portrait of Austrian but no longer foreign Carl Auer von Welsbach (1858–1929) joined the other Germans in the room.

The museum had decided in 1933 to display a portrait of Auer von Welsbach and had found a donor for the bronze relief.<sup>155</sup> Since the honouree was not a German citizen, the portrait went instead into the section of the museum dedicated to the history of artificial lighting. As Karl Holey (1879–1955) and Ludwig Erhard (1863–1940) of the Austrian Research Institute for the History of Technology (*Österreichisches Forschungsinstitut für Geschichte der Technik*) wrote a few months after Austria's annexation, Oskar von Miller had regretted being unable to commemorate Auer von Welsbach in the Ehrensaal, which was set aside only for Germans. "Now, after the happy unification of the East Mark [Austria] with the Old Empire that restriction has been struck down" (*Nach der glücklichen Vereinigung der Ostmark und dem Altreich entfällt nun diese Einschränkung*), and the writers were asking the museum to consider a new portrait for the Ehrensaal for which their institution would pay.<sup>156</sup>

The Auer von Welsbach portrait represented a further break from museum protocol. His company, the Auer-Osram-Gesellschaft, offered to pay for the likeness.<sup>157</sup> Conrad Matschoß explained that the suggestion ran counter to Oskar von Miller's rule about avoiding commercial interests in choosing portrait donors, but he suggested a convenient alternative. The company could instead subsidise the donation of the portrait through the Viennese Academy of the Sciences. The company would be mentioned in the speech that accompanied the portrait presentation, which would take place in front of the assembled museum committee. The text of the speech would also be printed in the museum's official yearly report. Although Matschoß' idea conformed to Miller's rigid donation ethic, it did so only in form, not spirit.

153 Minutes of directors and trustees meeting, 07.03.1936, p. 3 (see n. 145).

154 Maier, *Chemiker*, 2015, p. 139.

155 Minutes of directors and trustees meeting, 18.03.1933, p. 4 (see n. 138) and 07.05.1933, p. 5 (see n. 20); pp. 21–22 (see n. 54).

156 Holey and Erhard to Deutsches Museum, 27.09.1938, VA 2156.

157 Matschoß to Zenneck, 29.12.1939 (see n. 156).

## Populating the Ehrensaal 4: The Young Federal Republic

The museum had ceased operations late in the Second World War, and by the end of the war its boards were either partially inactive or extant in only skeletal form. For example, the board of directors had been reduced to Jonathan Zenneck alone. Eventually joining Zenneck were men with a complex range of recent histories, only a selection of whom are presented here. Among the first new board members was businessman Otto Seeling, who had given the speech upon the donation of the Kunckel portrait. Seeling had been relieved of power at the German Plate Glass Company (DETAG) after ensuring the firing of a party member in 1941.<sup>158</sup> Seeling nevertheless was interned after the war, as was theoretical physicist Georg Joos (1895–1959), who joined the board in 1950. He had replaced James Franck (1882–1964) in Göttingen, but his open, active opposition to Aryan physics had earned him enough enemies that he left academia in 1941.<sup>159</sup> Another former Allied internee and new board member was Otto Meyer (1882–1969). The mechanical engineer and director of MAN so distrusted the Nazis that he had sent his Jewish wife and their children to Switzerland in 1933, after Hitler had been in power only a few months.<sup>160</sup> Yet Meyer stayed in Germany, ensuring the smooth running of a company that built tanks, among other militarily useful equipment. Most compromised was the new chair of the board of trustees, biochemist Richard Kuhn (1900–1967), the latest recipient of the Adolf von Baeyer commemorative medal (1934). His means of ingratiating himself with the Nazis had included firing his Jewish assistants and denouncing colleagues, as well as adding a demonstratively loyal note to the letter in which, in obedience to Hitler's orders to German citizens, he refused the 1938 Nobel prize.<sup>161</sup> Kuhn's activities were known at the time, as should have been his at least indirect involvement in experiments on human subjects,<sup>162</sup> but as Alon Confino has remarked, Germany's defeat was not "a moral revolving door that transformed, literally overnight, Germans' values and beliefs".<sup>163</sup>

These men and their colleagues, the museum's decision-makers, saw that the damage to the Ehrensaal offered the opportunity to re-conceive it, and a major redirection of the room and its message took place. The changes were no less bound up than preceding efforts with concerns of the day. As in earlier decisions, the present shaped what past would be presented in the Ehrensaal, so different from its previous incarnation as to confirm superficially that Zero Hour (*Stunde Null*) truly had occurred. The Ehrensaal held a new past that was stripped of numerous portraits and expanded with others that seemed relevant and critical. The portraits addressed a complex of three particular concerns. Germany had shed significant numbers of its scientific community before the Second World War, and those who stayed had been isolated from their peers and their work. The country had suffered territorial losses in its defeat and was now split into two politically and ideologically disparate parts, each on opposite sides of the Cold War pitting West against East. Only one of those countries was a democracy with a freely elected government that enjoyed wide diplomatic recognition, its regained sovereignty exactly coeval with the reopened Ehrensaal.

<sup>158</sup> Moser, *Unternehmer*, in: Schlemmer/Woller (eds.), *Bayern*, 2002, p. 45.

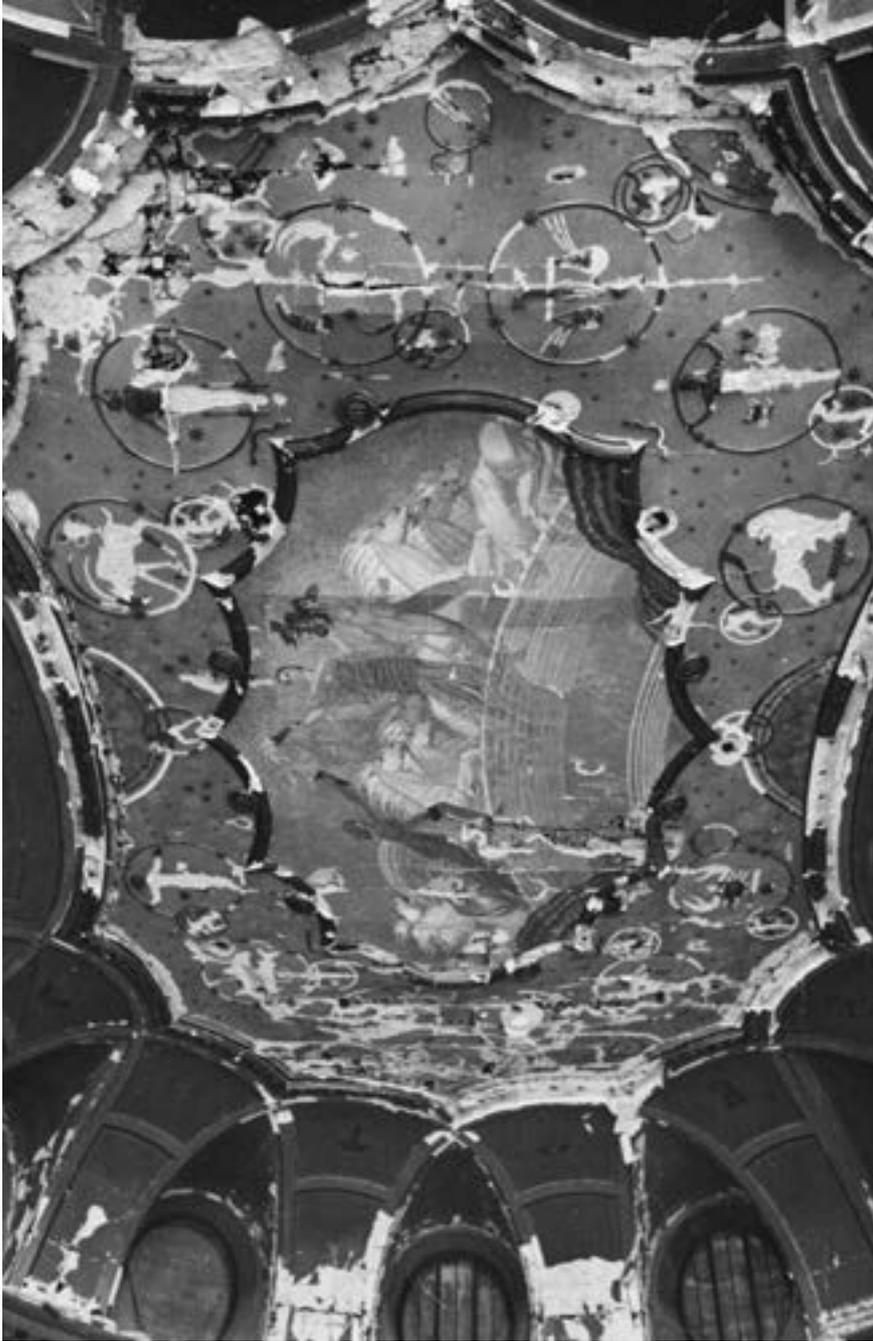
<sup>159</sup> Beyerchen, *Scientists*, 1977, p. 173.

<sup>160</sup> Feyer, Meyer, in: *Vierteljahrshäfte für Zeitgeschichte* 62 (2014), no. 2, p. 253.

<sup>161</sup> Deichmann, "Duce", in: Hoffmann/Walker (see n. 151), pp. 297–298, esp. n. 40.

<sup>162</sup> Schmaltz, *Weapons*, in: Heim/Sachse/Walker (eds.), *Kaiser*, 2009, pp. 326–337.

<sup>163</sup> Confino, *Traveling*, in: *History and Memory* 12 (2000), no. 2, p. 95.



**Figure 16** The ceiling of the Ehrensaal showing damage after the Second World War.

Julius Diez's ceiling painting was destroyed. Photographs from the 1940s show that the bombing of Munich had damaged the painting (Figure 16). The gilded stucco symbols surrounding the central composition had suffered most, with many of them completely dislodged. Immediately after the war, one of Diez's former assistants, Lois Gruber (b. 1892), was invited to restore the painting,<sup>164</sup> but the decision changed. Rather than restore the painting, museum administrators decided to remove it prior to lowering the Ehrensaal ceiling to its current level. This change solved the room's persistent acoustic problems<sup>165</sup> and allowed for more exhibition space on the floor above.<sup>166</sup>

<sup>164</sup> Bäßler to Gruber, 18.04.1956, DMA, VA 0378/4.

<sup>165</sup> Documented in VA 2179.

<sup>166</sup> Mayr, *Wiederaufbau*, 2003, p. 77.

Above all else, the emerging Ehrensaal would be updated in the museum's efforts once again to present itself as a thoroughly modern institution in step with current events and pointing a way forward. The old-fashioned Art Deco interior yielded to the restrained, muted pastels of the mid-1950s. The newly organised and redecorated Ehrensaal dispensed with luxurious and old-fashioned touches such as gilded zodiacal and planetary symbols, and it possessed a comfortingly rigid order that its predecessor had not had.

Part of the redecoration included the relief sculptures above the doors. Designed by Joseph Wackerle (1880–1959), one of these picks up a decades-old suggestion by Carl von Linde that the ceiling painting should include a figure of Icarus (Figure 17).<sup>167</sup> The viewer of Wackerle's relief sees not Icarus in flight, however, but the youth standing in front of Daedalus as his father finishes the fateful wings, a symbolic representation of technology.



**Figure 17** Joseph Wackerle (design) and Franz Mikorey (1907–1986) (execution), *Technology*.

<sup>167</sup> Miller to Emanuel von Seidl, 10.12.1915 (see n. 14).

Another old idea for the Ehrensaal returned in the present ceiling painting executed by Hermann Kaspar (1904–1986),<sup>168</sup> for Prometheus was the figure Gustav Krupp von Bohlen und Halbach had wanted to see in the room (Figure 18).<sup>169</sup>



**Figure 18** Hermann Kaspar, *Prometheus*, 1953

<sup>168</sup> Mayring (see n. 81), cat. no. 405, pp. 262–263.

<sup>169</sup> Krupp von Bohlen und Halbach to Miller, 29.11.1915, DMA, VA 0380/3.

Both Kaspar and Wackerle had executed important commissions for the Nazi regime, including designs for the parades that had celebrated Hitler's installation of Munich as the capital of German art, but in the Ehrensaal the Kaspar painting and the Wackerle reliefs are executed in the moderately expressionistic form of much post-Second World War public art in Germany. The works show the easy stylistic and career transitions of artists who had been successful under the Nazis. At the same time, the artists' recent history, like that of some board members, gave the lie to any claim of a clean break with the past, no matter how different the new Ehrensaal looked.

The population of the room also underwent change, partly because the museum now wished to redesign the portraits' presentation. Rather than a jumble of paintings and sculptures in various forms – herms, busts, and reliefs in bronze, terracotta, marble, and limestone – the portraits received a more unified appearance. A bronze bust of Gutenberg was one of the portraits deemed unsuitable, as was the oil painting of Kepler, which was donated to the Munich polytechnic.<sup>170</sup>

The reconfiguration allowed the museum to remove a number of portraits, taking the advice of technology historian Friedrich Klemm (1904–1983), director of the museum library. Some removals obliterated any connection between the Ehrensaal and the Nazis. Austria having belonged to the defunct Reich, Auer von Welsbach was no longer German, and his portrait was removed. Figures such as Nicholas of Cusa (1401–1464) and Paracelsus were judged too philosophical and mystical – and therefore, perhaps, too close to some Nazis' interest in the occult – and would no longer be considered appropriate.<sup>171</sup> A similar rationale probably accounted for the removal of the portrait of Athanasius Kircher, best known for a museum that could be and was judged pseudo-scientific by anachronistic although common standards. Other removals stemmed from attempts to modernise the view of scientific and technological importance. Adventurer and cartographer Martin Behaim (1549–1507), a darling of the 19<sup>th</sup> century that idolised his younger contemporary and fellow Nuremberger, Dürer, added to the quaintly archaic characteristics of the room; his portrait also had to go. The pride in Philipp Reis, so important during the First World War, had evaporated, and Ferdinand von Zeppelin's once-vaunted airships were notorious, not famous, calling to most minds the spectacular *Hindenburg* disaster. Zeppelin and Reis would no longer appear in the Ehrensaal.

Other removals portended a narrower definition of the museum's mission. It would pursue the advancement of science and technology without regard for the everyday impact of particular inventions, echoing Walther von Dyck's objection to honouring Friedrich König in the Ehrensaal. Kunckel, Böttger, mechanical engineer and instrument-maker Georg von Reichenbach (1771–1826), and the inventor of lithography, Alois Senefelder, now became unworthy companions to the founders of Germany's great 19<sup>th</sup>-century industrial firms and to its scientists. The museum's desire no longer to showcase contributors to the life sciences meant that the portrait of Max von Pettenkofer was removed. Carried to its logical end, the decision also swept away the portrait of Robert Koch, a figure now felt to be more appropriately honoured in a museum dedicated to medical history. Alone of the portraits on the list of removals, the date of the Koch likeness was not recorded.

In ridding the room of men who did not suit the museum's post-war vision, the boards departed from tradition. Previously, a figure who had been honoured remained in the Ehrensaal in spite of doubts as to the person's lasting worthiness. This unspoken rule was applied even to the portrait of Heinrich Hertz, a controversial figure during the Third Reich because of his Jewish ancestry.<sup>172</sup>

170 See n. 165.

171 See n. 165.

172 That the portrait remained was due at least in part to the Hertz family's ambiguous position. Hertz's daughter, Mathilde, who had helped model his Ehrensaal portrait, had been forced to immigrate to England, but his nephew, Gustav Hertz (1887–1975) had remained in Germany throughout the war.

But portraits were also added to the room, and the administrative report of 1953/54 clarified that the Ehrensaal would remain closed to non-Germans. In the wake of the war, the term again needed redefinition. “German”, Georg Joos declared to the assembled museum committee, should “be understood in the political sense, not related to the cultural group” (“*deutsch’ im politischen Sinn verstanden, und nicht auf den Kulturkreis bezogen*”).<sup>173</sup> Joos uncoupled being German from majority culture, a strong statement against Nazi ideology, and yet he also felt the need to recognise that in the public’s eyes belonging to minority culture still indicated an essential difference from the mainstream. Nevertheless, he had found a roundabout way of saying that citizenship had been retroactively restored to Jewish scientists such as those Zenneck had mentioned in his letter, Adolf von Baeyer, Fritz Haber,<sup>174</sup> and Richard Willstätter,<sup>175</sup> who could again be considered for portraits in the Ehrensaal. Two, Baeyer and Haber, were soon added.

When the room was reopened in 1955, the address by chemist and Nobel laureate Adolf Butenandt (1903–1995) spoke of “the unity of the German people” (“*Einheit des deutschen Volkes*”).<sup>176</sup> The Ehrensaal had been designed as a space that unified through shared nationality, but Butenandt’s words were keyed to reactions to Germany’s division into two states, its territorial losses, and the expulsion of ethnic Germans from Eastern Europe. Standing in West Germany he echoed official policy under Konrad Adenauer (1876–1967) that denied legitimacy to the rival Democratic Republic of Germany and went to extraordinary efforts to ensure its lack of international recognition.<sup>177</sup> Also reflecting government policy, Butenandt implicitly included the thousands of refugees from the Soviet-controlled East, who had joined the 8 to 9 million expelled in West Germany.

Portraits of figures from the formerly German East made a gesture on behalf of both museum and government to that audience, made up of people who had been forced to settle in an unfamiliar place that had never been their home. In its efforts to fit that current problem into the redesigned Ehrensaal the Deutsches Museum found a welcome partner in Adenauer’s government, which courted the vociferous and powerful leaders of expellee organisations for their political support.<sup>178</sup> But the portraits also served another propagandist purpose, for they clearly announced an enduring, unbreakable connection between the West and those present and past whom the Iron Curtain had cut off from it.

This confluence of government and museum interests spurred the creation of a new Ehrensaal portrait of Copernicus, the former eastern territories’ most famous native son, claimed as a countryman by both Germans and Poles. His manifest importance had made him an Ehrensaal candidate in the museum’s early years,<sup>179</sup> although his portrait in oil by Heinrich Knirr (1862–1944) was not placed in the room until 1926.<sup>180</sup> The painting was replaced after the war, when there was no further pretence that political considerations were not involved in deciding who should be in the room. The museum received advice from Georg Schreiber (1882–1963), director of the German Institute for Foreign Studies (“*Deutsches Institut für Auslandskunde*”) in Münster, who assured his correspondent that the Ehrensaal must include Copernicus “Today more than ever. For development in the East this

173 Pp. 27–28, Verwaltungsbericht über das 50. Geschäftsjahr 1953–1954.

174 P. 11, Verwaltungsbericht über das 51. Geschäftsjahr 1954–1955.

175 P. 9, Verwaltungsbericht über das 52. Geschäftsjahr 1955–1956.

176 P. 19 (see n. 174).

177 See Gray, *War*, 2003.

178 For a recent overview in English, see Douglas, *Orderly*, 2012. Demshuk, ‘Heimat’, in: *Central European History* 45 (2012), no. 3, pp. 523–556, subtly analyses terminology in pointing out differences between the expelled and the leaders of their organisations.

179 Minutes of directors meetings, 08.07.07 and 26.05.08 (see n. 6).

180 Minutes of directors meeting, 15.11.1926 (see n. 26).

name is a shining symbol, an indispensable signal, a fusion of German science and German ethnic character." (*"Der Begründer der neuzeitlichen Himmelskunde gehört in der Tat bevorzugt in Ihre Interessensphäre. Heute mehr denn je. Für die Entwicklung im Osten ist dieser Name ein leuchtendes Symbol, ein unentbehrliches Rufzeichen, eine Verklammerung deutscher Wissenschaft und deutschen Volkstums."*)<sup>181</sup> Schreiber even recommended a donor for the carved relief, the Federal Ministry for All-German Affairs (*"Bundesministerium für Gesamtdeutsche Fragen"*), then under the purview of Jakob Kaiser (1888–1961), the former chair of the CDU in the Soviet zone. Kaiser had fled west in the late 1940s, and his ministry held a very high proportion of fellow refugees from communism and expellees.<sup>182</sup> The ministry's brief was to overcome Germany's division by fighting communism. This aim could be stretched to fit the museum's appeal for funding on the grounds that "it would be especially welcome if the German eastern territories were brought in as much as possible" (*"es [wäre] ganz besonders zu begrüßen, wenn die deutschen Ostgebiete soweit irgend möglich herangezogen würden"*).<sup>183</sup>

A similar rationale lay behind desiring that Ferdinand Schichau, first voted into the Ehrensaal in 1912, should once again be represented in the room. With the backing of the German federal government for the Schichau and Copernicus portraits the Ehrensaal continued its function as a space in which the entire German nation came together. But it did so in radically new circumstances, and the portraits could be seen as supporting concepts that linked the Federal Republic to Germany's older incarnations, among them the Third Reich. One was the claim to lost but historically German territories, a claim that many, including many of the expelled, were unwilling to yield. The other was the Federal Republic's status as the proper home of all Germans and guardian of their interests, one of which was Germany's eventual reunification as a Western-style democracy. Ehrensaal portraits of Copernicus and Schichau now reclaimed the men for that democratic Germany.

Whatever the current external reason for placing their portraits in the Ehrensaal, Schichau and Copernicus represented internal continuity, which was contradicted when Max Planck (1858–1947) was nominated for the Ehrensaal only four years after his death. This was the museum's first time since the Zeppelin nomination more than 30 years earlier to honour a man who had died so recently. Planck's candidacy was successful in 1951, and a wreath was laid before his portrait at the May general assembly in 1958.<sup>184</sup> Planck, like the subjects of the earliest portraits commissioned for the Ehrensaal, was an obvious choice, for his name had been internationally known for decades. He had also lived long enough to see his name attached to the newly reborn Kaiser-Wilhelm Institute in the British zone of occupation, a move followed after his death in the American and French zones. In honouring Planck so quickly, the Deutsches Museum was following those examples. Led by a physicist, the museum remembered one of its own, a man who had served on its board of trustees and as middleman for the portrait of Gustav Kirchhoff (1824–1887).<sup>185</sup> Much more important reasons for commemorating Planck were the contributions that he had made through his own work and his support of other theoreticians, first among them Albert Einstein (1879–1955), as well as of physics in general.

On one fairly superficial level, voting Planck into the Ehrensaal demonstrated that the room was still a space that commemorated those who had changed the world in ways no one could overlook. At the terrifying dawn of the Atomic Age, the overwhelming majority of people could not under-

181 Schreiber to DM directors, 21.12.1954 (see n. 165).

182 Creuzberger, *Kampf*, 2008, pp. 101–102.

183 Meyer to Bundesinnenministerium, 04.01.1955 (see n. 165).

184 *Verwaltungsbericht über das 54. Geschäftsjahr 1957–1958*, p. 20.

185 Minutes of museum committee meeting, 06.05.1926, *Verwaltungsbericht über das 22. Geschäftsjahr 1925–1926*, 07.05.1926, p. 22.

stand exactly how Planck's successors had unlocked the awesome, awful power of the atom. They did grasp its significance. There could be no question but that Planck figured large among those who had indeed put humanity on that new path.

Planck's presence in the Ehrensaal partially made up for Germany's self-inflicted loss of primacy in science and technology, for the portrait reminded viewers that he and other Germans had made contributions that had led to later work by colleagues in countries such as the United States and Great Britain. By incorporating him into the room the museum proclaimed Germany's reintegration into those Western developments, a thorough erasure not only of the embarrassing, aberrant Aryan physics but also of the isolation of science that had occurred in the "enforced provincialism of Nazi Germany".<sup>186</sup> Not surprisingly, several younger researchers into quantum mechanics as well as nuclear physics and chemistry would eventually follow Planck in being successfully nominated for portraits in the Ehrensaal.<sup>187</sup> In these choices the museum was demonstrating its ability to keep pace with the science that was of the greatest current interest to a wide public, not least in Bavaria, beginning its rise as a scientific centre.

And that brings us to the core of Planck's election to the Ehrensaal, his symbolic value. Surely Planck in 1951 represented an embodiment of the German and the scientist that resonated for more than merely scientific reasons. He was ambiguous, an honourable man who had nevertheless yielded to the Nazis. He had come under attack from the Aryan physicists for whom Zenneck and his colleagues felt such contempt, and his other enemies had sat in the high reaches of the Nazi government. A certain degree of legitimacy attached to the view of Planck as a victim of Nazi injustice, not only as a scientist, but also as a father whose son, his last surviving child, had been executed for his connection to the 20 July 1944 attempt on Hitler's life. On the other hand, the destruction of Planck's house, also late in the war, meant that he could equally be seen as a victim of Allied bombing raids. That made him into something of an internal expellee, a fate he shared with millions of his fellow Germans. Planck thus exemplified on multiple levels scientists' place in what Robert G. Moeller, evoking Benedict Anderson, has called one of West Germany's "integrative myths", that the country was a "nation of victims, an imagined community defined by the experience of loss and displacement".<sup>188</sup> Planck's large international acquaintanceship was split between those who despised him and those who still respected or pitied and even loved him. The Ehrensaal was not made for an audience outside Germany, but for those who like Planck had not fled. They had stayed in what after the war became a nation of pariahs, for whom he was a powerful and tragic example.

If commemorating Planck so shortly after his death represented a departure from museum custom, at least the rationale for the decision accorded with tradition. But the reality of post-war Germany demanded yet another change. In the 1950s the museum's greatest break with the past lay in deciding to permit industrial concerns to be openly involved in the Ehrensaal. The company that August Borsig had founded would pay for his new portrait, while Siemens und Halske and the Siemens-Schuckertwerke would jointly donate the replacement likeness of Werner von Siemens.<sup>189</sup> Testimony to the change speaks loudly in Krupp's three linked rings in the chandeliers that hang from the Ehrensaal ceiling, witnesses to the firm's continued patronage of the room.

<sup>186</sup> Herf, *Memory*, 1997, p. 270.

<sup>187</sup> Lise Meitner (1878–1968); Albert Einstein; Otto Hahn (1879–1968); Werner Heisenberg (1901–1976).

For Einstein, too, the museum broke its 10-year rule, voting him into the Ehrensaal in 1961, only six years after his death; see *Verwaltungsbericht über das 58. Geschäftsjahr 1961* (1962), pp. 34–35.

<sup>188</sup> Moeller, *War*, 2001, p. 6.

<sup>189</sup> See n. 165.



Figure 19 Chandelier in the Ehrensaal

The museum had always worked closely with German industry. It depended on industrialists both great and small for support, including donations, among them the materials of which the structure had been built and many objects on display in its galleries. It found multiple means of commemorating donors, some of whom had names that people in Germany and around the world encountered on a daily basis. A select few such names were attached to portraits in the place of the highest honour that the Deutsches Museum could bestow, posthumous membership in the Ehrensaal. But the Krupp chandeliers represent a type of brand placement *avant la lettre* that was completely new. It powerfully communicated the status of firms such as Krupp in *Wirtschaftswunder* Germany, where the vast sums for the museum's reconstruction had of necessity to come from zealously recruited and courted donors, not the fledgling federal state.

## Conclusion

The Ehrensaal in its first half-century possessed a fluctuating status as a portrait gallery heavily influenced by external circumstances, despite initial claims that the room was neutral ground. Perhaps the most striking change to the Ehrensaal in its first five decades was the way in which it increasingly shrank the temporal and emotional distance between those it honoured and the viewers who saw their portraits in the room.

The Ehrensaal had been designed to forge a connection between past and present, and Oskar von Miller and his colleagues worked from a list that they envisioned as the outline for continually adding portraits. They recognised that passing time would necessitate new additions that they could not envision. They also anticipated and tried to prevent the temptation to collapse the distinction between past and present by honouring figures too quickly after their death. A further means of counteracting that temptation was the refusal to allow political partisanship to play a role in Ehrensaal decisions.

The Ehrensaal's inherent bias was evident in its very conception as a space that would counter prejudice against scientists and engineers. This role was particularly important during the museum's first thirty years. Initially, plans for the Ehrensaal were directed at winning over the mandarinates; they formed the group to whom the artistic conception of the room and its new canon of genius were meant to appeal. The Ehrensaal attempted to construct tradition, using familiar portrait formats and luxurious materials.

Miller, Carl von Linde, and Gustav Krupp von Bohlen und Halbach were all deeply involved in that attempt. The First World War limited their plans because of shortages and inflation, but it also awoke new doubts about science and technology that had to be countered by other means. The public that felt those doubts – and the Deutsches Museum – emerged from the war into an unfamiliar, unstable world. In the course of the 1920s, then, some new portraits for the Ehrensaal took an inward turn, directing attention towards science as an aid to physical health and technology in the daily environment.

Such additions to the portraits during the Weimar Republic downplayed the Ehrensaal's nationalism, which was much more overt in other periods. Nationalism was an element right from the start in discussions about whom to honour in the room. Should that new canon include only Germans, or should it be open to anyone whose work had changed the world? The question highlights the differences between Miller and his colleagues even as it adds nuance to the picture of Miller, who did not and could not always bend others to his will. The decision to restrict the Ehrensaal to Germans hardened in the First World War, when emotions ran high enough to direct new suggestions of candidates and nominations of figures whose work could be seen as leading to technology then finding military use. The concern about nationality assumed new contours during the Third Reich, when portraits in the Ehrensaal reflected the racial definition of "German" and Germany's territorial expansion. Territorial shrinkage, the thorough discrediting of Nazi ideology, and Germany's fragmentation led to another redefinition of "German" after the Second World War, when the Ehrensaal's nationalism took on a flavour it had never before had. Now Germans, whenever and wherever they might have originated, belonged to the democratic West whose easternmost bulwark the Federal Republic of Germany formed.

Furthermore, the obviously political portrait decisions that were made during the 1950s tied to the turn the room had taken in the 1930s. Oskar von Miller had strenuously avoided partisan politics at the museum and in the Ehrensaal during his decades as chair of the board of directors. The choice of Hugo Bruckmann as his successor, however, demonstrates that Miller and other board members grasped how much the environment was changing under Hitler. Decisions about the Ehrensaal under Bruckmann and Jonathan Zenneck can be measured against the pattern established, for example, for the Kaiser Wilhelm Society.<sup>190</sup> In the Ehrensaal the museum “defend[ed] its institutional autonomy”, but only within strict limits that were not put on public view. Giving way on the question of certain portraits allowed the museum to “advanc[e] its own agenda” with regard to other, much more important goals, such as obtaining support for expansion. After the war Zenneck, succeeded by Otto Meyer, similarly aligned some portrait decisions with interests of the ruling party. But alignment with the ruling party is not exactly the same in a one-party state as in a democratic system, and gaining support in the early 1950s meant choosing the ruling majority over its vocal and visible opposition on the left. It also, however, meant allowing industry to engage with the Ehrensaal in a more obvious way than ever before, a decision born of practicality that not coincidentally celebrated capitalism, a further ideological statement now coming out into the open.

At no time during those fifty years was the Ehrensaal a truly neutral space. But when we compare its early ideological and political statements to those made during the Third Reich and infant Federal Republic, Oskar von Miller’s claim of neutrality assumes a greater credibility. Certainly the Ehrensaal in its beginnings hewed more closely to that ideal than did its later incarnations.

190 Heim / Sachse / Walker, Kaiser, in: Heim / Sachse / Walker (see n. 162), p. 4.

## Bibliography

- Anonymous: In München wird bekanntlich ein Museum gegründet für Meisterwerke der Technik, in: *Jugend* 9 (14.07.1904) 29, p. 596.
- Oskar von Miller über sein Museum. Das Deutsche Museum eine Ruhmeshalle der Naturwissenschaften und der Technik, in: *Münchner Neueste Nachrichten* no. 212 (Mittwoch, 6. August 1930).
- Ein Festtag des Deutschen Museums. Uebergabe der Denkmäler von Diesel und Faraday, in: *Münchner Neueste Nachrichten* no. 259 (1932).
- Ehrung Rudolf Diesels und Michael Faradays. Der Festakt im Deutschen Museum, in: *Münchner Zeitung* no. 262 (1932).
- Pettenkofer and His Theory, in: *The British Medical Journal* 2 (14 Sept. 1935) no. 3897, p. 518.
- Agricola, Georgius: *De Re Metallica*. Tr. and ed. Herbert Clark Hoover and Lou Henry Hoover. New York 1950 [London 1912], <https://archive.org/details/deremetallica/50agri> (accessed 01.10.2016).
- Benz, Wolfgang: Die Ausstellung "Der ewige Jude". In: Vaupel, Elisabeth / Wolff, Stefan L. (eds.): *Das Deutsche Museum in der Zeit des Nationalsozialismus. Eine Bestandsaufnahme*. Göttingen 2012, pp. 652–680.
- Beyerchen, Alan D.: *Scientists under Hitler. Politics and the Physics Community in the Third Reich*. New Haven 1977.
- Bodanowicz, Wiesław / Allen, Marie / Branicki, Wojciech / Lembring, Maria / Gajewska, Marta / Kupiec, Tomasz: Genetic Identification of the Putative Remains of the Famous Astronomer Nicolaus Copernicus, in: *PNAS* 106/30 (2009), doi: 10.1073/pnas.0901848106 (accessed 02.09.2016).
- Bommersbach, Ingrid: Gabriel von Seidl und der Heimatstil. In: Hofer, Veronika (ed.): *Gabriel von Seidl. Architekt und Naturschützer*. Kreuzlingen / Munich 2002, pp. 51–82.
- Bosch, Johannes B.: Der Museumsneubau, in: *Das Bayerland* 30 (May 1925) no. 10, pp. 297–304.
- Braungart, Richard: *Julius Diez*. Munich 1920.
- Brilliant, Richard: *Portraiture*. London 1991.
- Carson, Cathryn: New Models for Science in Politics. Heisenberg in West Germany, in: *Historical Studies in the Physical and Biological Sciences* 30 (1999) no. 1, pp. 155–171.
- Confino, Alon: Traveling as a Culture of Remembrance. Traces of National Socialism in West Germany, 1945–1960, in: *History and Memory* 12 (2000) no. 2, pp. 92–121.
- Creuzberger, Stefan: *Kampf für die Einheit. Das gesamtdeutsche Ministerium und die politische Kultur des Kalten Krieges 1949–1969*. Düsseldorf 2008.
- Deichmann, Ute: "To the Duce, the Tenno and Our Führer: A Threefold Sieg Heil". The German Chemical Society and the Association of German Chemists during the Nazi Era. In: Hoffmann, Dieter / Walker, Mark (eds.): *The German Physical Society in the Third Reich. Physicists between Autonomy and Accommodation*, tr. Ann M. Hentschel. Cambridge, GB 2012, pp. 280–316.
- Demshuk, Alan: What was the "Right to the 'Heimat'"? West German Expellees and the Many Meanings of "Heimkehr", in: *Central European History* 45 (2012) no. 3, pp. 523–556.
- Deutsches Museum von Meisterwerken der Naturwissenschaft und Technik München. *Das Bayerland*, special issue (1933).
- Dienel, Hans-Liudger: Ideologie der Artefakte. Die ideologische Botschaft des Deutschen Museums 1903–1945. In: *Ideologie der Objekte, Objekte der Ideologie. Naturwissenschaft, Medizin und Technik in Museen des 20. Jahrhunderts*. Kassel 1991, pp. 105–113.
- Douglas, R.M.: *Orderly and Humane. The Expulsion of the Germans after the Second World War*. New Haven 2012.
- Duffy, Eve: *Representing Science and Technology. Politics and Display in the Deutsches Museum, 1903–1945*. Diss. University of North Carolina at Chapel Hill 2002.
- Duffy, Eve: Im Spannungsfeld von Selbststeuerung und Fremdbestimmung 1925–1944. In: Füßl, Wilhelm / Trischler, Helmut (eds.): *Geschichte des Deutschen Museums. Akteure, Artefakte, Ausstellungen*. Munich 2003, pp. 103–147.
- Duffy, Eve: Jenseits von Anpassung und Autonomie. Zur institutionellen Entwicklung des Deutschen Museums zwischen 1933 und 1945. In: Vaupel, Elisabeth / Wolff, Stefan L. (eds.): *Das Deutsche Museum in der Zeit des Nationalsozialismus. Eine Bestandsaufnahme*. Göttingen 2012, pp. 45–77.
- Dyck, Walther von: Der Ehrensaal des Deutschen Museums, in: *Das Bayerland* 30 (May 1925) no. 10, pp. 321–324.
- Eckert, Michael: Atommodelle und Museumspädagogik im Nationalsozialismus. In: Vaupel, Elisabeth / Wolff, Stefan L. (eds.): *Das Deutsche Museum in der Zeit des Nationalsozialismus. Eine Bestandsaufnahme*. Göttingen 2012, pp. 473–496.
- Eckert, Michael: The German Physical Society and "Aryan Physics". In: Hoffmann, Dieter / Walker, Mark (eds.): *The German Physical Society in the Third Reich. Physicists between Autonomy and Accommodation*, tr. Ann M. Hentschel. Cambridge, GB 2012, pp. 96–125.

- Erker, Paul: Keine Sehnsucht nach der Ruhr. Grundzüge der Industrialisierung in Bayern 1900–1970, in: *Geschichte und Gesellschaft* 17 (1991) no. 2, pp. 180–511.
- Exner, W.: *Der Ehrensaal des Deutschen Museums*. Berlin 1930.
- Feyer, Sven: Otto Meyer: MAN-Vorstand im Dritten Reich, in: *Vierteljahrshefte für Zeitgeschichte* 62 (2014) no. 2, pp. 247–283.
- Forman, Philip: Scientific Internationalism and the Weimar Physicists. The Ideology and Its Manipulation in Germany after World War I, in: *Isis* 64 (1973) 2, pp. 150–180.
- Füßl, Wilhelm: *Oskar von Miller 1855–1934. Eine Biographie*. Munich 2005.
- Füßl, Wilhelm / Hilz, Helmut / Trischler, Helmuth: Forschung, Bibliothek und Archiv. Der Wissenschaftsstandort Deutsches Museum. In: Füßl, Wilhelm / Trischler, Helmuth (eds.): *Geschichte des Deutschen Museums*. Munich 2003, pp. 323–361.
- Gray, William Glenn: *Germany's Cold War. The Global Campaign to Isolate East Germany, 1949–1969*. Chapel Hill 2003.
- Haddad, George E.: Medicine and the Culture of Commemoration. Representing Robert Koch's Discovery of the Tubercle Bacillus, in: *Osiris* 14 (1999), pp. 118–137.
- Hashagen, Ulf: *Walther von Dyck (1856–1934). Mathematik, Technik und Wissenschaftsorganisation an der TH München*. Stuttgart 2003.
- Hashagen, Ulf: Ein unbekannter Mitbegründer des Deutschen Museums: Zum 150. Geburtstag des Mathematikers Walther von Dyck, in: *Kultur & Technik* 30 (2006) no. 4, pp. 43–45, [http://www.deutsches-museum.de/fileadmin/Content/data/020\\_Dokumente/040\\_KuT\\_Artikel/2006/30-4-43.pdf](http://www.deutsches-museum.de/fileadmin/Content/data/020_Dokumente/040_KuT_Artikel/2006/30-4-43.pdf) (accessed 17.09.2016).
- Hashagen, Ulf / Blumtritt, Oskar / Trischler, Helmuth (eds.): *Circa 1903*, Munich 2003.
- Heilbron, J. L.: *The Dilemmas of an Upright Man. Max Planck and the Fortunes of German Science. With a New Afterword*. Berkeley 1996 and 2000.
- Heim, Susanne / Sachse, Carola / Walker, Mark (eds.): *The Kaiser Wilhelm Society under National Socialism*. Cambridge, GB 2009.
- Herf, Jeffrey: *Reactionary Modernism. Technology, Culture, and Politics in Weimar and the Third Reich*. Cambridge, GB 1984.
- Herf, Jeffrey: *Divided Memory. The Nazi Past in the Two Germanys*. Cambridge, MA 1997.
- Hilz, Helmut: "Eine Bildungsanstalt für alle Stände unseres Volkes." Die Bibliothek des Deutschen Museums in der Zeit des Nationalsozialismus. In: Vaupel, Elisabeth / Wolff, Stefan L. (eds.): *Das Deutsche Museum in der Zeit des Nationalsozialismus. Eine Bestandsaufnahme*. Göttingen 2012, pp. 244–286.
- Hofer, Veronika (ed.): *Gabriel von Seidl. Architekt und Naturschützer*. Kreuzlingen / Munich 2002.
- Hoffman, Dieter / Walker, Mark (eds.): *The German Physical Society in the Third Reich. Physicists between Autonomy and Accommodation*. Hentschel, Ann M. (tr.). Cambridge, GB 2012.
- James, Harold: *Krupp. A History of the Legendary German Firm*. Princeton 2012.
- Kaltwasser, Angelika: Museumsarchitektur im Umbruch, in: *Kultur und Technik* 35 (2011), no. 2, pp. 44–49.
- Köhne-Lindenlaub, Renate: Private Kunstförderung im Kaiserreich am Beispiel Krupp. In: Mai, Ekkehard / Pohl, Hans / Waetzold, Stephan (eds.): *Kunstpoltik und Kunstförderung im Kaiserreich*. Berlin 1982, pp. 55–81.
- König, Wolfgang: Distanz und Opportunismus. Conrad Matschoß, der Verein Deutscher Ingenieure und das Deutsche Museum im Nationalsozialismus. In: Vaupel, Elisabeth / Wolff, Stefan L. (eds.): *Das Deutsche Museum in der Zeit des Nationalsozialismus. Eine Bestandsaufnahme*. Göttingen 2012, pp. 171–194.
- Kraus, Elisabeth: *Repräsentation – Renommee – Rekrutierung. Mäzenatentum für das Deutsche Museum (Deutsches Museum, Preprint 9)*. Munich 2013.
- De Kruif, Paul: *The Microbe Hunters*. New York 1926.
- Kühne, Andreas / Kirschner, Stefan: Die frühen Copernicus-Bildnisse und ihre Wirkungsgeschichte. In: Kühne, Andreas / Kirschner, Stefan (eds. and trans.): *Biographia Copernicana. Die Copernicus-Biographien des 16. bis 18. Jahrhunderts*, Berlin 2002, pp. XVI–XXVI.
- Kunstaussstellung der Münchener Secession, 23.05.–31.10.1914, Munich 1914, [http://digital.bib-bvb.de/webclient/DeliveryManager?custom\\_att\\_2=simple\\_viewer&pid=4158360](http://digital.bib-bvb.de/webclient/DeliveryManager?custom_att_2=simple_viewer&pid=4158360) (accessed 01.10.2016).
- Large, David Clay: *Where Ghosts Walked. Munich's Road to the Third Reich*. New York 1997.
- Mackenbach, Johann: Kos, Dresden, Utopia ... A Journey through Idealism Past and Present in Public Health, in: *European Journal of Epidemiology* 20 (2005) no. 10, pp. 817–826.
- Maier, Helmut: *Chemiker im "Dritten Reich". Die Deutsche Chemische Gesellschaft und der Verein Deutscher Chemiker im NS-Herrschaftsapparat*, Weinheim 2015.

- Mayr, Otto: Wiederaufbau. Das Deutsche Museum 1945/1970. Munich 2003.
- Mayring, Eva A.: Das Porträt als Programm. In: Hashagen, Ulf/Blumtritt, Oskar/Trischler, Helmuth (eds.): Circa 1903. Artefakte in der Gründungszeit des Deutschen Museums. Munich 2003, pp. 55–77.
- Mayring, Eva A. (ed.): Bilder der Technik, Industrie und Wissenschaft. Munich 2008.
- Metze, Gudula: Katalog der Copernicus-Bildnisse. In: Kühne, Andreas/Kirschner, Stefan (eds. and trans.): *Biographia Copernicana*. Die Copernicus-Biographien des 16. bis 18. Jahrhunderts, Berlin 2002, pp. 329–415.
- Metze, Gudula: Die Entwicklung der Copernicus-Porträts vom 16. Jahrhundert bis zum 18. Jahrhundert. Diss. Munich 2004, <https://edoc.ub.uni-muenchen.de/6796/> (accessed 01.10.2016).
- Moeller, Robert G.: *War Stories. The Search for a Usable Past in the Federal Republic of Germany*. Berkeley 2001.
- Moser, Eva: Unternehmer in Bayern. Der Landesverband der Bayerischen Industrie und sein Präsidium. In: Schlemmer, Thomas/Woller, Hans (eds.): *Bayern im Bund, vol. 2: Gesellschaft im Wandel 1949–1973*, Munich 2002, pp. 25–86.
- Ostini, Fritz von: Die zehnte Muse, in: *Jugend* 14 (1909), no. 42, pp. 993–994.
- Ringer, Fritz K.: *The Decline of the German Mandarins. The German Academic Community, 1890–1933*. Hanover, NH 1990 [1969].
- Schickel, Gabriele: Die Münchner Bauten. In: Hofer, Veronika (ed.): *Gabriel von Seidl. Architekt und Naturschützer*. Kreuzlingen/Munich 2002, pp. 113–150.
- Schießl, Konrad: Julius Diez. Sonderausstellung zum 60. Geburtstag des Künstlers. Munich 1940.
- Schmaltz, Florian: Chemical Weapons Research in National Socialism. The Collaboration of the Kaiser Wilhelm Institutes with the Military and Industry. In: Heim, Susanne/Sachse, Carola/Walker, Mark (eds.): *The Kaiser Wilhelm Society under National Socialism*. Cambridge, GB 2009, pp. 312–338.
- Schmitt, Lothar: Es muss nicht immer Leonardo sein. Albrecht Dürer, die Kunst und die Technik, in: *Kultur und Technik* 36 (2012) no. 4, pp. 50–53.
- Schneider, Ivo: Der Wissenschaft zu Ehren. Der Ehrensaal des Deutschen Museums, in: *Kultur und Technik* 26 (2003) no 2, pp. 34–37.
- Schröter, Manfred: Die Ehrensäle des Deutschen Museums, in: *Deutsches Museum von Meisterwerken der Naturwissenschaft und Technik München*, Sonderdruck aus der illustrierten Halbmonatsschrift „Das Bayerland“, Munich 1933, pp. 8–9.
- Sichau, Christian: „Reine Bildung“. Die erzieherische Aufgabe des Deutschen Museums und der Nationalsozialismus: Das Beispiel Physik. In: Vaupel, Elisabeth/Wolff, Stefan L. (eds.): *Das Deutsche Museum in der Zeit des Nationalsozialismus. Eine Bestandsaufnahme*. Göttingen 2012, pp. 323–367.
- Sombart, Werner: *Händler und Helden. Patriotische Besinnungen*. Munich/Leipzig 1915, <https://archive.org/details/hndlerundhelde00sombuoft> (accessed 02.09.2016).
- Stange, Albert: *Das Deutsche Museum. Historische Skizze*. Munich 1906.
- Stöppel, Daniela: Hugo Bruckmann als Vorstand des Deutschen Museums. In: Vaupel, Elisabeth/Wolff, Stefan L. (eds.): *Das Deutsche Museum in der Zeit des Nationalsozialismus. Eine Bestandsaufnahme*. Göttingen 2012, pp. 127–170.
- Thiersch, Friedrich von: *Das Kurhaus zu Wiesbaden*. Berlin 1908.
- Uekötter, Frank: 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. In: Vaupel, Elisabeth/Wolff, Stefan L. (eds.): *Das Deutsche Museum in der Zeit des Nationalsozialismus. Eine Bestandsaufnahme*. Göttingen 2012, pp. 195–243.
- Vaupel, Elisabeth/Wolff, Stefan L. (eds.): *Das Deutsche Museum in der Zeit des Nationalsozialismus. Eine Bestandsaufnahme*. Göttingen 2012.
- Waller, John: *Leaps in the Dark. The Forging of Scientific Reputations*, Oxford/New York 2004.
- Weindling, Paul: *Health, Race, and German Politics between National Unification and Nazism, 1870–1945*. Cambridge, GB 1989.
- Wolf, Georg Jacob: Ein Deckengemälde von Julius Diez, in: *Die Kunst* 32 (1916–1917), pp. 179–182. [urn:nbn:de:bsz:16-diglit-137468](http://nbn:de:bsz:16-diglit-137468).
- Wolff, Stefan L.: Jonathan Zenneck als Vorstand des Deutschen Museums. In: Vaupel, Elisabeth/Wolff, Stefan L. (eds.): *Das Deutsche Museum in der Zeit des Nationalsozialismus. Eine Bestandsaufnahme*. Göttingen 2012, pp. 78–126.
- Zanker, Paul: *The Mask of Socrates. The Image of the Intellectual in Antiquity*. Tr. Alan Shapiro. Berkeley 1996.

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The Ehrensaal (Hall of Honour) originally distilled to its strongest form the DM's message about science and technology. The museum founders intended it to perform an ideological yet apolitical function, a contradiction that the present study examines through archival material from the museum's first half-century.

Initially the Ehrensaal was meant to parallel and strengthen the museum's argument that scientists and engineers were just as creative and worthy of veneration as artists. Attempts to make the Ehrensaal a neutral and artistically stunning space ended with the First World War, and developments outside the museum continually enmeshed the room, changing its contents and meaning. Political turmoil and economic devastation after the war, the rise and collapse of the Nazi state, damage during the Second World War, and Germany's division into two enemy states on opposite sides of the Iron Curtain – all helped shape the Ehrensaal and its presentation of history. As is so often the case with public monuments, the past as presented in the Ehrensaal has in actuality always been about the present. Case studies of particular portraits and the processes by which they entered the Ehrensaal highlight that reality.

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