Paradise Postponed: Dreams and Realities in Leipzig's Coalfields before 1989[1]

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In our Anthropocene Age, humans have become "geological" agents who can never truly master the outcomes of the forces they have unleashed.[2] This intervention into the complexities of planetary geology is perhaps most starkly apparent when one considers the massive open-cast pit mines that have proliferated across the Earth's surface since 1945. From the 1920s onward, German landscape planners dreamed of transforming the sprawling brown coal (lignite) pit mines south of Leipzig into a recreational lake district. Visitors today are typically astonished when they discover that this charming recreational district was once a "moonscape" of dusty pits populated by colossal digging machines, hemmed by sulfur-dioxide-belching smokestacks, and host to sickly vegetation and villagers. Brochures and guides about today's attractive "Neuseenland" of lakes, beaches, forests, hiking and biking trails, and new ecosystems typically ignore the formulation of

1 Funding for research that informed this article came from American University, the DAAD, the Leibniz "Wert der Vergangenheit" research association, and the Leibniz-Institut für Regionalentwicklung und Strukturplanung (IRS) in Erkner/Berlin. For their helpful analytical comments, I wish to thank Andreas Berkner, Eagle Glassheim, Andreas Greiner, Jan Hansen, Paul Lerner, Rebecca Mitchell, and participants at a 2023 workshop in Erkner's IRS and the "Concrete Dreams" conference in Los Angeles.

2 Much literature has drawn attention to the unintended consequences humans have provoked through the unequalled modern scope of their remaking of the natural world. See for instance Dipesh Chakrabarty, "The Climate of History: Four Theses," *Critical Inquiry* 35 (2009): 197–222, here 206–207.

Bulletin of the German Historical Institute 75 (Spring 2025): 97-130

Figure 1. Zwenkau open-cast brown coal pit, January 1989. Photographer: Thomas Thiel. Reproduced by permission.

development proposals during communism. Both before and after communism, campaigns to "recultivate" soil and water after coal extraction have been fraught and filled with surprises.

Through its investigation of how recultivation of former mining areas was both imagined and practiced before 1989, this article informs present opportunities and challenges as Germany seeks to leave behind fossil fuels. Contemporary planners in the expansive brown coal region west of Cologne seldom acknowledge approaches to coalfield recultivation east of the Iron Curtain. Even in present-day Leipzig, the preceding history has been generally forgotten. No less a figure than Andreas Berkner, the longstanding head of the regional planning authority, claimed that the most recent proposal for recultivating the coalfields dated to 1973 and was already "hopelessly outdated" at the time, creating a "conceptual vacuum" for him and his fellow planners to fill.[3]

3 Leipzig-Westsachsen Regionaler Planungsverband, *30 Jahre Regionalplanung für Leipzig-Westsachsen zwischen Rückblick, Positionsbestimmung und neuen Herausforderungen* (Leipzig, 2022), 117. Authorities around the world have sought to recultivate anthropogenically ruined landscapes. For the transformation of New York's largest trash dump into a parkland and methane source, see Karrie Jacobs, "How the World's Largest Landfill became New York's biggest new park," *Curbed* (September 13, 2016), https://ny.curbed.com/2016/9/13/12891320/freshkills-park-nyc-staten-island-engineering-design, accessed October 27, 2024.

Contrary to such assertions, Cold War-era planning for mining areas was hardly fruitless. The 1973 regional plan was part of a long chain of proposals that influenced postcommunist planners, some of whom (like Berkner) had started out in the 1980s. The 1960s planning and 1970s realization of the Kulkwitzer lake next to Leipzig's enormous Grünau high-rise district likewise disproves Berkner's strange postulation that "for decades, serious ambitions for water tourism in Leipzig's waterways remained without prospect."[4] Many of the problems inherited from coal mining that continue to damage the ecosystem were anticipated, experienced, and even gradually mitigated under communism. In effect, one cannot understand the success of postcommunist landscape planning in devastated pit mining regions without considering the planning process, landscaping experiments, and irreversible ecological damage that had transpired under the communist coal economy.

This article presents a chronological outline for how recultivation and landscape planning emerged through the 1960s and 1970s into a dynamic force that realized substantial, if proportionally insufficient, recultivation outcomes. It is informed by the evolving interplay between, on the one side, industry-oriented mining leaders and Berlin officials, and on the other side Leipzig district (*Bezirk*) and subsidiary county (*Kreis*) officials, inspectors, planners, scholarly agronomists, and local actors like farming collectives. Keeping in mind rapacious wartime autarchic industrial and mining exploitation, followed by postwar Soviet reparations extraction, — conditions that hindered the development of initial recultivation plans — I begin with the lacking recultivation of mining areas before 1956. Already by 1950, the greater Leipzig region was producing 100,850,000 tons of brown coal per year — roughly equivalent to the combined output in the East German Lusatian and the West German Rhenish brown coal regions. Although the other two regions steadily increased their production, the Leipzig region sustained and even slightly

4 Leipzig-Westsachsen Regionaler Planungsverband, *30 Jahre Regionalplanung*, 191.

increased this level before its production collapsed to less than 20 percent of its peak production after 1989.[5] Notwithstanding a 1951 regulation in the GDR lawbook (Gesetzblatt) mandating that coal collectives that operated the mines restore exhausted mining areas for use in agriculture and forestry, central officials only acknowledged the unsustainability of the sand-swept wasteland amid the East Bloc thaw that accompanied destalinization. By then, four hundred hectares of exhausted mining land stretched as an acidic desert without topsoil; only eleven hectares had been recovered for future use.[6] From 1956 onward, commissions and inspections repeatedly produced recommendations, until they gained some traction and a response from higher authorities. Mining officials – taking their cues from the Coal and Energy Ministry's production imperatives – tried to ignore recultivation advice (in contravention of national laws) so they could maximize resources for mining and industrial output. But they faced new planning and inspection bureaucracies whose explicit purpose was to compel them to do so anyway.

This creeping influence from district planners and experts ensured steady long-term improvements in recultivation planning, informed by soil and landscaping experiments whose outcomes were published in scholarly journals. Such experts were informed by ambitious and evolving *Bezirk*-level plans for a future lake district that was to one day replace the moonscape.

Notwithstanding East German planners' and experts' genuine successes in arresting the almost uncontrolled spread of sandy wastelands which had prevailed in the 1950s, by the 1980s recultivation efforts could not keep up with the exponential increase in pit mining and industrial output from outdated and decaying industrial facilities. By the mid- to late-1980s, it seemed clear that the establishment of a beautiful lake district planned since the 1950s would be postponed well into the future. This outcome fueled ever more radical unrest from engaged citizens who feared that, in place of a

5 Statistik der Kohlenwirtschaft, e.V., "Braunkohlenförderung," https://kohlenstatistik.de/, accessed January 6, 2024.

6 "Stenographisches Protokoll der Sitzung der Abgeordnetengruppe der Volkskammer des Bezirkes Leipzig am 12.12.1956 im Kulturhaus des VEB Kombinat ‚Otto Grotewohl' in Böhlen," SächStAL 20237 Bezirkstag/Rat des Bezirkes Leipzig, Nr. 00248, 25–78, here 39–40.

flourishing landscape with extensive recreation opportunities, they and future generations would reap a devastated moonscape that compromised their health.

After 1989, a triumphalist narrative prevailed that — only emphasizing late-communist *lapses* in recultivation — overlooked the recultivation achievements in planning and execution that East German officials had in fact attained over the course of forty years. By restoring the role of recultivation experts and political actors before 1989, this article better explains how and why the "Neuseenland" became possible in the new millennium. It also positions East German recultivation planning as no less dynamic than in West Germany, where pit mining also permanently altered the environment with enduring anthropogenic consequences.[7]

7 This East-West comparison will feature more concretely in my forthcoming book *Cold War Coal Pits*.

Scholarship on coalfield recultivation is dominated both by generalists whose surveys cannot delve into local realities and by contemporary planners vested in valorizing their own approach; neither approach considers key personalities who were seldom famous. Joachim Radkau's influential survey *Age of Ecology* argues: "For cost reasons and especially after 1973, the central plans for the mining sector increasingly neglected recultivation, just as greater care for the 'topsoil' was becoming more and more necessary. In this respect, too, lethargy prevailed in the latter days of the GDR: the environment ministry seems to have done next to nothing, and Leipzigers were hard put to halt lignite mining at the gates of their city." While Radkau rightly takes note of the 1973 oil crisis as a factor in changing national economic priorities, he wrongly presumes that SED plans (which generally came from district offices, rather than Berlin) were not anticipating recultivation, and he only gives agency to "the environment ministry": a centralized state actor that appears hapless. In fact, Hans Reichelt's Environmental Ministry was both *well-informed* and *actively complicit* in the state's economic production goals, which were incompatible with the ecological responsibility demanded by diverse *Bezirk* and *Kreis*-level officials and actors. In like manner, "Leipzigers" appear as a uniform and helpless mass of people, a cliché that erases repeated efforts by local officials, scholars, and engaged citizens to improve the recultivation situation. Radkau continues: "In a way, nature shifted for itself: huge pitholes gradually filled up with water, coming to resemble natural lakes and even offering new leisure opportunities."[8] This also fails to correspond with reality. The Kulkwitzer See was an expensive SED-state effort deliberately created to give Leipzig a recreational lake. Most of the other pit holes were still being pumped due to mining, or they were filled in with overburden—acidic sand that had covered nearby coal deposits—to make way for forestry or farming (by the late 1960s). Where groundwater did collect in abandoned mines, it was usually too acidic to be safe for recreation or any other use.

In sum, whole branches of state planning were obsessed with recultivation. Lethargy had nothing to do with the actual planning offices at the time. And failures to effectively recultivate the land or reduce air and water pollution — repeatedly protested by local officials, experts, and residents — were deliberate outcomes of mining collectives heeding centralized demands for meeting coal quotas. Unfortunately, Radkau's narrative is not uncommon.[9] Most recently, Julia Ault's scholarship on East German ecology narrates how "the GDR's environmental policies and impotence to fully address its own failings left a troubling legacy when the SED lost power in 1989."[10] Although Ault's book investigates state practices and protest cultures, further nuance is needed when

8 Joachim Radkau, *Age of Ecology* (Cambridge, UK, 2014), 368.

9 Radkau cited Christoph Bernhardt's scholarship on recultivation in Lusatia as proof of "lethargy," although in fact Bernhardt's data reveals an extensive amount of recultivation planning in the creation of the Senftenberger See. See Bernhardt, "Von der 'Mondlandschaft' zur sozialistischen 'Erholungslandschaft': Die Niederlausitz als Exerzierfeld der Regionalplanung in der DDR-Zeit," in *Die Niederlausitz vom 18. Jahrhundert bis heute: Eine gestorte Kulturlandschaft?*, ed. Günter Bayerl and Dirk Maier (Münster, 2002), 313. For other rare studies that feature local planning activism, see Torsten Meyer and Axel Zutz, "Auf dem Weg zum Senftenberger Seengebiet: Protagonisten und Institutionen der Rekultivierung von Braunkohletagebauen in der Niederlausitz, 1920–60," in *Paradigmenwechsel und Kontinuitätslinien im DDR-Städtebau: Neue Forschungen zur ostdeutschen Architektur- und Planungsgeschichte*, ed. Frank Betker, Carsten Benke, and Christoph Bernhardt (Erkner, 2010); and Martin Baumert, "Eine 'Synthese aus Natur und Technik'? Entwicklung und Anwendung von Bodenmeliorationsverfahren im Braunkohlenbergbau der DDR 1949 bis 1974," in *Bergbau und Umwelt in der DDR und BRD: Praktiken der Umweltpolitik und Rekultivierung*, ed. Helmuth Albrecht et al. (Berlin, 2022).

10 Julie Ault, "Aquatic Conundrums: The GDR's Water Woes and Soviet Bloc Cooperation, 1963–1989," in *Ecologies of Socialisms: Germany, Nature, and the Left in History, Politics, and Culture*, ed. Sabine Mödersheim, Scott Moranda, and Eli Rubin, 201–226 (Berlin, 2019), 226.

one addresses "GDR environmental policies" and "failings," namely by looking at concrete plans and practices outside of central offices in East Berlin. Markus Schwarzer's 2013 dissertation barely comments on the East German period at all (apart from its runaway ecological devastation) before celebrating recultivation achievements after 1990, overlooking continuities in personnel and recultivation approaches before and after 1989.[11]

11 Markus Schwarzer, *Von Mondlandschaften zu Vision eines neuen Seenlandes: Der Diskurs über die Gestaltung von Tagebaubrachen in Ostdeutschland* (Wiesbaden, 2014).

By disassembling "the GDR" as a hegemonic top-down entity and exploring the debates and practices as they unfolded amongst a myriad of local actors, this article deconstructs the "troubling legacy" that has seemed so self-evident in hindsight. Obviously, East German recultivation had failed to keep up with the rate of devastation by 1989, but neither in theory nor in practice had the planners and practitioners of recultivation been idle. How could local officials, scholars, and grassroots actors be said to have "failed," if many of their ideas and even practices laid the basis for "successful recultivation" in East German coalfields after 1989? Failure stemmed from insufficient investment from centralized offices, along with the *active* efforts by mining collective leaders, who *succeeded* in their primary objective of securing raw materials for the coal-dependent East German economy, while also increasingly attaining a basic recultivation program that still benefits the region today. Had utter failure been the story of recultivation, practically everything between Borna and Leipzig would have been a desert, whose acidic sandstorms would have poisoned all the surrounding forests and farmland outside designated mining areas. This was a nightmare very much on the minds of officials who experienced this sort of disaster area in the proportionally much smaller mining area in 1956. However bad the "moonscape" south of Leipzig appeared in 1989, it could have been much worse had recultivation remained at the dismal levels they had held into the 1960s.

I. Mining Dreams, Laws, and Reality before 1956

Experts have long observed the deleterious effects of lignite mining. In their 1807 forestry lexicon, Carl Adam Heinrich von Bose and Friedrich Gottlob Leonhardi noted that *landscapes damaged by the mining of "Erdkohle"* could at best be turned into a pond or marsh, and "far more seldom to be laid out as a field because of a lack of decent soil."[12] As small holes dug out by hand expanded into machine-harvested pits starting in the 1920s, a new science of recultivation emerged, led by experts such as Joachim Seidemann at the Leipzig University Institute for Soil Melioration. By 1954, the monthly paper *Das Magazin* fantasized about Markkleeberg (a town adjoining Leipzig's southern city limits) sitting at the edge of a lake by 1975. In 1956, the Leipzig University Geographical Institute produced a map of this lake district. A Leipzig drafting office's 1959 "Development Plan for Brown Coal Pits and Post-Mining Landscapes for the Leipzig-Borna-Altenburg Region" produced the region's first scholarly recultivation plan.[13]

Such dreams of a lake district hemmed by productive farmland and forests (on filled-in pits) clashed with geological and chemical realities. From the 1920s onward, experts had urged filling in abandoned mining pits with the mass of tertiary sands laden with oxidizing pyrite and marcasite and then covering these phytotoxic soils with rich topsoil separately stored on special heaps. Instead, most of this topsoil – generated for centuries in the four-to-five-meter-deep "Auenlehm" along the Weiße Elster and Pleiße rivers and their tributaries – was dumped onto the bottom of overburden heaps, lost forever, while the ample sands landed on top. This lowered the pH level to the level of vinegar. As scholarship at the time and since has demonstrated, a one-meter layer of separately stored topsoil was needed to produce farmland (two meters for forestry), while organic or mineral fertilizers were essential to produce even low yields from carefully rotated

12 Carl Adam Heinrich von Bose and Friedrich Gottlob Leonhardi, *Neues allgemein praktisches Wörterbuch der Forstwissenschaft* (Remagen-Oberwinter, 1807; repr., Kassel, 2016), 271–272.

13 Andreas Berkner and Kulturstiftung Hohenmölsen, eds., *Bergbau und Umsiedlungen im Mitteldeutschen Braunkohlenrevier* (Beucha, 2022), 22.

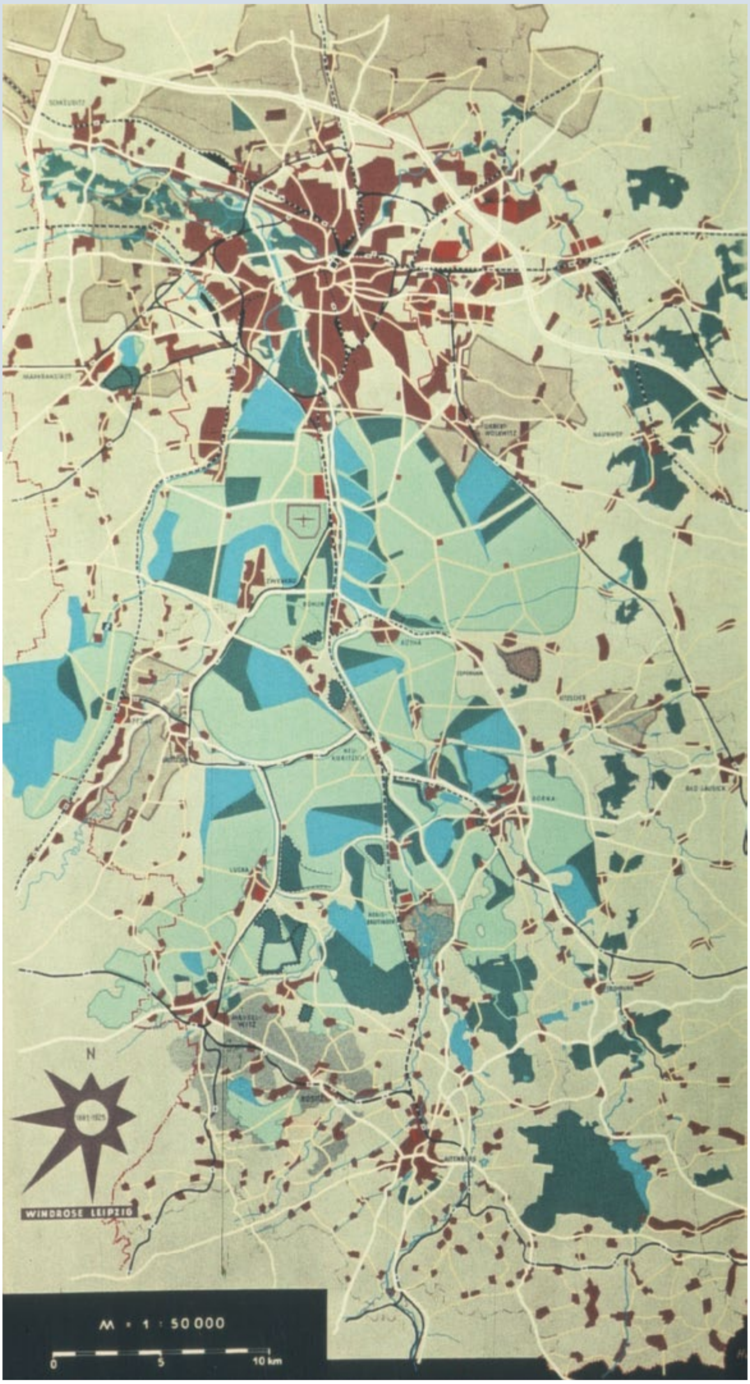


Figure 2. Plans for postmining landscape. „Bergbaufolgelandschaft," 1959, Andreas Berkner papers. Reproduced by permission.

(less lucrative) crops in the early years to begin to overcome adverse conditions for plant growth.[14] Filled-in pits not only disrupted groundwater distribution: they also leached toxic sulfide residues to other areas of land and into future lakes, if these were not fed by streams instead.

14 Albrecht Krummsdorf, "Utilization and Development of Post-Mining Landscapes," Tempus JEP No. 4988-92/1, *Nitra* 1993: 79–81.

15 Reinhard Hüttl, "Ecology of Post Strip-Mining Landscapes in Lusatia, Germany," *Environmental Science and Policy* 1 (1998): 129–135, here 131.

16 Julia Krümmelbein et al., "A History of Lignite Coal Mining and Reclamation Practices in Lusatia, Eastern Germany," *Canadian Journal of Soil Science* 92 (2012): 53–66, here 58.

17 "Verordnung über die Wiedernutzbarmachung der für Abbau- und Kippenzwecke des Bergbaues in Anspruch genommenen Grundstücksflächen," *Gesetzblatt der DDR* 146 (December 6, 1951): 1133-1134.

The first attempt at a stream-fed lake came with the Senftenberger See, completed in Lusatia in 1972.[15] Along with earlier alkaline melioration with lime, East German recultivation experts such as Manfred Seela pioneered the use of lignite byproducts (notably filter ash) to make the filled-in pits' acidic soils productive. Building on the scholarship of East German experts, contemporary experts have concurred that, "when pyrite- and lignite-containing sites are ameliorated well and revegetated with trees, pedogenesis and overall water and elemental budgets eventually approach normal development after several decades." As will be shown, however, proper soil amelioration was limited to test plots well into the 1960s, meaning that the most effectively restored land was only just becoming more productive at the moment that East Germany collapsed, in effect enabling post-communist planners to claim "success" for landscape development, even though its seeds had literally been sown in the 1970s and 1980s.[16]

The legal basis for recultivation was already established in the December 6, 1951 *Gesetzblatt der DDR* (issue 146): "Verordnung über die Wiedernutzbarmachung der für Abbau- und Kippenzwecke des Bergbaues in Anspruch genommenen Grundstücksflächen," which decreed that mining collectives were obligated to make land usable again for agriculture or forestry. Paragraph two explicitly demanded the complete storage and reuse of topsoil, while paragraph four only excluded the inevitable land deficits left after coal extraction (*Restlöcher*) from its rule that all post-mining terrain was to be leveled and graded for productive use. In most cases, the land deficits would one day become lakes.[17] In contravention of this law, very little topsoil reclamation (*Mutterbodenwirtschaft*) took place in East Germany through most of the 1950s. The land reclamation mandate was simply at odds with the production quotas demanded of agricultural and forestry collectives. Although in 1951 an attempt was made "on the pit mine management's own initiative" at Espenhain to use a conveyer bridge to remove topsoil, this small-scale operation ended in 1954, when a larger overburden spreader (*Großabsetzer*) was sent to the expanding pit at Schleenhain. Henceforth, Espenhain could only produce a bit of *Mischboden,* a barely usable mélange of topsoil with toxic sands. Espenhain's new director Karl Förster begged Berlin for "considerable investments" in machinery, dedicated train infrastructure, and personnel to allow for topsoil reclamation without damaging coal production, and he warned that "if we stick with present conditions, about 90% of the valuable alluvial loam will be dumped into the depths and lost."[18] By 1956, Espenhain's entire history of topsoil reclamation, achieved by its own initiative, had merely yielded 11 hectares of sandy-clay *Mischboden*, most of which might require half a century to produce usable yields. The plant management concluded: "*further achievements were not possible, because of the high impositions from the plan.* Despite numerous presentations, a meager reduction in production requirements for the benefit of the topsoil program was not approved back then by the SAG Brikett, and moreover financing for this was rejected."[19] Meanwhile, despite attempts at forestation, by 1953 a huge slag heap of toxic sands prone to landslides had emerged next to Espenhain, while those pits which had been filled in were generally released for "recultivation" without topsoil. Although thin strips of topsoil were sometimes sandwiched between the dead fields, they were ineffective for forestry, much less farming, as they were rapidly coated by toxic dust storms from the surrounding wasteland. Worse still, the pits were rapidly spreading.[20]

Even in this bleak epoch of recultivation failure, experts and officials insisted that recultivation was an essential task for the sake of economic productivity and future generations — a narrative they would sustain with creeping success through the coming years. A May 1952 *Gesetzblatt* resolution, following up on the 1951 recultivation law, granted *Kreis* and *Bezirk* officials limited authority to inspect mining areas in consultation with the Agricultural and Forestry Ministry, and they

18 VEB Kombinat Espenhain, "Aufgabenstellung zur Projektierung 1957," Sächsisches Staatsarchiv Außenstelle Leipzig, Bestand 20237 Bezirkstag/Rat des Bezirkes Leipzig (hereafter SächStAL 20237), Nr. 00248, 8, 11.

19 Emphasis in original, VEB Kombinat Espenhain, "Mutterbodenwirtschaft bzw. Kulturbodenwirtschaft auf den Innenkippen des Tagebaues Espenhain," November 9, 1956, SächStAL 20237, Nr. 00248, 17.

20 VEB Kombinat Espenhain, "Rekultivierungsplan: Stand am 31.12.1953," SächStAL 20237, Nr. 00248, 212.

repeatedly cited the 1951 law in their rejection of dismal recultivation outcomes.[21] Although the Technical Mining Inspection (TBBI) (under the oversight of the Ministry for Heavy Industry) had attempted to impose topsoil quotas starting in 1952, at an October 1953 meeting between the TBBI, various mining representatives, and regional county-level officials, a TBBI official lamented that “at present a great deal of topsoil is taken from agricultural usage. There exists no or only a very poor topsoil reclamation process.” The result, he argued, was hundreds of hectares of lifeless land. Observing numerous protest letters, he concluded: “the population should have no cause to complain about a poor topsoil reclamation process.” The reality, however, was the near-total loss of topsoil under dumps of tertiary sands, while trains meant for topsoil reclamation were diverted to meet quotas for moving overburden before coal extraction.

A member of the Borna mining leadership agreed in principle that, despite insufficient equipment and personnel, all mining leaders should do their best to save topsoil, as this “is a matter for the whole *Volk*. Our descendants must not be faced with wastelands (the sandstorms of Espenhain).” A Borna County leader added that “when topsoil is lost, it is lost forever.”[22] An inspection of the Borna lignite topsoil cultivation operation on November 13, 1953, unfortunately concluded that clay-filled and otherwise “extremely poor-quality” soils were being dumped along with topsoil. High coal production at Borna was damaging present and future agricultural productivity.[23] By August 11, 1956, the Berlin district attorney denounced mining operations for totally failing to satisfy the 1951 law, to which the TBBI added: “since its founding to the present day, no recultivation work has been taken up in the Espenhain plant. Several hundred hectares extend here that are only covered by sterile tertiary soils. With strong winds, the fine sands are carried away for kilometers to coat agricultural tracts. These sandstorms also have an impeding effect on traffic and pedestrians.” Notwithstanding years of complaints to Berlin, the TBBI concluded, “no change has yet

21 “Durchführungsbestimmung zur Verordnung über die Wiedernutzbarmachung der für den Abbau- und Kippenzwecke des Bergbaues in Anspruch genommenen Grundstücksflächen,” *Gesetzblatt der DDR* 61 (May 20, 1952), 369–370.

22 “Protokoll über die Sitzung betr. Mutterbodenwirtschaft im Revier Borna am 15.10.1953,” October 15, 1953, SächStAL 20237, Nr. 07124, 8–13.

23 Ebersbach, Stellvertretender Abteilungsleiter Abteilung Land- und Forstwirtschaft, an das Braunkohlenwerk Borna, “Mutterbodenwirtschaft,” November 14, 1953, SächStAL 20237, Nr. 07124, 5.

been attained to the present day," which meant that the three-to-five-meter-high topsoil near the doomed village of Stöhna in the Pleiße watershed would also surely "not be secured, because up to now the Espenhain plant lacks available equipment and laborers."[24]

It was a scandal for local officials, farming collectives, and residents that central ministries in Berlin, such as the Coal and Energy Ministry and the Agriculture and Forestry Ministry, had long been aware of the situation and taken no meaningful action, not just at Espenhain, but in mines across the region. Although the latter ministry's chief of plant production, Fritz Weißhaupt, promised to personally intervene to improve the topsoil situation at high-level meetings, no change occurred.[25] Though East Germany's second five-year plan explicitly demanded increases in agricultural production, central plans for recultivation competitions amongst the mining collectives failed because coal production sustained the highest priority. So desperate was the situation that, in its report dated November 30, 1956, Leipzig's district council (Rat des Bezirkes) broke the taboo in acknowledging that "damage to the landscape's fabric did not just originate during the capitalist era, but rather also after 1945" in mining operations like Böhlen and Espenhain. In Borna County alone, 288.4 hectares of land had been lost *each year* from 1951 to 1955, of which only 42.5 hectares had been recultivated with any sort of topsoil. In Bezirk Leipzig, over 1300 hectares of *Ödland* (unrecultivated wasteland) had come into being, and only about half of the terrain used by mining had received any sort of new function. Of the roughly one-quarter of all mining territory that received supposed topsoil recultivation, most emerged with "highly variable quality," which was bureaucratic language for *poor* quality.[26]

II. 1956: A Storm of Bluster with Winds of Change

Evaluations directed to the highest levels like the November 1956 Bezirk report (in concert with a stream of protest letters

24 Staatsanwalt Wunsch, Der Generalstaatsanwalt der Deutschen Demokratischen Republik an die TBBI Freiberg/Sa., "Verstürzung von Mutterboden," August 11, 1956, SächStAL 20237, Nr. 00248, 3; Ankes an den Generalstaatsanwalt der DDR, "Verstürzung von Mutterboden: Ihr Schreiben vom 5.9.1956," Zeitz, September 11, 1956, SächStAL 20237, Nr. 00248, 4.

25 Rat des Bezirkes Leipzig, "Bericht über die Mutterbodenwirtschaft im Bezirk Leipzig für die Abgeordnetengruppe der Volkskammer des Bezirkes Leipzig," November 30, 1956, SächStAL 20237, Nr. 00248, 5–6.

26 Rat des Bezirkes Leipzig, "Bericht über die Mutterbodenwirtschaft im Bezirk Leipzig für die Abgeordnetengruppe der Volkskammer des Bezirkes Leipzig," November 30, 1956, SächStAL 20237, Nr. 07130, 1–5.

from local officials, state inspection teams, and the populace) brought the stalemate between state officials/inspectors and mining officials to a head amid the political thaw in 1956. On December 12, 1956, East German People's Chamber (Volkskammer) President Johannes Dieckmann chaired a meeting with high-level officials at the Böhlen Cultural House that included the bellicose Bezirk SED party chairman Paul Fröhlich (an ally in such high favor he was targeted as a likely successor to Walter Ulbricht). Although the meeting's indignant theatrics and seeming bureaucratic impotence might at first glance have foreboded only more of the same, the very fact that many of East Germany's most powerful officials gathered at ground zero of the ongoing mining devastation implied that, in the future, the state desired gestures toward change.

The meeting commenced with Berlin's bureaucrats asserting their dominance. Dieckmann opened with a furious attack against the presumption that high-level bureaucrats "don't have a clue about things." A variety of leaders had just undertaken a tour "through this moonscape," after all, meaning they had spontaneously attained "special knowledge."[27]

By calling in sick or otherwise failing to come, the region's mining officials apparently wished to escape blame from the gathered Technical Mining Inspection representatives, Bezirk leaders, and Berlin officials. Only Espenhain's young new director Förster showed up to blame Nazis and their capitalist friends for every wrong, since after all they had designed and built the Espenhain facility for their war economy; and he celebrated how his staff had planned installations capable of removing all of the sulfur dioxide gas that wafted from the plant – a promise so fantastic that even Dieckmann interjected his astonishment. Admitting that Espenhain had only reclaimed 16.5 hectares of land, while four hundred hectares had been left naked, the minutes indicate Dieckmann was further shocked when Förster revealed that this enormous quantity of wasteland was *only* the result for Espenhain and did not include the enormous wastelands left by other pits

27 "Stenographisches Protokoll der Sitzung der Abgeordnetengruppe der Volkskammer des Bezirkes Leipzig am 12.12.1956 im Kulturhaus des VEB Kombinat 'Otto Grotewohl' in Böhlen," SächStAL 20237, Nr. 00248, 25–78, here 27.

that pockmarked the region. Even this minimal recultivation, Förster noted, was only possible through much free labor and use of unbalanced funds and materials.[28]

Whether or not such brave proletarian efforts had actually taken place, Förster's demands for more funds and materials (also in the name of other mining collectives across the region, which inspection representatives likewise noted had attained "no recultivation work") met with intransigence from the high officials. Dieckmann merely noted that either the mining installations had to abide by the 1951 law, or the laws had to change. He failed to care that either outcome was unlikely. After hours of bickering, the Volkskammer president was ready to wash his hands of the whole meeting and return to Berlin.

Such seeming indifference also came from Paul Fröhlich. Like Dieckmann, the SED Bezirk chairman first had to vent his outrage at "almost a wheelbarrow full" of resolutions and paperwork and reject the Berlin state prosecutor's desire to charge the mining leadership with violations of the 1951 regulation in court. "Sometimes," Fröhlich acceded, "there are, objectively seen, things that despite the best intentions and abilities of those in charge — also in the government — cannot be resolved." And this meant that sometimes one had to accept "unpleasant things" in the name of a stable economy dependent on coal.[29] In any event, Fröhlich noted, it was "beyond the competence of today's meeting" to allocate millions in funds for topsoil reclamation. This was not an outcome he preferred, of course, but rather the fault of nameless officials in Berlin, "who have such strange recommendations like making Leipzig itself disappear. These people have said: the best coal is sitting under there. Is that for fun? They only see their coal." Already Markkleeberg was vanishing, Fröhlich blustered, and he concluded by derailing the meeting with a promise (seconded by Dieckmann) that this sort of "soulless" campaign "to erase whole cities" had to end — without any sign of how this might happen.[30] When officials such as

28 "Unbalanced" funds and materials typically came from "reserves" that were not in official ledgers. "Stenographisches Protokoll . . . in Böhlen," 37–40.

29 "Stenographisches Protokoll . . . in Böhlen," 63–64.

30 "Stenographisches Protokoll . . . in Böhlen," 67.

Agriculture and Forestry Ministry representative Weißhaupt tried to use lines from Marx and Lenin to push Fröhlich for separate funds and materials for topsoil recultivation to ensure agricultural quotas, Fröhlich scoffed that they could plant "bananas" on the reclaimed soils for all he cared. His joke reiterated that the state (led by his close ally Walter Ulbricht) would never deploy investments for recultivation. Dieckmann closed the meeting by accentuating that they had not come to pass resolutions, but merely to discuss and plan more meetings.[31]

Even when it was obvious that the existing system did not work, powerful figures failed to take action. Paul Fröhlich railed against Berlin tyrants, even though he himself was one of those tyrants (tagged as Ulbricht's potential successor). Although Fröhlich and Berlin elites supported coal production at all costs, however, they did not leave Böhlen expecting *inaction* from local players. Without a functioning topsoil recultivation program, East Germany would face declining agricultural and forestry output, to say nothing of quality of life for residents. For high officials like Fröhlich, someone had to find a solution for the recultivation problem. They little cared who did it or how, so long as they were not asked to make substantial contributions.[32] And henceforth — before and especially after his premature death in 1970 — Fröhlich's own Bezirk offices would help lead the charge for an effective recultivation of Leipzig's dusty moonscape, even as they were hamstrung in practice by the lack of central support Fröhlich had foretold.

After 1956, the quota-obsessed coal installations continued to offer mere lip service to changing their ways, because Berlin seldom equipped them with special machinery and personnel, nor classified topsoil reclamation as part of their expected "productivity." Expert advice, carefully assembled and directed, thus failed to gain traction in centralized planning. By the same token, however, the December 1956 meeting yielded new expert commissions and resolutions whose

31 "Arbeitstagung der Abgeordnetengruppe der Volkskammer des Bezirkes Leipzig am 14. November 1956 in Leipzig," SächStAL 20237, Nr. 00248, 80–160.

32 Fröhlich was hardly "lethargic"; recultivation was simply less important to him than the coal economy. And he was extremely active in other matters, such as ensuring the demolition of Leipzig's University Church. See Demshuk, *Demolition on Karl Marx Square: Cultural Barbarism and the People's State in 1968* (Oxford, UK, 2017).

coherent platforms proffered innovative approaches to recultivation, empowered by the 1951 law and informed by cutting-edge science that made use of very poor resources. Real change in recultivation (or even tree planting) thus arose gradually and with much improvisation by engaged officials and experts who learned to work around the centralized system, even as the worsening ecological situation lowered productivity in agriculture and forestry, and mining concerns proved content to merely pay damages to farmers, foresters, and residents when forced to do so. Well into the 1980s, rhetoric about saving the natural world for its own sake (rather than for human uses) rarely appeared in "recultivation" discussions. Notwithstanding the fact that in 1972 East Germany was only the second European country to establish an environmental ministry, most complaints about ecological degradation from pit mining were framed in terms of human health and economic losses for agriculture and forestry, rather than environmental protection.[33]

33 East Germany's Ministerium für Umwelt und Wasserwirtschaft (MUW) was founded two years before West Germany's Umweltbundesamt appeared in 1974, and at least on paper East Germany promised substantial investment in environmental protection. Thomas Höpel, *Opposition, Dissidenz und Resistenz in Leipzig, 1945-1989* (Leipzig, 2018), 163.

34 Chairman Gerhart Ziller, Wirtschaftsausschuß, to the Büro des Präsidiums des Ministerrates u.a., January 9, 1957, SächStAL 20237, Nr. 07139, 77–78.

III. Creeping Progress despite Top-Down Priorities, 1957–1971

On January 9, 1957, a new Volkskammer special economic committee with representatives from the Leipzig city council and "other state institutions" sent a list of demands "for the recovery of topsoil in the excavation areas of the Leipzig District" to the Coal and Energy Minister, Agriculture and Forestry Minister, the Chair of the State Planning Commission, and the State Secretary of the Ministerial Council. Their eight bullet points for improving topsoil reclamation included greater departmental coordination, construction and deployment of special recultivation machinery, support for research institutes, and the incorporation of topsoil reclamation as a firm component of pit-mining operational plans.[34] It was a well-timed expert committee proposal to the highest offices for solving the problems Paul Fröhlich had deemed unresolvable. Had they been fully heeded, these demands —

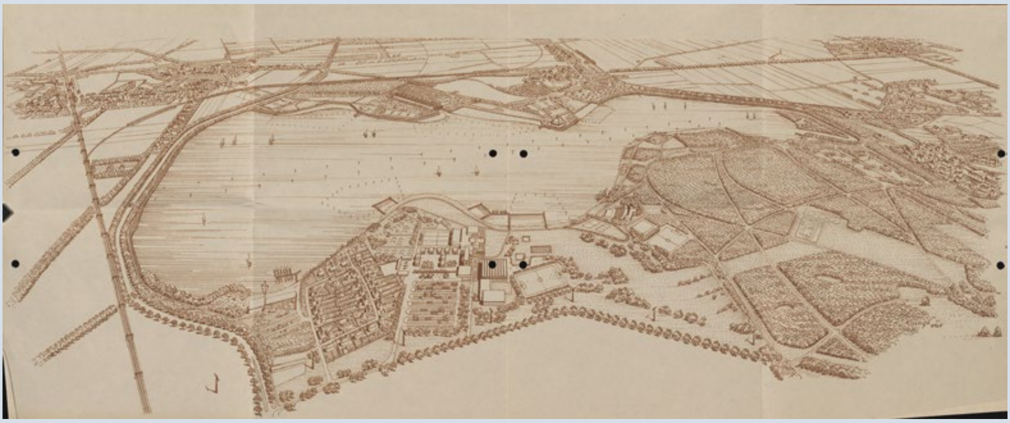
which recurred through the following years of struggle in letters from experts, inspectors, and local officials — might have substantially softened the region's ecological and ultimately economic-political crisis. Given the fact that committee chairman Gerhart Ziller committed suicide a few months later, allegedly because his critiques about economic policy failed to find resonance with the Ulbricht regime, it is clear that efforts to change course were challenged from the start. But they did not stop. From 1957 until he was deposed on trumped-up political charges in 1961, longstanding Leipzig University Institute for Soil Melioration director Seidemann pushed for a practical economic approach (*Zweckwirtschaft*), in which a plot of recovered land would be planted with crops that would infuse more nutrients into the soil and not be required to meet production quotas.[35] Although insufficient materials and manpower continued to hamper recultivation quotas through the early 1960s, the implementation of this *Zweckwirtschaft* (responding to complaints by local agricultural collectives (*Landwirtschaftliche Produktionsgenossenschaften*, or LPG) yielded isolated successes.

This period also saw the first overall plan for the future of the Leipzig-Borna-Altenburg region in 1963, followed over the next seven years by a series of studies on how to form recreational lakes out of the mining pits. The biggest result here was the Leipzig District Council's confirmation of plans for recreational areas around the former Kulkwitz pit twelve kilometers west of the Leipzig city center.[36] Given that the recreational lake area actually came into being adjacent to the enormous Grünau housing development, this panacea proves that when resources were effectively allocated, East Germany was perfectly capable of producing an attractive lake out of a mining pit.

Further progress came with a Ministerial Council resolution "for the protection of farmland and soil and the securing of socialist agricultural use of soil" on December 17, 1964, in

35 Rat des Kreises Borna Abteilung Land- und Forstwirtschaft, "Beschluß Nr. 39/960 über die Errichtung einer Zweckwirtschaft," SächStAL 20237, Nr. 07134, 66.

36 Horst Walter, "Landeskultur in Bezirk Leipzig," in *Bodennutzung und Umweltschutz: Beiträge aus dem Braunkohlenbergbau*, ed. Albrecht Krummsdorf (Leipzig, 1975), 15–16.



which central authorities in Berlin replaced the existing system (having allegedly failed to meet the 1951 regulation's goals) with more rigorous enforcement mechanisms. The 1964 resolution, agricultural expert Konrad Werner (from Halle's Melioration Institute) urged Berlin, needed to incentivize mining operations by integrating recultivation quotas into coal production quotas. By 1965, agricultural experts kept up their complaints that poor harvests were resulting, because mining goals were opposed to recultivation. Mining leaders, they concluded, should be compelled to implement scholarly recultivation methods "in the interest of all of society," and barred from passing on blame for their failure to satisfy their legal obligations.[37]

Local commissions also became more combative. Building on the work of Seidemann and informed by the scholarship of Albrecht Krummsdorf among others, in April 1966 a commission of experts led by Paul Kaluza (since 1961) alongside Konrad Werner and Krummsdorf's student Manfred Seela (at the time chief agronomist in the Borna County Council on Agriculture [(Kreislandwirtschaftsrat]) demanded that "agriculture should hold fast and give no land to coal [mines], if coal [mining] has given no land back in return" — a revolutionary overturning of laws in place since 1918 (the state was legally permitted to dispose of the earth underneath a farmer's land). Such provocative statements were prompted by the crisis that many LPG members — frustrated with dwindling land, destroyed infrastructure, and the poor quality of recultivation — were quitting. To break out of this economically perilous cycle,

Figure 3. Plans for recreational area in Kulkwitz, 1969. Rat des Kreises Leipzig, Abteilung Jugendfragen, Körperkultur und Sport, Arbeitsgruppe Naherholungsgebiet Kulkwitz, "2 Bebauungsplanskizzen Naherholungsgebiet Kulkwitz," August 1969, SächStAL 20237 Bezirkstag/Rat des Bezirkes Leipzig, Nr. 04720, 68.

37 "Vortrag von Dr. agr. Konrad Werner, gehalten am 15.4.1965 in Schwarzheide anläßlich der Tagung der Expertengruppe 'Probleme der Wiedernutzbarmachung von Kippen und Halden des Bergbaues' des Forschungsrates," SächStAL 20237, Nr. 07132, 14–33, here 17, 21–22.

38 Rat des Bezirkes Leipzig Abteilung Allgemeine Landwirtschaft, "Aktennotiz über den operativen Einsatz der ständigen Kommission zur Ausschöpfung örtlicher Reserven in der Landwirtschaft am 19.4.66. Untersuchung des Standes der Wiederurbarmachung im Braunkohlengebiet Borna," April 20, 1966, SächStAL 20237, Nr. 07132, 63–71, here 70.

39 "Stellung an Landwirtschaftsrat mit Schreiben vom 5.1.1966 zum Entwurf der 2. DB zur Bodennutzungsverordnung," SächStAL 20237, Nr. 07151, 182–184.

40 Bezirkslandwirtschaftsrat, "Aktennotiz: Probleme der Wiederurbarmachung und der Beeinflussung der Landwirtschaft durch den Bergbau," April 6, 1967, SächStAL 20237, Nr. 07151, 118–120, here 119.

the Bezirk Planning Commission was urged to impose recultivation deadlines on the biggest lignite collective (VVB Braunkohle).[38] The commission's demands, submitted to the Rat des Bezirkes on July 20, 1966, convinced Berlin to order coal enterprises to compensate LPGs with damages and ensure that basic infrastructure remained intact even as a region was mined.[39] In 1967, the Bezirk agricultural ministry decreed that henceforth mining companies had to ensure that land became arable again after mining rather than placing the burden of productivity on the agricultural collectives. Mining companies, though stricken with shortages in materials and manpower, were tasked with remediation by plowing filter ash sometimes mixed with lime into acidic post-mining soil and greening the edges of pits to keep them from eroding.[40]

IV. Increasing Destruction, Increasing Recultivation: the 1970s

A new generation of Bezirk- and Kreis-level officials supported such expert recommendations and exerted pressure on mining operations. The timing was crucial, as increased recultivation coincided with increased lignite output when the global oil crisis cut off East German access to subsidized Soviet oil and gas, further worsening air and water pollution as the condition of mining and carbo-chemical facilities degraded. Upon the death of Fröhlich in 1970, his successor Horst Schumann made the Bezirk more responsive to local needs, while Roland Wötzel, as chair of the Bezirk Planning Commission after 1971, sought to pair increased coal production with recultivation of agriculture, forestry, and recreation. That same year, agronomist Manfred Seela founded his Borna-based state recultivation initiative (Zwischenbetriebliche Einrichtung Rekultivierung). Though such institutional pressures failed to satisfy agricultural collectives, local residents, or recultivation experts, new commissions, resolutions, and administrative departments created qualified authorities dedicated to recultivation with the best techniques possible under shortage conditions. Able to cite and apply resolutions as well as longstanding wish lists for improving recultivation, these experts pushed against mining operations still bolstered in their intransigence by the Coal and Energy Ministry and Politburo. Although recultivation outcomes failed to approach experts' ideals, by 1989 their efforts had ensured continued recultivation of farms and forests, as well as projection of recreational spaces, some of which found realization in post-communist plans.

Traveling south of Leipzig in May 1973, East German Environmental Minister Hans Reichelt celebrated the (limited) recultivation outcomes at Regis by the Phönix brigade with the declaration: "we mustn't only destroy; instead, after coal mining is complete, we have to make the landscape capable of use again for future generations, and, if possible, form it even more beautifully than before. This speaks to our honor as miners. We will not tolerate any moonscapes!"[41] Much as Reichelt's ministry excelled at platitudes for recultivation and ecology, it devoted far more energy to helping the Stasi classify environmental data and persecuting free-thinking environmental activists.[42]

Greater planning action came in November 1973 from the Leipzig district council (Rat des Bezirkes) Resolution 143/73 ("Conception for shaping the post-mining landscape in the region between Leipzig and Altenburg"), whose "conditions and development criteria for recultivation [*Wiederurbarmachung*] and excluding terrain, in essence a landscape after mining," was to "possess validity for decades." These goals were to be coordinated by the district Department for Environmental Protection and Water Management (Abteilung Umweltschutz und Wasserwirtschaft beim Rat des Bezirks), which was also formed in 1973. Given the unfolding oil crisis, however, the district council already had to substantially amend the plan in July 1977 to reflect a far more expansive projected pit-mining landscape.[43]

41 Reichelt, quoted in Dieter Lange and Werner Steinert, "Komplexer Brigadeeinsatz in der Wiederurbarmachung des VEB Braunkohlenkombinat Regis," in *Wiedernutzbarmachung devastierter Böden*, ed. Kommission für Umweltschutz beim Präsidium der Kammer der Technik (Leipzig, 1977), 128.

42 Alongside data about Reichelt and classification in my forthcoming book *Cold War Coal Pits*, see the assessments in Christian Möller, *Umwelt und Herrschaft in der DDR: Politik, Protest und Partizipation in der Diktatur* (Göttingen, 2020), 248–251.

43 "1. Ergänzung und Präzisierung der Konzeption zur Gestaltung der Bergbaufolgelandschaft im Raum zwischen Leipzig und Altenburg," July 15, 1977, SächStAL 20237, Nr. 07137, 1–16, here 1.

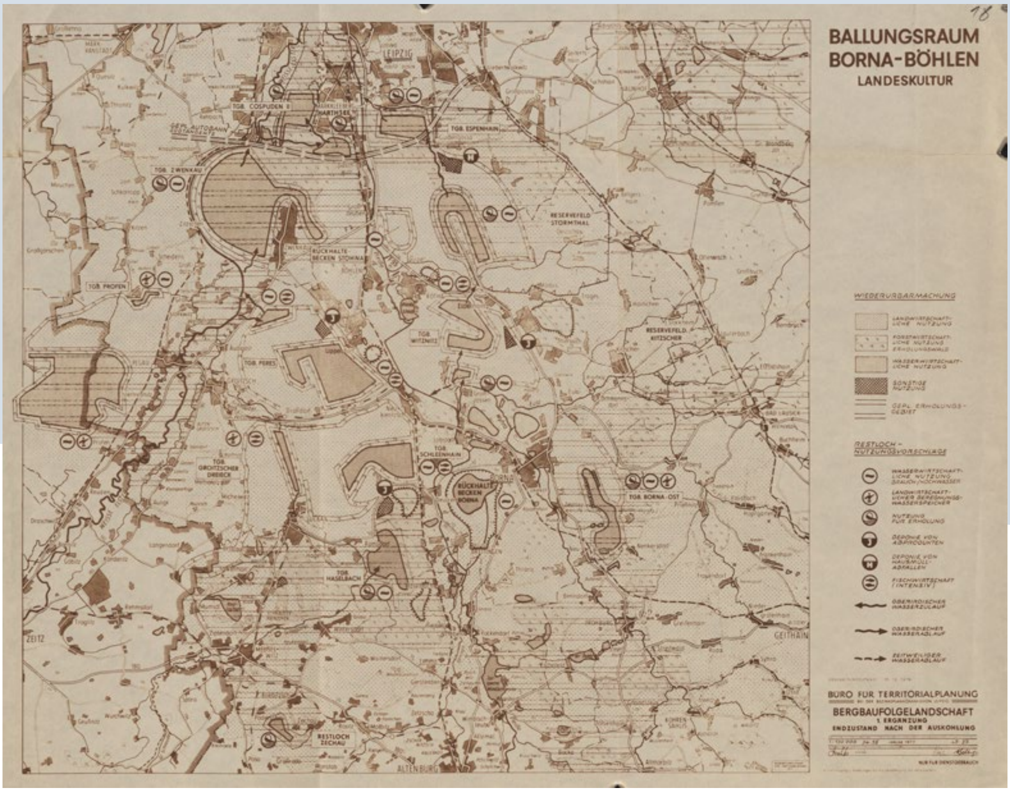


Figure 4. Plan for postmining landscape in the Borna-Böhlen area, 1977. Büro für Territorialplanung bei der Bezirksplankommission Leipzig, "Bergbaufolgelandschaft 1. Ergänzung, Endzustand nach der Auskohlung," January 1977, SächStAL 20237 Bezirkstag/Rat des Bezirkes Leipzig, Nr. 07137, 18.

One cannot understand post-1989 recultivation and landscape planning without taking these plans into account.[44] Quite obviously, they anticipated the post-1989 "Neuseenland." And they demanded that recultivation take place "at the same tempo" as excavation. They projected that the last backlog of wasteland would be covered with topsoil by 1985. Because mining (and thus the pumping of groundwater) was expected to continue and even expand across the region well into the new millennium, the 1970s-era timeline staggered the anticipated completion of specific lakes from the 1990s through 2040.

New recreational areas akin to the Kulkwitzer Lake were desperately needed to replace the many natural escapes Leipzigers had lost because of pit mining, such as the southern Auwald and Harth forest. The "Harthsee," for example, in the Zwenkauer pit west of Gaschwitz was to be completed by 1985. The Bockwitzer Lake (Borna-Ost) was to be completed by the late 1990s, while in the year 2000 the Cospudener Lake was expected to fill the new pit projected to cut deep into southern Leipzig itself. The future Markkleeberger Lake would not open until 2030, while the Zwenkauer Lake and

44 For the physical plans, see Büro für Territorialplanung bei der Bezirksplankommission Leipzig, "Bergbaufolgelandschaft 1. Ergänzung," December 1976-January 1977, SächStAL 20237, Nr. 07137, 17–18.

future Störmthaler Lake would only open in 2040. The plan also sought to address future agricultural problems, including a scarcity of water and the loss of farmland due to the shifting of the Elster river and the construction of a major railway line along with many roads.[45]

A great deal of the projected triumphs in the 1970s plans for recultivation and landscape formation drew from years of expert research such as from the Leipzig University Melioration Institute. Some of the scholarly efforts to resolve recultivation and landscaping questions were published in collections from the Kammer der Technik, such as in the 18th volume devoted to *Wiedernutzbarmachung devastierter Böden* with contributions from Albrecht Krummsdorf on using lime to ameliorate acidic soils and from the mining engineer Horst Walter of the new Bezirk environmental department expounding on the historic development of the Kulkwitz recreational area.[46] Krummsdorf himself borrowed heavily from the series when he produced his 1981 popular synthesis on recultivation goals and achievements. "The spanning bleakness of a pit mine" with naked slag heaps and endless "moonscapes" did indeed present "a deeply depressing experience," Krummsdorf began, but he assured his readers that "our landscape in lignite areas will pass through a purgatory before they appear young, with new beauty, diverse and profitable."[47] At first glance, such a vision can seem prophetic today. Indeed, landscape planners like Krummsdorf helped to guide the region's passage through purgatory over the twenty years after 1989. Even as his book appeared in 1981, however, top-down mining plans were in the process of pushing off paradise into the near indefinite future. And purgatory, if it goes on forever, can resemble hell.

V. Planning for Post-Mining Landscapes on the Eve of Revolution

Amendments to the 1973 Bezirk plan through the 1980s – compelled by Berlin and implemented by the District Planning

45 "1. Ergänzung und Präzisierung der Konzeption zur Gestaltung der Bergbaufolgelandschaft," 2–4.

46 Albrecht Krummsdorf, ed., *Bodennutzung und Umweltschutz: Beiträge aus dem Braunkohlenbergbau* (Leipzig, 1975). Albrecht Krummsdorf, Gottfried Saupe, and Gottfried Schnurrbusch, "Möglichkeiten und Erfahrungen der meliorativen Verbesserung bodenphysikalisch schwieriger Kippmergelböden," in *Wiedernutzbarmachung devastierter Böden*, ed. Kommission für Umweltschutz beim Präsidium der Kammer der Technik, 140–148 (Leipzig, 1977). As a testament to the limited distribution of these books to experts and officials, rather than the public, the book I acquired was stamped as an ex-library copy for the internal use of the Rat des Bezirkes Potsdam.

47 Krummsdorf, *Landschaft vom Reißbrett*, 6.

Figure 5. Plan for postmining landscape in the area between Leipzig and Altenburg, 1982. Büro für Bergbauangelegenheiten bei der Bezirksplankommission Leipzig, "Geplante Bergbaufolgelandschaft im Raum zwischen Leipzig und Altenburg," June 1, 1982, SächStAL 20237 Bezirkstag/Rat des Bezirkes Leipzig, Nr. 33437.

Commission – forestalled the lake district into a future utopia to (somehow) be created by distant generations, to the chagrin of planners and regional officials who rightly feared that, by consigning a recreational paradise to the drawing board, they were intensifying the disquiet among workers and residents who suffocated amid the surrounding moonscape. To sustain East Germany's industrial economy and provide power and heating to its population, those at the highest levels demanded further expansion of the coal fields, even as lignite quality declined and pollution surged from installations that were literally collapsing. Revised recultivation maps in 1981 and 1982 literally erased key recreational features from 1973/77 that had been projected for the immediate future in favor of industrial or less expensive outcomes. The proposed Harthsee, for example, was replaced by a forest primarily intended to satisfy logging needs. Perhaps one day it could also accommodate local hikers, among whom only the very elderly might sustain memories of any forests Leipzigers had once enjoyed south of their city.[48]

48 Büro für Bergbauangelegenheiten bei der Bezirksplankommission Leipzig, "Bergbauliche Entwicklung im Raum zwischen Leipzig und Altenburg," January 1, 1981, SächStAL 20237, Nr. 33437.

In July 1981, the district's Office of Territorial Planning reflected these exploitative state priorities in its ranking of post-mining landscape objectives. The top three were agriculture, forestry, and water resources management. Though "recreation" came next, it was closely followed by "trash dumps," and lastly "environmental protection objects" (*Naturschutzobjekte*). At the meeting, the officials justified their plan's number one change, "the cancellation of the recreational Harth Lake (ca. 140 ha)," due to its sixty-million-mark price tag — never mentioning that the district had fought (and failed) to keep the lake after a lengthy legal dispute with the mining concerns. Parallel to the demise of the Harthsee, the district was also losing the Waldbad Lauer, a popular natural lake, because the Cospuden pit was extending deep into the city limits. Their hope for compensation through a recreational lake in the city's southern Lößnig-Dölitz neighborhood (ultimately a park situated atop much older subterranean mines) never came to pass. Only with the completion of the Cospudener See after the year 2000, they concluded, would the loss in recreational space worsened by the elimination of the Harthsee truly be corrected. In like manner, a proposed lake along the city-facing northern fringe of the Espenhain pit was also replaced by a forest, "because filling it with water demands an effort that can hardly be economically defended," not least because it required cleaning up the Pleiße river and pumping in water from either the Mulde or Weiße Elster, both of which were also heavily contaminated.[49]

Meanwhile, the pits were expanding too quickly for the planners to determine what use might be given to them all, whether recreational or industrial, at some distant future date. The sheer scope of this expansion is clear in maps at the time, which projected where the pits were to go into the new millennium. A November 1982 meeting of the same district planning office yielded a new conception of the "post-mining landscape" explicitly based on the tenth SED party congress, which demanded even more coal production by 1985 and therefore the creation of new coal pits that, in Bezirk Leipzig alone, would raise coal output from 52 million tons to 67 mil-

49 Wagner, Direktor, Büro für Territorialplanung bei der Bezirksplankommission Leipzig, "Thesen zur Überarbeitung der Konzeption 'Bergbaufolgelandschaft südlich Leipzigs,'" 1982, SächStAL 20237, Nr. 33436, 1–6, here 2.

lion tons per year. The planning office admitted: "The loss of the Harth forest and parts of the Auewald will have an especially unfavorable effect, as they have a high value for recreation and regional culture as well as a large number of specific, sometimes unique plants." Along with recreational plans, recultivation itself suffered setbacks due to the sheer extent of projected mining. Of the 700 hectares projected as lost each year, 600 would be farmland.[50] After a tour of the mining region, the Kammer der Technik warned that, although the steady replacement of trains with conveyer belts to transport topsoil and overburden had increased the efficiency of coal extraction, it was diminishing the quality of topsoil used for recultivation. This was, by default, the meager *Mischboden* mélange of topsoil, acidic sands, and clay.[51]

On the eve of the end of East Germany, the extreme tension between coal-hungry Berlin and local demands for a sustainable landscape had reached a breaking point. The increased number and lifespan of coal mines not only threatened the annihilation of cities like Zwenkau and Pegau; the trend also dictated the seemingly indefinite delay of a delightful recreational landscape explicitly meant to satisfy "the demands of humans."[52] Although they never expected the SED dictatorship to end, no one aware of the new plans could imagine they were sustainable. In the final days of 1988, the district chairman of Farming, Forestry, and Foodstuffs complained to the District Planning Commission that the present plans failed to satisfy recreational or even agricultural and forestry needs that had been recommended by major East German scholarly institutes (Akademie der Landwirtschaftswissenschaften; Institut für Landschaftsforschung und Naturschutz, Halle; Arbeitsgruppe Finsterwalde). He noted that, by the year 2000, the district would lose 4,300 hectares of farmland to new pits and failed recultivation. The lack of "decisions from leadership" had prevented the implementation of new recultivation technology essential "to form an ecologically stable and productive landscape that guaranteed an intensified use as well as

50 Wagner, Büro für Territorialplanung, "Konzeption zur Gestaltung der Bergbaufolgelandschaft in den Braunkohlenabbaugebieten des Bezirkes Leipzig," November 17, 1982, SächStAL 20237, Nr. 33436, 1–21, here 2.

51 Kammer der Technik BFA Forsttechnik/BFA Wiederurbarmachung/Bodenschutz, "KDT – Standpunkt: Schlußfolgerungen aus der Fachexkursion 'Probleme der Widerurbarmachung von Braunkohlenkippen für die forstwirtschaftliche Folgenutzung im Raum Leipzig-Altenburg' am 9.10.81," SächStAL 20237, Nr. 33436, here 1.

52 Wagner, "Konzeption zur Gestaltung der Bergbaufolgelandschaft," 3.

the protection of natural resources." Forests required decades to develop, and so the loss of mature forests to mining would yield "a *long-term decline* of the ecological situation and recreational conditions."[53]

Even as officials discussed the dire situation behind closed doors, engaged local citizens proposed alternative solutions for environmental degradation. To name one of many examples, environmentally-themed religious services had taken place annually since 1983 in the most devastated villages south of Leipzig to offer both information and possible approaches for redress; in 1985, this event focused on recultivation and took place in Pötzschau — a largely abandoned village slated for destruction by mining — where engaged citizens entered into a podium discussion with state experts like Manfred Seela and district lignite planning chairman Roland Holzapfel.[54]

Despite keen regional awareness of the need to invest in recultivating farmland, forests, recreational spaces, and a stable ecology, documentation over the course of 1989 exposes a centralized leadership that held back even remedial efforts to secure the cliff lines that would become shores for future lakes or to ameliorate soil conditions. To feed the coal economy, Berlin was ready to bequeath to future generations a weedy acidic landscape of collapsing shores, illegal dumps, and unhealthy pools of vinegar-like water where people were sure to bathe anyway — and, of course, a stockpile of paper plans for a distant-future lake district. Drawing data from post-mining areas that had been left to wild vegetation and erosion, one report warned that, because "a dedicated, sensible [landscape] development with special techniques and technologies is, according to the current state of knowledge, materially and economically not possible," the abandoned pits and slagheaps scheduled to sit "for over fifty years represent an incalculable risk. Experience has shown that the shaping of a post-mining landscape [*Kippenlandschaft*] must begin as fast as possible. *The so-called mining relics will*

53 Voigt, Stellverteter des Vorsitzenden für Land-, Forst- und Nahrungsgüterwirtschaft to Poppe, Bezirksplankommission, December 13, 1988, SächStAL 20237, Nr. 33437.

54 See chapter five in Demshuk, *The Filthiest Village in Europe: Grassroots Ecology and the Collapse of East Germany* (Ithaca, NY, 2026).

Figure 6. Mining landscape in Cospuden ("Tagebau Cospuden"), 1989. Photographer: Thomas Thiel. Reproduced by permission.

increasingly turn into an expensive regional burden with long-term consequences," such as the inevitable illegal recreational use of unsecured slopes and mounds of acidic sands.[55] Nevertheless, early 1989 meetings of the district planning offices confirmed that mining needs (radically expanding pits) and insufficient funding to secure future lake sites meant that the proposed Espenhain lake would only appear sometime around the year 2090, long after the present decisionmakers and even their grandchildren were dead and buried.[56]

Conclusion: Cultural Landscapes from Lignite Moonscapes

Just months before Leipzig's Peaceful Revolution, district planners were foreclosing on the idea of a recreational

55 Emphasis in original, VE BKK Bitterfeld HA Projektierung Leipzig, "Standpunkt zur Niederschrift über die Beratung am 23.1.89 zur Kippenentwicklung im Großtagebau Espenhain," February 15, 1989, SächStAL 20237, Nr. 33437.

56 Büro für Territorialplanung bei der Bezirksplankommission Leipzig, "Entwurf der Ratsvorlage Beschlußgegenstand: Veränderung der Bergbaufolgelandschaft im Bereich des Brückenschlauchs an der nördlichen Markscheide des Tagebaues Espenhain," February 7, 1989; idem., "Niederschrift über die Beratung 'Varianten zur Kippenentwicklung im Tagebau Espenhain' als Vorbereitung des Antrages auf Standortgenehmigung zur Weiterführung des Tagebaues Espenhain im Zeitraum 1991–95, am 31.3.89 im Büro für Territorialplanung," March 30, 1989, SächStAL 20237, Nr. 33437.

wonderland and accepting one hundred years of wild moonscape devastation which would never have allowed for the creation of the lake district the region enjoys today. GDR-era plans and scientific knowledge informed the creation of Leipzig's "Neuseenland" precisely *because* of the unexpected end of communism and resulting closure (rather than expansion) of most of East Germany's pit mining and carbochemical infrastructure, in tandem with unimaginable financial and material assistance from West Germany. Many of Leipzig's post-1989 planners had received training and experience during the East German period, just as the concrete dream of a lake district south of Leipzig transcended the divide of 1989 as a seemingly self-evident goal in the multifaceted planning that emerged over the 1990s.[57]

This paper has shown how one can trace the evolution of East German recultivation science and praxis through several discrete phases. After poor recultivation outcomes through the mid-1950s, a range of scholars and experts were able to plan and start implementing efforts to save and enrich topsoil for agricultural and forestry uses. These included Rostock geology professor Albrecht Krummsdorf and his student Manfred Seela, who spearheaded creation of a recultivation operation (Zwischenbetriebliche Einrichtung Rekultivierung (ZBE)) south of Leipzig in Borna in 1971, and by the 1980s implemented use of lime with lignite filter ash collected from power plants to ameliorate acidity in recultivated land (Domsdorfer *Aschemeliorationsverfahren*). Such experts were informed by ambitious and evolving Bezirk-level plans for a future lake district that was to one day replace the moonscape. Building on earlier plans, a sweeping 1973 Bezirk-level "Conception for Shaping the Post-Mining landscape in the region between Leipzig and Altenburg" was revised in 1977 to project a "Leipzig-Altenburger Lake District." Unfortunately, the further plans which followed in the 1980s were not mere revisions, but rather substantial alterations that presumed ever more destruction of productive land for coal mining and

57 Detailed assessment of post-1989 planning will feature in the book that results from my ongoing comparative project entitled *Cold War Coal Pits*.

less recreational capacity for the public. In sum, it is hardly surprising that centralized planning, with its emphasis on coal production at virtually all costs, limited and ultimately inhibited Bezirk-level landscape planners from crafting a Neuseenland during the communist period. Yet to overemphasize failures dictated from above would overlook the dogged determination of geological and agricultural experts of global standing, whose conceptions were increasingly entertained by Bezirk and Kreis-level officials.

Increased bureaucratic pressure to implement recultivation unfortunately coincided with the 1970s oil crisis. Intent on phasing out coal in favor of cheap Soviet oil and gas, the East German regime had neglected repairs to its coal installations during the 1960s, and then overtaxed them when, alongside an end to subsidized raw resources from the USSR, the Honecker administration encouraged greater consumption that relied on coal production. Recultivation efforts—though more extensive and advanced than those implemented in the 1960s—could not keep up with the exponential increase in pit mining and industrial output from outdated and decaying industrial facilities. By the mid- to late 1980s, the beautiful lake district planned since the 1950s was forestalled well into the future.

Such an outcome was dangerous, experts protested: if contemporary mining operations failed to make basic preparations such as stabilizing pit cliffs, neutralizing acidic soils, ensuring sufficient topsoil, and caring for water distribution, the lake district's acidic waters hemmed by collapsing shorelines would be bequeathed as more of a liability than an asset to their great-grandchildren in one hundred years' time. This forestalling of a viable new landscape coincided with exponentially increasing grassroots unrest over the clear and present danger of industrial pollution and runaway pit mining. Agitated local residents (who often relied on the coal industry that was destroying their *Heimat*) typically attacked regime incompetence without differentiating between blockading central ministries and regional officials and experts who had been fighting for recultivation all along. After 1989, this triumphalist narrative of uniform regime incompetence and public victimhood became common knowledge.

Many communist-era concerns remain current: the struggle to neutralize lake pH levels, the devastation of the water table, soil infertility, the instability of shorelines, competition over groundwater between farming and recreational uses, and more.[58] Furthermore, just as communist-era recultivation experts struggled with technical and natural challenges, even the most spectacular achievements of recultivation since 1989 have confronted the limits of human ability to control nature after it has been degraded through our prior exploitation. In May 2013, planners realized the "concrete dream" of a canal connecting two nearly completed lakes. Right where just twenty years earlier the Espenhain mine's dusty, unkempt overburden heaps had towered with acidic sands, recreational boaters were now able to pass between the newly crafted Markkleeberger and Störmthaler lakes, via a canal and lock system that overcame a four-meter height difference. Just a few years later, however, some literal cracks appeared in this seeming triumph of post-mining recultivation. In March 2021, the canal was closed indefinitely. Alongside mistakes in construction, it appears that planners had failed to appreciate the challenges that could occur when groundwater rose again through the sandy overburden that had been dumped after mining.[59] Notwithstanding considerable preparation that had included compressing the newly shifted soils along the sides of the canal, the cement-lined edges of the lock were deemed unstable.

Today the closed canal has devolved into an expensive mess of fences, weathering cement walls, aging equipment, and stagnant water. While two of the three sightseeing boats have been restricted into each separate lake, the third was recently sold by the owner due to declining tourist revenues. Work on another canal between the nearby Cospudener and Zwen-

58 "1. Ergänzung und Präzisierung der Konzeption zur Gestaltung der Bergbaufolgelandschaft im Raum zwischen Leipzig und Altenburg," July 15, 1977, SächStAL 20237, Nr. 07137, 4–16, here 16.

59 Björn Meine, "Wer blockiert den Harthkanal?" *Leipziger Volkszeitung*, July 14, 2022, 16.

Figure 7. The Störmthaler-Markkleeberger lock, August 2022. Author's photograph.

kauer lakes (from the neighboring Böhlen/Zwenkau pit mine) has been overshadowed by the calamity. In a worst-case scenario, the lock could fail, and water from the topographically higher Störmthaler Lake could come gushing through into the lower Markkleeberger Lake to flood nearby Connewitz and possibly even a swathe of central Leipzig.[60]

As this story exemplifies, even the most innovative planning and generous investment could not repair the fundamental damage that pit mining had done to the natural world. This is not to downplay recultivation outcomes like the lake district south of Leipzig. On the contrary: this article has upheld recultivation planning and all-too-limited achievements under communism, just as it celebrates the overcoming of the dystopian mining landscape that had prevailed across much of the region in 1989. It is nonetheless the case that humans have irrevocably altered geological substructures, aquifers, soil chemistry, archeological traces, and rich cultural landscapes. The new landscape is unruly, because its damage runs so deep. Even as Cold War-era landscape scholars and planners had chided mining collectives for failing in their duties to recultivate what they had left behind, they had

60 "Bauarbeiten an Kanuparkschleuse—Seesperrung im Leipziger Neuseenland," February 2, 2022, https://www.kanu-sachsen.de/2022/02/03/bauarbeiten-an-kanuparkschleuse-seensperrung-im-leipziger-neuseenland/, accessed August 16, 2024.

remained firm in their belief that they could produce something better than the world as it had existed before mining. This was hubris. Such destruction could not somehow prefigure the creation of a new paradise that exceeded the natural beauty, productivity, and cultural richness of what had come before. Reading the enthusiasm of contemporary tourist and landscape-planning brochures, one cannot escape the sense that this hubris lives on today.

Andrew Demshuk is Professor of History at American University in Washington, DC. His research on forced migration after World War II, state-civic relations in East Germany, and the politics of urban planning in Cold War Poland and divided Germany has appeared in leading scholarly journals, as well as four books: *The Lost German East: Forced Migration and the Politics of Memory* (Cambridge, 2012); *Demolition on Karl Marx Square: Cultural Barbarism and the People's State in 1968* (Oxford, 2017); *Bowling for Communism: Urban Ingenuity at the End of East Germany* (Cornell, 2020); and *Three Cities after Hitler: Redemptive Reconstruction across Cold War Borders* (Pittsburgh, 2021), which won the 2023 Alice Davis Hitchcock Award from the Society of Architectural Historians. His scholarship has been supported by the DAAD and Humboldt Foundation, among others. His next book, *The Filthiest Village in Europe: Grassroots Ecology and the Collapse of East Germany* (Cornell University Press, 2026), explores how local environmental engagement undermined late communist authority and then flourished amid German reunification. His current research project compares political, economic, and ecological outcomes of extensive open-cast pit mining west of Cologne (in West Germany) and south of Leipzig (in East Germany) during and after the Cold War.