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Neuroscience research in the Max Planck Society and a broken relationship to the past: Some legacies of the Kaiser Wilhelm Society after 1948

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ABSTRACT

The development of the brain sciences (*Hirnforschung*) in the Max Planck Society (MPG) during the early decades of the Federal Republic of Germany (FRG) was influenced by the legacy of its precursor institution, the Kaiser Wilhelm Society for the Advancement of Science (KWG). The KWG's brain science institutes, along with their intramural psychiatry and neurology research programs, were of considerable interest to the Western Allies and former administrators of the German science and education systems in their plans to rebuild the extra-university research society—first in the British Occupation Zone and later in the American and French Occupation Zones. This formation process occurred under the physicist Max Planck (1858–1947) as acting president, and the MPG was named in his honor when it was formally established in 1948. In comparison to other international developments in the brain sciences, it was neuropathology as well as neurohistology that initially dominated postwar brain research activities in West Germany. In regard to its KWG past, at least four historical factors can be identified that explain the dislocated structural and social features of the MPG during the postwar period: first, the disruption of previously existing interactions between German brain scientists and international colleagues; second, the German educational structures that countered interdisciplinary developments through their structural focus on medical research disciplines during the postwar period; third, the moral misconduct of earlier KWG scientists and scholars during the National Socialism period; and, fourth, the deep rupture that appeared through the forced migration of many Jewish and oppositional neuroscientists who sought to find exile after 1933 in countries where they had already held active collaborations since the 1910s and 1920s. This article examines several trends in the MPG's disrupted relational processes as it sought to grapple with its broken past, beginning with the period of reinauguration of relevant Max Planck Institutes in brain science and culminating with the establishment of the Presidential Research Program on the History of the Kaiser Wilhelm Society in National Socialism in 1997.

KEYWORDS

Brain research; émigré neuroscientists; Germany; international networking; Kaiser Wilhelm Society; legacies; Max Planck Society; morphological neuroscience; neurology; postwar period; psychiatry; research institutions; social contexts; twentieth-century history

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Introduction

The main historical question tackled in this article regards the often-disrupted relational processes[1] that integrated scientific, social, and ethical facets of the former Kaiser Wilhelm Society for the Advancement of Science (KWG) into the newly founded Max Planck Society (MPG), which meant managing previous research traditions, material objects and technologies, continuities on the personal level in the re-establishment of scientific networks, and the activities of émigré neuroscientists. The distribution of KWG units and research programs across many regions as an extended system of knowledge production was in line with the context of some innovative trajectories in the international brain sciences during that period, including the combination of anatomico-physiological departments with technological histology and photography departments, or race biology-oriented units such as the Division for Genealogy and Demographics (*Genealogische-Demographische Abteilung*) at the German Research Institute (DFA) for Psychiatry, along with brain research departments (Krementsov 2006, 369–406; Richter 2006, 325–368). The KWG, in effect, sought to organize brain research as a social innovation program over its competitors, something that makes its role during National Socialism (NS) even more significant to understand.

The analytical approach taken here puts the effective research production model of the KWG into the larger context, particularly of other brain research centers and international trends. Such an approach includes discussing the ways that historians, representatives of the MPG, and surviving victims of the NS period came together and reconsidered those legacies and the complex afterlives of the KWG. By embedding these issues in socio-contextual perspectives in regard to the fledgling FRG, as well as international perspectives on the neurosciences in the MPG after 1948, a major focus here is on the continuities and discontinuities between the brain sciences in the KWG and the MPG between 1948 and 2002, as well as the difficult processes undertaken by MPG administrators for appropriating and processing the historical NS legacy (as *Vergangenheitsbearbeitung*; see Ash 2002b).[2] This article accordingly explores the foundations for cover-ups, denials, and other means of concealing the brain research work at the KWG in the decades after 1948, noting the ways in which elements of the research program created under NS found means to endure, albeit in forms that only indirectly pointed to their origins in the past.

The growing research literature has emphasized how Nazi science had cut across the field of psychiatric research, investigations of mental deficiency, eugenics, and genetics, as well as the intersection of pathology and neuromorphology. Yet few of these works have tried to locate the advent of the neurosciences in the research traditions of the KWG. One author who has explicitly done so, Larry Zeidman, focused on the intersections between brain science, eugenics, euthanasia with neurological research, and human subject experiments through which KWG-related brain science became a central part of the biopolitical approaches taken during the Nazi period (Zeidman 2020, 101–138).

[1]The notion of a "broken relationship to the past" (*ein gebrochenes Verhältnis zur Vergangenheit*) regarding the MPG is taken from an interview conducted by the art historian Katrin Herbst with neurophysiologist Wolf Singer (Herbst and Singer 2010, 302–305).

[2]Regarding the historiographical concept, see details in Feldmann (2003, 7–15), which offers a comparison between forms of assimilating the past in the context of the history of science and that of economic perspectives in Central European history.

Frank W. Stahnisch has emphasized the existing scientific and political networks and hierarchies from the period of the Wilhelminian Empire to the Weimar Republic, including those at the KWG, which constituted research platforms and interdisciplinary means of brain research programs that were followed, adapted, and usurped by the Nazi administration during the 1930s (Stahnisch 2020, 201–236).

These existing narratives need to be further placed into a scholarly conversation that offers a genuine appraisal of the limits of the prior discussions. This approach can then allow for disclosing an NS undercurrent running from early neurology to neuroscience in the mid-twentieth century.

Stephen T. Casper, for example, has examined the development of neurology as a field of specialization and global practices, the unity of which was not merely established by scientific and medical techniques or concepts alone. Rather, the creation of a global community of neurological practitioners was fostered by internationally active gatekeepers, such as the funding program officers of the American Rockefeller Foundation, who saw the need to differentiate—as their "currency of consciousness"—between acceptable recipients of funding and those researchers in the German-speaking world who were deemed too involved with military- or eugenics-related research (Casper 2016, 325–326).

Aleksandra Loewenau and Paul J. Weindling have worked out that, despite the fact that medical research was pursued with patients' body parts—clinical experiments using patients and live victims under NS having been an integral part of the modern history of medicine—a large number of physicians and scientists who were responsible for patient killings and other inhumane scientific programs could fully continue with their academic and medical careers after the war (Loewenau and Weindling 2016, 440).

This focus underlines tensions between disciplinary and interdisciplinarity research trends, attempts to repair communicative disruptions with the international scientific community, as well as stances toward the forced migration of KWG members. Furthermore, such an approach emphasizes how the general developments in the neurosciences, cognitive sciences, and behavioral sciences were influenced not only through research priorities but also through moral and social reconstruction processes in the postwar period of the MPG (Balcar 2018, 13–15).

The continuation of the morphologico-pathological research program of the KWG after World War II

This section takes on a particular research tradition in the brain sciences that can be described as the highly regarded morphologico-pathological research paradigm. Since its heyday at the end of the nineteenth century, it encompassed investigations of brain tumor genesis, focal epilepsy work, stroke research, and the investigation of inherited and acquired neurodegenerative diseases (Strösser 1993, 12–13). Yet it is also of note that in the neuromorphological paradigm's penumbra, neurochemical and neurophysiological research resumed based on previously gained structural insights, such as we saw in West German research initiatives on neuroleptic drugs since the 1950s, often conducted with the support of the pharmaceutical industry and having arisen in the context of basic research on nerve gases during the 1940s (Quadbeck 1959).

To enable an examination of the assimilation processes of a broken past, the KWG's legacy (Richter 1996, 349–408) will be likewise assessed here through the developments and

decisions taken at the "newly created" MPG and its early brain science facilities. This period must be understood within the context of the legal cases taking place for Nazi crimes (Redaktion Kritische Justiz, 1998) and the Allied de-nazification programs (Dack 2015).

Already during World War II, several departments and institutional units had been moved westward to safety outside of the urban centers—following prewar strategic plans—in the context of the intensifying Allied bombing war after 1943 (Hachtmann 2007, 1022–1036; Maier 2007, 312–318). When the Red Army advanced into Nazi Germany at the end of the war, the KWG then decided to move any remaining institutes and units westward from Eastern Europe and Eastern Germany.[3] In 1944, the bulk of the scientists and technicians, laboratory equipment, and brain specimen collections were put on trucks and carried to other places out of the reach of the Red Army.

Parts of the brain pathological collections went to Dillenburg, Gießen, and Marburg in Hesse. There, they formed the core inventory of the new institutional divisions; other parts of the collection arrived after the war ended based on negotiated agreements of the Western Allies and the MPG with the Soviet Administration in Eastern Germany (Topp 2013, 257–269). The brain pathological collections were later integrated into the Max Planck Institute (MPI) for Brain Research when the institute moved to Frankfurt/Main where it was founded in 1961. The same held true for the clinical division that moved to Bochum (Langendreer) and Cologne,[4] later being integrated into the Max Planck Division for Neurological Research in Cologne in 1962. The divisions of the German Research Institute for Psychiatry (*Deutsche Forschungsanstalt für Psychiatrie*, founded in 1917 and integrated into the KWG in 1924) in Munich, Bavaria, were kept in place. One exception was the transportation of some material resources to Bad Ischl, Austria, which became the founding nucleus for the new MPI of Psychiatry in 1954 (Singer 1998, 50).

An outlier from this general development was Oskar Vogt's (1870–1959) insect research division and comparative brain collection, which had earlier been moved to Neustadt in the Black Forest region. This had happened when Vogt, for political reasons, was ousted by the Nazi administration from his directorship at the Kaiser Wilhelm Institute (KWI) for Brain Research in 1937.[5] In 1964, the division was given to the Medical Academy of Düsseldorf in North Rhine-Westphalia, where it formed the core for the re-established Oskar and Cécile Vogt Institute for Brain Research (Anonymous, 1964, 17).

Further postwar brain research-related institutes included the MPI for Behavioral Physiology in Seewiesen, Bavaria, which was established for Erich Walther von Holst (1908–1962) in 1957 (Kaufmann 2018, 9–11); the MPI for Biological Cybernetics established for Werner E. Reichardt (1924–1992) in 1968[6]; and the former Kerkhoff Institute in Bad Nauheim, Hesse, which was integrated into the MPG as the MPI for Heart and Lung Research. Initially, the new MPI in Bad Nauheim was led by the physiologist Eberhard Koch (1892–1955) with a strong neurophysiological research portfolio, but its directorship changed to Rudolf Thauer, Sr. (1906–1986) in 1952 (Generalverwaltung der Max Planck Gesellschaft 1981, 7–8).

[3]Official Annual Report (1940/41): Hallervorden—Presentation to the Militärärztliche Akademie, Lehrgruppe C, in Gießen, 14.5.1944. Berlin, Germany: Kaiser Wilhelm Institut für Hirnforschung.

[4]Neurosurgeon Wilhelm Tönnis (1898–1978) to military surgeon Professor Heinrich Bürkle de la Camp (1895–1974) at the Mining Union Hospital in Bochum, MPI for Brain Research, January 3, 1946; AMPG II. Abt., Rep. 20B, No. 105.

[5]Correspondence from the General Administration: Institute Custodial Files, AMPG II. Abt., Rep. 66, GV, No. 4264.

[6]Biologico-Medical Section of the Scientific Council (BMS), Minutes of the Session of the BMS of the Scientific Council on June 26, 1968, AMPG, II. Abt., Rep. 62, Nr. 1597.

The spectrum of institutes encompassed within the MPG's umbrella in the field of brain research—ranging across neuroanatomy, neuropathology, comparative anatomy, neurophysiology, clinical neurology, psychiatry, and behavioral studies—may thereby be understood in the broader horizon of the scientific international perception and need for developing new interdisciplinary research formations (see the third section of this article).

Historically, the *brain sciences* had developed as an attempt, particularly in the medically oriented field, to bring the clinical disciplines of neurology, psychiatry, and neuropathology back together with basic sciences of anatomy, physiology, serology, and radiology at the end of the nineteenth century and the beginning of the twentieth century.

The even more interdisciplinary-oriented *neurosciences* appeared as a new research field at the beginning of the 1960s, developing around the Neuroscience Research Program inaugurated and advanced by Francis O. Schmitt (1903–1995) at the Massachusetts Institute of Technology in the United States (Schmitt 1990, 189–230), and it included the more technical areas of biophysics, cybernetics, and computer science.

Related, but more oriented toward psychology and the behavioral sciences, was the field of the *cognitive sciences*, which emerged about a decade later and included research of cognition in humans, animals, and machines; it largely materialized around the journal *Cognitive Science* and the Cognitive Science Society in North America (Stahnisch 2020, 40–41).

It is useful to methodologically link these diverse organizational histories within the overall study areas singled out by the Research Program on the History of the Max Planck Society (*Geschichte der Max Planck Gesellschaft*, GMPG) for historical investigations (Kolboske et al. 2018, 10). The general historiographical context pertaining to cultural and political influences on medico-scientific institutions has seen a significant expansion over the last few decades (see, e.g., Peyenson 2000; Timmermann 2005; Kästner and Schippan 2017).

One reason for this development is the decision of governments and CEOs of economic corporations to sponsor independent research alongside the institutional opening of firm archives that were restricted until after German reunification from the view of historians—such as the Höchst/IG Farben Archives (e.g., Wengenroth 2011), the Archival Collections of the German Research Council (DFG; see, e.g., Orth 2016), research on the compensation of forced laborers from World War II (Borggräfe 2014), or the Research Program on the History of the KWG in National Socialism (e.g., Rürup 2014). Medical history research in the FRG since the later 1980s had already carved out new ways of researching the intricacies of biomedical, neuroscience, and psychiatric research in Nazi Germany, including new foci on Holocaust history by extensively using the archival collections of the state judiciary system held in Ludwigsburg, Swabia (Forsbach 2015).

This research has opened up new paths for historians to examine ethical boundaries, forms of assimilating resource traditions, and epistemic trajectories seen in pre- to postwar institutions—including the metamorphosis of the KWG into the MPG (see additional details in Beyler 2004). In many respects, the results have made way for a significant revision of traditional views about the performance of science and technology in the Third Reich—prominently in Schieder and Trunk (2004, 7–22) and Weindling (2017). Concerning the KWG's history, particularly, the works of Kaderas and vom Bruch (2002), Beyler (2004), Schmaltz (2005), Schmuhl (2008), Sachse (2009), and Kaufmann (2018) should be

highlighted, as they prominently addressed the institutional, military history, biographical, and forced-migration matters connected to the Nazi period in Germany and Central Europe.

The widely held, yet constructed, cliché of a "Zero Hour" (*Stunde Null*) in Germany on May 8, 1945 (Kauhausen 2007, 50–32), has been challenged through a historiography that emphasizes the drastic scientific and economic continuities for functional elites like MPG founding president Otto Hahn (1879–1968; see Sime 2004, 42–45; Walker 2006, 140–153), who, a chemist himself, succeeded Planck as acting president on returning from his internment as a prisoner of war at Farm Hall in Britain (Albrecht, 1993).

The comparison of strategies used in the historical confrontation *and* assimilation of past resources in science, technology, and business fields is quite instructive, as their histories were all too often intertwined during NS. Analogous forces can be singled out (after 1945) that repressed what was uncomfortable about the past and sought to create new legacies. Often enough, explicit statements regarding the institutional continuation of the MPG from its predecessor, the KWG, were avoided, as references to "tradition," "research needs," and "personal roles" emerged as a backdrop to the newly created MPG.[7]

When situated within the function of scientific genealogies, postwar brain researchers in the FRG visibly connected their own careers to the legacy of former KWG-supported researchers such as Wilhelm Tönnis (1898–1978) in neurosurgery (head of the neurophysiology division at the KWI for Brain Research since 1937), Hans Gerhard Creutzfeld (1885–1964) in neuropathology (research associate in the neuropathology division of the DFA for Psychiatry 1919–1920, and later division head after 1953), and Hugo Spatz (1888–1969) in neuropathology (director of the KWI for Brain Research since 1937, and later division head of neuropathology at the DFA for Psychiatry from 1948).[8]

On an institutional level, the former KWI for Brain Research, headed by neuroanatomist Oskar Vogt and his wife, Cécile Vogt-Mugnier (1875–1962), is a representative example of intricate assimilation processes *vis-à-vis* the MPG's broken past. The institute was scattered over Hesse, North Rhine-Westphalia, Lower-Saxony, and Baden-Württemberg, and even Austria (Topp and Peiffer 2004, 539–607), a situation that raised many questions about the postwar reconstruction and rearrangement of research buildings, laboratory spaces, and access to the pathology collections in the MPG (Maier 1997, 115).[9] Scientists, politicians, and businessmen actively participated in these negotiations, advocating for their regions and cities after the final decision was reached that the remnants of the MPI for Brain Research

[7]Moosmann, Elisabeth B.: Max Planck Gesellschaft hat Jubiläum: Immerzu Forschung. Am 11.1.1911 unter Kaiser Wilhelms Namen in Berlin gegründet. *Augsburger Allgemeine Zeitung* 24 (January 11, 1986), 1, p. 174, Registry of the General Administration (GVMPG), BC 248053 (press information and reactions), fol. 174.

[8]These brain researchers, among many other members of the KWG, are still mentioned as founding figures and honorary members despite their troubled histories in Nazi research and war crimes. Several of these individuals are even namesakes for prestigious prizes and medals in their respective scientific associations. See, for example, Martin, Fangerau, and Karenberg (2016, 45–51).

[9]A major point of contention was the placement of the new institute. While the German land of Bavaria favored the integration of all brain research divisions in a double institute in Munich (combined with the MPI for Psychiatry), the land of Hesse (with its metropolitan region around Frankfurt/Main) and Northrhine-Westphalia also made federal bids and opposed the exclusive concentration of brain research activities in the Bavarian capital. Politicians, scientists, and administrators feared that the attractiveness of their respective scientific landscapes and regional economies would be endangered by such a concentration decision. See, for example, the letter exchanges and negotiation processes between Munich, Frankfurt/Main, and the relevant German lands mentioned above, in BayHStA, MK (Kultusministerium) 71247 (6a/1), Rep. 3000 A.G. III 50, No. 106 u, fol. 2–8.

should not be merged with the German Research Institute for Psychiatry.[10] The KWG's past—directly or indirectly—thereby kept its influence on the reorganization and decision-making processes in the MPG's structure, development, and day-to-day functioning.[11] There was a tendency to bring previous members of the Nazi Party and related organizations back into the newly formed MPG,[12] while support, in turn, for politically and racially persecuted KWG members decreased at the beginning of the 1960s (Balcar 2019, 53–56).

After the war, systematic collaborations and an intricate division of labor characterized the DFA in Munich, where neuropathologist Willibald Scholz (1889–1971) contacted his former KWG colleagues, aiming to continue research on epilepsy brain lesions (Scholz 1951).[13] Brain research networks before and during the war had included prominent nodes in Breslau with the former Neurological Institute of Otfrid Foerster (1873–1941), which was continued after the war with Foerster's successor, Viktor von Weizsäcker (1886–1957), who resumed his work in Heidelberg as postwar Wrocław had become part of Poland.[14] Other nodes continued with the neurological clinic of Hamburg-Eppendorf (neurologist Heinrich Pette, 1885–1964; and later Hartmut Pilz, 1934–1978) and Frankfurt am Main (psychiatrist Karl Kleist, 1879–1960; and later Hugo Spatz after his MPG division had moved from Gießen in 1961; see Topp 2013, 234–237).[15] Around what had been the leading German "triangle of brain research" nodes in Berlin, Breslau, and Munich during the time of the KWG, several notable MPIs reemerged as pivotal feeder institutions through their scientific and educational initiatives. Notably, Gießen/Frankfurt (taking the earlier place of Berlin) and Göttingen and Cologne represented new centers (Breslau/Wrocław having been displaced) with differing methodologies, becoming nodal corners of an emergent research and educational network of major brain research centers in the young FRG.[16]

To delve a bit deeper into a single illustrative historical example, the case of neuropathologist professor Scholz is instructive in comprehending the pre- and postwar connections between the KWG and MPG. With the hiring of Scholz in 1936 as the successor to neuropathologist Walter Spielmeyer (1879–1935) at the DFA for Psychiatry, the scientific leadership team (*Kuratorium*) was made complete again (Peters 1971, 1–2). This step had

[10]This was eventually settled in the final decisions of January 1953; the outcome being aided by the fact that the situation in Munich remained complicated due to several failed professorial hires at the university, which weakened the scientific and medical landscape in the Bavarian capital. Compare, for example, the letter exchanges between 1951 and 1953 between the DFA, the Ludwig Maximilians University, and the Bavarian Ministry for Education and Culture, in BayHStA, MK (Kultusministerium) 69575, Rep. 1399, No. 5a/35I1, fol. 1–11.

[11]Willibald Scholz to the General Administration of the MPG in Göttingen in July 1957. Willibald Scholz, Archive of the MPI for Psychiatry (MPIP), MPIP-D 66, fol. 14.

[12]Based on information from the Biographical Database of the GMPG, the peak of Nazi Party (NSDAP) memberships was not reached in 1945 (with 47%), as one might intuit, but only in 1952 (sic!) when over 49% of members were former Nazis after the Allied Control Council lifted its grip on most federal institutions in the FRG. For more detail, see Florian Schmaltz's forthcoming monograph *Die Vergangenheitspolitik der Max Planck Gesellschaft* (Schmaltz 2024, in preparation).

[13]Communication regarding shared "histological material" stemming from former KWG times, which had been archived in Ottobrunn, resumed between Scholz in Munich and Spatz in Gießen/Frankfurt after the war. AMPG II. Abt., Rep. 67 N.No. 652.

[14]In 1950, von Weizsäcker, together with Heinrich Pette in Hamburg, Georges Schaltenbrand (1897–1979) in Würzburg, Paul Vogel (1900–1979) in Heidelberg, Oskar Gagel (1899–1978) in Nürnberg, Hans Robert Müller (1901–1981) in Hamburg, and Gerhard Döring (1909–1963) also in Hamburg founded the German Society for Neurology (*Deutsche Gesellschaft für Neurologie*; see Peiffer 1997a, 28).

[15]The DFA for Psychiatry had gotten into the early fairway of the "euthanasia" action" (later known as T4) through the previous network, as Hans-Walther Schmuhl (Schmuhl 2000, 29–34) convincingly worked out in his analysis of the postwar use of specimen collections during later FRG times. The legacy debates during the 1980s and 1990s were discussed in Weindling (2012).

[16]Hess, Wolf-Dieter: *Sorge um die deutsche Wissenschaft: In den klassischen Fächern dem Ausland ebenbürtig—aber rückständig in neuen Disziplinen. Süddeutsche Zeitung* 164 (July 10, 1963), p. 10; AMPG III. Abt., Rep. 20B, No. 218–213.

originated in previous negotiations with neuroanatomist Hugo Spatz and psychiatric epidemiologist and eugenicist Ernst Rüdin (1874–1952), following Spatz's own designation as a member of the Advisory Board of the Institute (Kreuter 1995, 285–301).

The prevailing networking tendency of this period (regarding collaborative projects, exchanges of research materials, and hiring practices between the respective institutes)[17] that represented the new directorship of the DFA was rather striking; similar patronage activities between Munich and Berlin continued after the war, and between Munich, Gießen, Cologne, and Frankfurt from 1954 onward (Ellwanger 1989, 20). The make-up and setting of the increasingly diversified divisions at the Munich institute—such as the Division for Histology, that of General Pathology, and closely collaborating city hospitals (e.g., the Schwabinger Krankenhaus and the Clinic for Nervous Diseases at the Medical Faculty)[18]—indicate that there existed a tightly knit network for local research purposes. It was facilitated through preexisting KWG leadership connections,[19] such as those between Scholz and former General Secretary Ernst Telschow (1889–1988), who had also become the general secretary of the MPG until 1960.[20]

Telschow believed that Scholz, "who in view of the very special conditions of our time . . . assumed the role of the acting director [of the DFA] in July 1951," should have been given a "salary comparable to those of any other institute director in the Max Planck Society of the same rank,"[21] Telschow alluded to the sheer amount of organizational work that the Munich division heads had to shoulder, particularly in organizing and strengthening the expanded medicine-centered research agendas—a burden he saw as equivalent to that of full institute directors in smaller MPIs at the time (see Figure 1).

With the assumption of the chair's position of the clinical institute by psychiatrist Werner Wagner (1904–1956) during Scholz's directorship of the DFA for Psychiatry, some leaning toward integrating more multidisciplinary perspectives emerged early on. The Munich institute, for example, now included visible humanistic and philosophical approaches in its clinical therapy programs, which came to flank the existing morphological, genetic, and electrophysiological research directions.[22] While proceeding in smaller incremental steps, however, this development was cut short by Wagner's early death in the mid-1950s of a fatal myocardial infarction.

The hiatus was filled by psychiatrist Detev Ploog's (1920–2005) assumption of the institute directorship, the fledgling trend toward interdisciplinary modernization becoming ever more manifest under his leadership. The overall trend toward the emerging neural sciences and brain sciences was also indicative of a conceptual reform and innovation. It offered to salvage the traditional epistemic fields of neuromorphology and histopathology in German-speaking psychiatry through a fruitful combination with

[17]Neurologist Klaus-Joachim Zülch: Report on the Presentation in the Previous Kaiser Wilhelm Institute for Brain Research in Berlin-Buch on March 19, 1948. GV: Institute Custodial Files. AMPG II. Abt., Rep. 66, No. 1597.

[18]Letter exchanges between the municipality of Munich, several Bavarian ministries, and the Administrative Council of the MPG regarding plans to rebuild, restructure, and reconnect the MPI for Psychiatry, 1948–1970. Archives of the Capital City of Munich. Rep. School Board—Reports, Budget, Solomon-Loeb Foundation—Psychiatric Divisions of the City Hospitals in Munich, No. 4926, fol. 183–683.

[19]See further details in Lisa Malich's article in this special issue (Malich 2023).

[20]For example, Max Planck Gesellschaft (1971, 6). In addition, Telschow had been kept up to date regarding the aftermath of the Nuremberg Doctors Trials for the neuropathology-related MPG divisions, as well as the impact of the Lisbon crisis on the status of contemporary international relations in the brain science field. AMPG, II Abt., Rep. 67, Nr. 562, Personal File Hallervorden.

[21]Minutes of the Meeting of the Administrative Council on June 10, 1954, at 9 am in the Spa Hotel in Wiesbaden (Corner Ballroom); AMPG II. Abt., Rep. 1A/61, No. 14.

[22]Gerd Peters: Inauguration of the Clinic, March 29, 1966, Archive of the MPIP, Address, MPIP-D 67, fol. 125.

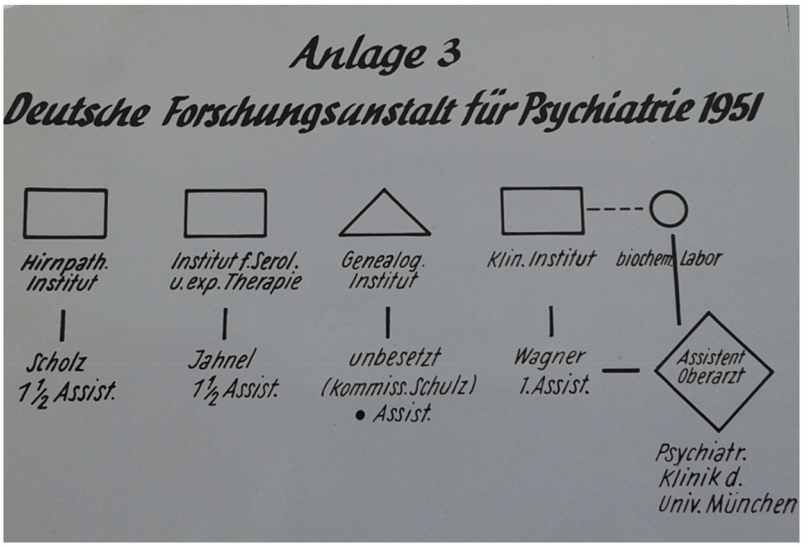

Figure 1. Organigram of the *Munich* DFA (1951), research report by Willibald Scholz, attachment, archive of the MPI f. Psychiatry, MPIP-DFA 20, fol.1. Source: Archive of the MPI for Psychiatry, Munich, Germany.

neurogenetics, serological, and neurobehavioral research trends, especially when the new research clinic was established in 1966 and the DFA for Psychiatry officially became the MPI for Psychiatry during the same year (see Figure 2).[23]

Figure 2. Group photo (Prof. Scholz, left) from the International Congress of Neuropathology in Munich, 1961. International Congress of Neuropathology in Munich, 1961, Archive of the MPIP, MPIP-D 67, p. 10. Source: Archive of the MPI for Psychiatry, Munich, Germany.

[23]Gerd Peters: Inauguration of the Clinic, March 29, 1966, Archive of the MPIP, Address, MPIP-D 67, fol. 10–13.

As was the case in the North American psychiatric landscape, psychological approaches from psychodynamic therapies and clinical psychoanalysis, or from German clinical psychosomatics and social psychiatry traditions under psychiatrist Paul Matussek (1919–2003), were partially tolerated but existed at the margins of the institute.[24] Already from 1961 under Peters's directorship, but even more so under Ploog, biological psychology merged with evolutionary psychiatry and behavioral neuroscience in Munich. The MPI for Psychiatry's research paradigm was further merged with behavioral therapy under clinical psychologist Johannes C. Brengelmann (1920–1999), who practiced it in combination with adjuvant psychotropic drug treatments.[25]

Reconfiguration of brain science-related MPIs and the early neurosciences

In this section, the institutional continuation of brain research departments, platforms, and networks will be examined during a phase when KWG research legacies and trajectories were carried into the postwar period. Already two months after the end of World War II, plans were under way to concentrate all brain research activities of the MPG at the German Research Institute for Psychiatry in Munich. Hugo Spatz from Dillenburg had sent a pilot proposal in October 1945 to the municipality of Munich.[26] However, after initial support from the city of Munic; the MPG President's Office; and the Ministry for Science, Education, and Culture of Bavaria, a series of difficult negotiations over matching funding arose at the federal level of the fledgling Federal Republic of Germany (FRG). In 1957, after 12 years, this proposal—which had seen several iterations since Spatz's original draft—was eventually rejected by Willibald Scholz in Munich.[27] This likely happened because of the latter's fears that he and his institute would be subordinated to a new and comprehensive institute headed by his colleague, Spatz. As a result, plans for the founding of the (partial) Frankfurt Institute for Brain Research moved ahead. Simultaneously, some further proposals for the creation of new institutes arrived at the General Administration in Göttingen, written by neurophysiologists Alois Kornmüller (1905–1968) in 1956 and Rolf Hassler (1914–1984) in 1961.[28] These proposals, which foresaw that an autonomous MPI would be developed out of the Division for Electrophysiology of the MPI for Brain Research and eventually the MPI for Biophysical Chemistry in Göttingen, had to wait even longer, however, as the MPI for Biological Cybernetics would only be founded in Tübingen, Swabia, in 1968.[29]

The wide area of military-related research in former KWG brain science institutes was also a concern in the internal MPG and external political deliberations about the scope, structure, and arrangement of brain research programs in the purview of the society—for example, when Scholz emphasized the need to win the Western Allies' support for the

[24]Max Planck Institute for Psychiatry, Munich, Process Regulations and Organizational Plan, 1969, Archive of the MPIP, MPIP-MPG 3, fol. 82–83.
[25]Lisa Malich, in this special issue (Malich 2023).
[26]Hugo Spatz to the city of Munich, the Ministry for Science, Education, and Culture of Bavaria, October 10, 1945, Archive of the MPIP, Rockefeller (Postwar), MPIP-D 21, p. 36.
[27]Correspondence of Willibald Scholz regarding the re- and colocation of all MPG institutes in German brain research. Archive of the MPIP, Willibald Scholz, MPIP-D 66, passim.
[28]See in AMPG III. Abt., Rep. 85, No. 1.
[29]Biologico-Medical Section of the Scientific Council (BMS), Minutes of the Session of the BMS of the Scientific Council on June 26, 1968, AMPG, II. Abt., Rep. 62, Nr. 1597.

rebuilding of MPG institutes and divisions.[30] Moreover, this gave rise to ethical and organizational apprehensions regarding the influence of former military leaders and the involvement of scientists and physicians in eugenics activities, along with the question regarding uncontrolled elitist research programs. Such questions were raised by researchers, science administrators, and health care stakeholders during the late 1940s and through the 1950s.[31]

For example, brain pathological investigations with considerations of air force-related problems had been conducted by psychiatrist Dr. Georg Friedrich (b. 1900) and pathologist Dr. Werner-Joachim Eicke (1911–1988) on patients from mental health asylums (Schmuhl 2011, 101–103). Prominent clinical neurophysiologist Kornmüller had been on the payroll of the *Luftwaffe* as a sanitary officer in the special program focusing on war injuries of the central nervous system, conducting electro-physiological research work on somatosensory high potentials (Kornmüller 1944). Julius Hallervorden (1882–1965) from the Berlin KWI for Brain Research had approached Scholz in 1942 to develop another research center on war neurology in Munich. It did not, however, materialize in the large-scale format that Hallervorden had envisioned.[32] In January 1944, the infamous experimenter Sigmund Rascher (1909–1945) approached his colleague Dr. Wolfgang Romberg (1911–1981) at the Airforce Medical Research Institute in Berlin (*Fliegermedizinisches Institut der Deutschen Versuchsanstalt für Luftfahrt*), asking, "What had happened with the beautiful specimens of Spatz and Scholz?"[33] This implied there existed an active collaboration between histological research with brain slides between the high-altitude experiments at the Dachau concentration camp, the KWI for Brain Research, and the DFA in Munich.[34] The negative pressure chamber at Dachau from the research program of professor Hubertus Strughold (1898–1986; *Luftfahrtmedizinische Abteilung des Luftfahrtministeriums*) was used to determine the influence of anoxia on the brain in coerced human subject experiments until 1944 (Roth 2001, 37–39).

Similar connections led to continued accusations following the Nuremberg Doctors Trials, which lasted almost into the 1950s; such accusations emphasized that up to 600

[30]Correspondence of Willibald Scholz regarding the re- and colocation of all MPG institutes in German brain research. Willibald Scholz, Archive of the MPIP, MPIP-D 66, passim.

[31]UALMU (University Archive of the Ludwig Maximilians University of Munich), Academic Senate II Partial Fonds Y–X–21. Creation of a psychiatric clinic (Clinics, Chairs, and other Research Units), Rep. 8, No. 3, fol. 18.

[32]Unpublished letter of Professor Hallervorden to the newspaper *Wiesbadener Kurier* on March 4, 1946, from the KWI for Brain Research in Dillenburg, Hesse. AMPG II. Abt., Rep. 1A, No. PA.

[33]Letter by Sigmund Rascher to Wolfgang Romberg (1911–1981) in Berlin on January 1, 1944; BArch Berlin, NS 21/923, fol. 9; author's translation. Gerd Peters (1906–1987), who headed the Neuropathology Division at the MPIP from 1961 to 1974, had also been a close research associate at the Aeronautic Medical Division of the *Deutsche Versuchsanstalt für Luftfahrt* during the years 1938 to 1942, something that brought him into scientific contact with Spatz and Scholz in Berlin. Although being employed by the Freiburg Institute for Aeronautic Pathology, Peters was seconded to the KWI for Brain Research, where he worked with brain sections from Rascher's experiments at the Dachau concentration camp to elicit cardiovascular effects on brain tissue for potential therapeutic application in members of the German *Luftwaffe*; AMPG II. Abt., Rep. 20 B. These interactions with Scholz can also be seen as the basis of their personal connections after the war, when Peters became Scholz's successor as director of the Department of Neuropathology in the MPI for Psychiatry in Munich (Schmuhl 2000, 37).

[34]Further evidence for such a collaboration is found in the interactions of Professor Georg August Weltz (1889–1963), as chair of physiology at the Ludwigs Maximilians University, with members of the KWI for Brain Research. Despite intensive research initiatives, I could not identify additional forms of correspondence or documents to this date, which would have further qualified these relationships. They later became a predicament for Weltz's reemployment to his university position in Munich during the early 1950s. BayHStA, MK (Kultusministerium) 77517, Rep. 4313 A.G. II (1943–1976), No. 3, fol. 7; Hugo Spatz, *Work Plans for the KWI for Brain Research* (since April 1, 1937). AMPG I. Abt., Rep. 1 A, No. 1598.

brains from the euthanasia program had been used in neurohistological studies.[35] This matter was already part of the letter communications between the International Military Tribunal (May 14, 1946) and Hallervorden:

> The transcript of the proceedings in the Court on the morning of February 7, 1946 has been examined where M. M[onnier]; on behalf of the French Prosecution, read the official report from Major Alexander as evidence in the case. Your name and that of the Kaiser Wilhelm Institute were referred to in the report. (William L. Mitchell [1915–1992], Brigadier General, U.S. Army General Secretary. AMPG II. Abt., Rep. 67, Nr. 65)

After the war in 1946, émigré neurologist Leo Alexander (1905–1985) visited former KWG researchers and interviewed them to collect evidence needed for trial preparation. Many German brain researchers, such as Hallervorden, the head of the histopathology department at the KWI for Brain Research who had taken the initiative to receive the brains from euthanasia victims in 1940 for his research, and the head of the anatomy and pathology department; Spatz, who joined a meeting in the Reich Chancellery on April 29, 1940, with referees of the T4 euthanasia program (Schmuhl 2000, 46), as well as the head of the histopathology department at the KWI for Psychiatry; and Scholz, who had interacted with Hallervorden and with Spatz in Berlin while pursuing brain research with specimens seen as eliciting injuries similar to those experienced by military pilots,[36] gave open interviews to Alexander through which their personal involvement in the wider Nazi euthanasia program and its relations to coerced human experimentation programs became known (Alexander 1977, 40–47; Topp 2013, 234–247). In a letter to psychosomatic physician Alexander Mitscherlich (1908–1982)—whose postwar publication of the Nuremberg Medical Trials proceedings, written with medical student Fred Mielke (1922–1959) from the Ruprecht Karls University of Heidelberg, examined and criticized Nazi crimes against humanity (e.g., Mitscherlich and Mielke 1949)—Hallervorden lamented several statements made in Dr. Alexander's trial report,[37] which had appeared in Mitscherlich's book:

> In your book *Das Diktat der Menschenverachtung* you have decided to mention my name, so please allow me to respond with this letter. It is correct that I have examined brains from patients, who have been killed by the "Euthanasia" program. Likewise, your numbers are correct. But through the form of your presentation, the reader must get the impression that I was in agreement with this process, which was definitely not the case. . . . So much scientific material was lost at the time [sic!], and it can be easily understood that everything had to be done to acquire it for further scientific purposes. (Julius Hallervorden, Dillenburg-Schloßberg, to Prof. Mitscherlich, July 28, 1947 AMPG II. Abt., Rep. 67, No. 652)

[35] See also a report by the former director of the Neuropathology Division of the MPI for Brain Research, Wilhelm Krücke (1911–1988), in Frankfurt/Main on August 9, 1983. AMPG II. Abt., Rep. 1A, No. PA. For a broader contextual discussion, see Weindling et al. in this special issue (Weindling et al. 2023).

[36] AMPG I. Abt., Rep. 1A, 1584.

[37] The Alexander Report ("Document L 170" on Neuropathology and Neurophysiology, including Electroencephalography in Wartime Germany) was read by M. [Gustav] Monnier (France, 1877–1956) (France), Prof. Pedro Almeida Lima (1902–1985), Prof. John Fulton (USA, 1899–1960), and Dr. Webb Edward Haymaker (USA, 1902–1984), available with excerpts from the German sources. AMPG II. Abt., Rep. 1A, No. PA. Mitscherlich and Mielke referred to the availability of Document L. 170 in their book (1949, 148, 256–258). How widely the document was read outside of the Nuremberg Trials proceedings and whether readers received notice of the NS biomedical research through Mitscherlich and Mielke themselves is still unclear. Although the Union of West German Colleges of Physicians distributed the German book to its whole membership, Mitscherlich and Mielke complained in their Introduction that it had barely any resonance among peer physicians in the FRG.

At the end of the 1940s, it appeared that the moral and political storm caused by the Nuremberg Doctors Trials had ebbed.[38] Such was the case until international concerns resurfaced in what came to be known as the Lisbon incident[39] (Topp 2013, 247–255; Peiffer 1997b, 13, 48–51), when renewed accusations were brought forward by the Dutch medical delegation at the Fifth International Neurological Congress in Portugal in 1953 (Tychala and Triarhou 2019). According to the accusations, Hallervorden had used the brains from children killed in the T4 euthanasia program and actively sought support for his research from Nazi officials (Zeidman 2020, 687–688).

Interestingly, during the earlier proceedings of the first International Congress of Neuropathology (September 8–13, 1952) in Rome, Italy, where both Hallervorden and Spatz presented their research to the newly founded International Committee of Neuropathology (1950), their Nazi past also came to participants' attention, albeit in an indirect way, through their reference to their own patients and pathological specimens, rather than through preexisting criticisms by international colleagues.[40] This might have been largely due to the absence of a sizeable contingent of participants from the Netherlands (Moore 1978, 7–8),[41] as well as the specialized nature of the neuropathologists' scientific community. U.S. neuropathologists, who had previously trained in Germany before the war (Peiffer 1997b, 48–49, 108), helped in bridging the conversation between the national delegations, for example, when Lieutenant Colonel Dr. Webb Edward Haymaker helped providing translation services at the Rome venue of the *Pallazo Borberini* on 8–13 September 1952 by activating his professional contacts in the U.S. Army (Moore 1978, 15).[42] Yet, during the conference panel on "free communication," one incident did occur at the Conference Hall of the Clinic of Nervous and Mental Diseases that was triggered by the German delegation's explicit choice of the topic, "Histopathology of Mental Deficiency and Senility." This immediately gave rise to sentiments regarding Nazi medicine and led to probing questions from the floor:

> Following the fifth presentation the German contingent arose as one and strode out of the hall en masse in icey, stoney-faced [!] contempt, leaving the audience almost depleted by half. Immediately succeeding these papers were two French essayists and then nine others from Switzerland, United States, Uruguay, Turkey, Malta and Italy. For several moments after the

[38]Hallervorden continued to uphold his defensive stances in several internal memoranda, press releases, and MPG publications at the end of the 1940s and beginning of the 1950s, such as in Hallervorden (1949, 134).

[39]AMPG, II Abt., Rep. 67, Nr. 562, Personal File Hallervorden. Further lines of critique of previous KWG brain sciences included issues of research intertwined with anthropology, the political expulsion of the Vogts from the KWI for Brain Research, and the community's interaction with forced migrants from former KWIs. Such inner-scientific reproaches also threatened the standing and development of the new MPG's scientific divisions in brain research, as they just resumed affiliation status with the Justus von Liebig University of Gießen and plunged these initiatives into renewed administrative and conceptual crises. See further in Schmuhl (2011), Roelcke (2009), Satzinger (2010), and Rürup and Schüring (2008).

[40]The chief organizer of the Rome congress, Dr. Armando Ferraro (1896–1982), a former captain of the medical corps in Axis-aligned Italy, had reached out to Scholz (for the German delegation), who had already participated in the Fourth International Congress of Neurology in Paris, and to German-educated van Bogaert (for the Dutch delegation) to form national committees to help with the formation of a new international society of neuropathologists. Letter by Ferraro in Rome to van Bogaert in Brussels, Belgium on November 7, 1950, reprinted in Moore (1978, 7–8).

[41]In addition to van Bogaert, there was only one other Dutch participant—namely, the psychiatrist Lammert van der Horst (1893–1978) from the Free University of Amsterdam (Moore 1978, 17).

[42]On September 14, 1952, the hundred delegates even received a private audience with Pope Pius XII (1876–1958), a gesture seen as conducive to the rebuilding of cultural understanding and international relations. The official archivist of the society, Dr. Matthew T. Moore (1901–1997), professor at the University of Pennsylvania School of Medicine, saw this as a deliberate attempt among the founding members "to create an atmosphere of amiability and fraternity among the contributors from all participating countries to obliterate any remaining remnants of rancor, or ill-will incident to World War II. In the main, this succeeded" (Moore 1978, 32–33).

> departure of the German-speaking group there was a puzzled silence of disbelief among the remaining members. How could objective men of science not rise above national and political dogmas and allegiances, not be able to slough off dead grievances and guilts? (Moore 1978, 35)

Such smoldering attitudes, noticeable still through the second, third, and fourth Congresses, turned into openly inflamed ones when the preparations began in January of 1953 for the Fifth International Neurological Congress in Lisbon, to be held later in the year (September 7–12). Neuropathologist Gijsbertus Godefriedus Johannes Rademaker (1887–1957) from the Hague authored a note of protest as spokesperson for the Dutch delegation. It was cosigned by four neurologists from the Netherlands and sent to neuropathologist Baron Ludo van Bogaert (1897–1989) at the University of Antwerp, who acted as co-organizer for the titled, "On Metabolic Diseases of the Brain."[43] The Dutch neurologists openly protested against van Bogaert's invitation to Hallervorden to give a talk at the forthcoming Congress, explicitly referring to Alexander's Nuremberg Document L 170 (Topp 2013, 249).[44]

Van Bogaert had been a friend and colleague of Hallervorden in Berlin before the war and remained in close letter exchanges with him ever since (Lowenthal 1998). Together with his American colleague Haymaker from the Walter Reed Army Medical Center in Bethesda, Maryland, van Bogaert had journeyed to West Germany after the Fourth International Congress of Neurology in Congress to visit Spatz and Hallervorden in Dillenburg (Peiffer 1997a, 27).[45] Similar to Alexander's prior interviews in June 1946 (Schmuhl 2009, 99), when visited by van Bogaert and Haymaker in 1949, both Spatz and Hallervorden openly acknowledged having dissected several hundred brains, but said they were unaware that the provenance of these organs was from euthanasia victims.[46]

Once news of the Lisbon incident broke, the prominent neurophysiologist John Fulton (1899–1960) from Yale University became involved and wrote an assessment letter to the Congress planning committee members:

> Holland, like Switzerland, has long been known for its liberality in giving haven to serious scholars whatever their race or origin, and I find it somewhat frightening to think that by your letter of January 20, 1953 to Professor Almeida Lima you are threatening to abandon this great, ancient and liberal tradition. The scholars of Germany did not cause the Second World War, and they are guilty before the world only in so far as they failed to recognize early enough what an unspeakable tyrant was rising to power. (John Fulton to Prof. Henk Verbiest [1909–1997] in Utrecht, The Netherlands, February 26, 1953; AMPG II. Abt., Rep. 1A, No. PA)

Remarkably, support for Hallervorden also came from some former émigré neuroscientists in the United States, such as Robert Wartenberg (1886–1956) from Danzig, who had

[43]Preliminary Program of the 5th Congress for Neurology, 7.-12. 9. 1953. AMPG, II Abt., Rep. 67, Nr. 562, Personal File Hallervorden.

[44]Alexander L, MC: Document No. L-170: "Neuropathology and Neurophysiology, Including Electroencephalography, in Wartime Germany." AUS, Hq. ETOUSA, July 20, 1945, CIOS Item No. 24, Medical. AMPG. Vc Abt., Rep. 4, Personal File Leo Alexander.

[45]During his early roundtrip to several former KWG institutional divisions in the postwar Germany of 1946, Haymaker classified the brain research activities at KWIs as excellent; to the Allied control authorities, he emphasized that the institutional divisions and research programs were worthwhile of continued funding support. University of California at Los Angeles, Louise M. Darling Library and Special Collections, Haymaker Fond, Call No. 421, Box 6, Folder 24; AMPG, II Abt., Rep. 67, Nr. 562, Personal File Hallervorden. See also Zeidman (2020, 518).

[46]Ludo van Bogaert to Prof. Biémont in Amsterdam on February 16, 1953. AMPG II. Abt., Rep. 1A, No. PA.

assumed a neurology professorship at the University of California's School of Medicine in San Francisco (Noth 2002)[47]

> In your letter you defend yourself against the accusation. Please don't do this to anyone. For years the Allies have investigated the matter. The International Neurological Congress is not the judge of this matter. If the Allies did not take any action in your case, neither should the Congress. I want you to understand my position. It is my most sincere conviction that your withdrawal is a grave mistake. Please re-consider it.
>
> And, "Auf Wiedersehen in Lisbon" (Wartenberg to Prof. Hallervorden in Dillenburg, March 11, 1953; AMPG II. Abt., Rep. 1A, No. PA).

Brain scientists from the FRG—his former peers—supported Hallervorden unconditionally as a "renowned scholar with a noble attitude" and hoped that the incident would not "lead to other consequences regarding the participation of German colleagues in the international community."

For example, the president of the German Society of Neurologists and Psychiatrists as well as the German Society of Neurology, Professor Werner Villinger (1887–1961) of the University of Marburg, and the Vice-President Professor Georges Schaltenbrandt (1897–1979) of the University of Würzburg wrote a cosigned letter on behalf of the two professional societies to the World Federation of Neuropathology (Topp 2013, 255).[48] Also, U.S. pathologist Haymaker had a conflict of interest because of his prewar visits to Central Europe and his extensive collaboration with German neuropathologists (Boshes 1996). He had studied at the Medical College of South Carolina and received his medical degree in 1928, continuing his training as a neuropathology fellow at the Canadian Montreal Neurological Institute. Between 1936 and the American entrance into World War II, Haymaker was a neuroanatomy professor at the University of California in San Francisco. During this time, he also visited the KWI for Brain Research (in Hallervorden's division), having had previous educational stints in 1925 at the University of Würzburg (under Schaltenbrandt) and 1928 (with Spatz at the anatomical division of the KWI for Psychiatry; see Zeidman 2020, 56–59).

In 1942, he joined the Armed Forces Institute of Pathology in Washington, D.C., where he remained for two decades, rising through the ranks from Lt. Colonel to chief of the Neuropathology Division. Haymaker became one of the leading military pathologists in North America and observed closely the German work in aeronautic pathology, which he incorporated in his own publications during and after the war (Lewis and Haymaker 1948). Based on his own scientific work as well as his renewed exchanges with former colleagues from the KWG about their research in aviation medicine (Peiffer 2004, 614–615), Haymaker eventually became assistant director for life sciences and senior scientist at NASA's Ames Research Center from 1961, investigating the biological effects of heavy cosmic ray particles on the human brain. During the postwar decades, he continued his extensive travels, and the MPI divisions in Dillenburg, Munich, and later Frankfurt

[47]Haymaker had been on friendly terms with Wartenberg since the latter's arrival to the United States in 1935. He also edited a Festschrift for him, to which many international authors contributed (Haymaker (1953).:

[48]AMPG, II Abt., Rep. 67, Nr. 562, Personal File Hallervorden. Both Villinger and Schaltenbrandt themselves had problematic careers in the Nazi brain sciences. Villinger was involved with writing a series of references for the Hereditary Disease Courts in the infamous euthanasia program T4, and Schaltenbrandt used his access to asylum patients close to Würzburg for coerced human experiments in order to test his multiple sclerosis theories (Peiffer 1997a, 28).

appeared to have been welcome stepping stones for his international network-building activities in Europe (Earle 1985). Through his prewar experiences in Europe, his language proficiency in German, and his leadership role in the North American military pathology community, Haymaker served as a knowledge broker to provide surveys on foreign research institutions to American academic and military establishments.[49] Due to these preexisting ties and his continued collaborations with former KWG neuropathologists, it is not so surprising that Haymaker commented reassuringly on Hallervorden's behalf:

> With an impasse such as this, in which the statements of one individual abrogate those of the other, how may one arrive at the truth? In courts of democratic nations, it is incumbent upon the accuser to prove the guilt of the accused. Your Committee has openly condemned Prof. Hallervorden. This is an obvious miscarriage of justice unless you and your Committee have evidence above and beyond that cited in the foregoing pages. If you have such evidence, it is incumbent upon your Committee to present it. An open statement by your Committee is now necessary in order to clear the atmosphere. (Haymaker to Prof. G. G. J. Rademaker in Leyden, The Netherlands, April 13, 1953; AMPG II. Abt., Rep. 1A, No. PA)

These defense letters on behalf of Hallervorden, Scholz, and Spatz[50] by their international associates from the U.S. Airforce Research Group further upset the Dutch neurophysiologists as they argued from a position of vivid memories of their severe experiences of the German occupation during World War II:

> Dear Doctor Webb Haymaker:
>
> Professor Hallervorden acknowledges, also in his letters to his friend Dr. L. v. Bogaerdt (sic), that he has received hundreds of cerebrae from euthanasia [!] institutions. The cerebrae were well conserved. This was only possible by Hallervorden's supply of "Klammern, Gläser, Kästen etc." By accepting and examining these cerebrae he has furnished a *soi-disant* scientific excuse to the medical murderers, to the doctors, murdering the poor insanes and others. By doing so he was a collaborator.
>
> Is that not sufficient? Would you not have been disgusted by the projection of the slides of these brains and would you at the end of his communication have applauded Hallervorden instead of protesting vehemently.
>
> The excuse of Hallervorden: 'weil eine strikte Ablehnung dem Hirnforschungs-Institut hätten schaden können' is no excuse at all. When the Germans dismissed our Jewish colleagues the whole staff of the Leiden-University resigned and all our laboratories etc. were closed.
>
> The best informations [!] concerning Hallervorden you can get from Dr. Leo Alexander, City Hospital, Boston, Mass., and other compatriots of you. Do you know that during World II [!] in Germany the results of the horrible 'scientific researches' were communicated and applauded at medical reunions and that nobody was protesting? (Rademaker to Dr. Webb Haymaker in Washington, D.C., April 12, 1953; AMPG II. Abt., Rep. 1A, No. PA; several grammatical errors in the original letter)

Haymaker's support for German neuropathologists was no coincidence, as Dutch contemporaries noted. His undergraduate training had brought him to Schaltenbrandt at the

[49] AMPG, II Abt., Rep. 67, Nr. 562, Personal File Hallervorden; University of California at Los Angeles, Louise M. Darling Library and Special Collections, Haymaker Fond, Call No. 421, Box 5, Folder 48. See also Zeidman (2020, 466).

[50] Spatz was aware of the consequences the international predicament could have for the MPG and the reconciliation processes regarding the rebuilding of international relations during the postwar period; he even wrote to Alexander on March 25, 1953, at the height of the crisis. AMPG, II Abt., Rep. 67, Nr. 562, Personal File Hallervorden.

Julius Maximilians University of Würzburg and he also remained in touch with the working groups at the KWI for Brain Research through his previous supervisor. Such formative experiences left a strong impression on Haymaker throughout his life, well reflected in his obituary for Oskar Vogt, which was full of praise (Haymaker 1961). He later tried to emulate German research styles in military neuropathology (Haymaker and Woodhall 1953, 262–271),[51] and he set out to create his own neuropathological society in the United States after the war, remaining in close contact with his former supervisors and peers.

Writing in a letter on June 18, 1958, to the neurovegetative committee of the German Society for Neuropathology and Neuroanatomy, the director of the medical and neurological department at the Municipal Hospital in Wuppertal-Barmen, Dr. Alexander Sturm (1901–1973), and the director of the neurosurgical department of the Medical Faculty of the University of Cologne, Tönnis, warned that Haymaker intended to create an American-based neurovegetative professional society in Philadelphia. They were concerned that, "during the coming year [our] colleagues in the United States will also gather together in their own professional society."[52]

The strong controversies and clashes at the Fifth International Neurological Congress in Lisbon (1953) also emerged from public discussions like those illustrated above. While Scholz had openly refused to make any comments to Alexander about the German pathological investigations at the conference, and Hallervorden had sent his regrets following the Dutch delegates' criticisms of him before the conference, Scholz and associates continued to deny they ever had any initiating role in the mass murder of hundreds of psychiatric patients, including for the purpose of dissecting of their brains (Schmuhl 2000, 34–37).

1961 marked the 50th anniversary of the foundation of the KWG on January 11, 1911, an occasion that led to several documentary and celebratory MPG publications, as these reflected on the history of its predecessor society and the development of its new institutes after the postwar establishment of the MPG in 1948 (Generalverwaltung der Max Planck Gesellschaft 1961a). In reviewing the history of its brain research initiatives, the MPG expanded on the longer history stretching back to the Neurological Central Station of the Vogts in Berlin and the creation of the DFA for Psychiatry under Emil Kraepelin (1856–1926) in Munich (Generalverwaltung der Max Planck Gesellschaft 1961b, 405–416), whereas only four pages of the publication were dedicated to the history of the KWG during the Nazi period. These pages reflected on neutral developments, such as the colloid-chemical physiology of brain edemas, the pathophysiology of Pick's disease, and the examination of electroencephalographic brain activity in military pilots, as well as the evacuation of the neuropathological collections to Dillenburg, neuroanatomical collections to Munich, and electrophysiological equipment to the mining hospital in Bochum-Langendreer. The involvement of the KWG in Nazi eugenics and euthanasia programs was not explicitly thematized (Generalverwaltung der Max Planck Gesellschaft 1961b, 416–421).

[51]Haymaker emphatically commented on the usefulness of the statistical data and vast specimen collections that KWG researchers had amassed during World War II for scientific publications and long-term analyses (Lewis and Haymaker 1948).
[52]AMPG II. Abt., Rep. 1A, No. PA.

Following support granted by the Hessian Ministry of Culture and Education, the neuropathological divisions in Dillenburg and Gießen were incorporated into the MPG in 1949. As reporting author, Spatz used the opportunity to emphasize the MPI's changes in research directions to align more with international trends such as eliciting the hypophyseal-hypothalamic system tracts in the diencephalon as well as comparative neuroembryonic brain developments in primates (Generalverwaltung der Max Planck Gesellschaft 1961b, 422–425). The international presentation and conference activity of the members of the MPIs for Brain Research and Psychiatry were meticulously documented (see also MPG, 1961, 68–69), and Germany's reception of prominent visitors, such as the Swedish neurosurgeon Professor Herbert Olivecrona (1891–1980), and international graduate students was emphasized (Generalverwaltung der Max Planck Gesellschaft 1961b, 426, 429).

Yet the official MPG reports remained silent on the critiques and the pushback the German neuropathologists and psychiatrists received at the Rome 1952 and Lisbon 1953 conferences. Contributing neurologist Tönnis emphasized that finally all the scattered brain research divisions were planned to be merged, a plan that had existed in the MPG's General Administration since 1948 (Generalverwaltung der Max Planck Gesellschaft 1961a, 32), and integrated into a new building for the MPI for Brain Research in Frankfurt/Main (Generalverwaltung der Max Planck Gesellschaft 1961b, 432). This was further accentuated by director Spatz, according to a memory log by Telschow, as being a step that was only made possible through explicit support by the American occupation administration and the remedying of concerns raised by the Hessian Ministry of Culture and Education (Generalverwaltung der Max Planck Gesellschaft 1961a, 207). The MPG publication underscored that, for an institution aiming at the advancement of excellent research, the international renown of the society was an important factor. Many feared a decline in the society's reputation and the potential discontinuation of its fledgling connections with foreign medico-scientific communities, particularly in the United States, Great Britain, and France (Sachse 2009, 394–396).

A lot of care was hence placed on the organization of the Fourth Congress of the International Society for Neuropathology in Germany during the same year (see Figure 2). American neuropathologist Haymaker was specifically chosen as the president of the Fourth International Congress of Neuropathology and principal organizer of the event in Munich "as the cultural center of Germany" from September 4 to 8, 1961 (Moore 1978, 98–99). In this role, similar to that of the attending German-Jewish émigré Karl Neubürger (1890–1972), he could step in to defend Scholz, Spatz, and Hallervorden during the proceedings if needed.[53] The German neuropathologists, who only acted as the local organizing committee, under the leadership of Hamburg neuropathologist Hans Jacob (1907–1997; see Zeidman 2017), and their American sympathizers sought to present the Munich event as an exemplary political gesture to further the "normalization process" of reconnecting with the international research communities after the Nuremberg Doctors Trials in 1947 and the Lisbon incident in 1953 (Topp 2013, 249–252). In the social concert of the conference procedures, Haymaker specifically moderated van Bogaert's talk; the latter was indeed the only Dutch presenter who can be discerned in the list of participants.

That van Bogaert decided to attend, and not to abstain from the event like most of the Dutch critics from eight years prior, can be attributed on the one hand to the honorary

[53]International Congress of Neuropathology in Munich 1961, Archive of the MPIP, MPIP-DFA 10, fol. 3.

award he was to receive from the International Society for Neuropathology. On the other hand, there were his close earlier ties with German researchers from his visiting periods since 1923 at German research universities and the KWI for Brain Research during the Weimar Republic (Lowenthal 1998, 212). The provision of a splendid social program with an exhibition on the lasting scientific contributions of German pathology from the nineteenth century to 1935 in the Lichthof of Ludwigs Maximilians University of Munich, a reception with the mayor of the city of Munich, and a gala dinner together with participants' spouses[54] further smoothed over the urge to voice criticisms at the 1961 event—16 years after the end of World War II.[55] Scholz, who was given the opportunity to provide a welcoming address before Haymaker's introduction of the conference, deliberately emphasized the social context of the event as one "providing a personal feeling of belonging for every conference participant from all over the world, as if they belonged to one great family" (Scholz, quoted in Moore 1978, 103; author's translation). Moreover, participants were in a festive mood when arriving at Geschwister-Scholl-Platz 1 on the first day of the Congress:

> A most fitting and emotion-charged Ceremony of Presentations, honoring Professor Ferraro and Professor van Bogaert, was conducted by President Haymaker, in which plaques were given to each as a tribute from the world of neuropathology; to Armando Ferraro for having conceived, in 1949, the idea of an International Congress of Neuropathology . . . to Ludo van Bogaert for his "brilliant leadership and extraordinary vigor in the planning and execution" of the International Congress to that date. (Moore 1978, 89)

As could be discerned from the available documentation of the 1961 Congress, there was only one former émigré neuroscientist who returned for the event. It was Dr. Neubürger from Denver in the United States, who helped shaping the post-KWG network building activities as "a certified diplomat for neuropathology abroad" (Moore 1978, 664).[56] Like other forced migrants, he helped building epistemic and social connections between the MPG and FRG with the wider international community. These figures also helped advance West Germany's scientific backlog by restoring former KWG relations and renewing connections with German émigrés abroad (Fings 1997, 24).

That there were not more critical views of German neuropathologists' involvement in Nazi experimentation and atrocities at the 1961 Congress can additionally be explained with Scholz's "unofficial role" at the institute, as he had stepped down from its directorship two years before—attending the conference as an individual scientist that year.[57] Nevertheless, Scholz's unofficial background role in Munich was conversely paired with his prior visibility as the only German bridge builder who had attended all of the international congresses in neurology and neuropathology since 1949. None of the other, more morally encumbered German neuropathologists had been continuously present in scientific community events abroad (Moore 1978, 1–115). Scholz's work could thus be seen as exemplary and conciliatory, a role that eminent American colleagues like Haymaker and Italians such as Ferraro were only too eager to use for their own societal interests.

[54]Yet, in contrast to their predominantly male partners at the conference, it was the spouses who received "a sightseeing tour of Munich with a view of some grim monuments of the destructiveness of World War II as a sobering juxtaposition to the burgeoning beauty of the reconstruction of a city known for its baroque charm" (Moore 1978, 102–103).
[55]International Congress of Neuropathology in Munich 1961, Archive of the MPIP, MPIP-DFA 10, fol. 10.
[56]International Congress of Neuropathology in Munich 1961, Archive of the MPIP, MPIP-DFA 10, fol. 4.
[57]Gerd Peters: Willibald Scholz, 1889–1971, MPG 1971, Archive of the MPIP, MPIP-MPG 5, fol. 5.

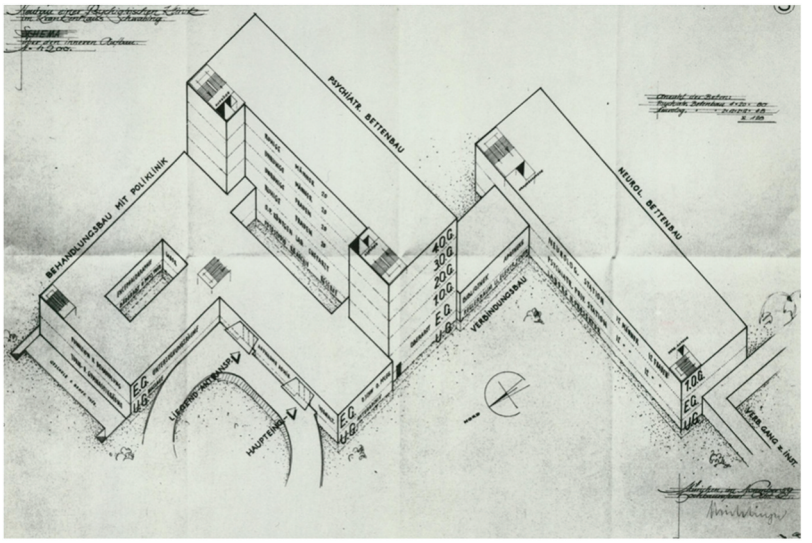

Figure 3. Architectural map drawing of the planned psychiatric and neurological wards of the new clinical building at the MPI for psychiatry in Munich, 1960s. Research clinic, correspondence, plans, 1956–1958. Archive of the MPIP, MPIP-D 66, fol.1. Source: Archive of the MPI for Psychiatry, Munich, Germany.

The German neuropathologist's role in maintaining the institutional continuity of the DFA for Psychiatry was also visible during the opening ceremony of the new clinical building on March 29, 1966 (see Figure 3), when Gerd Peters addressed the participants, emphasizing "his thankful attitude today towards his predecessor, Herrn Professor Scholz, whose personal initiative alone secured the continuity of this institution."[58] Peters's public accolades for Scholz can be seen as another instance in which former KWG neuropathologists, who had coordinated among themselves regarding the procurement of brain specimens, were showing mutual support for one another after 1945.[59] They build a phalanx of administrative power, political capital, and legal backing around Scholz as their informal leader and advocate against critics both in the FRG and foreign countries (Topp 2013, 237).

The reintegration of Scholz and other neuropathologists into the global scientific community was thus completed with the 1961 International Congress of Neuropathology in Munich. The meeting certainly fostered the international acceptance of MPG neuroscientists, regardless of their tainted KWG backgrounds involving the mass killings of psychiatric patients and people with mental disabilities during the Nazi period (Aly 2013; Roelcke 2005; Müller-Hill 2002; Klee 2015; Schmuhl 2011).[60] The checkered past and continuing influence of Scholz in the period after the war reveal long-term continuities in the disrupted relationship to the society's broken legacy that were necessary for the connection of the former KWG to the succeeding MPG (Zeman 1972).

Despite the widespread reaction during and after the Lisbon incident of 1953 when Julius Hallervorden's past research on the brains of victims of the Nazi euthanasia program was

[58]Gerd Peters: Inauguration of the Clinic, March 29, 1966, Archive of the MPIP, Address, MPIP-D 67, fol. 11.
[59]AMPG, II Abt., Rep. 67, Nr. 562, Personal File Hallervorden.
[60]Jacob (1962) likewise saw the folder on *International Neuropathology Congress Munich* (1961), cover, and p. 11, in Willibald Scholz, Archive of the MPIP, MPIP-DFA 10.

drawn into a ferocious debate in the community of neuropathologists, postwar interactions about the KWG's past often did not centrally review the ethical acceptability of research with human remains without informed consent. After the Dutch participants at the Fifth International Neurological Congress in Portugal had pressured the conference organizers to disinvite Hallervorden, ongoing communications emphasized the moral responsibility of individual researchers with these issues as they came into the focus of the international community. This individualization of the legacy problems faced by German-speaking brain scientists and their research institutions allowed the wider structural features and medico-scientific hierarchies to remain largely underexplored and unchallenged after the war (Czech, Weindling, and Druml 2020, 512). The context of the reorganization of all brain research-related MPIs certainly remained in the shadow of previous KWG processes and resources. This included the location of the institutes, their previous involvement in applied —and particularly military-related—research, as well as personal continuities in leadership positions. The lens of pathological brain research here emerges as an important viewpoint to aid in understanding the continued impact and historical concerns over the dominant morphological approaches in postwar German neurology and psychiatry (Satzinger 2010, 297–298; Martin, Fangerau, and Karenberg 2016, 407–408).

International criticisms and MPG responses regarding the burdensome legacies of the NS period

This section reviews the international criticisms and pressures from outside agencies and individuals that eventually forced the German medical community—and, in particular, the MPG—to address and focus on some burdensome legacies of the NS period. Other than individual scientists, such as Hallervorden and Spatz, who had been implicated by direct accusations regarding their research work in Nazi Germany (Satzinger 2010, 297–298); Scholz and Peters, who continued working with the methodological repertoires from KWG times (Peiffer 1998, 102–103); and émigré neuroscientists Alexander and Wartenberg, who took active stances against the lack of compensation for KWG refugees in the German postwar community (Schmidt 2004, 34–72; Noth 2002), the MPG leadership in the President's Office offered several legitimizing declarations until the 1990s regarding the broken past of the society, following specific lines of reasoning and defense that stressed the scientific independence of the KWG during the Nazi period, denied the MPG's responsibility for developments prior to 1948, emphasized the changed character of research after World War II, and coordinated the MPG's role as a new Western ally and bulwark against the communist East (Sachse 2009, 394–396; Hachtmann 2007, 1041–1051).

The General Administration, including actors from KWG times, helped in confirming a specific view of the MPG's broken past, upholding a rather defensive position toward historical research about its predecessor's Nazi legacy (Schmaltz 2023). At least in public rhetoric, it was often emphasized that its predecessor, the KWG, had been "this *other* institution" from which no line of heritage could be drawn (Sachse 2014, 220); it could thus be identified as "not MPG-related."[61] The KWG even continued to formally exist until 1961 in the nature of a company in liquidation—that is, as an institution that was to be phased

[61]Generalverwaltung der Max Planck Gesellschaft (1981) and Max Planck Gesellschaft (1992).

out, allowing for the compensation of creditors' claims as well as for answering open legal questions (Sachse 2009, 394–396).

Beyond the noted MPG acknowledgment and assimilation processes, other new impulses urging reappraisal came from external student protests (Kimmel 1998, 128–130). These protests were inspired by a new generation of German intellectuals who, in a climate of burgeoning postwar public and democratic discussion in the FRG, including figures such as journalist Ernst Klee (1942–2013), with his monograph *"Euthanasie" im NS-Staat: Die "Vernichtung lebensunwerten Lebens"* (Klee 1983, 62–65), which provided an early overview of the euthanasia programs in Nazi Germany. Klee courageously revealed the voluntary participation of German medical doctors and investigators from research institutions, such as physician and anthropologist Eugen Fischer (1874–1967), who directed the KWI for Anthropology, Human Heredity, and Eugenics in Berlin until 1945, as well as psychiatrist and eugenicist Ernst Rüdin (1874–1952), who directed the KWI for Psychiatry in Munich also until 1945 (Klee 1983, 62–65). Klee exposed their relationship to the networks behind the mass killings of people with mental illness and children with neurological and other disabilities during World War II. Klee's work also exposed how complicit doctors and scientists were, including prominent researchers such as Scholz, Spatz, and Peters, who were working at the MPI for Psychiatry and MPI for Brain Research. They had reintegrated well into postwar German society, kept silent, blamed others, or denied their own guilt.

Klee's bestselling monograph was followed by a collection of related publications summonsing administrators, lawyers, and army personnel for their role in war crimes (Klee 2005, 2015). In his books, Klee analyzed instances of coerced human subject experiments carried out by former KWG scientists (Anonymous 2013).[62] He helped to establish that physicians were involved in the killing of thousands of inmates from mental asylums, psychiatric hospitals, and concentration camps, while also claiming that members of central institutions in the fledgling FRG—such as the MPG, DFG, pharmaceutical industry, and *Bundeswehr*—had played crucial roles in the planning, execution, and support of the Nazi killing programs. His publications questioned the eugenics-minded, racialized, and ethically unbound circumstances of the KWG (see also Orth 2011), and further reviewed the circumstances in which former Nazi physicians had practiced. Several MPG officials referred to Klee's newspaper articles in internal memos and in public announcements during the 1980s and 1990s, and the society felt compelled to eventually dissociate itself from the Nazi past in its reports to the public and media.[63]

In addition to Klee, the political scientist Götz Aly (b. 1947) raised further questions about German psychiatry in its broader cultural and scientific contexts, examining the involvement of neuropathologists Berthold Ostertag (1895–1975) and Hans-Joachim Rauch (1909–1997), who had been affiliated with the KWI for Brain Research, in the euthanasia killings at the Wittenauer Asylum in Berlin (Aly 1989). Aly made the troubling discovery that brain specimens from children killed in the euthanasia programs were still held at the MPI for Brain Research (Aly 1985).[64]

During the same time, geneticist and historian of science Benno Müller-Hill (1933–2018), from the University of Cologne, published his own contributions on the role of the

[62]Cf. Estate of Ernst Klee, Selected Papers and Materials, Archive of the Memorial Site Hadamar, Hesse, Folder H—I, Rep. Brain Research, N.No.
[63]Press Release of the MPG, *On the Cold War in the Max Planck Society*; AMPG III. Rep. ZA 162, No. 191.
[64]See also Weindling et al. in this special issue (Weindling et al. 2023).

KWI for Anthropology, Human Heredity, and Eugenics in the Nazi euthanasia killings. His work, *Murderous Science: Elimination by Scientific Selection of Jews, Gipsies, and Others, 1933–1945* (Müller-Hill 1988), took its origins from the involvement of Müller-Hill's own research field, human genetics, and that of German life scientists with the network of concentration camps during World War II. Interviewing protagonists about their personal views on the development of human genetics during the Nazi period gave rise to the MPG's internal discussions about its own broken past (Roth 2018, 11–19).

Müller-Hill importantly contributed to this development through his historical examination of 1960–1972 MPG President Adolf Butenandt's (1903–1995) KWI for Biochemistry and its participation in human subject experimentation at Auschwitz. The institute had received blood samples for hematological and vitamin research from concentration camp inmates that SS physician Josef Mengele (1911–1979) had sent to Berlin (Müller-Hill 2003). In his publications, Müller-Hill also criticized the fact that researchers from hospitals and concentration camps involved in coerced human subject experimentation had often not been brought to justice, and KWG administrators such as Butenandt had received decision-making roles in the MPG again (see also Stoff 2004).

It is perhaps not coincidental, then, that the 1971 study by MPG psychiatrist Paul Matussek, *On Concentration Camp Captivity and Its Consequences* (Matussek 1971), was financially supported by Butenandt's discretionary funds as MPG president.[65] Matussek himself interpreted this MPG engagement as a sign of indemnification against legal responsibilities regarding previous KWG actions during the Nazi period.[66] While still being a professor of chemistry at Eberhard Karls University of Tübingen after the war, Butenandt had insinuated such assistance and support in his earlier communication with the Association of Former Concentration Camp Inmates. The association thanked Butenandt for his interest and help:

> Bund Ehemaliger
>
> Konzentrationslager
>
> Häftlinge
>
> Zürich 2, Traubenstraße 1
>
> July 47
>
> Dear Herr Professor,
>
> You will appreciate that we do not condemn the German people collectively of its guilt and that no feelings of vengeance are blurring the boundaries of guilt or innocence. We are hopeful about the main point, namely that not long in the future will the German youth—with your help—recognize its moral obligation again and will again honor the laws of humanity. (The Association of Former Concentration Camp Inmates to President Butenandt, July 25, 1947; AMPG III. Abt., Rep. 84/2, No. 7783; several grammatical errors in the original letter)

[65]It is of note in this context that Matussek's Auschwitz study was only published at the beginning of the 1970s, when the German Federal Restitution Law (*Bundesentschädigungsgesetz*) had officially expired. No claims for compensatory payments could be filed after 1969.

[66]AMPG III. Abt., Rep. 84/2, Estate Adolf Butenandt—Correspondence, No. 7340.

Butenandt remained continuously engaged in matters of reconciliation with former concentration camp victims, as comes across from Matussek's and Butenandt's interactions during the 1960s regarding the study on psychiatric characteristics that helped concentration camp inmates survive (Hodgkins and Douglass 1984, 896–897). Matussek had inquired about funding support from the MPG for his study of psychological discipline and self-control processes in Jewish and gentile camp survivors, and Butenandt saw the study as a welcome opportunity to strengthen the social accountability role and ethical standing of the MPG in both national and international contexts.[67]

In the 1990s, German research institutions—beginning with the University of Göttingen, then the University of Tübingen, and being fostered by the pioneering work of MPG-affiliated pathologist Jürgen Peiffer (1922–2006; Peiffer 2005)—began to look more intensively into their legacies from the NS period, doing away with the taboo nature of the subject of World War II.[68] Primarily, these institutions began to act due to mounting international pressure and an official petition of Israel's Minister for Religion, Zevulun Hammer, to the German Ministry of Foreign Affairs. Instructions arrived from the Federal Ministry of Science and Research as well as the FRG government's leadership, the German Chancellery and Federal Chancellor Helmut Kohl (1930–2017), ordering on January 11, 1989 that all medical collections in Germany should examine the provenance of specimens and organ slides in their collections (Weindling 2012, 240–241). The subordinate ministries of science and education in the German *Bundesländer* hereafter had to convince the respective research universities and MPIs, partially against considerable political opposition from these institutions, until they became willing to facilitate public funerals and honorable commemorations for the victims of Nazi killings, which were prioritized over the actual investigation of KWG-related wrongdoings (e.g., Kreutzberg 1993).

Peiffer's groundbreaking work called for more systematic inquiries into the KWG's tainted past—namely, investigations of the entanglement of brain science with racial anthropology during the 1930s and 1940s (Peiffer 1997b). Given that most of his publications appeared in the 1980s and 1990s, this was a rather late development, as Schmuhl's work on the history of KWG brain research has emphasized (Schmuhl 2000, 7). It is even more troubling that many neuroscientists who had previously worked at the KWG had been quite aware of their institutional and personal past, but remained silent about their own or their supervisors' and director's brain research aligning with the euthanasia programs (Topp 2013, 235–264). After 1948, many claimed that the shift away from neuroanatomy and neuropathology to functional neurophysiology—as well as the new emphasis on disinterested, curiosity-driven science far removed from the applied science orientation of the KWG—really constituted a "divergence" from the basic research mandate (*Grundlagenforschung*) for which the MPG now strove.[69]

Nonetheless, postwar continuity with the KWG was noticeable in racially motivated work in psychiatry that emphasized the genetics of prenatal influences on psychiatry and human genetics views embodied in adoptive studies,[70] hereditary pathology, and in the use of specimens from the Nazi period. These trends endured consciously as well as

[67] AMPG III. Abt., Rep. 84/2, Estate Adolf Butenandt—Correspondence, No. 7340.
[68] AMPG, Membership Administration (MV) 1975/1976/1977/1985/1988, Personal File Jürgen Peiffer (Tübingen).
[69] On the ambivalence of the concept, see Sachse (2014).
[70] In this regard, particularly the biological psychiatric work of the daughter of Ernst Rüdin, Edith Zerbin-Rüdin (1921–2015) at the MPIP in Munich should be mentioned. See, for example, in Zerbin-Rüdin (1971).

unconsciously at various MPG research institutes after 1948 (Peiffer 1999; Wässle 2017). Work that was done under the auspices of military research and the war economy's demands continued to be used in postwar publications by former KWG members now working within the precincts of the MPG, including Kuhn in Heidelberg, Butenandt in Tübingen, and Heinrich Otto Wieland in Munich (Müller-Hill 2002, 505–508; Schmaltz 2005, 361–375, 568–580, 640–662; Hunsicker 2011, 199).

Many former KWG researchers who had received active support through the scientific and funding institutions of the Third Reich were given academic leadership positions in postwar, German-speaking neurosciences, such as neurosurgeon Tönnis in Cologne, chemist Kuhn in Heidelberg, neurophysiologist Kornmüller in Göttingen, and forensic psychiatrist Friedrich Stumpfl (1902–1997) in Innsbruck (Kaderas and vom Bruch 2002, 109–124). Their former collaborators continued to receive funds through established university professional and MPG networks (Schmuhl 2016).[71] Among this influential medical elite were many high-ranking MPG officials, such as General Secretary Telschow (Hachtmann 2007, 1022–1036) and President Butenandt (Schieder and Trunk 2004, 403–420). This led to continued accusations being leveled against scientific, political, and cultural elites during the early decades of the FRG, something that ought to become the subject of further scholarly examination, especially of the later postwar period (Ash 2002a; Hoffmann-Lange 1986).

The interference by silencing and marginalizing of research trajectories meant to unearth the NS past of the KWG, and its long-term legacy during the early decades of the MPG, was countered through mounting international criticism. As a researcher on medical education and ethics, William Seidelman at the University of Toronto drew the matter into the light and raised larger international awareness, having been interested in "The Legacy of the Nazis" since the early 1970s (Seidelman 1989, 180).

Seidelman noted the relative silence in the academic press, including German medical science journals featured in contemporary *Science* and *Nature* articles, regarding the earlier involvement of directors and division heads at prominent MPG institutes with their implicit lobbying "that the reputation of science might suffer from further publicity" (Seidelman 1996, 1464). At the same time, he noted that, "in reality Nazi medicine involved virtually the entire German health-care system in racial selection, enforced sterilization, 'euthanasia' of the mentally ill, research into racial hygiene and genetics and various forms of forbidden experimentation" (Seidelman 1989, 180).

The MPG itself was no exception; former KWG-funded researchers and members were heavily involved in such activities and were now straddling the boundaries between the educational, research, and administrative components of biomedicine in the FRG—often in leadership roles—such as we see with the chief of service Schaltenbrandt at the University of Würzburg's clinical department of neurology.[72] In fact, almost all of the brain researchers and clinicians implicated in the NS euthanasia programs became founding members of the German Society for Neuropathology and Neuroanatomy after the war (Topp 2013, 235). Not only criticizing processes of commemoration in the biomedical communities, but also calling for wider public discussions in the FRG, Seidelman demanded "public documentation of who these people once were, how

[71] From the perspective of the national research funding institutions, it emerged, for example, that Ferdinand Sauerbruch (1875–1951), who had signed the research applications from many KWG brain scientists to the DFG during the NS period, continued in a prominent position as Charité professor, director of health in East Berlin, and later surgeon in a private practice in West Berlin (Dewey et al. 2006).

[72] Regarding Schaltenbrandt's interaction with the Kornmüller laboratory, see more in Hildebrandt (2016, 272–275).

they died, and how institutions representing science, medicine, and higher education used their remains for almost half a century after the defeat of the Nazi regime" (Seidelman 1989, 180).[73]

Through his own research, Seidelman furthered an increasing awareness and self-reflection in the medical communities regarding their publication and educational practices (Seidelman 2012). He emphasized, for example, that earlier publications from eugenicists, military pathologists, and Nazi neurologists were still referenced in the scientific literature, including the work of the director of the Munich DFA, psychiatrist and eugenicist Ernst Rüdin (Roelcke 2012, 303–305).

As a former member of the KWG and leading advisor to the Nazi eugenics legislation, Rüdin was a pivotal architect of forced sterilization programs in patients with mental disorders and neurological disabilities. His epidemiological research provided the basis for mass forced-sterilization programs throughout all German regions (Weindling 2017, 64–68).[74] For Rüdin and his medical and psychiatric collaborators, the neurology and psychiatry field had gained "further credibility and importance" and ceased to be an under-represented medical field, enabling it to "meet with general understanding and approval, as it becomes established and more generally known that . . . all possible measures were taken either to cure the patients or to improve their state sufficiently to enable them to return to work which is economically worthwhile."[75]

Seidelman crucially pointed out the need for more sensitivity regarding these violent scientific developments, incidents that had surrounded the KWG in infamy (Berndt 2017). He noted that in early 1989, only the Universities of Tübingen and Vienna had commenced formal investigations into their anatomical research and teaching practices—retrospective processes that many German-speaking universities have since followed (Bielka 2002; Forsbach 2015; Von Aretin 2010)[76]

> Over a century ago the universities, museums, clinics and research institutes of Germany and Austria gave birth to modern medicine and medical science. These achievements were rooted in the rigorous application of academic and scientific principles of research, documentation and publication. Six decades ago, many of those institutions participated in some of the greatest crimes in the history of humanity. These institutions now have a moral obligation to explore their own past, and to do so by applying the same scholarly principles they continue to espouse. (National Academy of Sciences, National Academy of Engineering & Institute of Medicine 1992, 36)

This public statement of the National Academy of Sciences in the United States emanated from the continued deliberations between Seidelman in Canada, dental medicine professor Howard Israel of Columbia University, and Yad Vashem in Jerusalem, Israel.

[73] "A proper documentation and public burial would help to sensitize the profession, and the world to the fallibility of medicine and the vulnerability of human society" (Seidelman 1989, 180). This recommendation has indeed been taken up since June 2017 in the multicenter project on the History of Brain Collections from the Kaiser Wilhelm Society (see https://www.mpg.de/victims-research-project). The multicenter project on the History of Brain Collections from the KWG seeks to reconstruct the names and identities behind the brain research activities during KWG times. See Weindling et al., in this special issue.

[74] Rüdin was a fervent supporter of the Nuremberg Race Laws (1935), which he considered a major achievement of the political eugenics movement (Joseph and Wetzel 2013).

[75] Rüdin (Munich), DeCrinis (Berlin), Schneider (Heidelberg), Heinze (Görden), and Nitsche (Berlin): "Collective Ideas and Suggestions Concerning the Future Development of Psychiatry," n.d. (after February 6, 1942). BArch, R961-9, fol. 9; author's translation.

[76] Both universities issued reports on their investigations that are now available in the public domain: University of Tübingen (1989); University of Vienna (2013).:

These parties were behind the initially successful investigations at some German and Austrian universities to examine their Nazi pasts (Seidelman 1999).

German research institutions had begun in the late 1970s to investigate their legacies from the NS period, yet these initial approaches remained singular attempts and projects by specific professors and research chairs, such as Kiel philologist Fridolf Kudlien (1928–2008) and Freiburg medical historian Eduard Seidler (1929–2020; see Kudlien and Baader 1985; Seidler 1989). The national research and funding organizations followed even later in their more systematic research programs of their NS past. The MPG inaugurated its Presidential Commission on the History of the KWG in 1997, and the German Research Council began only in the 2000s to fund and support research into its own NS history and the medical continuities throughout the FRG's postwar history (Kaufmann 2000; Orth 2016).

A new relationship of the KWG to its own history and the role of forced migrants in reconstructing international relations

The historical research program on KWG developments during NS, which was active from 1997 to 2007, produced important work regarding the relationship of both societies (Rürup and Schieder 2000). This regarded, for example, the personal and scientific continuities, the emphasis placed on internationalization, and the support of cutting-edge research in both societies that came about from supporting eminent researchers, their deliberation from teaching duties, and the transgression of disciplinary boundaries by providing institute directors and division chairs with many liberties in organizing their research programs.

After 1948, the MPG moved ever further away from the traditions of the preceding KWG, becoming fully supported through public FRG funding. By contrast, most of the KWG's financial support had initially been based on external industrial and philanthropic initiatives until the period of hyperinflation in 1922, which destroyed the private endowments, so that the KWG also needed to be sustained through state funding (Hachtmann 2007, 30–33, 56).

During the 1960s, the MPG institutes assumed collegial and rotating leadership roles through which the administrative structure departed from the Harnack principle (i.e., the hierarchical leadership of one director per institute; see Balcar 2019, 53–56). The institutes that had historical roots decreased to less than 8% during the postwar period (despite the historical relations of the MPIs for Psychiatry and Brain Research to their KWG precursors; see Richter 1996, 1–32). The research program on the History of the KWG in National Socialism further heightened awareness of the deliberate cooperation of KWG researchers with the NS government, and the MPG now assumed full responsibility for the ethical wrongs committed by its precursor society (Rürup 2010, 12–23). The historical project also raised awareness of the personnel and leadership continuities from the KWG to the MPG since 1948 (summarized in Sachse 2011).

Organizational and financial changes impacting science's relationship with society and the economy were connected with epistemological changes in the treatment of research problems and the expansionist politics of the NS regime (Weindling 2017). In the field of behavioral, cognitive, and neurosciences, the NS regime profited from scientific work conducted at KWIs. Simultaneously, collaborations between the general administration, the presidents, and the general secretaries with various NS agencies can be found in the field of the brain sciences, as we see with eugenics-related approaches, research for military

purposes, and the deadly use of racialized and marginalized communities as objects of basic and clinical research endeavors (as explained in Kaufmann 2000, 95–227). NS party members, economic leaders, and representatives of the state and military exerted important influence as vice presidents, senators, curators, trustees, and members of the KGW. This intersection was key to the isolation, disruption, or exclusion of German scientists, along with their research projects.

The devastating effects that the wave of forced migration had for more than a third of all neurologists and psychiatrists from Germany after the Nazi government's seizing of power was also thematized (Peters 1996). It led to the notorious dismissal of Jewish scientific team members like Freiburg and Munich-trained neuropathologist and psychiatrist Karl T. Neubürger (1890–1972). Neubürger's mentor, Spielmeyer, was one of the most accomplished and world-renowned neuropathologists at the time. His experiences with the network of Munich institutions—clinical departments of psychiatry and neurology, laboratories for brain psychiatry, and the DFA for Psychiatry—formed an excellent training environment for Neubürger, starting in 1926.

In March 1933, however, and even prior to the inauguration of the infamous "Law for the Re-Establishment of a Professional Civil Service" (April 7, 1933; related to the §3BBG of the Civil Servants Remuneration Law), the KWG and government of Upper Bavaria prohibited Neubürger from working in his official role as a scientific member due to his Jewish family background.[77] He was banned from entering his pathology office, and even Spielmeyer, director of the German Research Institute for Psychiatry's Histopathology Department, protesting strongly against Neubürger's dismissal in Berlin was unable to help. Neubürger worked at the DFA for Psychiatry until 1938, when he was ousted from his positions in the KWG and the University of Munich without receiving compensation and reparations for his career losses in Germany[78]

> The politically inclined among the [~ 127] forced migrants [from the KWG] soon identified the overt contradictions in the competing historical narratives. It is possible to identify a tangible fatigue syndrome in the negotiations. Too often, the émigrés surrendered to the violent reinterpretations [on the side of the MPG]. At the same time, however, the Max Planck Gesellschaft stood for a new beginning, not the least through its founding president and namesake, who represented an impeccable leadership figure. While the few hiring initiatives of former colleagues remained almost all futile and had been conducted too timidly; the reanimation of international contact could reconnect well with older research traditions. (Schüring 2006, 369–370; author's translation)

Historians have clarified the (rather minimal) extent to which the MPG sought to compensate and reintegrate refugee scholars from its predecessor organization, the KWG, into postwar German society (Schüring 2006, 96–104). Founding figures of the MPG, among them President Hahn, openly expressed that they wanted to continue with the internationally reputed tradition of the KWG by trying to reconnect with formerly ousted scientists, physicians, and scholars who were forced to flee after 1933 (Stahnisch 2020, 327–330). Many of those émigré brain scientists, psychologists, psychiatrists, biologists, and neurologists who had been forced out of Nazi Germany, and later its occupied countries in Europe, had found new

[77]Munich, Bavarian General State Archive, Bavarian State Ministry for Education and Culture, MK 71247, Rec. Sig. 6a1, fol. 1.
[78]Dr. Schmalz. Ministerial Advisor to the Ministry of State for Education and Culture, Letter (copy) to the Bavarian Department of Compensation (October 15, 1955, in carbon copy as well to the German Research Institute for Psychiatry). Munich, Bavarian General State Archive, Bavarian State Ministry for Education and Culture, MK 71247, Rec. Sig. 6a1, fol. 3.:

working environments abroad. Although the MPG sought to build connections between postwar West Germany and refugee scholars overseas, such approaches were pursued in a rather stuporous way and often remained without results (Rürup and Schüring 2008, 127–136).

At the center of such initiatives lay the MPG's interest in reinvigorating its international reputation by reaching out to émigré scientists and scholars abroad. It thereby had to face a confrontation with several émigré scientists who vividly recalled the humiliating circumstances of their dismissal and who were actively asking for compensation—in some cases, they even sued the MPG over lost property, scientific collections, libraries, and compensation for salary and pensions (Lohff and Conrads 2004, 138–155; Stahnisch 2018, 1493–1495).

Yet as the MPG tried to reinvigorate its international reputation by contacting former refugee scientists abroad to offer them foreign memberships, honorable medals, and rather low-paying academic prizes, they often failed to provide salaried visiting positions or lucrative financial recompensation (see Peters 1996, 163–165). The MPG thus faced awkward situations of being confronted by émigrés who openly recalled their awkward past dismissals, as was the case in the compensation process by former Munich neuropathologist Neubürger, who had been forced to emigrate to the United States in 1938. Neubürger later tried to receive a pension for the 10 years he had been affiliated with the DFA for Psychiatry before being ousted from his institutional position with the KWG and fleeing to North America, where he took a professorship at the University of Colorado (Stahnisch 2018, 1493–1495). Yet his claim was rejected on February 21, 1957, based on federal compensation processes established by the former Law Regarding Compensation for National Socialist Injustice Indemnification (BWGoeD). The Bavarian Ministry of Education and Culture and the General Administration of the MPG simply could not come to an agreement as to who was responsible for Neubürger's case. They sent his file back and forth until the claims deadline had passed, the decision being partially based on a missing *curriculum vitae* for Neubürger that neither institution had kept up to date in its files.[79]

Several former KWG members—Neubürger in Denver and biochemist Carl Neuberg (1877–1956) in New York City among them—demanded compensation for their careers, personal estates, libraries, and scientific collections they had held prior to being ousted from their positions by the Nazi government in Germany. The specific legal status of the MPG as a private yet publicly funded research organization, however, led to painful struggles over these legal matters, and the solution to such conflicts was rarely satisfactory for the victims. Some émigrés were even aware of the fact that former KWG scientists and administrators who had actively collaborated with the Nazi state continued working in leadership positions for the MPG during the 1950s and 1960s, such as Peters in Munich, Kornmüller in Göttingen, and Spatz in Gießen (Stahnisch 2018; Topp and Peiffer 2004, 567–570; Rürup and Schüring 2008, 345–50).

Although many of the Jewish émigrés supported the refounding of the MPG, based on their earlier experiences working at the KWG, the political and scientific situation in Germany of the early postwar decades proved too uncertain for them to consider returning (Stahnisch 2010, 60–61). Even those who characterized their careers prior to 1933 as the most productive period in their lives remained skeptical about whether applying for

[79]Munich, Bavarian General State Archive, Bavarian State Ministry for Education and Culture, MK 71247, Rec. Sig. 6a1, fol. 1.

positions in the new organization would be a desirable option. Consequently, only a few former KWG researchers in the neurosciences returned to the FRG during the 1950s and 1960s. These included Neubürger (who continued his work on the neuropathology of cerebral tumors and epilepsy at the University of Colorado in Denver) for a visiting period to receive the Golden Kraepelin Medal and for presentations in 1966 (Peters 1973), and Marthe Louise Vogt (1903–2003), who maintained her neurophysiological research program on synaptic transmitter research at the Universities of Cambridge, Edinburgh, and London), visiting her parents Cécile and Oskar Vogt at their research institute in Neustadt/Black Forest and receiving an honorary fellowship of the German Physiological Society in 1976 (Greenfield 2004, 50–51). Those, like Neubürger and Vogt, who returned to their home country again, mostly did so for short periods of time, rather than what Hahn and early senate members of the MPG had hoped for:

> I know well that the Senate of the Max Planck Gesellschaft decided on July 18, 1948, to ask all emigrated Scientific Members if they would be inclined to accept an invitation to become External Corresponding Members—which a good number of exceptional scholars have done. However, what I don't know, and what I could not find in the available documentation, is how intensively and systematically the burgeoning Max Planck Gesellschaft tried to actively hire those former members of the KWG back, those ousted from this country. (MPG President Hubert Markl [1938–2015] 1998, quoted in Schüring 2006, 7; author's translation)

This historical situation of the mid-1990s has been further augmented in research literature, emphasizing that the process of indemnification for NS injustices ought to be seen as an overdue process in the historical assessment of the MPG's dealings with its former émigrés from KWIs during the Nazi period. Rürup and Schüring (2008) and Schüring (2006), for instance, have examined the breaks in the careers of refugee researchers and scholars, their uprootedness, and the many challenges to adapt in the academic communities abroad. These challenges also made it difficult for émigré brain scientists such as the Munich neurochemist Lydia Pasternak (1902–1989) in Oxford, the former Breslau neurosurgeon Ludwig Guttmann (1899–1980) in London, or Karl Stern (1906–1975) in Montreal (Stahnisch and Pow 2015; Stahnisch and Tynedal 2012) to follow Hahn's early invitation to return and join the MPG. The strong scientific and academic profile of the KWG had initially enabled their emigration abroad and offered some cultural capital to re-establish themselves overseas—an often-precarious re-creation of their careers, which many did not want to risk through renewed attempts to recommence research programs at the MPG.

In addition, continuing anti-Semitic sentiments after the war, insider knowledge about former KWG administrators and leaders, and economic uncertainties turned away even those few former émigrés who had occasionally contemplated a return to the FRG (Schüring 2006, 96–104). Besides the more prominent researchers from KWIs, such as Neubürger and Stern from the DFA for Psychiatry in Munich, there were younger scientists just beginning their careers, including Pasternak from the DFA for Psychiatry and Vogt from the KWI for Brain Research, about whom less is known. This generation of emigrating German-speaking biomedical researchers had found new personal and academic homes overseas while also giving ample testimony of the deep cultural differences and variances in using clinical and research methods, as well as theoretical interpretations (Eisenberg 2006, 407–461; Rürup and Schüring 2008, 282–283, 290–291, 329–330, 345–350; Stahnisch 2010, 51–56).

It is important to acknowledge them as victims of Nazi injustices that began in 1933 and to investigate their fate under NS further (Heinemann 1990, 460–467). The MPG's new relationship to its KWG past was an attempt to rectify circumstances in which persecuted scientists, who had been ousted from their academic positions during the forced migration wave between 1933 and 1945, had been too long marginalized and left in silence by society (Sachse 2007, 43). The dearth of critical self-reflection in the MPG could be seen as representing the historical and political context of the FRG at the time; it had been influenced by a taboo culture *vis-à-vis* the NS past and strong personal continuities from the 1940s to the 1960s, internal as well as external to the MPG.

The situation and plight of the victims of Nazi persecution became more openly discussed by the 1970s, which saw the appearance of critical historical reviews that reexamined active research conducted with specimen collections from the NS period and deconstructed the postwar careers of scientists and engineers who had outright Nazi pasts in their biographies.

Present times

In the previous sections of this article, the multiple ways by which the MPG started to tend to and address its broken legacies from its KWG past during the NS period have been mapped out. The article has thus described an important and delicate area in the history of the MPG since 1945. This project developed out of the Research Program on the History of the Max Planck Society (GMPG), which commenced as an autonomous and interdisciplinary research activity at the Max Planck Institute for the History of Science in Berlin in 2014 (Kolboske et al. 2018). The GMPG program has followed a major ten-year history research program on the "precursor institution" KWG, which existed from 1911 to 1945. That previous program, lasting from 1997 to 2007, was undertaken by renowned international historians together with an array of young investigators from Germany and abroad (Sachse 2009, 373–399).[80] The previous research program, facilitated by professors Reinhard Rürup in Berlin and Carola Sachse in Vienna, among others, ended with a noteworthy public apology by the MPG's then-president Hubert Markl during a conference titled, "The History of the Kaiser Wilhelm Society under National Socialism" (König 2001, 1979–1982).[81]

The plan to analyze the history of the KWG alongside its development during the Nazi period was a challenging and critical endeavor, because the ethical transgressions of KWG scientists were examined and the results made publicly available—leading to an increased awareness of this history among the German-speaking and international press (Von Aretin 2010).[82] The public focus was particularly evident when Markl addressed an international symposium entitled, "Biosciences and Human Experimentation at the Kaiser Wilhelm

[80]The interrelation is strikingly reflected in the working title of the current and parallel presidential commission on the History of Brain Collections from the Kaiser Wilhelm Society, which draws on the personal, institutional, and network continuities from the KWG to the precursor developments toward the MPG after 1946. It furthermore highlights the continuation of methodologies and laboratory practices, including the use of brain slides and specimens, for explicit research purposes in the MPG during the postwar period. See the coauthored article by Weindling et al., in this special issue.

[81]See the series of events and conferences of "The History of the Kaiser Wilhelm Society under National Socialism" program at https://www.mpiwg-berlin.mpg.de/KWG/events.htm.

[82]For specific details regarding the planning, negotiations, and establishment of the KWG history program, see Kaufmann (2000, 3–20).

Institutes," on June 7, 2001. It had been attended by historians, representatives of the MPG, and surviving victims. Markl publicly admitted KWG scientists' guilt stemming from involvement in the expulsion of Jewish and nonconformist colleagues, and their connivance in Nazi war crimes, pursuit of coerced human subject experimentation, and use of organ specimens acquired by killing the inmates of psychiatric institutions and concentration camps:

> In truth, only those who are guilty can beg for pardon. Nevertheless, I ask you, the surviving victims, most sincerely to forgive those who, for whatever reason, have themselves failed to beg your pardon. . . . The most honest form of apology lies in the disclosure of guilt. (Markl 2004, 43; author's translation)

The MPG officially issued an apology and took a public and active stance in admitting its responsibility for the crimes against humanity that were committed in and through the precursor institution KWG. However, this did not halt social and public criticisms that interpreted the excuses of medico-scientific institutions, such as the MPG, as a "ritual of repentance." For example, historian Carola Sachse has intriguingly drawn the public's attention to the ethical dimension of organizational politics dealing with the legacy of the past (see further in Sachse 2011, 224–241).

During the first decades of the newly founded MPG, the "normalization process" of reconnecting with the international research trends, furthering the inclusion of its researchers in wider scientific and medical communities, and receiving visiting scientists and international trainees at MPIs in Germany, along with accessing binational (e.g., the Minerva Foundation) and international funding opportunities (e.g., the Neuroscience Research Program-Volkswagen Foundation collaboration)[83] in the contemporary neuroscience field (Singer 1998, 50–53) proved troublesome and featured rather disjointed approaches. The interest of the MPG leadership grew in supporting research developments in the neurosciences, cognitive sciences, and behavioral sciences from the time of Hahn, who displayed little interest in this field, to Markl, who during the later twentieth century elevated the recognition of the neurosciences, cognitive sciences, and the behavioral sciences in the research portfolio of the MPG. Despite the strenuous efforts of the society in coming to terms with the past (*Vergangenheitsbearbeitung*), the problematic research tendencies of the preceding KWG in eugenics, research of inherited nervous diseases, and military-related neurophysiology (Müller-Hill 1988; Schmaltz 2005; Weindling 2017) loomed over the wider social context of the FRG and Western European countries at the time (Hogan 1987).

Discussion

In the first section of this article, we saw the disciplinary research structures in the German research university system since World War II—a system based on institutional hegemonies and an underrepresentation of marginalized areas (in neurochemistry, neurophysiology, and neuroserology) in the "nonbrain research" institutes and programs (Richter 1996). This affected the specialized KWIs for Brain Research and Psychiatry, as well as other brain

[83]Several later MPG directors all took part in these meetings and summer schools as young investigators: Detlev Ploog (1920–2005), Hans Dieter Lux (1924–1994), Georg W. Kreutzberg (1932–2019), Otto Creutzfeldt (1927–1992), Hans Thönen (1928–2012), Manfred Eigen (1927–2019), Albert Hertz (1921–2018), Erwin Neher, Hartmut Wekerle, Bert Sakmann, Wolf Singer, etc. (~ all as early members of the Society for Neuroscience, 1969; see Schmitt 1990, 222–223; Eigen 1996).

science-related MPIs after 1948, primarily regarding the leading paradigms of neuromorphology (as followed, for example, by Cécile and Oskar Vogt and by Peters) and neuropathology (e.g., by Hallervorden and Spatz).[84]

In the second section of this article, I described the burgeoning MPIs as having offered an increasing differentiation through their individual research divisions, both in the MPIs for Brain Research and Psychiatry, as well as in other neuroscience-related divisions and institutes created since the 1960s.

That the previous disciplinary trends were still influential and impeded some of the progressive trends during the postwar period is apparent in the third section, which also reviewed the futile attempts between 1945 and 1961 to integrate the successors of the KWIs for Psychiatry and Brain Research in one overarching center in Munich. As outlined in this article, this plan fell through due to conflicting municipal considerations as well as regional political concerns, notwithstanding the resistance of directors Spatz in Gießen and Scholz in Munich, who proved reluctant to give up their administrative and research control. The outcome was a new morphology- and physiology-centered MPI in Frankfurt/Main and the continuation of the separate psychiatry-focused and increasingly clinically renowned MPI in Munich, as these also offered new opportunities for interdisciplinary research endeavors.[85]

The rather torn and dislocated structural, social, and legacy features of the MPG during the postwar period led to the assumption of new scientific and cultural legacies between 1948 and 2002 in the research practices of the institution. Four theses regarding this thematic focus are the decline in international visitors and the interruption of international scientific relations during World War II; the moral misconduct of earlier KWG scientists and scholars during the NS period; the international weakening of the position of German-speaking brain researchers and clinicians during the postwar period due to their strategic silencing of the administrative and scientific legacy of the KWG during the 1930s and 1940s; and the deep rupture caused by the forced migration of Jewish and oppositional neurologists, psychiatrists, and neuropathologists after 1933 (see also Hildebrandt 2016, 258–262; Peiffer 1997a, 27–28).

During the postwar period, these developments came to influence new forms of research programs and objects of brain science investigations, as well as shifting generations of researchers helping to establish scientific collaborations and the re-establishment of international neuroscientific networks in the MPG, including those that reflected the legacy of émigré neurologists, psychiatrists, and neuropathologists. It largely took a generational shift, the establishment of new training programs overseas,[86] and changes in internal decision-making processes for newer physiological, genetic, and cybernetic paradigms to supersede traditional trends in neuromorphology.[87] Neuromorphology as a paradigm undergirded these new models, but it also became deeply intertwined with racial anthropological and eugenic ideologies, all of which continued to influence the fledgling MPG (Maier 1997, 115).

[84]Archive of the MPIP, Rep. Research Clinic, Correspondence and Plans, 1956–1958, MPIP-D 66, fol. 1.
[85]Gerd Peters: Inauguration of the Clinic, March 29, 1966, Archive of the MPIP, MPIP-D 67, p. 2.
[86]On an international level, the resumption of innovative training programs since the late 1950s was accelerated through the participation of many MPG scientific members at the Neuroscience Research Program of MIT/University of Colorado, Boulder, in the United States, since 1963 (Eigen 1996, 35–37).
[87]It is noteworthy here to see the emergence of a clinical neurophysiology paradigm emerging in the German-speaking context with the school of Rudolf Hess (1913–2007) at the Division for Neuroencephalography of the University of Zurich's Neurosurgical Clinic. Hess and his scientific pupils in Switzerland worked considerably removed from the neuroanatomical tradition in Germany until the early 1960s.

The generation of Hallervorden, Spatz, and Scholz, who still used the neuromorphological paradigm, was succeeded by a generation of their own trainees (Peters, Krücke, and Hans-Joachim Zülch, 1910–1988), who either followed their mentors directly as heads of MPG divisions and institutes or were referred to close colleagues by their supervisors (Henning and Kazemi 2011, 1379–1380). The following generation of more critically minded directors, who had often trained outside the morphological paradigm and gained new scientific insights through their extended research periods abroad in the United States, the United Kingdom, or Israel (e.g., Singer, Sakmann, Wekerle, and Otto Detlev Creutzfeld, 1927–1992),[88] furthered the reflection and critique of former, broken relational processes in the MPG regarding its past (Sachse 2007, 43).

During the postwar period, however, neuroscience as a new interdisciplinary enterprise remained scarcely represented at German institutions for almost 20 years (Pickenhain 2002, 241–244). By looking at the time from the creation of the relevant MPIs in 1948 to the establishment of the Presidential Commission on the History of the KWG in National Socialism in 1997, some strategies for an assimilation of the MPG's broken past of the 1930s and 1940s have been presented here (see also Heinemann 1990, 460–467). These strategies during the early postwar decades of the MPG included the lack of *Aufarbeitung der Vergangenheit* (i.e., "working through the past"; Adorno 1959, 89) and silent acceptance for former research directions in KWG programs, deficient university structures for interdisciplinary research contexts, and the forced emigration of Jewish neuroscientists after 1933. Many of these developments can be characterized as notable trends within the wider discipline of neuroscience, and as distinct case studies that represented leading universities (Wagner and Steinberg 2015, 4–8).

The MPG developed a broken relationship to its past by addressing former KWG legacies that accumulated between 1948 and 2002 through memorials and public presentation events—attempts to create a new cultural memory in a ritualized form as well as research praxis for the institution (Sachse 2009, 394–396). Following the lead of political scientist Jan Asmussen, commemoration processes employed by the MPG can be deconstructed as symbolic forms of identity formation negotiating between the social legacy of ethical responsibility regarding the inhumane research activities at the KWG, the process of organized remembrance, and political stances in response to the scientific and ethical omissions in the KWG on the one hand. On the other hand, this negotiation also touches on the inheritance of research traditions including the neuromorphological paradigm, the creation of brain collections through ethically questionable practices and sources, and the military tradition followed in the KWG, and later in the MPG during the Cold War period:

> The interplay of symbolism and memory is a continuous process, which unfolds on several levels. This particularly concerns the "memory of the will." Whatever we always think about, whatever we never want to forget, for all these we create memory supports. It may be the famous knot in a handkerchief, yet also a national memorial. Such forms of memory support are also the *lieux de mémoire*, memory locations, which are fixed to our cultural and religious self-identity. Memorials, rites, fests, and rituals—in short, everything that Halbwachs had called tradition. (Asmussen 2000, 204; author's translation)

[88]Creutzfeld applied still on February 12, 1944, for membership in the NSDAP, which was granted on Hitler's birthday on April 20, 1944. See Membership file Otto Detlev Creutzfeldt, b. April 1, 1927, BArch, R 9361-VIII, Nr. 5370023.

These constructed memory traditions not only included personal influences in the scientific community but also referred to visible influences from social, political, and economic trends that impacted the living and working contexts of all MPG staff. The creation of memory support likewise hinged on elaborated forms of work on these traditions—work by individual scientists, administrators, institutes, and elite networks. There appears to have been a cyclical and rather reflexive approach in the MPG to dealing with the legacy of the KWG during the postwar period without any moves toward really advancing this cyclical approach into genuine and intentional forms of legacy culture.

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