Purges in Comparative Perspective:
Rules for Exclusion and Inclusion in the Scientific Community under Political Pressure

*Richard Beyler, Alexei Kojevnikov, and Jessica Wang**

ABSTRACT

During the intense political upheaval that dominated the middle decades of the twentieth century, modern states intensified their drives to discipline broad sectors of society and ensure their political reliability. Subjected to such pressures, scientific institutions faced the challenge of admitting new, officially mandated criteria into the regulation of scientific life. We examine the effects of these policies on the Kaiser Wilhelm Society in National Socialist Germany, the Max Planck Society in occupied Germany after 1945, the USSR Academy of Sciences throughout the Stalin era, and the National Academy of Sciences in early cold war America. In all these cases, while academic elites largely accepted the required radical changes in the rules for membership in the scientific community, they also sought to manipulate the process to their own institutional advantage.

INTRODUCTION

The relationship between state power and professional autonomy has long constituted a major theme in the history of science. Throughout the eras of turmoil that defined their respective nations' politics from the 1930s through the 1950s, the states in Germany, the Soviet Union, and the United States became obsessively, at times paranoically, preoccupied with defining and adjudicating their citizens' political, ethnic, or moral acceptability. These concerns frequently resulted in purges from scientific institutions of persons deemed undesirable: "non-Aryans," communists, and socialists in National Socialist Germany; "bourgeois experts" and "cosmopolites" in Stalinist Russia; "communist sympathizers" and "subversives" in cold war America. Purges of this kind have often been understood as morality plays, with an understandable emphasis on the victimization of the innocent by the repressive state. In what follows, we attempt to broaden the discussion by going beyond the phenomenon of purges as such. Instead, we examine changes in the rules for inclusion in, and

* Richard Beyler, History Department, Portland State University, P.O. Box 751, Portland, OR 97207; beylerr@pdx.edu. Alexei Kojevnikov, History Department, University of Georgia, 235 Leconte Hall, Athens, GA 30602; anikov@arches.uga.edu. Jessica Wang, History Department, UCLA, Box 147303, Los Angeles, CA 90095; jwang@history.ucla.edu.

The authors wish to thank the members and staff of the Forschungsprogramm zur Geschichte der Kaiser-Wilhelm-Gesellschaft im Nationalsozialismus for their generously helpful advice and for stimulating discussions, as well as two anonymous referees for their clarifying comments. Translations are ours unless otherwise noted.

exclusion from, the scientific community and the ways these changes redefined relationships between individual scientists, scientific institutions, and their respective states in the Kaiser Wilhelm Society (Kaiser-Wilhelm-Gesellschaft, KWG), the USSR Academy of Sciences (AoS), the American National Academy of Sciences (NAS), and the Max Planck Society (Max-Planck-Gesellschaft, MPG), the KWG's postwar successor.

Scientists, like members of any other sector of society, have formal and informal rules for regulating group membership that help establish and maintain their community's social structures and identity. During times of political turmoil in the thirties, forties, and fifties, as states attempted to bind science more closely to their definitions of national interests and ideology, scientific organizations faced difficult decisions about how to reconcile professional autonomy and ethical principles with visions of science's national importance. The KWG, the AoS, the NAS, and the MPG, as academic societies with formal governmental ties, mediated between the state and the scientific community over the new boundary rules, in a complex process of negotiation involving both coercion and collaboration.

In some ways, the societies occupied similar positions in their respective countries. All of them claimed to comprise in their memberships their nations' most accomplished researchers and thus to represent, formally or informally, the public face of the scientific elite. They all possessed high-level political connections and charters that specified in legal terms their relationships with, and obligations to, their respective states. Yet the societies differed considerably in their core functions, organizational forms, and administrative obligations and faced different kinds and degrees of political pressure. While a comparative examination must acknowledge the significance of those differences, it also provides an opportunity to overcome, at least somewhat, the historiographical insularity that has sometimes affected treatments of these events. For all the markedly disparate conceptions of national identity and the considerable differences in severity of the purges (e.g., loss of status vs. physical violence), it is still possible to recognize some common institutional reactions. The history of political repression is replete with inhumanity and tragedy, but science *as an institution* cannot be understood merely as a passive victim of external power. Academic institutions caught up in turbulent political conditions sought to maintain, as well as they could, traditional patterns of internal authority and to collaborate with external authority. In important respects, the KWG, the AoS, and the NAS tried to uphold, and when possible to manipulate, a mutually beneficial pact with their respective states.

THE KAISER WILHELM SOCIETY IN NATIONAL SOCIALIST GERMANY

The National Socialists' vision for a new Germany depended upon the purification of the *Volk* community by exclusion of whole categories of people deemed undesirable—not only Jews as defined by National Socialist racial ideology but also political opponents. Ultimately, this policy resulted in genocide; the "Final Solution," however, did not appear overnight. Exclusionary measures began in early 1933; the Law for the Restoration of the Career Civil Service, promulgated on April 7, proved particularly significant for the scientific community. Its third paragraph ordered the dismissal of persons "not of Aryan descent" (defined as having at least one Jewish grandparent), though there were exemptions for anyone who had been in office since August 1914 or before, who had done combat service in the world war, or whose

father or son had died in that war. (Later, especially after passage of the so-called Nuremberg Laws of 1935, the status of "non-Aryans" became even more untenable.) Paragraph four allowed for dismissal of persons "whose prior political activity does not offer confidence that they will be always unreservedly in support of the national state." Although this meant above all Communists or Social Democrats, it could be interpreted more flexibly. Employment termination procedures were spelled out in detail, particularly as applicable to the special legal status of *Beamten*, that is, officials with tenured appointments.[1]

The administration of the Kaiser Wilhelm Society generally, if unenthusiastically, complied with these new mandates, though it also practiced selective noncooperation. For some individuals, the KWG was able to at least defer implementation of the law because of its intricacies. Certain Kaiser Wilhelm Institutes (KWIs) could avoid the law altogether as the majority of their funding came from nongovernmental sources (such as industry donations and private endowments).[2] For the most part, however, dismissals were carried out in a bureaucratically correct fashion. The KWG soon implemented routine procedures: workers submitted questionnaires on ancestry and political affiliations to institute directors, who sent them on to the KWG administration, which in turn reported to the supervising ministries. When necessary, the administration admonished the directors to have their questionnaires returned.[3] Even if no dismissals were necessary, administrators considered it important to have complete paperwork. As General Director Friedrich Glum wrote to Friedrich Körber at the Institute for Iron Research, which apparently had no Jews on its roster, it would be useful to have proof that there was "at least one Kaiser Wilhelm Institute which had employed . . . no non-Aryans."[4] When dismissals were necessary, the KWG carefully terminated employment on the date fixed by the law (e.g., holders of fellowships were allowed to continue until these funds ran out) and followed regulations for severance pay to the letter. In a few cases, dismissals were appealed by local branches of the NSDAP-affiliated labor union, which cast the KWG as the agent of centralized state policies.[5]

This pattern of self-coordination, in which the Kaiser Wilhelm Society became the instrument of the state's exclusionary mandates (with some notable exceptions), was partly the product of improvised reactions to National Socialist initiatives. Yet it also reflected a consensus in the top levels of the KWG about the importance of maximizing professional autonomy in personnel decisions, even if new criteria had to be taken into account.[6] The KWG thus attempted to preserve, when possible, the outlines of its

[1] "Gesetz zur Wiederherstellung des Berufsbeamtentums," *Reichsgesetzblatt*, 7 April 1933, copy in I Abt., Rep. 1A, Nr. 544, folder 1, Archiv zur Geschichte der Max-Planck-Gesellschaft (hereafter cited as MPGA), Berlin.

[2] Namely the Institutes for Chemistry, Iron Research, Coal Research (Mülheim), Metals Research, Leather Research, and Cell Physiology; the Silesian Coal Research Institute; and the Research Institute for Water Construction and Water Power; see I Abt., Rep. 1A, Nr. 532, folder 2, MPGA.

[3] Max Planck to directors, I Abt., Rep. 1A, Nr. 531, folder 3, 71, MPGA.

[4] Friedrich Glum to Friedrich Körber, 21 Sept. 1933, I Abt., Rep. 1A, Nr. 531, folder 3, 88, MPGA.

[5] Sozialamt der Deutschen Arbeitsfront, Verbandskreis Heidelberg to [Friedrich Glum], 19 March 1934; Fritz Hebel to [Ludwig Prandtl], 12 April 1934; Kreisbetriebszellen-Leitung der NDSAP, NSBO Heidelberg to Führer [sic], KWI Heidelberg, 8 June 1934. All I Abt., Rep. 1A, Nr. 547, folder 2, 202; folder 4, 230; folder 4, 256, MPGA.

[6] This section is largely informed by Kristie Macrakis, *Surviving the Swastika: Scientific Research in Nazi Germany* (New York, 1993); and Mitchell G. Ash, "Wissenschaftswandel in Zeiten politischer Umwälzungen: Entwicklungen, Verwicklungen, Abwicklungen," *NTM*, n.s., 3 (1995): 1–21. It also, in

pre-1933 relations with its government partners, albeit at the cost of some individuals' careers. However, a few key scientists almost personified the success of the institution. According to the KWG tradition known colloquially as the Harnack Principle (after its founding president, Adolf von Harnack), to get good science one chose the best researchers for directorships and then granted them the widest possible autonomy within their own institutes.[7] Particularly threatening, then, would be the forced appointment or promotion of researchers hitherto deemed unacceptable as the result of criteria seen as arising primarily from outside the scientific community. Thus from the frankly authoritarian perspective of the Harnack Principle, the adoption of alien inclusionary principles threatened to render the structure of science unrecognizable, whereas the new exclusionary principles at least preserved the formal structures of scientific institutions. Indeed, after 1945 the claim of preserved sovereignty over the appointment process was a point of pride for MPG spokesmen, particularly when compared with the situation in the Soviet Union.

The effects of the civil service law on the KWG and its scientists are difficult to quantify because of its overlapping categories of applicability and exception. Moreover, many scientists ostensibly resigned of their own accord when faced with increasingly obvious threats to their careers or persons; these departures were not reflected in official statistics and must be extrapolated from other data.[8] According to internal statistics from almost a year after the law took effect, out of 767 personnel in institutes with majority government funding, 45 non-Aryans and at least 14 political dissidents had been dismissed, or approximately 8 percent.[9] Kristie Macrakis lists 71 former KWG scientists as émigrés—a number that includes those who were formally dismissed as well as those who departed officially of their own accord, but presumably does not include scientists who remained in Germany after leaving the institutes.[10] A recent study by Michael Schüring indicates that the purges affected on the order of 100 KWG personnel.[11]

The promulgation of the law caught both Glum and President Max Planck on vacation in Italy during the Easter break. In Heidelberg, site of the KWI for Medical Research, actions against Jewish personnel actually started on April 6, the day before promulgation of the law. Back in Berlin, Glum's and Planck's primary assistants, Ernst Telschow and Max von Cranach, at first thought the problem could be contained within conventional channels. Upon receiving the Heidelberg news, the administration notified Theodor Vahlen, an ardent National Socialist in the Prussian Education Ministry, that "according to our conception such matters ought to be carried out generally and through a central decree of the responsible agencies, not spontaneously and

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part, elaborates on some material in Richard H. Beyler, *"Reine" Wissenschaft und personelle "Säuberungen": Die Kaiser-Wilhelm/Max-Planck-Gesellschaft, 1933 und 1945*, Ergebnisse, no. 16 (Berlin, 2004), 9–14.

[7] See Bernhard vom Brocke and Hubert Laitko, eds., *Die Kaiser-Wilhelm-/Max-Planck Gesellschaft und ihre Institute: Studien zur ihrer Geschichte: Das Harnack-Prinzip* (Berlin, 1996).

[8] One prominent example, considered below, is that of Fritz Haber.

[9] Minutes of Verwaltungsausschuss, 6 March 1934, I Abt., Rep. 1A, Nr. 532, folder 1, 137, MPGA; similarly in Helmuth Albrecht and Armin Hermann, "Die Kaiser-Wilhelm-Gesellschaft im Dritten Reich (1933–1945)," in *Forschung im Spannungsfeld zwischen Politik und Gesellschaft: Geschichte und Struktur der Kaiser-Wilhelm-/Max-Planck-Gesellschaft*, ed. Rudolf Vierhaus and Bernhard vom Brocke (Stuttgart, 1990), 356–406, on 364–5.

[10] Macrakis, *Surviving* (cit. n. 6), 67.

[11] Michael Schüring, "Vertreibung, Entschädigung und die Vergangenheitspolitik der Max-Planck-Gesellschaft" (Ph.D. diss., Humboldt Universität Berlin, forthcoming).

locally in individual institutes."[12] On the eighth, Telschow wrote to Glum and to Planck that the situation did not require shortening their vacations. Although at some universities "action committees" were being formed among "subordinate persons such as technical assistants," this was not yet the case for any KWIs, and after the initial hubbub in Heidelberg "all the gentlemen were quietly going about their work." Cranach agreed.[13] Others were not so calm. The director of the Institute for Physical Chemistry and Electrochemistry, Fritz Haber, a Jewish scientist with a wartime service exemption, proposed that the society press for the appointment of a "steward" to guide the process rather than waiting for the government to deliver a fait accompli. Telschow rejected this idea as being a formal concession of authority to what he described as a "state commissar."[14] Although Planck received more than one concerned message from Haber, as well as from other KWG personnel, he did not return to Berlin until early May.[15]

Throughout this critical initial period, Haber continued to dissent conspicuously from the KWG administration's response to the law,[16] yet the administrators strove to protect the director himself from its effects. Haber's was, in fact, one of the cases in which the administration clearly identified the integrity of the institution with the work of a key individual who should be kept in place if at all possible, even if this meant implementing the state's exclusionary demands in general. Following the uproar in Heidelberg, Cranach met with an Education Ministry official and found him possibly willing to retain "leading scholars" who were Jewish—but only under certain stringent conditions. In the case of Fritz Haber, his Jewish subordinates would have to be dismissed immediately. When he telephoned Haber with this information, however, Cranach received the impression that the director would "create certain difficulties."[17] Although Haber did arrange for the departure of many staff members, on May 31 he submitted his resignation, effective in September, grounding his decision in an unwillingness to change his standards for the selection of his professional associates. Haber's resignation under pressure became one of the most notorious manifestations of the Nazis' anti-Semitic policies—his subsequent death in exile contributed to the sense of tragedy. In its response to the Haber situation, the administration—which sought to be the mediator between the scientific community and the state—revealed its key assumptions about how best to manage the state-science relationship.

From the administration's perspective, Haber's attitude amounted to a kind of institutional suicide. The subsequent events at the Institute for Physical Chemistry and Electrochemistry seemed to bear out the administration's conception of the ill effects of noncooperation. For the administration, these would be disastrous—not because of

[12] [Ernst Telschow?], Aktennotiz, 7 April 1933, I Abt., Rep. 1A, Nr. 531, folder 1, 3, MPGA.

[13] Ernst Telschow to Friedrich Glum, 8 April 1933, and to Max Planck, 8 April 1933; Max von Cranach to Planck, 10 April 1933, and to Glum, 10 April 1933: I Abt., Rep. 1A, Nr. 531, folder 1, 1a–8, MPGA.

[14] Ernst Telschow to Friedrich Glum, 8 April 1933, and to Max Planck, 8 April 1933, I Abt., Rep. 1A, Nr. 531, folder 1, 1a–5, MPGA.

[15] Max Planck to Max von Laue, 16 April 1933, and Laue, memoire, 18 Aug. 1948, Nachlass v. Laue, U IX 2, Nr. 1–3, 1933/35, Archiv der Berlin-Brandenburgische Akademie der Wissenschaften.

[16] The following paragraphs on Haber rely on Macrakis, *Surviving* (cit. n. 6), 53–4; Albrecht and Hermann, "KWG" (cit. n. 9), 360–3; and Margit Szöllösi-Janze, *Fritz Haber 1868–1914: Eine Biographie* (Munich, 1998).

[17] Max von Cranach, Aktennotiz, 21 April 1933, I Abt., Rep. 1A, Nr. 531, folder 1, 15, MPGA.

the military's thinly-concealed plan to turn the institute into a chemical weapons research facility, but because of the handling of the appointment of Haber's successor.[18] After a brief interim with Otto Hahn as acting director, the Prussian Education Ministry, in cooperation with the Reich Defense Ministry, but without consulting the KWG, named Göttingen University chemist Gerhart Jander acting director. In the October 1933 meeting of the KWG Administrative Committee, which included ministerial representatives, Planck, while offering assurances that the KWG was willing to put itself "in the service of national defense," insisted that Jander's appointment could only be provisional.[19] In a more public forum, the KWG's 1934 annual general meeting, Planck warned, "If the Kaiser Wilhelm Gesellschaft should no longer be in the position to win researchers of the first rank for the direction of its institutes . . . its reason for being would be taken away"—a succinct statement of how seriously he took standards of inclusion.[20]

The KWG mobilized support from the Interior Ministry in the person of ministerial councillor Max Donnevert, who had been the main representative in the ministry's dealings with the KWG since early in the Weimar era. Donnevert asserted that the Interior Ministry, which had general oversight of the KWG at the Reich level, had been slighted with Jander's installation, about which it had not been consulted. He argued further that the "purely scientific character" of the institute had been diminished and pointed to the creation of undesirable foreign attention.[21]

Planck, for his part, argued that even from a military perspective, Jander was too much a specialist to make a long-term contribution at the institute. Once again, Planck made it clear that the KWG objected not to doing research of interest to the state but to compromising directorial prestige. To make his point, he translated the Harnack Principle into the National Socialists' own jargon. "The leadership principle [*Führerprinzip*] has always been valid" for the KWG, he wrote to the Interior Ministry. For an institute's director, Planck explained, the administration chose the best available scientist in that field and consequently gave him complete authority to conduct research and make personnel decisions. Jander's appointment, however, had broken the chain of authority, and Planck would take no responsibility for the acting director's performance. Furthermore, if the military wanted to dictate the direction of the institute, then it should provide more of that institute's funding, or at least there should be, as a quid pro quo, governmental support for the expansion of other institutes such as the KWI for Physics.[22]

Several months of negotiations between the government ministries and the KWG produced a compromise of sorts: Jander remained on a temporary basis, with the un-

[18] Ernst Telschow to Friedrich Glum, 4 Aug. 1933, I Abt., Rep. 1A, Nr. 1169, 13, MPGA. On chemical weapons research in the KWG, see Gerhard Baader, Susan E. Lederer, Morris Low, Florian Schmaltz, and Alexander v. Schwerin, "Pathways to Human Experimentation, 1933–45: Germany, Japan, and the United States," in this volume. Ironically, Haber himself had played a leading role in developing chemical weapons during World War I.

[19] Minutes of Verwaltungsausschuss, 18 Oct. 1933; echoed in Max Planck to Education Ministry, 4 Oct. 1933, I Abt., Rep. 1A, Nr. 541, folder 4, 67, 69, MPGA.

[20] Max Planck, Tischrede, [3 June 1934], I Abt., Rep. 1A, Nr. 129, folder 8, 248, MPGA.

[21] Max Donnevert, Aktenvermerk (date undetermined), and Aktenvermerk, 13 Sept. 1933, Bundesarchiv (hereafter cited as BA) Berlin, R 1501/126790, 48, 50. On the international impact of Haber's dismissal, see also Ronald E. Doel, Dieter Hoffmann, and Nikokai Krementsov, "State Limits on International Science: A Comparative History of International Science Congresses in Hitler's Germany, Stalin's Russia, and Cold War United States" (this volume).

[22] Max Planck to Reich Interior Ministry, 1 Dec. 1933, R 1501/126790, 88–92, BA Berlin.

derstanding that a more acceptable replacement would be found. The Defense Ministry would not insist on Jander as long as the desired work could be carried forward.[23] Eventually, in 1935, Peter Adolf Thiessen became director—admittedly not Planck's first choice (that was Hanns Fischer), but at least acceptable as a scientist.[24] This choice was, to put it mildly, politically strategic: Thiessen was an "old fighter" who would make the institute into a "model organization" under National Socialist labor laws.[25] At least Thiessen had come to the directorship through traditional channels, however, which made him a tolerable choice from the KWG's perspective. The controversy over Haber's resignation and its consequences indicates that the leaders of the Kaiser Wilhelm Society still wanted to play the bureaucratic game in the new regime.[26]

The KWG sometimes sought to subvert the bureaucratic routine, yet most such attempts failed.[27] The case of Fanny Du Bois-Reymond, a gardener at the Institute for Breeding Research and granddaughter of the eminent physiologist Emil Du Bois-Reymond, proved particularly poignant. Fanny Du Bois-Reymond was initially subject to dismissal as being one-quarter Jewish, but after she made a personal appeal to Planck, Glum discovered an apparent way out: the grandmother in question had, in fact, been baptized. The Interior Ministry referred the matter to its expert for racial questions, who determined that since the grandmother had not been baptized as an infant, she still counted legally as Jewish, and hence so did Fanny Du Bois-Reymond. Upon learning of the decision, she wrote Glum:

> I hardly need to say what it means to me to have to leave the community of the KWG. You will understand . . . how one depends on this community inwardly. Here one breathes the air to which I was accustomed from the high scientific tradition of my family. This atmosphere was for me, even in my modest position, completely appropriate, so that today I hardly know how I can exist apart from it.[28]

While admiring such humane efforts to contravene the law, one must still recognize that, generally, special efforts applied primarily to persons in leadership positions—such as KWG for cell physiology director Otto Warburg—or, as in Du Bois-Reymond's case, for those with personal claims going beyond the merely professional.

Control of information and the internal relations of authority were also problematic

[23] Max Donnevert, Aktenvermerk, 9 Dec. 1933; Max Planck to Reich Interior Ministry, 16 Nov. 1933; Donnevert, Aktenvermerk, 23 Nov. 1933, R 1501/126790, 61, 82–5, BA Berlin.

[24] Minutes of Verwaltungsausschuss, 9 April 1934, I Abt., Rep. 1A, Nr. 93, folder 3, 185, MPGA. Fischer also came under discussion for the vacant directorship at the KWI for Biochemistry (see more below), which eventually went to Adolf Butenandt; Friedrich Glum, Aktenvermerk, 5 June 1935, I Abt., Rep. 1A, Nr. 169, folder 7, 257, MPGA.

[25] See Christa Eibl, "Der Physikochemiker Peter Adolf Thiessen als Wissenschaftsorganisator (1899–1990)" (Ph.D. diss., Univ. Stuttgart, 1999), 61–110; "Die Wissenschaft steht nicht zurück: Zum erstenmal wurde ein wissenschaftliches Institut zum Musterbetrieb ernannt," *Der Angriff*, 4 May 1940, clipping in I Abt., Rep. 1A, Nr. 1175, folder 1, MPGA.

[26] An ironic sequel of this controversy was that final governmental responsibility for the KWG was transferred from the Reich Interior Ministry to the newly formed Reich Education Ministry in May 1934.

[27] A preliminary report, Max Planck to Reich Interior Ministry, 19 June 1933, alongside nineteen pending dismissals, lists three "doubtful cases" and five "hardship cases" with requests for special exemptions, I Abt., Rep. 1A, Nr. 531, folder 1, 47–51, MPGA.

[28] Fanny Du Bois-Reymond to Friedrich Glum, 30 March 1934, I Abt., Rep. 1A, Nr. 543, folder 3, MPGA. This case and others are discussed in Macrakis, *Surviving* (cit. n. 6), 62–3.

issues for the KWG, leading to contention between the society's administrative hierarchy and National Socialist activists in the ranks. In June 1933, the National Socialist Factory Cell Organization (NSBO) for the institutes in the Berlin neighborhood of Dahlem (site of the largest concentration of KWIs) claimed the prerogative of appointing two KWG senators. The KWG Senate, composed of eminent scientists, business figures, and government officials, was nothing if not the embodiment of cooperation between the elite of the scientific community and its most powerful patrons. Here, as with the directorships, new rules for inclusion were quite unacceptable to the administration. Planck protested and the Interior Ministry—again siding *with* the KWG administration—ruled against the NSBO request.[29]

In September 1933, the Dahlem NSBO leader asked for a meeting with Glum and the institute directors. At the meeting, various institute members—including directors Reginald Herzog of the Institute for Fiber Chemistry and Carl Neuberg of the Institute for Biochemistry—were denounced as racially or politically undesirable. That the request had arrived in the morning and the meeting occurred that same afternoon testifies to the perceived urgency of the situation.[30] Although the meeting did not result in immediate dismissals, eventually both Herzog and Neuberg were forced to leave their posts, the latter after a protracted Interior Ministry investigation following an extended campaign of denunciations by a worker at his institute. The specifics of the claim against Neuberg were discounted, but he had to resign anyway in 1935.[31] For a non-Aryan, the affair demonstrated that any scrutiny whatsoever, even when based on specious claims, posed a danger. Similarly, the KWG learned that to maintain any control at all over the boundaries of the scientific community, it was crucial to avoid externally-conspicuous faux pas.

In the wake of the September 1933 Dahlem meeting and other examples of "lack of discipline," the KWG Administrative Committee resolved that there needed to be a vigorous reassertion of authority.[32] The committee asked the Interior Ministry to reiterate its limitation on the power of workers' councils. Similarly, the administration circulated a memo over Planck's signature, backed by reference to relevant Reich decrees, reaffirming that any complaints from institute workers must be handled through the chain of authority of the directors or the KWG president—that is, not taken to outside agencies such as the NSBO.[33]

Thus for the KWG leadership in its initial response to the 1933 civil service law, maintenance of the boundaries of, and order in, the scientific community was of paramount concern. The society sought to minimize interference by unqualified outsiders

[29] Max Planck to Reich Interior Ministry, 15 June 1933; Erwin Giersch, Betriebsratvorsitzender, to Planck, 10 June 1933; Polizeiamt Steglitz-Zehlendorf to Fritz Haber, 29 May 1933; Max Donnevert, Aktenvermerk, 23 June 1933: R 1501/126782/3, 8–16. All BA Berlin.

[30] Max von Cranach, Aktennotiz, 2 Oct. 1933; Eugen Fischer to Generalverwaltung, 30 Sept. 1933. Both I Abt., Rep. 1A, Nr. 532, folder 1, 104-105, MPGA. See also Macrakis, *Surviving* (cit. n. 6), 60–1.

[31] Events of the Neuberg imbroglio are recorded in I Abt., Rep. 1A, Nr. 2035, MPGA, and in R 1501/126786/1, BA Berlin; and discussed in Macrakis, *Surviving* (cit. n. 6), 61.

[32] In addition to the conflicts discussed above, other cases included tensions at the Institute for Medical Research, accusations of espionage at the Institute for Fluid Dynamics (cf. the essay by Moritz Epple, Andreas Karachalios and Volker R. Remmert, "Aerodynamics and Mathematics in National Socialist Germany and Fascist Italy: A Comparison of Research Institutes," in this volume), and worker agitation leading to the dismissal of Max Bergmann from the Institute for Leather Research.

[33] Minutes of Verwaltungsausschuss, 18 Oct. 1933, and Max Planck to directors, 24 Oct. 1933, I Abt., Rep. 1A, Nr. 532, folder 1, 122, 123a, MPGA.

and ad hoc organizations of subordinates, while offering comparatively little overt objection to National Socialist exclusionary policies per se. Conversely, from the National Socialist perspective, the purges were not an attack on the scientific community per se, but an effort to put this community on the same footing as all others in the new Germany. As has been noted by many historians, countervailing forces within the National Socialist state promoted the viability of science, particularly in fields relevant to rearmament, autarky, and the doctrine of a racially pure *Volk*. In other words, the Nazi era portended not only new rules of exclusion for science but also some opportunities for growth in accord with the community's perceived self-interest. For example, as Susanne Heim writes, the expansion of institutes, branches, and projects in plant breeding, notably including the appropriation by German researchers of scientific institutes in occupied countries, "provided many opportunities for scientists—in terms of possible discoveries as well as in terms of career."[34] Such opportunities for expansion contributed to the effectiveness of the KWG's position. By conventional measures, the society proved institutionally successful: its budget almost doubled between 1933 and 1940, and sixteen new institutes or research stations were created between 1933 and 1943.[35] However, in the context of National Socialism, the correlate of this institutional "success" was the dismissal of Jewish and politically-suspect personnel: preserving the freedom of science meant purging scientists.

THE USSR ACADEMY OF SCIENCES

Interactions between the scientific and political establishments in the Stalinist Soviet Union were more intense and contradictory than those between the establishments in the United States and Germany. In part, the differences lay in the magnitude of social changes and upheaval caused by the Russian Revolution, as well as the lengthier time period (thirty years of Stalin's rule) during which major policies did not remain stable or consistent but demonstrated dramatic turnarounds. The role of the state was also much more comprehensive in Soviet society, and thus the sphere of issues deemed "political" wider. The USSR ascribed to science a far greater political importance than did any other contemporary government, for both ideological and pragmatic reasons. As a result, Soviet scientists had a strong de facto influence on politics and, in return, experienced a stronger and more diverse spectrum of political pressures.[36]

The USSR Academy of Sciences (AoS), so renamed in 1925 from the Russian Academy of Science, fulfilled several, not entirely compatible, functions. Symbolically, the AoS represented, and spoke in the name of, science, the undisputable authority on knowledge about nature. Honorifically, it was a learned society of the nation's most reputable scholars, elected to membership for life. Because the Soviet

[34] Susanne Heim, *Research for Autarky: The Contribution of Scientists to Nazi Rule in Germany*, Ergebnisse, no. 4 (Berlin, 2001), 15. See also, among many other examples, Macrakis, *Surviving* (cit. n. 6); Monika Renneberg and Mark Walker, eds., *Science, Technology, and National Socialism* (Cambridge, 1994); Ute Deichmann, *Biologists under Hitler* (Cambridge, 1995); Doris Kaufmann, ed., *Geschichte der Kaiser-Wilhelm-Gesellschaft im Nationalsozialismus*, 2 vols. (Göttingen, 2000); Susanne Heim, ed., *Autarkie und Ostexpansion: Pflanzenzucht und Agrarforschung im Nationalsozialismus* (Göttingen, 2002); and Helmut Maier, ed., *Rüstungsforschung im Nationalsozialismus: Organisation, Mobilisierung und Entgrenzung der Technikwissenschaften* (Göttingen, 2002).

[35] Albrecht and Hermann, "KWG" (cit. n. 9), 377; vom Brocke and Laitko, *KW/MPG* (cit. n. 7), 634–5.

[36] Alexei Kojevnikov, "Dialogues about Knowledge and Power in Totalitarian Political Culture," *Historical Studies in the Physical and Biological Sciences* 30 (1999): 227–47.

state did not merely inherit and seek to control science but also built up a practically new research infrastructure and establishment, AoS membership tripled over a thirty-year period, rising from roughly 45 full members to 140, and approximately three times as many corresponding members. In the 1930s, the academy also received a crucial new governmental function, essentially becoming a ministry of science, which the government otherwise lacked. In this capacity, the AoS administered a network of the nation's top research institutions (whose combined staff increased in the period of Stalin's rule from about 1,000 to more than 10,000), appointed directors, and distributed state funds for research.[37] In this expanding mode, the scientific establishment underwent changes as a result more of policies regulating inclusion than of exclusion of members.

Academic and state functions intertwined so tightly in the work of the academy that it is not possible for us today (as it certainly was not possible for contemporaries) to demarcate precisely one from another. As a learned society, the AoS enjoyed a considerable degree of autonomy from the government. (For example, the academy elected its own members.) Yet as a de facto branch of government, it could experience political pressures, in principle, at any level. Whether, and how much, the state actually interfered with AoS affairs varied from situation to situation.

Arguably, the Sovietization of the AoS in 1929 constituted the most crucial case. Until that point, the academy's forty-odd members and practically all its research and technical staff were so-called bourgeois specialists, persons raised and educated prior to the revolution who were willing to collaborate with the Bolshevik government qua professionals, but politically did not have to pretend to be Communist allies or sympathizers. For eleven years following the revolution, the Bolsheviks found such a moderate degree of loyalty quite acceptable. Moreover, they placed bourgeois specialists in important positions in many governmental agencies—such as Gosplan, the State Commission for National Economic Planning. The outbreak of the "cultural revolution" in 1928 destroyed the existing pact between politicians and experts, and the government subsequently demanded more loyal, "red" experts, that is, true supporters who would share the regime's essential values.[38]

The academy could claim very few such experts at the time—the majority of its members were elected before the revolution according to the tsarist government loyalty standards. Like other academic institutions, the AoS faced enormous pressure from the state, media, and militant public, with some radical voices proclaiming it irredeemable and demanding its closure. The government's main strategy for change relied on inclusion, rather than exclusion: it aimed to increase the number of supporters within the AoS and help them obtain some key administrative positions. The academy received a new statute, which increased AoS membership almost twofold, to eighty-five full members.[39] In the academy's subsequent major elections of 1929, vot-

[37] Alexander Vucinich, *Empire of Knowledge: The Academy of Sciences of the USSR (1917–1970)* (Berkeley, 1984); A.V. Kol'tsov, *Razvitie Akademii nauk kak vysshego nauchnogo uchrezhdeniia SSSR, 1926–1932* (Leningrad, 1982).

[38] On the change of policy with regard to bourgeois experts, see Kendall Bailes, *Technology and Society under Lenin and Stalin: Origins of the Soviet Technical Intelligentsia, 1917–1941* (Princeton, 1978), 69-156; on the notion of cultural revolution, see Sheila Fitzpatrick, "Cultural Revolution as Class War," in *Cultural Revolution in Russia, 1928–1931*, ed. Sheila Fitzpatrick (Bloomington, 1978), 74–140.

[39] V. D. Esakov, ed., *Akademiia nauk v resheniiakh Politbiuro TsK RKP(b)-VKP(b), 1922–1952* (Moscow, 2000), 48–54, 530.

ing procedures were formally respected, but intense scrutiny in the press and difficult behind-the-scenes negotiations affected the nomination process and evaluation of candidates. Traditionally, commissions selecting the candidates nominated for the final ballot only one candidate per existing vacancy. This time, the commissions included, in addition to academy members, some rank-and-file researchers and representatives of the "public" (trade unions and political organizations). Some members, notably Ivan Pavlov, protested this flagrant violation of academic autonomy, but the majority conceded to the move, hoping to balance scholarly and political criteria in the pool of finalists.[40]

The resulting compromise shifted power within the academy to representatives of the natural sciences, who subsequently outnumbered members in the humanities and social sciences by a factor of two (the reverse had been the case previously). Though most newly elected members were still scholars of the bourgeois specialist type, they were not referred to by this no-longer-respected term. For the first time, the candidates included Marxist scholars and party members (eight out of the forty-two). Scandal broke out at the formal election on January 12, 1929, when three candidates who all happened to be Communists were voted down. Under a barrage of media and government criticism, a horrified academy leadership requested a repeat of the ballot, in violation of statute. The second time, all three controversial candidates garnered the necessary majority. Afterward, combined pressure from the outside and from loyalists inside led to the establishment of a special commission to scrutinize the academy's staff. The commission concluded that after the revolution, far too many former nobles and tsarist officers found employment and institutional protection in the academy. It fired 128, or about 11 percent, of the AoS full-time staff (mostly library, administrative, and rank-and-file personnel) and more than 500 affiliated employees.[41]

In October 1929, the commission uncovered politically sensitive documents in the academy's library, including the original of Nicolas II's abdication and the files of the tsarist secret police. This discovery led to accusations of a "counterrevolutionary monarchist conspiracy" and a series of arrests. Four full members of the academy (historians S. F. Platonov, E. V. Tarle, N. P. Likhachev, and M. K. Liubavsky) and five corresponding members were sentenced to five-year exiles, while several "co-conspirators" with lesser academic credentials received harsher sentences. In February 1931, the AoS considered expulsion of these members based on a recently-added statute provision that members could be "deprived of their titles by the decision of the General Assembly, if their activities are directed to the harm of the Union of Soviet Republics." Despite a protest by President A. P. Karpinsky that the provision had been imposed upon the academy, the new permanent secretary and party member V. P. Volgin declared the vote unanimous, since nobody raised a hand against it.[42] Replacement members were quickly elected, and by 1932 the total membership in the academy had increased to ninety-four, which included a new group of positions in the engineering

[40] See Loren R. Graham, *The Soviet Academy of Sciences and the Communist Party, 1927–1932* (Princeton, 1967); Aleksey E. Levin, "Expedient Catastrophe: A Reconsideration of the 1929 Crisis at the Soviet Academy of Science," *Slavic Review* 47 (1988): 261–79; Feliks F. Perchenok, "'Delo Akademii nauk' i 'velikii perelom' v sovetskoi naulke," in *Tragicheskie sud'by: Repressirovannye uchenye Akademii nauk SSSR* (Moscow, 1995), 201–35.

[41] Levin, "Expedient Catastrophe" (cit. n. 40), 276; Esakov, *Akademiia* (cit. n. 39), 82; *Akademicheskoe delo 1929–1933 gg.*, 3 vols. (St. Petersburg, 1993–98), 1:xxv–xxvii.

[42] Perchenok, "Delo Akademii" (cit. n. 40), 225–6.

sciences previously unrepresented in the academy. While a large majority of members were nonparty scholars, as was President Karpinsky, a Communist member would usually be elected to one of the influential administrative positions (permanent secretary or vice-president).

Practically all of the country's scientists educated before 1917 had been previously assumed to be bourgeois specialists, but after 1928 that categorization had to be reconsidered. The cultural revolution intensified a generational conflict within academe, in which the political authorities tended to side with younger, more recently-educated, and more radical scientists. Most research institutes came to be administered by a duo or trio that included at least one experienced specialist of the old type and at least one politically-reliable young scholar or person from a lower-class background. Many older specialists and academic administrators were demoted, and many arrested on accusations of being "wreckers." They typically returned to academic positions after 1931, when the cultural revolution ended, and rejoined the majority of old colleagues who remained in the profession but were not called bourgeois specialists anymore. No longer allowed to distance themselves openly from the regime's political values, they were considered true Soviet scientists and sincere supporters of Communist Party rule. This categorization required of its holders occasional declarations of loyalty and appropriate behavior.[43]

The younger generation of scientists and students contained a higher proportion of sincere sympathizers. Recruitment and promotion favored certain social groups heretofore underrepresented in science: students with a proletarian or peasant background, women, Jews and other national minorities, members of the Komsomol, and labor activists. Conversely, students from educated backgrounds and formerly privileged classes faced discrimination. The cultural revolution and the continuing expansion of scientific institutions led to a quicker-than-usual generational change. By World War II, the typical researcher possessed both a Soviet education and a Soviet mentality, although AoS members and the top of the academic hierarchy still consisted largely of scientists trained before the revolution. Some of them did join the party, but usually later, in the 1940s, in part due to the patriotic upsurge of the war. A few AoS members who worked abroad and refused to return to the Soviet Union were expelled.[44]

The second significant wave of purges in the late 1930s made Communists the primary victims among the academy members. The Great Terror of 1936–1938 targeted hidden "enemies of the people" guilty of "terrorism" and "espionage," both capital crimes that carried much more severe punishments. The accused did not form any coherent group as defined by some social, class, political, or ideological position, but the main culprits usually happened to be former Soviet and party officials. Although the academic professionals suffered only marginally in comparison with military, diplomatic, and party elites, the general scale of repression during the Great Purges was so

[43] Kojevnikov, "Dialogues" (cit. n. 36). Some expelled scholars were officially restored to AoS membership, such as historian E. V. Tarle in 1938, with Stalin's personal approval. Several other former arrestees were reelected to the academy in the late 1930s–1940s; see Esakov, *Akademiia* (cit. n. 39), 267–8; *Akademicheskoe delo* (cit. n. 41), xlix.

[44] Sheila Fitzpatrick, *Education and Social Mobility in the Soviet Union, 1921–1934* (Cambridge, 1979); V. I. Kuznetsov, "Prevratnosti tvorchestva akademika V. N. Ipat'eva," in *Repressirovannaia Nauka*, ed. M. G. Yaroshevsky (Leningrad, 1991), 367–76.

wide that the government arrested more full members of the academy—ten—in those three years than in any other period of Soviet history.[45] Most were Communists, including permanent secretary N. P. Gorbunov and former Politburo member N. I. Bukharin, who were executed after secret or public trials.

The academy had to react by formally expelling the arrestees by vote at a general assembly. Probably no public debate occurred on such occasions, and in any case the understanding must have been that the arrests had more to do with the victims' political careers than with their activities in the academy. Some academicians tacitly gloated about purges now hitting the Communists themselves. Others privately pleaded on behalf of individual noncommunist victims; in at least one case such a plea succeeded. In 1937, P. L. Kapitza wrote a letter to Stalin about V. A. Fock, then a correspondent member, who was promptly released from jail and two years later elected to full membership.[46]

At the lower levels of the AoS hierarchy, the Great Purges operated unpredictably. Some academy institutes suffered only occasional arrests; others were hit very hard. The Pulkovo Observatory, for example, lost the majority of its leading personnel to charges of "wrecking." Since most of the country's astronomers worked there, the purges brought about a severe setback for the entire discipline.[47] The arbitrary application of declared political and legal categories resulted in seemingly illogical practices and haphazard choices of victims, whose ranks included many staunch Stalinists and supporters of the regime. Despite this arbitrariness, some risk factors can be determined, such as connections with the arrested party leaders. Having foreigners among employees or extensive foreign contacts could also easily trigger accusations of espionage. Even more serious danger came from internal institutional conflicts: power struggles of any kind almost inevitably became politicized in the paranoid atmosphere and intensified to dangerous levels, usually with tragic consequences for both sides of the conflict. Overall, however, the degree of unpredictability and chaotic irrationality distinguishes the purge in the Soviet Union from the one in the United States and, especially, the one in Germany. The AoS did not even consistently follow its policy of formally excluding arrested members, sometimes simply forgetting and at other times preferring to quietly drop their names from the academy's roster.

Although the new pact with the Stalinist government required increased loyalty and subordination on the part of the academy, it also greatly increased the rewards. By the end of the 1930s, the AoS had succeeded in its long-time desire to dominate national science, having taken from other commissariats and gathered under its own administrative auspices most of the country's leading research institutes in fundamental science. In its new ministerial function, the academy expanded institutionally and received an increasing share of government support for scientific research. On the personal level, resources began to be distributed much more hierarchically during the 1930s than they had in the very egalitarian 1920s. Election to the academy effectively meant membership in the top Soviet elite and the acquisition of prestige and material privileges comparable to those received by high officials in the state and the military.

[45] See the list of repressed members of the academy in *Tragicheskie* (cit. n. 40), 236–52.

[46] Alexei Kojevnikov, *Stalin's Great Science: The Times and Adventures of Soviet Physicists* (London, 2004), 119.

[47] Robert McCutcheon, "The 1936–1937 Purge of Soviet Astronomers," *Slavic Review* 50 (1991): 100–17.

The largest one-time increase in prestige and salaries granted to Soviet scientists came in 1946, along with a further strengthening of the hierarchical principle of distribution. Corresponding members of the AoS envied full members as the gap between them demonstratively widened, while university professors and rank-and-file scientists complained of the academicians' excessive privileges. These tensions contributed to postwar conflicts among Soviet scholars.

Unlike the 1930s purges, some of the main political campaigns of the late 1940s specifically targeted the scientific community. However, they typically resulted not in arrests, executions, or expulsion from academe but in administrative promotions and demotions. In general, these campaigns constituted battles between scholars, fought in ideological language. The most notorious such clash, between the followers of T. D. Lysenko and those of "formal" genetics, resulted in the 1948 ban on research on genes and Mendelian inheritance. Having secured Stalin's support for his views, Lysenko managed to silence his scientific opponents, appoint his followers to key administrative jobs, and censor research plans at most institutions in the field. His primary opponents either repented their scientific "mistakes" and changed research directions or were fired.[48]

A similar battle in linguistics ended differently: in 1950 a very traditional and international Indo-European approach won out over the idiosyncratically Soviet school of Nikolai Marr.[49] Another three major discussions—in philosophy, physiology, and political economy—also involved interference from high-level party authority acting behind the scenes, but ended with less pronounced conclusions. In addition to these five major discussions, the years from 1947 to 1952 saw hundreds of other meetings in which rival academic parties tried to settle scores over a variety of scientific, personal, and institutional issues. Even when political authorities did not become involved, the participants' rhetoric frequently used whatever means were available from the current political and ideological vocabulary. Some basic rules of the struggles were also borrowed from the political culture of the time, such as the rituals of disputation, criticism, and self-criticism codified within the Communist concept of "intraparty democracy."[50]

Other postwar campaigns reflected the intensifying cold war attempts to strengthen "Soviet patriotism" among scientists, denounce "obsequiousness before the West," and restrict international exchanges of information deemed "important for national security."[51] The campaign against "cosmopolites" looked primarily at supposedly unpatriotic pronouncements or denials of Soviet (and Russian) priority in science and technology. The campaign against "nepotism" battled the tendency of family members to hold academic appointments within the same laboratory or institute. A high percentage of those demoted in the latter two campaigns were Jewish, reflecting a resurgence of anti-Semitism in the postwar Soviet polity.[52]

[48] David Joravsky, *The Lysenko Affair* (Cambridge, 1970); Valerii Soifer, *Vlast' i nauka, istoriia razgroma genetiki v SSSR* (Tenafly, 1989); and Nikolai Krementsov, *Stalinist Science* (Princeton, 1997).

[49] Vladimir M. Alpatov, *Istoriia odnogo mifa: Marr i marrizm* (Moscow, 1991).

[50] Alexei Kojevnikov, "Games of Stalinist Democracy: Ideological Discussions in Soviet Sciences, 1947–1952," in *Stalinism: New Directions*, ed. Sheila Fitzpatrick (London, 2000), 142–75.

[51] V. D. Esakov and E. S. Levina, "Delo 'KR': Is iztorii gonenii na sovetskiiu intelligentsiiu," *Kentavr* 2 (1994): 54–69; Nikolai Krementsov, "The 'KR Affair': Soviet Science on the Threshold of the Cold War," *History and Philosophy of the Life Sciences* 3 (1995): 3–30.

[52] Gennadi Kostyrchenko, *Out of the Red Shadows: Anti-Semitism in Stalin's Russia* (Amherst, 1995).

With the expansion of Soviet science intensifying dramatically after the war, discriminatory policies affected newcomers more strongly than existing members. Jewish scientists who had already achieved high academic status or membership in the academy continued to occupy influential positions in Soviet science. Elections of new members and the careers of many younger Jewish scientists, however, were adversely affected. While in the early 1930s the "affirmative action" rules for promotion favored Jews as a vulnerable ethnic minority, the postwar policy operated on the premise that Soviet Jews had already achieved a privileged status in comparison with other ethnic groups and had become overrepresented in the majority of cultural institutions. The main agents executing this policy—personnel offices in academic institutes—tried to decrease the proportion of Jews in their respective institutions or at least prevent it from growing any further.[53] Academic directors who wanted to hire or promote Jewish scientists learned to expect resistance from personnel officers, who had the power to grant or deny security clearances. Although results varied greatly from one institute or individual case to another, in general, it became considerably more difficult for Jews to make careers in Soviet science. Stalin's death put an end to the most egregious cases of state anti-Semitism, but the lower-key policy of discrimination against Jews in academe continued into the post-Stalin Soviet Union.[54]

In the course of thirty years of Stalin's rule, the membership rules and demographics of the AoS and the wider academic profession changed dramatically. In comparison with the German case, Soviet purges were applied arbitrarily and selectively, targeting some individuals while sparing many others among the vast majority of the older academic elite who were politically suspect in Communist eyes. Much more systematic was the regime's insistence on changing inclusion policies to help promote Communists and their supporters, as well as representatives of the lower classes, women, and ethnic minorities into scholarly ranks. The rapidly expanding academic community during Stalin's regime changed more through this latter process of inclusion than through exclusion.

THE NATIONAL ACADEMY OF SCIENCES

In the United States, the critical era for defining the parameters of state control over science came during the cold war. World War II had demonstrated with deadly efficiency the power of science in partnership with the state, and as the United States pursued a newly expansive commitment to managing world affairs at the war's end, it was clear that science would play a central role in adjudicating the cold war. Although scientists had attained a new level of status and influence, the resurgence of anticommunism soon threatened to severely circumscribe their prerogatives. The American state's need for scientific expertise, however, combined with the state's own internal divisions, provided scientists with opportunities to navigate their own way through the complex and dynamic political situation of the postwar decade.

As in previous years, Germany and the Soviet Union, both a formal legal apparatus and ad hoc political pressures defined the rules for exclusion and inclusion that

[53] The policy was not openly announced, and many memoirs by Soviet scientists mention their surprise on first becoming aware of the existence of such attitudes, usually during a conversation with an administrator; see, e.g., Andrei Sakharov, *Memoirs* (New York, 1990), 160.

[54] Kostyrchenko, *Out* (cit. n. 52); oral history interview with Moisei I. Kaganov (1998), American Institute of Physics.

governed American science during the early cold war years. In accordance with anti-communist ideology, the American state concentrated on political acceptability, rather than the combination of political and ethnic categories that had concerned Nazi Germany. As in the Soviet Union, however, race and ethnicity often figured in the unwritten rules of determining U.S. political suitability.

Political preconditions for employment and participation in civic life in the United States were hardly new in the 1940s. Radical activists had long endured harassment in the workplace, surveillance, and arbitrary arrest—and for anarchists possible deportation.[55] Although the post–World War I Red scare had faded relatively quickly, some state governments, local police forces, businesses, and private organizations had continued to pursue antiradical measures throughout the 1920s and 1930s.[56] During the late 1930s and early 1940s, the federal government began to pay renewed attention to Communists and other radicals. In 1938, Congress formed the Dies committee (named for its chairman, congressman Martin Dies of Texas), which became a permanent standing committee, the House Committee on Un-American Activities (HUAC) in 1945, though the Dies committee did not in fact share the same name as the HUAC. In addition, new federal laws expanded the scope of loyalty testing. The 1939 Hatch Act barred the government from hiring members of Communist, Nazi, or Fascist organizations, and the 1940 Smith Act prohibited direct advocacy of the overthrow of the government by force or violence or membership in any group that endorsed such action. U.S.-Soviet cooperation during World War II blunted the impact of these two acts, however, and neither was enforced regularly until the cold war.

Before World War II, antiradicalism had little effect on science in the United States. Academic freedom cases involved scientists on occasion, but the political discipline of the state did not generally extend to science as an institution. Once wartime mobilization demonstrated the value of science to national security, however, the military gained broad authority for dealing with scientific personnel it considered politically unreliable.[57] With the rise of the cold war, informal security clearance procedures became formally codified for persons involved in classified research. As anticommunism rebounded from its wartime slump, political tests expanded rapidly from the realm of secret research to virtually all areas of scientific life. In March 1947, the newly created federal loyalty program, which established loyalty standards for all government employees regardless of national security implications, brought some 60,000 scientists and engineers within the range of the state's political gaze. The Federal Bureau of Investigation also stepped up its surveillance of scientists and their political activities, and HUAC targeted scientists it contended might pose a danger to security. By the 1950s, access to grants and fellowships, as well as the right to travel abroad, were subject to political conditions as well. In this decentralized institutional context, diverse agencies and different branches of the government implemented their

[55] See William Preston Jr., *Aliens and Dissenters: Federal Supression of Radicals, 1903–1933* (Cambridge, 1963); Robert K. Murray, *Red Scare: A Study of National Hysteria, 1919–1920* (Minneapolis, 1955).

[56] Christopher Capozzola, "The Only Badge Needed Is Your Patriotic Fervor: Vigilance, Coercion, and the Law in World War I America," *Journal of American History* 88 (2002): 1354–82; M. J. Heale, *American Anticommunism: Combating the Enemy Within, 1830–1970* (Baltimore, 1990), chaps. 5–6.

[57] See Ellen W. Schrecker, *No Ivory Tower: McCarthyism and the Universities* (New York, 1986); Naomi Oreskes and Ronald Rainger, "Science and Security before the Atomic Bomb: The Loyalty Case of Harald U. Sverdrup," *Studies in the History and Philosophy of Modern Physics* 31B (2000): 309–69.

own criteria (frequently informal and arbitrary, particularly in the cases of HUAC and the FBI) for rooting out disloyalty. A certain amount of unpredictability thus characterized the targeting of victims, although the process was far from being as chaotic and brutal as in Stalinist Russia. The loyalty-security system pursued Communists and former Communists, but it also lashed out inconsistently against liberals, middle-of-the-roaders, and persons with limited political involvements who had in a single instance signed a petition, attended a demonstration, or expressed a political view that in any way ran counter to cold war orthodoxy.

Confronted with the politics of anticommunism, the National Academy of Sciences, like the KWG and the AoS, warily negotiated the science-state relationship and the conditions for certification of scientists' political loyalty. An organization of some 400 members, the NAS functioned as both an honorary society and an official advisory body. Although the academy lacked the extensive research empires of the KWG and the AoS, as the most prestigious scientific organization in the United States, it possessed considerable authority and influence, as well as official, government-sanctioned status as defined under its charter. In response to cold war political pressures, the NAS, like its German and Soviet counterparts, struggled to reconcile professional autonomy with its obligations to the state. Unlike the KWG and the AoS, the NAS never directly purged its membership, nor did it encounter direct pressure from the state either to expel or to include particular scientists. Nonetheless, the academy faced similar problems as it mobilized its response to the cold war state's broader effort to regulate the membership of the scientific community at large. Here the NAS generally failed to mount effective campaigns to oppose or modify the new rules of inclusion and exclusion being generated by anticommunist ideology. Moreover, in subtle ways, the academy rewrote its own rules, such that cold war institutional objectives came to demarcate the extent of individual members' inclusion and marginality within the NAS just as the academy determined its place within the cold war order.

The NAS's responses to anticommunism in three instances—its reaction to the 1948 Condon case, its battle over the Atomic Energy Commission (AEC) fellowship program in 1949, and its formation of the Committee on Loyalty in Relation to Government Support of Unclassified Research in the mid-1950s—illustrate the circumscribed role the academy built for itself as an agent of political power during the cold war. In 1948, the public furor over HUAC's attacks on physicist Edward U. Condon, director of the National Bureau of Standards and an NAS member, led the academy to consider a response to such an overt attack on a prominent scientist. The august institution's lack of an imaginative political vision, however, led to the most minimal of measures. Academy members who leaned to the liberal left, such as Harlow Shapley, Leslie C. Dunn, Oswald Veblen, and John P. Peters, had pushed the academy to speak strongly against the attack on Condon and the general threat to liberty posed by the cold war. The membership in general also pushed for a vigorous response. In the end, however, the staid academy leadership settled for only a mild expression of "grave concern" over the Condon case and a decision to form an ineffective Committee on Civil Liberties.[58]

[58] Congress 1948, Committees, Un-American Activities, Condon Case, NAS Statement, Preparation; NAS, Congress 1948, Committees, Un-American Activities, Condon Case, NAS Statement,

In part, the limited measures arose from NAS president A. N. Richards's characteristically strict-constructionist reading of the academy's prerogatives. Although the 1862 Act of Incorporation called upon the NAS to give scientific advice to the government when requested, Richards worried that the academy did not possess the statutory authority to give unsolicited advice. He also feared the repercussions from offending HUAC.[59] Vannevar Bush's machinations, behind the scenes and at the academy's spring 1948 meeting, contributed to the decision to undertake a general study rather than pursue a vigorous defense of Condon. Bush, a confirmed political conservative who had clashed with Condon over atomic policy, advised Richards against throwing the weight and prestige of the academy behind the beleaguered physicist. At the spring meeting, Bush steered the debate toward weakening the statement on the Condon case as much as possible.[60] Subsequently, the Committee on Civil Liberties, consisting of James B. Conant, J. Robert Oppenheimer, and Oliver E. Buckley, produced only a brief, vague statement, which was promptly buried in the files of the White House. Condon himself weathered the political storm without NAS assistance, but years of subsequent harassment led to his departure from government service in 1952.[61]

A year later, the academy became involved in a crisis over the AEC Fellowship Program and a torturous set of negotiations between the academy, the AEC, and Congress that took place both behind the scenes and in the public eye. In mid-1948, when the National Research Council (NRC) and the AEC established the program to support graduate and postdoctoral science education, they courageously decided not to require security investigations for fellows engaged in nonclassified research. They did so knowing that at least one successful applicant had been a member of the Communist Party and that they would likely face severe political consequences should this fact become public.[62] When the media discovered and broke the story the following spring, Congress came down hard. After a series of tense and difficult appearances before congressional committees, AEC chairman David E. Lilienthal, NAS president Richards, and NRC chairman Detlev Bronk agreed to require a loyalty oath and non-

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Consideration by NAS Membership; and Transcript of NAS business session, 27 April 1948, Organization 1948, NAS Meetings, Annual, Business Sessions, Transcript. All in National Academy of Sciences (hereafter cited as NAS) Archives, Washington, D.C. A more complete account of the academy's reaction to the Condon case appears in Jessica Wang, *American Science in an Age of Anxiety: Scientists, Anticommunism, and the Cold War* (Chapel Hill, N.C., 1999), 183–96.

[59] A. N. Richards to members of the NAS Council, 7 April 1948, NAS, Congress, 1948, Committees, Un-American Activities, Condon Case, NAS Statement, Consideration by NAS Membership, NAS Archives.

[60] See Wang, *American Science* (cit. n. 58), 184–92.

[61] Jessica Wang, "Science, Security, and the Cold War: The Case of E. U. Condon," *Isis* 83 (1992): 260–2.

[62] See Draft [of minutes of May 1 joint meeting between the AEC Predoctoral and Postdoctoral Boards in the Physical Sciences], 3 May 1948, Fellowships 1948: AEC-NRC Fellowship Boards: Postdoctoral: General, NAS Archives; "From notes of meeting of 5/5/48, AEC Postdoctoral Fellowship Board in Medical Sciences," Fellowships 1948: AEC-NRC Fellowship Boards: Postdoctoral: Medical Sciences, NAS Archives; and Detlev W. Bronk to Carroll L. Wilson, 27 July 1948, Box 28, Folder "AEC Fellowship General," RG 128, Records of the Joint Committee on Atomic Energy, General Correspondence, National Archives, College Park, Md.; AEC 4/6, "Extension of Security Clearance to Fellowships," 16 July 1948, Box 1220, Folder "Fellowship Program," RG 326, Records of the Atomic Energy Commission, Secretariat Files, National Archives; and David E. Lilienthal, *The Journals of David E. Lilienthal*, vol. 2, *The Atomic Energy Years, 1945–1950* (New York, 1964), 189; discussed in Wang, *American* (cit. n. 58), ch. 7.

communist affidavit for all future AEC fellows.[63] Congress went further, demanding FBI investigations for all applicants as well. The NAS failed to act, and mandatory FBI investigations became law.

Only then did the academy recoil from federal strictures. The NAS leadership still advocated a minimal response and suggested running the fellowship program under protest, but time, legal advice (which defused concerns about whether the NAS charter allowed the academy to refuse a government request), and pressure from members ultimately led the academy to take a stronger position and withdraw from long-term administration of the fellowships.[64] In particular, the strenuous objections of so many academicians seemed to embolden Richards to take a firm stand. The decision, however, did not slow the spread of security requirements into science education and unclassified research. Instead, several regional, university-based consortia agreed to take over the fellowship program under the conditions specified by Congress.

In 1955, the NAS again stepped into the fray, when the Eisenhower administration requested that the academy investigate the effects of loyalty tests on unclassified research, and the NAS formed the Committee on Loyalty in Relation to Government Support of Unclassified Research. Unlike the earlier Committee on Civil Liberties, the new group took its mission seriously, working for months to formulate a major statement that insisted upon the need to end loyalty tests for scientists.[65] Yet the final version of the report, released in March 1956, proved considerably blander than the original drafts. For example, in an August 1955 draft, the committee had observed sternly that "a preoccupation with the idea of security has penetrated into areas where it has no relevance" and warned of dangers that went far beyond scientific life. The "insidious identification" of conformity with loyalty, the draft stated, "is an evil thing that must be combatted by every sincere and thoughtful citizen."[66] The NAS deleted these and other strongly worded statements from its public report. Gone were the sharply critical tone and the emphasis on the menace of conformist pressures. Instead, the final version relied upon a bloodless narrative about the value of basic research and highlighted the self-regulating character of science as sufficient protection for the public interest.[67]

The committee's report did make a small contribution toward the Eisenhower administration's 1956 decision to end the practice of loyalty testing for unclassified research. The academy's role was hardly decisive, however. By the mid-1950s,

[63] Joint Committee on Atomic Energy, *Atomic Energy Commission Fellowship Program*, 81st Cong., 1st sess., 16 and 17 May, 1949; and Senate Subcommittee of the Committee on Appropriations, *Independent Offices Appropriation Bill for 1950*, 81st Cong., 1st sess., 19 and 20 May, 1949.

[64] NAS: Fellowships 1949: AEC-NRC Fellowship Boards: Security Clearance: NAS: Council Statements: First: General; Fellowships 1949: AEC-NRC Fellowship Boards: Security Clearance: NAS: Council Statements: First: Comments by NAS Members; and Minutes of the Business Session, 24 and 26 Oct. 1949, NAS: 1949 Autumn Meeting: Minutes of the Business Meeting. All in the NAS Archives.

[65] Full records of the committee's work are located in the NAS Archives, under the following file headings: NAS, Organization 1955, NAS, Comm on Loyalty in Relation to Govt Support of Unclassified Research; and NAS, Organization 1956, NAS, Comm on Loyalty in Relation to Govt Support of Unclassified Research.

[66] Committee on Loyalty in Relation to Government Support of Unclassified Research, Draft, Final Report, Aug. 1955, in Organization, NAS 1956, Comm on Loyalty in Relation to Govt Support of Unclassified Research, Report, NAS Archives.

[67] National Academy of Sciences, "Report of the Committee on Loyalty in Relation to Government Support of Unclassified Research," 13 March 1956, in NAS, Organization 1956, NAS, Comm on Loyalty in Relation to Govt Support of Unclassified Research, General, NAS Archives.

McCarthyism was on the decline, the Supreme Court was dismantling the more draconian aspects of the loyalty-security system, and the United States was seeking a rapprochement with the Soviet Union. In asking the NAS to weigh in on loyalty tests, the Eisenhower administration sought legitimation for a course of action it already hoped to take—the initiative lay with the government, not with the academy.

These three incidents indicate the extent to which the NAS, despite its status as the most prestigious scientific body in the United States, failed to influence substantially the rules of inclusion and exclusion that defined science-state relations in the post–World War II decade. Part of the explanation for this failure lies in the structure of the academy and its own internal regulation of its membership hierarchy. The NAS never came close to the kinds of purges that rocked the KWG and the AoS, in part because the U.S. organization never had official responsibilities over research institutions and large numbers of rank-and-file scientists, the main arena affected by political criteria. Nevertheless, cold war political pressures did affect patterns of inclusion and exclusion within the NAS in subtle, but significant, ways short of outright expulsion. The liberal-left scientists who most wanted to offer an oppositional voice did not hold leadership positions within the academy. Some, such as Shapley and Veblen, had served on the NAS Council in the 1930s, but the academy had emerged from World War II with the sense that changing times required a politically savvy and connected leadership. As Frank B. Jewett informed Karl T. Compton in April 1947, "The President of the academy . . . must be more than merely a distinguished scientist. He must be that and in addition a man who is widely known and respected, who knows Washington, and who has had administrative experience."[68] Alluding to the new political order science faced in the postwar world, John T. Tate emphasized that the academy needed to be represented by "men who have had experience and responsibility in connection with the management of large enterprises, and who, therefore, have an appreciation of the nature of the problems which the academy and Research Council will face."[69] Whereas the KWG had struggled for the preservation of an old order, namely its pre-1933 pact with the state, the NAS sought actively to build a new cold war partnership with the national security state. To do so, the postwar academy chose for its leaders scientists who could forge ties with government, not critics of the cold war. The NAS records do not indicate instances of direct discrimination against progressive-left scientists, and they were not frozen out entirely from the academy's business, but selective pressures did keep them from positions of influence.[70] With the excep-

[68] Frank B. Jewett to Karl T. Compton, 15 April 1947, Organization 1947, NAS, Com on Nominations, NAS Archives.

[69] John T. Tate to Frank B. Jewett, 20 Dec. 1946, Organization 1946, NAS, Com on Nominations, NAS Archives. See also Isaiah Bowman to Jewett, 23 Dec. 1946, Organization 1946, NAS, Com on Nominations, NAS Archives.

[70] In late 1946, Edwin B. Wilson did recommend E. U. Condon for the NAS Nominating Committee, because of his "wide academic, industrial and now government contacts," as did John T. Tate, but Condon was not appointed to the committee. Wilson to Frank B. Jewett, n.d. [Dec. 1946]; and Tate to Jewett, 20 Dec. 1946. Both in Organization 1946, NAS, Com on Nominations, NAS Archives. Harlow Shapley was the academy representative to the board of Science Service, while Condon served on the Local Committee on Arrangements in 1949 and chaired the Auditing Committee in 1951; see Council of the Academy Meeting Agenda, 25 April 1948, Organization 1948, NAS, Council of the Academy; Meeting of the Council of the Academy, 27 April 1952, Organization 1952, NAS, Council of the Academy, Meetings; Meeting of the Council of the Academy, Agenda, 24 April 1949, Organization 1949, NAS, Council of the Academy, and National Academy of Sciences, Council Meeting, Agenda, 4 Nov. 1951, respectively, NAS Archives.

tion of Linus Pauling, who was a member of the Nominating Committee in 1947, the liberal left went unrepresented on that committee, on the NAS Council, and in the major offices of the academy throughout the postwar decade.

The scientists favored for these positions were more conservative politically, as well as heavily integrated into a network of high-level government committees. Nearly every significant government or military committee dealing with science fielded a seat or two held by a distinguished academy member; indeed, after World War II, membership on such committees partly defined inclusion in the scientific elite. In turn, the leaders of the academy—men such as Jewett, Bronk, Richards, Bush, and Isaiah Bowman—worked to make the NAS an active player in science-government relations by seeking out scientists with the strongest ties to the state for the academy hierarchy. After Frank B. Jewett stepped down from the presidency in 1947, for example, the academy hoped to pick a new leader directly from the government advisory elite. Harvard president James B. Conant and MIT president Karl T. Compton, both of whom had been in the thick of wartime science advising, emerged as the top candidates. Their political eminence promised to continue well into the postwar years; indeed they were so occupied with their postwar duties that they each declined the NAS presidency, leaving the dutiful Richards as the caretaker for the time being.[71]

In general, however, the academy successfully engineered a postwar leadership of scientists steeped in the cold war political establishment. In 1950, Richards was succeeded by the more dynamic Bronk, long-time NRC chairman and a past member of the Naval Research Advisory Committee. Jerome C. Hunsaker, chairman of the National Advisory Committee for Aeronautics, served as the academy's treasurer for most of the 1940s, and he was on the Nominating Committee in the early 1950s. I. I. Rabi, associate director of the MIT Radiation Laboratory during the war and a member of the AEC's prestigious General Advisory Committee afterward, sat for a term on the NAS Council in the late 1940s. One of Rabi's fellow council members was J. Robert Oppenheimer, whose postwar political obligations consisted of a seemingly endless array of high-level committee assignments, including chairmanship of the General Advisory Committee. Although Oppenheimer's politics had run considerably far to the left in the 1930s, during the war he had traded his leftism for political respectability and power. Oliver E. Buckley, president, and subsequently chairman of the board, at Bell Laboratories, held a seat on the council in the early 1950s. Bell had, under Buckley's guidance, become heavily involved in the development of antiaircraft guided-missile systems for the U.S. Army and atomic weapons manufacturing for the AEC. Buckley became chair of President Truman's Science Advisory Committee in 1951. Vannevar Bush, who had headed the Office of Scientific Research and Development during the war and served as first chairman of the postwar Research and Development Board, held no official NAS position beyond serving on the Nominating Committee, but he exercised considerable influence through personal relationships.

One would not expect an organization directed by such men to confront political authority openly, and indeed, under their influence the academy did not. The consistent desire of the membership at large to respond more forcefully than the leadership

[71] See Karl T. Compton to Frank B. Jewett, 17 April 1947; Roger Adams to Members of the Nominating Committee, 31 March 1947, both in Organization 1947, NAS, Com on Nominations, NAS Archives.

to the threat of anticommunism underscores the politically weighted character of the academy's elite and its refusal to countenance political risk. Although a significant group of the academy's leaders had serious qualms about the direction of cold war politics—so much so that Bush and Conant were gently eased out of the federal science advisory apparatus by the early 1950s, and Oppenheimer expelled through the withdrawal of his AEC security clearance in 1954—they also believed in the efficacy of their political connections. To them, insider status and political influence meant maintaining an attitude of refinement and abstaining from open confrontations, especially given the academy's symbolic role as the dignified representative of the public face of science.

Other circumstances, such as the academy's tendency toward elite modes of action, also undermined the NAS's capacity to address anticommunism's effects on science. The AEC and NRC's initial decision not to require security investigations for nonsecret fellows took place behind closed doors. The strategy backfired once news of a fellowship award to a Communist Party member hit the media, and the academy never formulated an effective means of taking its position before the public. The decentralized nature of the American scientific infrastructure further diluted the academy's impact. When the NRC finally withdrew from the AEC fellowship program, other parties simply stepped in to take its place. The academy's formal relationship to the government also constrained its responses. The NAS's "quasi-governmental status," as defined by the charter, prevented it from acting independently, at least when facing political risk. Richards in particular relied upon the idea that the charter allowed the NAS to respond only when requested to do so by the government, not to act as an autonomous organization. Although Bronk and Jewett laid out a more vigorous agenda, their version of activism meant placing the academy at the service of the state, and a strongly oppositional stance on anticommunism would have compromised this mission.

When it came to the politics of anticommunism, the academy merely reacted to circumstances. The weakness of its response, however, did not signify a failure in its ability to bargain between knowledge and power. Rather, the leaders of the NAS, in effect, traded quietude on the Red scare for access to the corridors of power, thereby endorsing a different pact with the state, one that tied science to the cold war.

THE KAISER WILHELM/MAX PLANCK SOCIETY IN POSTWAR WEST GERMANY

As with the National Socialist–ordered dismissals, the Stalinist purges, and the waves of American anticommunist sentiment, policies of denazification mandated by the Allies in postwar Germany were not directed toward science as such, but the relationship between knowledge and power did require special attention. Following an initial period of suspicion about the potential military applications of certain kinds of research, Allied policy makers soon became positively disposed toward German scientific institutions. The advent of the cold war was crucial to a change in attitude toward the German scientists, as it had been toward American scientists at the NAS; the effects, though, were quite different. In Germany, anxiety about the risks posed by latent Nazism initially predominated, but a growing desire for stability and integration within the Western (or Eastern) bloc contributed, in turn, to a relative diminution of interest in stirring up memories of the Nazi past. Insofar as postwar scientists could point to the integrity of social structures in their community under the Third Reich, participation in that community could appear as, ipso facto, a kind of resistance to

negative ideologies. In the western zones, comparisons with the Soviet case entered strongly into this discourse. Thus, while the cold war in the United States exacerbated concerns about security and loyalty in the scientific community, in Germany the scientific community arguably proved quite successful in presenting itself as part of a new political culture.[72]

These shifting attitudes underlay the implementation of denazification. Every person who held or desired a position of responsibility had to fill out a detailed questionnaire concerning membership in the National Socialist Party and affiliated organizations, as well as career path, professional activities, annual income, real estate holdings, pre-1933 voting patterns, and other matters. On the basis of this information, a military government officer made a provisional decision about whether the person could remain in his or her post; German panels then determined an appropriate categorization: major criminal, implicated, less implicated, fellow traveler, or not implicated.[73] Alongside the questionnaire, the testimonial letter, colloquially called the *Persilschein*, was the quintessential documentary embodiment of denazification. (Persil was—and still is—a popular brand of laundry detergent; hence the term translates roughly as "whitewashing certificate.") Although denazification theoretically followed clearly defined legal procedures, as with the 1933 civil service law, in practice implementation was flexible—or, less charitably, inconsistent—thus bearing a similarity to the U.S. and Soviet cases. The skilled deployment of apologetics in *Persilscheine* and elsewhere helped create what has been called the "fellow-traveler factory": a reduction of various kinds and degrees of complicity to the least common denominator.[74]

The exact number of dismissals from the KWG/MPG is difficult to establish. Summaries from February 1947 for institutes in Göttingen, the nucleus of the nascent Max Planck Society in the British zone, indicate that out of 108 personnel, 8 had been dismissed, or 7.4 percent.[75] An evaluation of 85 dossiers of KWG/MPG personnel in the three western zones revealed that 24 (or 28 percent) involved either a provisional dis-

[72] We focus here on West Germany, but analogous remarks apply to East Germany; see, e.g., Kristie Macrakis and Dieter Hoffmann, eds., *Science under Socialism: East Germany in Comparative Perspective* (Cambridge, 1999). For an overview of science policy in the western zones and early Federal Republic, see David Cassidy, "Controlling German Science," *Hist. Stud. Phys. Biol. Sci.* 24 (1994): 197–235; and 26 (1996): 197–239.

[73] For the sake of simplicity, the discussion above glosses over variations in procedures and policies among the occupation zones and over time. Surveys of denazification include Ullrich Schneider, "Zur Entnazifizierung der Hochschullehrer in Niedersachsen 1945–1949," *Niedersächsisches Jahrbuch für Landesgeschichte* 61 (1989): 325–46; Ian Turner, "Denazification in the British Zone," in *Reconstruction in Postwar Germany: British Occupation Policy and the Western Zone, 1945–55*, ed. Ian Turner (Oxford, 1989), 239–67; Clemens Vollnhals, ed., *Entnazifizierung: Politische Säuberung und Rehabilitierung in den vier Besatzungszonen 1945–1949* (Munich, 1991); Mitchell G. Ash, "Verordnete Umbrüche—Konstruierte Kontinuitäten: Zur Entnazifizierung von Wissenschaftlern und Wissenschaften nach 1945," *Zeitschrift für Geschichtswissenschaft* 43 (1995): 903–23. Revealing case studies include Klaus Hentschel and Gerhard Rammer, "Physicists at the University of Göttingen, 1945–1955," *Physics in Perspective* 3 (2001): 189–209; Carola Sachse, "Persilscheinkultur: Zum Umgang mit der NS-Vergangenheit in der Kaiser-Wilhelm/Max-Planck-Gesellschaft," in *Akademische Vergangenheitspolitik: Beiträge zur Wissenschaftskultur der Nachkriegskeit*, ed. Bernd Weisbrod (Göttingen, 2002), 217–46; Michael Schüring, "Ein 'unerfreulicher Vorgang': Das Max-Planck-Institut für Züchtungsforschung in Voldagsen und die gescheiterte Rückkehr von Max Ufer," in Heim, *Autarkie* (cit. n. 34), 280–99. For further discussion on denazification of the KWG/MPG, see Beyler, *"Reine" Wissenschaft* (cit. n. 6), 16–44.

[74] Lutz Niethammer, *Die Mitläuferfabrik: Die Entnazifizierung am Beispiel Bayerns* (Berlin, 1982).

[75] "Betr.: Entnazifizierung," 27–28 Feb. 1947, II Abt., Rep. 1A, Nr. I F 10 (provisional number), binder 1, MPGA.

missal by the military government or dismissal due to adverse categorization by the German panels. However, due to the nature of the archival evidence, this sample probably contains an overrepresentation of difficult cases (i.e., those that received special attention by administrators); moreover, in all but 9 cases, these dismissals were reversed on appeal.[76] By comparison, data for British-zone university faculty shows average initial dismissal rates of around 26 percent, though rates varied greatly among universities.[77]

Few absolute rules determined denazification decisions, but some backgrounds did tip the scales toward dismissal. National Socialist Party membership prior to 1933 was perhaps most damaging. SS membership also proved problematic, as did a position of leadership in the National Socialist Party apparatus. Major difficulties could arise as well from specific incidents, ranging from those symbolically charged—such as claims that the subject regularly used the "Heil Hitler" greeting—to those of a more serious nature—such as assertions of Gestapo collaboration.[78] Even in difficult cases, however, one could often argue successfully for extenuating circumstances.

In exculpatory arguments, the continuity of science as an institution emerged as a dominant theme. Repeatedly, KWG/MPG affiliates declared themselves devoted entirely to science per se, hence without political interests, and driven primarily by professional motives during the National Socialist era. Given the fluid legal status of the KWG/MPG, this certainly was not a deliberate, institutionally directed strategy.[79] Nevertheless, a pervasive consensus identified a sense of affiliation with the scientific community as self-justification. Even in the face of grave moral lapses, a climate of professional solidarity largely prevailed.[80]

In this context, maintenance of traditional patterns of inclusion and exclusion during the Third Reich itself counted as a kind of resistance. For example, in the case of Ernst Telschow, who had replaced Friedrich Glum as general director in 1937, Adolf Butenandt, Carl Neuberg's successor at the Institute for Biochemistry, wrote that Telschow "stood up for leadership in the various institutes and their scientific research work that was free from party-political influences. Thus he insisted on exclusively scientific grounds in the appointment of institute directors."[81] A variation on this theme held that party membership offered a kind of personal sacrifice out of institutional loyalty. Thus Ludwig Prandtl, director of the Institute for Fluid Dynamics, asserted that Telschow "entered the [National Socialist] Party in fall 1933 only at the wish of his office in order to make easier the unavoidable official communication . . . with the Party."[82]

Although this somewhat evasive response to denazification may seem at odds with

[76] Discussed further in Beyler, *"Reine" Wissenschaft* (cit. n. 6).

[77] See Schneider, "Zur Entnazifizierung"; Ash, "Verordnete Umbrüche," 908–10. (Both cit. n. 73.)

[78] Taken from Nds 171 Hildesheim, Nr. 67024 and Nr. 637, Niedersächsisches Hauptstaatsarchiv, Aussenstelle Pattensen (hereafter cited as NHsta-P).

[79] On the emergence of the MPG as successor to the KWG, see Manfred Heinemann, "Wiederaufbau der Kaiser-Wilhelm-Gesellschaft und die Neugründungen der Max-Planck-Gesellschaft (1945–1949), in Vierhaus and vom Brocke, *Forschung* (cit. n. 9), 407–70; and Otto Gerhard Oexle, "Wie in Göttingen die Max-Planck-Gesellschaft entstand," *Max-Planck-Gesellschaft Jahrbuch*, 1994, 43–60.

[80] This is shown perhaps most clearly in the case of Othmar von Verschuer of the KWI for Anthropology as analyzed in, e.g., Sachse, "Persilscheinkultur" (cit. n. 73); see also Baader et al., "Pathways" (cit. n. 18).

[81] Adolf Butenandt, testimonial, 13 Aug. 1946, in Nds 171 Hildesheim, Nr. 12773, NHsta-P; cf. Robert N. Proctor, *Adolf Butenandt (1903–1995): Nobelpreisträger, Nationalsozialist und MPG-Präsident*, Ergebnisse, no. 2 (Berlin, 2000), 10–6.

[82] Ludwig Prandtl, testimonial, 7 June 1946, in Nds 171 Hildesheim, Nr. 12773, NHsta-P.

our previous examples, in which the institutions of science acted (albeit selectively) as the mediators of state mandates, in fact this approach harmonized with the emerging West German political climate. Except in a few difficult cases, details of conduct during the Third Reich mattered less than proven loyalty to a profession of critical importance to a nation undergoing reconstruction. Both German and Allied authorities valued these considerations, particularly as the cold war picked up momentum. Denazification did, indeed, end the careers of some scientists and proved a major irritant to many others. Certain cases resulted in unduly harsh sanctions; sometimes, however, the law was implemented in an unfairly lax fashion. Such inconsistencies led to growing cynicism about denazification, and by 1950 the process had largely run its course. The self-presentation of the KWG/MPG as an institution that had preserved, as best it could, its integrity as a site of "pure" or "free" science under Nazism corresponded well to this cultural-political climate.

CONCLUSION

There is, of course, no novelty in the use of various criteria—political, ethnic, religious, class, racial, gender—to regulate the membership of the scientific community. Ethnic, racial, and political prejudices have been widespread in German, Russian, and American academe at most times, not only in the extraordinary circumstances described above. Ultimately, the professional autonomy of an academic community exists only within the larger social context and polity that underwrites it. Not just the desires of scientists, but also their ability to appeal to other constituencies, sanction their community's right to regulate its own borders. The result is usually a kind of pact between knowledge and power, which may be relatively explicit or relatively implicit, and which may be open to renegotiation depending on variable assumptions about the separation or overlap of the "scientific" and "political" spheres (compare, e.g., Germany and the Soviet Union). The definition and functioning of this pact are not as clearly visible in "normal" situations, when they are often taken for granted, as they are in situations in which the definitions of the scientific and the political shift dramatically.

Such was the case in all three countries during the events described in this essay. The magnitude of the changes differed—from shifts in foreign policy to revolutions that overturned the basic foundations of the society—but in each case the changes in the larger polity disturbed the terms of the existing pact between knowledge and power and pressured the scientific community to adapt to new conditions established by state policies. The KWG, the AoS, and the NAS, in their functions as representatives of their respective national communities of scientists, responded to state actions by serving as mediators of this pact in their respective countries, and hence also acutely experienced their respective states' efforts to transform it.

Thus National Socialist authorities, moving toward their goal of a racially "pure" and politically "coordinated" Germany, legally required the dismissal of racially and politically undesirable individuals. While generally complying with these requirements, the KWG sought to defend, as much as possible, the freedom of action of key researchers and to bracket off challenges to internal authority structures. Represented as a defense of the "freedom of science," this strategy became symbolically significant in the postwar process of "denazification," in an era in which "freedom" was suddenly at a premium in political discourse.

In contrast to the all-too-clear National Socialist mandates, the Soviet AoS confronted several drastic and often mutually contradictory oscillations in the regime's politics and ideology, which often resulted in dismissals or even severer punishments. The more influential trend, however, was the introduction of new categories of individuals into the enlarged scientific elite. The compromises made by the Soviet academy reflected, in part, a tradition of cooperation between experts and the state. Despite the relatively large demographic changes in the academy over several decades, and despite the harm done to many individuals, there remained a set of core values around research in service of the state. In an intriguing parallel, the leadership of the NAS in postwar America pursued increased cooperation between scientific institutions and the "national security state," presumably to the advantage of each. But this very eagerness for cooperation induced a relative quiescence from the NAS leaders—who in any event were not immediately responsible for personnel decisions—when the academy's governmental partners required new tests of loyalty.

Although their leaders would often describe their actions as "resistance," none of the academic societies considered withdrawing from the mutually beneficial relationship with power, some brave protests of individual members notwithstanding. As institutions, they sought to adapt to the required changes while manipulating the process to their advantage. A professional community cannot easily violate basic rules of acceptability set by its broader constituencies, even when these protocols shift dramatically. Instead, self-preservation meant reassessing autonomy within the strictures of a changing social and political order; despite purges, the possibility of a pact between scientific institutions and the state remained. Thus these institutions played a dual role as both advocates of the scientific community to the government and the immediately effective agents of new dismissal policies. Their roles precariously combined representing the ideals of professional autonomy and acting as a "neutral" bureaucracy to implement constituents' interests; the former function was, however, the obverse of the latter, and not separable from it. Few members of the scientific communities we have considered welcomed the purges, but a comparative study requires us to see science as more than victim or resister. Even under the most strenuous circumstances, science as an institution maintained its viability as both an agent of the state and an active architect of its own fortune.