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Heavy Load-Bearing Modernity

A Cultural Geology of Albert Speer's Berlin/Germania

A dissertation submitted in partial satisfaction of the requirements for the degree Doctor of
Philosophy in Germanic Languages

by

Paul Dominik Kurek

2021

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ABSTRACT OF THE DISSERTATION

Heavy Load-Bearing Modernity

A Cultural Geology of Albert Speer's Berlin/Germania

by

Paul Dominik Kurek

Doctor of Philosophy in Germanic Languages

University of California, Los Angeles

Professor Todd Presner, Chair

In my dissertation, “Heavy Load-Bearing Modernity: A Cultural Geology of Albert Speer’s Berlin/Germania,” I unpack the complex material, cultural, and intellectual history of the heavy load-bearing cylinder, a soil mechanical test-load built by the Nazis in Berlin in 1941 to examine the geological profile of the nationalist cosmopolis. The massive ferroconcrete cylinder is 46 feet tall, has a diameter of 69 feet, and weighs 12,650 tons, which is more than the Eiffel Tower in Paris, the Statue of Liberty in New York, and the Christ the Redeemer statue in Rio de Janeiro combined. Underneath it are measurement chambers, which go as deep as 60 feet underground. Hitler's architect Albert Speer ordered the cylinder in order to prepare for the construction of a gigantic Triumphal Arch as part of a projected (but largely unrealized) transformation of Berlin into the monumental neoclassical capital of the world: Germania. Designed to trump the canon of classical architecture in terms of size, Germania was supposed to feature the world’s largest

(and heaviest) monuments. These plans capitalized on forced labor, deportation, and large-scale demolition and were deeply tied into the network of concentration camps. Shaped by my training in literary studies, I turned my analytical lens towards a brutalist piece of ferroconcrete to translate abstract construction data into a culturally legible language. I argue that the heavy load-bearing cylinder as an engineering blueprint for both fascist imperial fantasies and the modern metropolis was forged in a crucible of progress, ambition, megalomania, and destruction. As such, it is *the* dialectical emblem of German fascist modernity. To tell this story, I draw upon my findings from fieldwork, spatial ethnographic research, and archival studies, and I examine an extraordinary trove of documents from the disciplines of soil mechanics, architecture, and urban planning through a philosophical and cultural-historical framework, as well as unseen maps, construction plans, geological measurements, correspondences, transactions, experiment reports, photographs, and more.

The dissertation of Paul Dominik Kurek is approved.

Dana Cuff

David Kim

Maite Zubiaurre

Todd Presner, Committee Chair

University of California, Los Angeles

2021

FOR BENEDIKTA

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VITA

Paul D Kurek received his B.A. in Germanistik (with a minor in English/American Studies) from the University of Würzburg in 2014. From 2012-2013, he studied at the University of Texas at Austin. In 2016, Paul received his M.A. in Germanic Languages from the University of California, Los Angeles. From 2015-2016, he participated in the Mellon-funded UCLA Urban Humanities Graduate Certificate Program, which culminated in the publication *Urban Humanities in the Borderlands: Engaged Scholarship from Mexico City to Los Angeles* (2016), co-authored by the participants (architects, urban planners, artists, activists, humanists, etc.). Paul has received several fellowships including the Dissertation Year Fellowship, UCLA Graduate Division (2020-2021), Ernst Adolf Marum Fellowship, UCLA Center for European and Russian Studies (2019-20), Pauline Yu Graduate Fellowship, UCLA Division of Humanities (2017-2018), Graduate Summer Research Mentorship, UCLA Graduate Division (2015, 2016), and Dean's Fellowship, UCLA Division of Humanities (2014-2015). Paul was a Mellon EPIC Fellow in the Seminar for Teaching Excellence: Environmental and Urban Humanities (2019, 2020). He has presented his work at the annual German Studies Association conference, the Society for Comparative Literature and the Arts at John Hopkins University, the City University of New York, the UCLA Urban Humanities Initiative Alumni Salon, and was invited to give several guest lectures. As Teaching Assistant/Fellow, Paul has taught classes including "Holocaust in Film and Literature" and "Cosmopolitanism: Figures Who Changed the World". Besides his academic work, Paul was engaged in the community in several capacities. Since 2016, Paul has been a member of the German American Business Association—Film Initiative.

It is supported by the Consulate General of the Federal Republic of Germany in Los Angeles and honorary chairman Roland Emmerich. As part of the Graduate Student Association, the official student government at UCLA, he served as the Director of Melnitz Movies (From 2016-2019), a film series screened at the longstanding James Bridges Theater at the UCLA School for Film and Television, in which esteemed filmmakers such as Sir Francis Ford Coppola launched their careers. In order to raise awareness to environmental, social-justice, mental health, and other issues, he collaborated with many on and off campus groups and institutions, including the Goethe-Institut Los Angeles, Villa Aurora Thomas Mann House, and the UCLA Campus Events Commission. In 2017, Paul convened the UCLA Alan D. Leve Center for Jewish Studies Shadows of the 20th Century | Ophuls Film Festival (June 1-8) with Andreas Benjamin Seyfert. The festival was featured as Critic's Choice in the LA Times. It was co-hosted and supported by the Academy of Motion Picture Arts and Sciences, the French and German government representatives, the American Cinematheque, and many others. From 2018-2019, he served as Graduate Student Representative on the North Westwood Neighborhood Council, a council formed by students to raise awareness to spatial-justice related issues such as affordable housing, houselessness, cultural revitalization, and public transportation.

Introduction

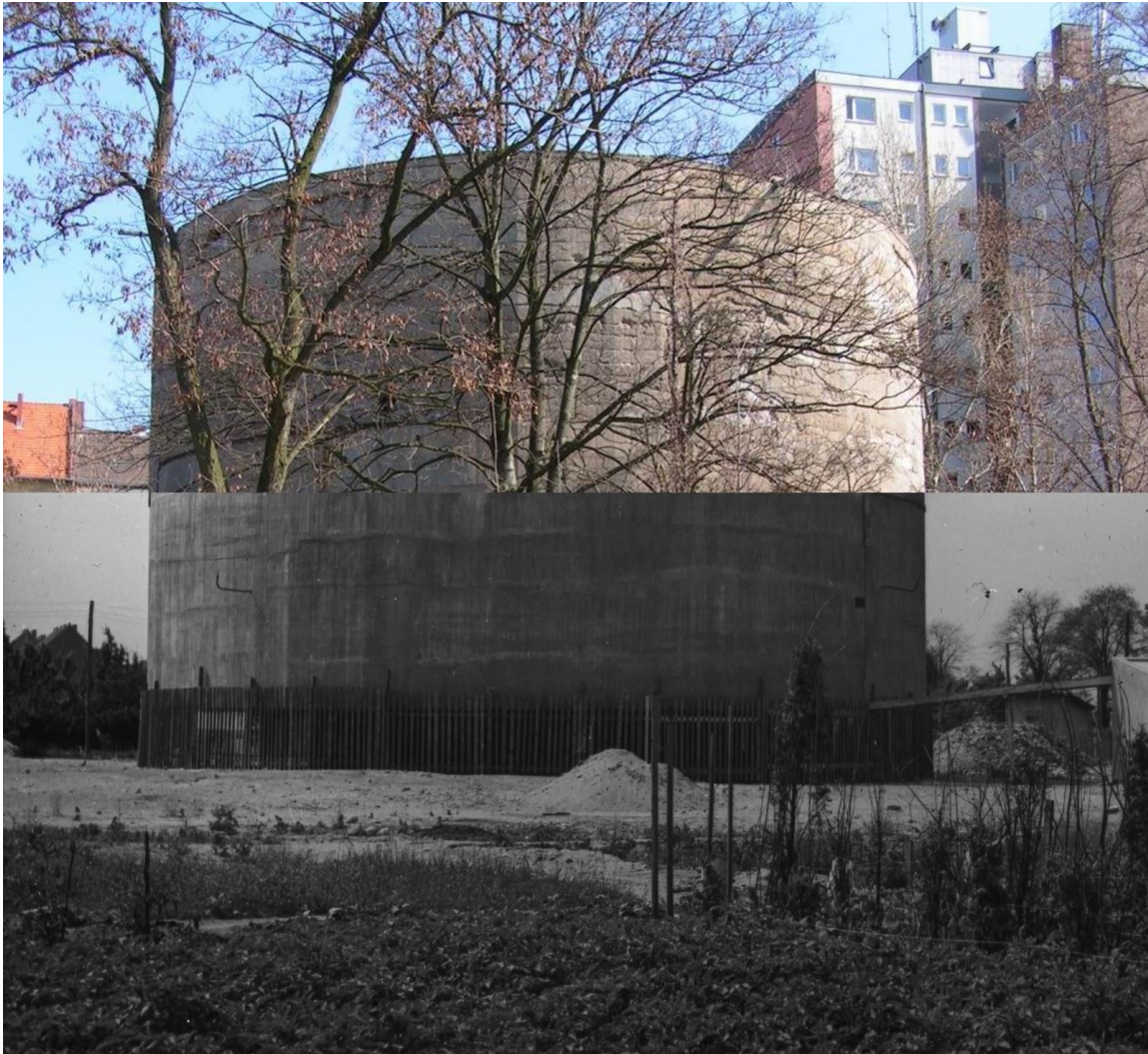


Fig. 1. Kurek, Paul. Collage of the heavy load-bearing cylinder. 1941/2005. 2019. Jpeg.

From the moment it was built during the summer of 1941, the “heavy load-bearing cylinder”, an abandoned soil mechanical test-load left behind by the Nazis in Berlin-Tempelhof, has embodied the dialectic of culture and barbarity that defines fascist German modernity, and probably human civilization in general, like no other object in history (see fig. 1). The massive ferroconcrete cylinder is only 46 feet tall, has a diameter of 69 feet, but weighs over 12,650 ton, which is more than the Eiffel Tower in Paris, the Statue of Liberty in New York, and the Christ the Redeemer Statue in Rio de Janeiro—combined (Tomerius: 156-157). It even outweighs the heaviest structure ever built, the Cheops pyramid, in terms of soil pressure (measured by its estimated weight of 5 million tons) (Kerisel: 17). Underneath it are measurement chambers and instruments that go as deep as 60 feet underground. Drilling through the upper layer of Berlin’s iconic Mark sand, the cylinder weighs upon a layer of glacial till. The latter is a highly heterogeneous soil type that contains all grain sizes from fine sands to giant boulders and was still untested as building ground during those days. Would it be able to carry all this weight? To explore this question and to collect data for an appropriate foundation design, Hitler's favored architect Albert Speer (1905-1981) ordered the cylinder in order to prepare for the construction of the world’s largest Triumphal Arch as part of the projected transformation of Berlin into the neoclassical fascist capital of the world: Germania (see fig. 2). The Germania plans capitalized on forced labor, appropriation, deportation, large scale demolition, and they were deeply tied into the network of concentration camps that were to provide the vast human and material resources necessary to build on such a super-historical scale—masses of laborers, bricks, steel, and natural stones. Speer, who even flirted with the idea of becoming Hitler’s successor, was a major war criminal and driving force of the holocaust. Like so many other Germans, he would have done anything to build a career under the NS-regime, as a recent biography argued (Brechtken: 9-11).

Der Generalbauinspektor
für die Reichshauptstadt

Berlin W 8, den 4.3.1939.
Pariser Platz 4.

Sp/II/P

An den
Herrn Präsidenten der Durchführungsstelle
für die Neugestaltung der Reichshauptstadt,
B e r l i n W .
Pariser Platz 6.

15. Auftrag: Gründung des Triumphbogens.

Gemäss § 2 Abs.1 der Zweiten Verordnung zur Durchführung des Erlasses über einen Generalbauinspektor für die Reichshauptstadt vom 16.6.1938 beauftrage ich Sie, für die Gründung des Triumphbogens am Platz an der Kolonnenbrücke die notwendigen Untersuchungen, insbesondere über die

- 1) geologischen Vorhaben,
- 2) Gründungstiefe,
- 3) den Gründungsvorgang,
- 4) die Möglichkeiten der Einbeziehung der U-Bahn in die Gründung, sowie
- 5) die Gewichtsvorgänge

durchzuführen.

gez. S p e e r .

Fig. 2. Speer, Albert. "15. Auftrag: Gründung des Triumphbogens. Abschrift." 4 Mar 1939.

Landesarchiv Berlin (LAB), A Pr. Br. Rep 107, 350/3, Bl. 141.¹

¹ This letter from March 4th, 1939 addressed the "Gründung des Triumphbogens am Platz an der Kolonnenbrücke" (Foundation of the Triumphal Arch at the Square at the Kolonnenbrücke). It listed the required ground examinations that had to be conducted prior to the planned construction. It was sent by Speer, in his function as "Generalbauinspektor für die Neugestaltung der Reichshauptstadt" (General Building Inspector for the Redevelopment of the Capital of the Reich), short GBI, to his "Durchführungsstelle für die Neugestaltung der Reichshauptstadt" (Implementing Agency for the Redevelopment of the Capital of the Reich). The required examinations concerned "1) geologische Vorhaben" (geological plans), "2) Gründungstiefe" (foundation depth), "3) den Gründungsvorgang" (the foundation process), "4) die Möglichkeiten der Einbeziehung der U-bahn in die Gründung" (the possibilities of the inclusion of the subway into the foundations), and "5) die Gewichtsvorgänge" (the weight procedures). All of these questions would be addressed by the construction of the heavy load-bearing cylinder that was designed as a soil mechanical research tool. This letter is the earliest available document regarding the project.

After the war, the architect ‘covered up’ the violent foundations of his ‘sublime’ architectural vision by providing a powerful counter-narrative. In his notorious *Erinnerungen* (1969), Speer staged himself as a visionary city builder who had fallen for Hitler’s promise of a “tausendjährige[s] Reich” (thousand-years-long empire) (69).² The book was a monumental, almost 600-pages-long narrativization of the slippery slope between denial and guilty plea that saved his neck from the gallows during the Nuremberg trials. After 20 years in prison in Spandau, the publication provided him with wealth, stardom, and international recognition. He revealed, in his signature self-aggrandizing manner, the following in reference to Hitler: “Für einen großen Bau hätte ich wie Faust meine Seele verkauft. Nun hatte ich meinen Mephisto gefunden. Er schien nicht weniger einnehmend als der von Goethe” (Like Faust, I would have sold my soul for a great building. At that moment I had found my Mephisto. He seemed no less appealing than the one of Goethe) (44). His ‘trick’ was to take control of, and manipulate, the narrative of (his) history. He turned it into a tale about his tragic pursuit of personal greatness—and *not* about the millions and millions of souls crushed under the weight of his architectural vision in the camps and on construction sites. Speer fabricated a distorted historical image that prevails until today. Left for historians to unpack, the violent nature of his work required tireless, even if often unrecognized, archival work. The findings clearly proved his active involvement in fascist atrocities (Brechtken: 12-14). In this study, my goal was to reinscribe this (meta-)physical weight—and the bodies bearing it—into Speer’s ‘cleansed’ narrative. I approached the topic by unpacking the history of the heavy load-bearing cylinder, which captures the will to take control over the complex properties of nature with the help of innovative technology. It tells us how the planet was to be molded after the fascist idea of a

² *Inside the Third Reich: Memoirs by Albert Speer* (1970) was the name of the English translation published a year after.

homogenized world history driven by racial superiority. Inspired by Benjamin's description of technocracy in his theses, I read the structure as *the* dialectical image for fascist German modernity: "die Fortschritte der Naturbeherrschung" (the progress in controlling nature) meet the "Rückschritte der Gesellschaft" (regression of society) in its materiality (699). To counter the linear model of history ingrained in the cylinder, I named my approach "cultural geology", as I aim to map out and narrate the diverse, multidirectional, and overlapping historical 'layers' coming together in the building. Ultimately, I see my work as a 'narrative intervention' in the violent design of Speer's architecture that is imprinted in the cylinder. Accordingly, I theorized the heavy load-bearing cylinder as the crystallization of a heavy load-bearing modernity that was built upon the backs of the heavy load-bearing bodies in the concentration camps. My work will help humanities scholars to understand how the modern metropolis is infused with fascist geotechnological data that made the density, mobility, height, and weight of the 20th century possible, constituting the dialectical nature of our urban habitats. This will require us to explore the intersection of material and intellectual history. While we are drilling deeper into the strata of the cylinder's historical complexity, we will branch out into various layers such as the history of the holocaust, architecture, urban planning, technology, and others. But, before we dive deeper into the cylinder's cultural geology, let us briefly orient ourselves in its immediate surroundings today (see fig. 3).

These days, the cylindrical concrete colossus that could be referred to as an *a priori* of Germania, as it indeed looks like an unfinished, crumbling attempt of materializing the Platonic realm of ideas, is still resting upon Berlin's soils. It stands on a fenced-off property just southeast of the intersection of a tram railbed and a bridge named Kolonnenbrücke. If you travel by bus,

you will see the structure right across the street from a bus stop in front of a Lidl supermarket. From there, it is just a short one-minute walk to the south in the midst of a quiet, residential area.

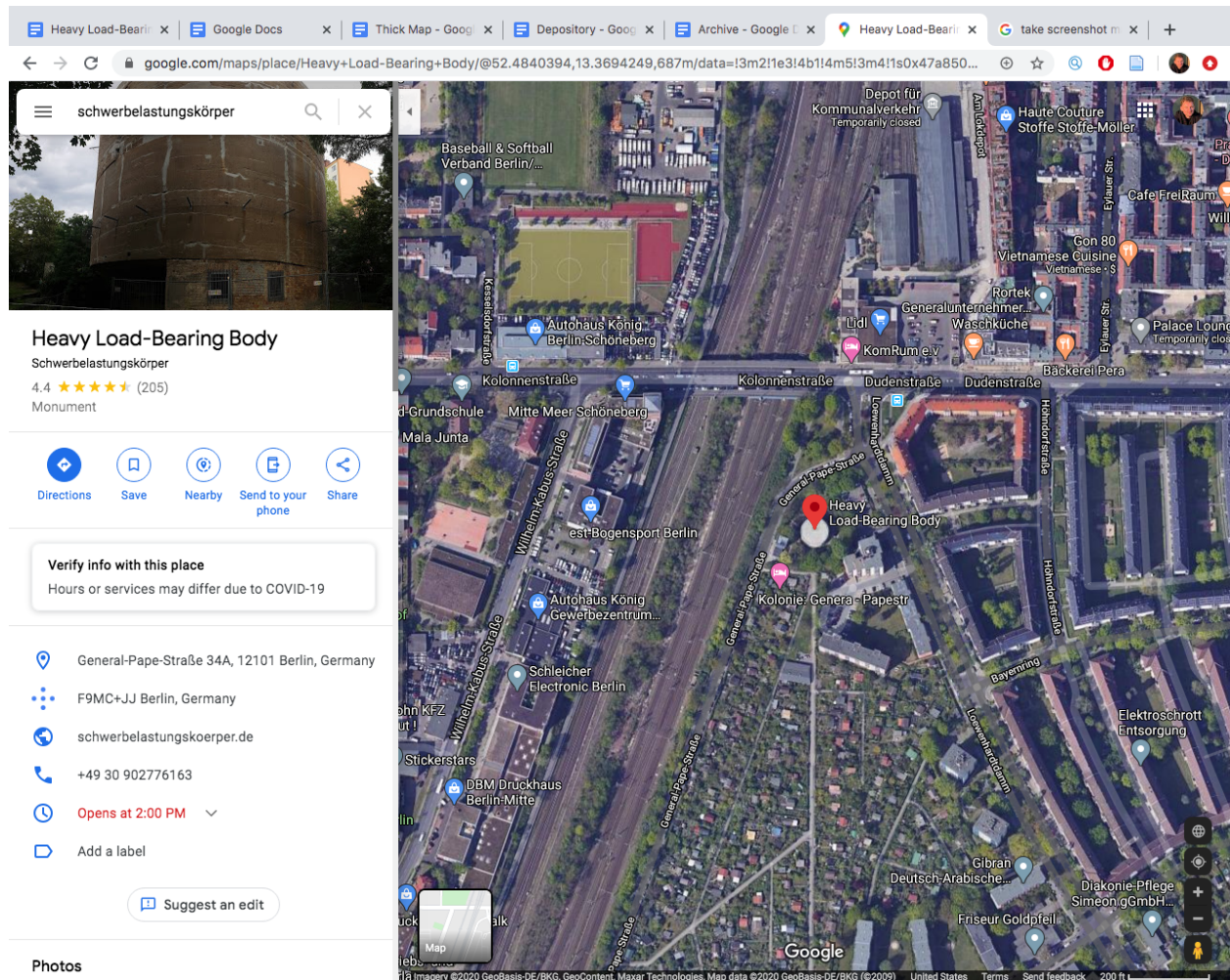


Fig. 3. The heavy load-bearing cylinder and surroundings. *Google Maps*, maps.google.com, 2019. Accessed 23 Feb 2021.

Berlin Tempelhof-Schöneberg is known for its multiethnic community, and, since 2016, for Germany's biggest refugee camp that was built on the Tempelhofer Feld, a popular recreational space of Berliners (Smale). The latter is the former landing strip of a nowadays

closed local airport from the 1920s, which was Europe's largest during its heyday in the 1930s, when it became a major infrastructural nodal point.³ At that time, it was the largest building in the world (measured by expanse) and had more air traffic than Paris or London. Here, we can still see the clear handwriting of Speer's Germania in the urban text. The facility's neoclassic shell limestone façades, which were applied as part of an extension of the airport in the context of the fascist redevelopment of Berlin, show a menacing glimpse of what could have been in the form of a 1.2 kilometer (a little less than a mile) long quadrant ("Steckbrief Tempelhof"). What I learned during my tour through the building (that counts as an engineering masterpiece due to its elaborate steel construction) is that it is mostly empty and unfinished. But, it inhabits, among other things, a police station and a tourism office that offers a variety of under- and overground tours through the premises. At the nearby cylinder, things seem far less intact. At some point in 2019, visitors to the quite unnoticed memorial had to wear helmets when entering the site, as larger and larger chunks were breaking off of Speer's concrete, giving the mythical cylinder, as 'embryo' of a thousand-year-long empire, an uneven texture that clearly marked its material ephemerality. History was threatening to literally fall on our heads. This was, for example, the case during one of the many guided tours, often led by architect Michael Richter, who was *the* driving force behind preserving the site and presenting it to the public. He is part of the community organization Berliner Unterwelten e.V. that is dedicated to the preservation of Berlin's underworld such as bunkers, subway stations, tunnels, and other forgotten structures. The property on which the cylinder stands is embedded into a larger complex of allotment gardens (called *Schrebergärten*), a common installation in German cities that, not unlike the

³ The various uses of the spacious premises since the 14th century demonstrate the historical palimpsest that constitutes Berlin: it was used predominantly for forestry until 18th century, then for military parades in the 19th, for a concentration camp in the 20th century (Konzentrationslager Columbiadamm: 1933-1936), for an airport (until 2008), and finally for a refugee camp in the 21st century ("Tempelhof Projekt GmbH").

Russian dacha, offers gardening space for the urban population.⁴ They had mostly been set up since the 19th century to offer additional cropland in the midst of the ongoing urbanization and industrialization that transformed Berlin (and other densely populated areas) (“Das deutsche Kleingartenwesen”)⁵. The remaining parcels of the “Kolonie General-Pape Straße”, which offer affordable recreational weekend houses today (if you are able to obtain one), predate Speer’s concrete cylinder, and were partly appropriated for the project (not without quite robust resistance, as they are a strong communal institution in Germany’s culture)⁶. The still intact gardens extend to the southwest from the object. To the southeast there is a residential building. A parking lot is attached towards the east. The remainder of the property is bordered by the General Pape Straße. It unfolds slightly curved from the southwest to the northeast where it

⁴ As a letter of the Degebo to the Senat für Finanzen (Senate for Finances) from March 5th, 1959 details, the site used to be located in front of the gates of Berlin in the early 19th century and was a garrison training ground. In 1910, the municipality Tempelhof bought the premises from the Reichsfiskus (Treasury of the Reich) and entered a Verwertungsabkommen (Valorization Agreement) with the Deutsche Bank to stimulate the development of the premises. The resulting rights and duties were transferred to the Tempelhofer Feld Aktiengesellschaft that was from then on the economical benefactor of the premises. When the GBI started to be interested in the premises, they had been occupied by allotment gardens for a while.

⁵ *Laubenzolonie* is a regional, Berlinerisch, word for garden colony. For those unfamiliar with the concept, allotment gardens are not attached directly to the house one is living in. Instead, these garden parcels are located in a green area on the margins of a city. Allotment gardens have a long and rich history in Germany (and Europe) that goes back to the mid 19th century. Famous is the story of the doctor Daniel Gottlob Moritz Schreber, who recognized the social potential of these so-called “Schrebergärten” (Schreber gardens) as means to improve civilization. The gardens were able to compensate for the lack of nature in the thriving metropolis, especially for the underprivileged working class (Verk: 31). He was part of a larger history of green movements that tried to support the “zivilisationsgeschädigte Mensch” (human subject damaged by civilization) by offering “naturgemäße[] Regeneration” (natural regeneration) to compensate for the insufficiencies of the urban habitat (33). Berlin, in particular, became famous for the many wild, ‘informal’ gardens that spread throughout the city, before they were embedded in an official structure later on in the early 20th century (34). The gardens were tied into the bourgeois concept of education (“Erziehung”). The upper class saw the gardens not only under the aspect of physical and economic health, but also as a possibility to spread their values, e.g. fight alcoholism and other types of moral decline that exploded in the metropolis among the proletariat (34-38). After WWI, the moral aspect became less relevant, as the gardens became an important site for food production and survival. From then on, the formerly informal garden culture grew rapidly and was eventually only manageable with official intervention and organization (38-39).

⁶ The protocol of the “Besprechung über die Räumung von Kleingärten im Bereich des Bauwerks T am 19. März 1941” (meeting about the eviction of allotment gardens in the area of the Bauwerk T on March 19th 1941) shows a glimpse of the long back and forth between the GBI officials, representatives of the gardener community, and the local government.

extends into the Loewenhardtdamm, which then hits the Kolonnenstraße. It is hard to describe the impression it makes when you stand there in person for the first time (see fig. 4).



Fig. 4. Kurek, Paul. My first close-up shot of the cylinder. 25 Feb 2018. Jpeg.

Despite its obviously massive weight, the object itself is more or less ‘mute’ and does not ‘reveal’ its purpose. It certainly does *not* stimulate the spectator in a way a grand Triumphal Arch would. It is quite big for a cylinder—that’s about it. Maybe this all just adds another layer to the object’s air of mystique that tries to suggest that there *is* more to discover than we might see at first glance. At least that was the impression of a contemporary witness. When he was young, Klaus Heinrich, who lived in Berlin during the fascist era, felt threatened and dwarfed by the cylinder, even after the war, when many of Speer’s buildings had already been removed. “Nicht zu sprengen war ... dieser riesige Klotz, den Speer, wie meine Eltern mir erzählten, am Tempelhofer Feld aufstellen ließ, um den Untergrund für die Große Halle zu testen. Nun stellen Sie sich vor, welche Vorstellung man sich als Kind macht, was das für ein Bau sein wird, wenn man so testet” (This huge block ... was unexplodable[.] Speer, as my parents told me, had erected it at the Tempelhof Fields, to test the ground for the Great Hall. Now imagine, what kind of fantasies a child comes up with about what kind of construction that will be, when one tests in such a way). He could hardly wrap his head around the scale of what shone through the cylinder, which is a testimony to how present Germania was still in the heads of the people living in Berlin; a future that had just passed—like a dodged bullet.

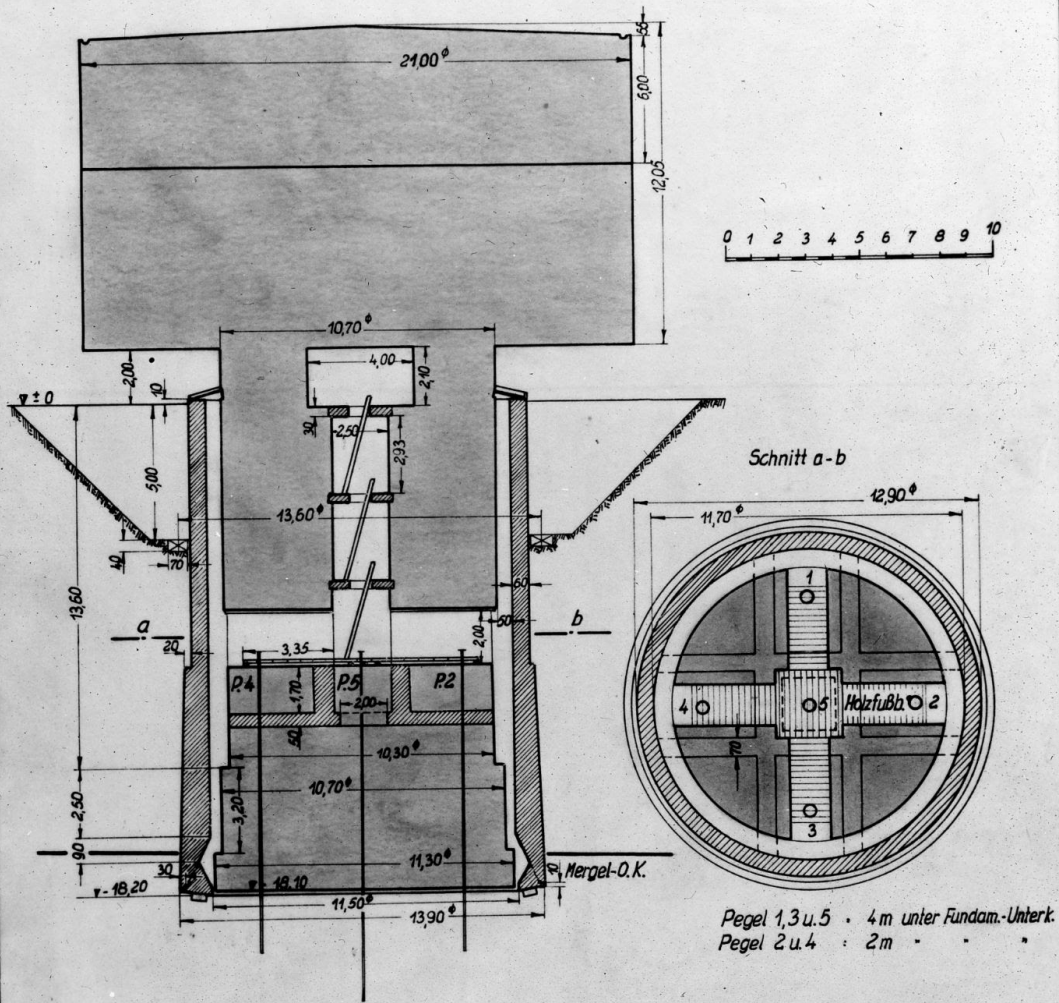
Nevertheless, as an uninformed spectator today, all one could notice though would be the cylinder’s ‘odd’ look that does not quite fit into this very ordinary neighborhood wrapping around it. What *really* makes this site unique lies beyond the surface and does not reveal itself immediately to the occasional urban spectator, who tags along this mostly unnoticed site as pedestrian—or through the Apollonian gaze of Google Earth.

The cylinder’s design earned it the nickname “Betonpilz” (concrete mushroom): it consists of a thick but short cylinder (the mushroom head) that stands on a long but skinny one

(the mushroom stem) (see fig. 5). The upper cylinder protrudes 40 feet into the air and is entirely visible, while the lower one goes 60 feet underground and is mostly hidden from our eyes. The massive 'head' consists of highly dense ferroconcrete (and ordinary concrete, in an about 50:50 ratio). Thus, the object was able to simulate the weight of a much larger building. The 'stem' is partly hollow.

Probebelastung auf Berliner Geschiebemergel

Belastung $\sigma \sim 12,5 \text{ kg/cm}^2$
auf einer Fläche von 100 m^2



Degebo

Fig. 5. Degebo. Cross-section of the heavy load-bearing cylinder. 1941. Diaarchiv Degebo.

It was exactly here, underneath the visible part of the heavy load-bearing cylinder, in its measurement chambers, where a new concept of time, space, and identity, fascist German modernity, was being designed, and tested. By putting enormous pressure on Berlin's soils, an overarching historical, spatial, and racial homogenization was prepared—making the concrete 'block' the epitome of a heavy load-bearing modernity. To impose German fascism as a concept onto the world required for the geological bearing, and the spiritual 'breeding' grounds, out of which the national consciousness 'emerged' (in a battle between *blood* and *soil* according to fascist ideology) to be fundamentally rearranged.

Architecture and urban planning were a big factor in communicating this 'new Germanness'. Therefore the narrative of German soils was drilled into. The ground was penetrated with a system of gauges and meticulously analyzed, in order to test and prepare its suitability as load-bearing *substructure* designated to carry the eternal erections of the fascist *superstructure*. The latter was supposed to materialize in the world's largest monuments, arches, halls, axes, pools, and more. These were planned as expressions of an eternal, unshakeable, homogenous, German identity construct. The cylinder provided data about the "Sackung" (settlement) of the "Triumphbogen", the "Soldatenhalle" (Soldier's Hall), and other projects that were built on "Mergeluntergrund" (marl subsoil) (LAB, A Pr. Br. Rep 107, 350/3: Bl. 143). Overall, the heavy load-bearing cylinder paved the way for a 'new heaviness' of the built space, and the data collected on site supported the development of appropriate foundations. Therefore, the cylinder, as an object of historical inquiry, contained (and still somehow contains) the physical possibility of the potential, unrealized history of Germania.

So, in a speculative past, if Germania had been finished by 1950, as planned, the view of the area around the heavy load-bearing cylinder would have been fundamentally different. As a

letter by the GBI from February 22nd, 1941 details, the structure was to be hidden under masses of soil, underground (LAB, A Pr. Br. Rep. 107, 226: Bl. 34). Instead, the visitor would have encountered an elevated plane that was carrying the opening act of Germania, history's largest Triumphal Arch, as the gate to a city built on top of the idea of racial superiority (see fig. 6).



Fig. 6. Büro Speer. "Grosser Bogen." 24 Feb 1941. Bayerisches Hauptstaatsarchiv München, Büro Speer Pläne, 2898.

While walking towards this intimidating giant from the train station nearby, one would walk over a layer of 14 meters (ca. 46 feet) of soil that had been applied to raise the entire area around the edifice. This enabled a visually straight (vertically and horizontally) axis from the

south to the north of Germania. The masses of soil would have stemmed from the digging work for the foundations of the arch.⁷ Meanwhile, the massive natural stone blocks needed for the cladding of the monument were to be stored on a nearby former railroad station, where the soils were stored as well (see fig. 7).

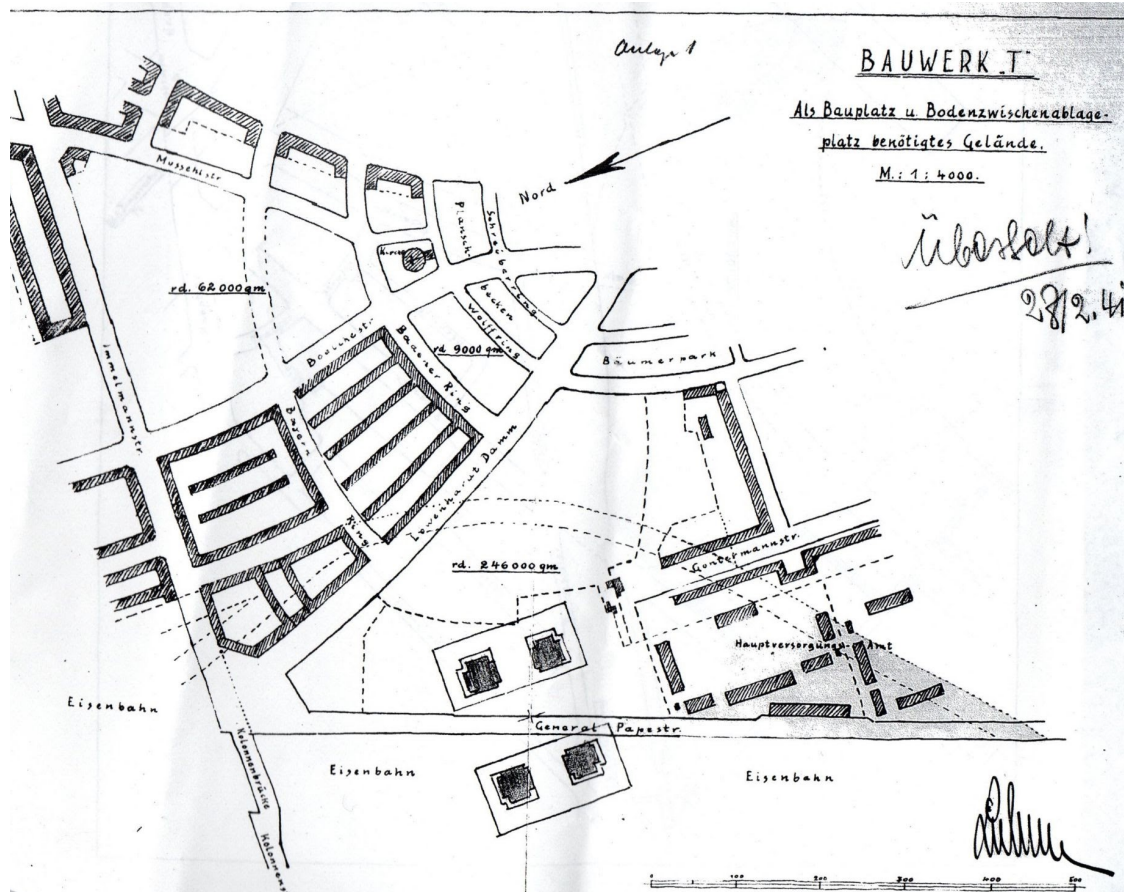


Fig. 7. GBI. “Bauwerk ‘T’. Als Bauplatz u. Bodenzwischenablageplatz benötigtes Gelände.”⁸ 22
 Feb 1941. LAB, A Pr. Br. Rep. 107, 226, Bl. 36.

⁷ Another office involved in the project was the Haupttiefbauamt (Main Underground Engineering Department). They were involved in the distribution of the soil masses needed for a leveled “Straßenkörper” (street body). The folder “N-S-Achse-Mitte Landwehrkanal (auschlie.)-Triumphbogen” of the Magistrat der Stadt Berlin, Städtische Tiefbaudeputation shows this back and forth in great detail (LAB, A Rep. 010-01-02, A5657). For example, the mayor expressed in a letter to the GBI in April 1940, Speer’s constant planning modifications made it impossible to finalize the project. In a subsequent meeting with city officials on Sept. 27th, 1940, Speer ‘finalized’ his desired length profile of the axis. But, on Nov 11th, 1940, he presented a modified concept.

⁸ Area needed as construction site and storage space for the Triumphal Arch.

While we can only speculate about how the construction of this monstrous giant would have proceeded and how it would have looked in the end, I want to borrow the words from Primo Levi. I believe they capture the essence of building Germania from the perspective of the workers (that Speer remained silent about), namely the dehumanization of *bauende Körper* (building bodies): so sweating, bleeding, suffering, bearing bodies. They were degraded into material resources for the *Baukörper* (built bodies/buildings), thus carrying numbers, not names, forced to leave their spirits in the stones: “We are the slaves of the slaves, whom all can give orders to, and our name is the number which we carry tattooed on our arm and sewn on our jacket” (72). Shortly after this passage, Levi proceeded to describe a building that was towering above its surroundings just like the arch, namely a factory in Auschwitz, and born out of the same ‘spirit’ like Speer’s Germania:

The Carbide Tower, which rises in the middle of Buna and whose top is rarely visible in the fog, was built by us. Its bricks were called *Ziegel, briques, tegula, cegli, kamenny, mattoni, téglak*, and they were cemented by hate; hate and discord, like the Tower of Babel, and it is this that we call it:—*Babelturm, Bobelturm*; and in it we hate the insane dream of grandeur of our master, their contempt ... for us men. (72-73)

Levi describes this “insane dream of grandeur” captured in the biblical tower motif as something physical, something material, something that “we all feel, and the Germans themselves feel, that a curse—not transcendent and divine, but inherent and historical—hangs over the insolent building based on the confusion of languages and erected in defiance of heaven like a stone oath” (73). For Speer and Hitler, history was a space of national size comparisons,

which reached its peak in Germanness. The bodies of the workers were merely a means-to-an-end to achieve this act of self-elevation by setting it in stone: “das Größte sollte sein Werk verherrlichen, sein eigenes Selbstbewusstsein erhöhen” (the biggest was supposed to glorify his work, to boost his self-confidence) (1969: 82-83):

Auch mich berauschte die Vorstellung, mit Hilfe von Zeichnungen, Geld und Baufirmen steinerne Geschichtszeugen zu schaffen, und damit einen tausendjährigen Anspruch vorwegnehmen zu können ... geschichtlich hervorragende Bauwerke zumindest in den Größenverhältnissen “geschlagen” [zu haben] ... [mit der] in die Ewigkeit projizierten Vorstellung der eigenen Größe. (83)

The idea of having created historical witnesses in stone with the help of drawings, money and construction companies, and thus anticipating a thousand-year-long claim, also intoxicated me ... [to have] “beaten” historically outstanding buildings at least on the scale ... [with the] idea of own greatness projected into eternity.

Speer’s Triumphal Arch, as the heaviest “historical witness in stone” was supposed to carry the millions of names of fallen German soldiers on its granite facades (88). These would not have included a single name of any of the workers, who would have died in the camps cutting stones or on site to erect this monster. Their names, degraded into numbers, were designated to be forgotten, buried in the soils underneath the fascist empire. Therefore, the goal of my project was to amplify the ‘hidden’ narratives ‘covered up’ by Speer’s ‘sublime’ architectural vision: its violent design and (meta-)physical heaviness.

On the basis of the unseen archives of fascist soil mechanics, I reframed Speer's urban vision as a project with a geological scope. Therefore, I looked at the tension between envisioned urbanity, (in-)humanity, and geology, which led to a highly sophisticated soil mechanical intervention effort. The goal of this intervention was to erect the illusion of an eternal city upon shifting grounds. On a deeper level, this illusion was motivated by the fear of the inherent structural fragility and hybridity of the world. The fascists projected this fear into the construction of their national identity, which they, accordingly, designed as a monumental, pure, and eternal narrative—a violent overcompensation. They imposed this narrative on the shaky, heterogenous, and fluid soil—and the biodiversity inhabiting it. Therefore, they encountered their fear of structural fragility/hybridity with the belief that nature (including time, space, and identity) can be brought under human control and molded after an idea—the idea of racial superiority. This materialized in the will to transform the world into a system of binary hierarchical camps that ensured the enforcement of *clear* walls of classifications among populations; which stood in clear contrast to their shifting, intertwined, and temporary geological foundations. In that sense, I looked at fascism as the most extreme case of coping with the fear induced by the dialectic of rigidity and fluidity that existence is defined by.

Before I get to a historical overview, I want to start with a discussion of my theory/methodology. It was significantly shaped by my participation in the urban humanities, which encouraged me to approach my project through a 'spatial lens'. The result was the idea of a *cultural geology* that I started developing with this project.

Theory/Methodology: *Cultural Geology*

I named my method cultural geology both for conceptual and material reasons. I conceptualized my writing as ‘mapping out’ the layers of histories. But, I also looked at primary materials from geology (and/-or soil mechanics). My case study, the heavy load-bearing cylinder, offered the ideal example for the intertwining of intellectual and material history that I argued for: it’s a material object ‘flooded’ by a dangerous idea and simultaneously embedded in histories of societal regression/technological progression. While unpacking the various layers, the goal of this project became to disrupt the metahistorical protocol acted out by Speer’s Germania project. When re-read as a memorial site, the heavy load-bearing cylinder can open an echochamber for the voices of the heavy load-bearing bodies that have sunken under the weight of German fascism. I looked at my writing as the attempt of opening up such a memorial space.

Cultural geology aims to narrate the complexity of the built world, by showing how narratives of spaces, times, and identities are always intertwined. Ideally this will encourage the reader to critically examine their surroundings as well—and awaken their curiosity to explore spaces and their histories. The figure of the flâneur, who dives into the streams of the urban masses and allows oneself to get carried away, while a plethora of ideas, voices, sounds, smells, images, tastes, memories, and more, are coming over you, seems to be a great point of departure to illustrate the intuitive, at times aimless, at times drilling, at times peripheral, and mostly associative flow of my narrative. But how did it all begin?

Urban Humanities

My decision to start my intellectual journey in the material realm was deeply informed by my participation in the UCLA Urban Humanities Initiative, which allowed me to explore Los Angeles, Tijuana, and Mexico City, as part of a very diverse collective of scholars and

practitioners of all kinds.⁹ As everyone brought their own personal and disciplinary positionalities, presuppositions, skills, methods, and questions, urban humanities turned out to be a space that was highly experimental and hard to define. Nobody really knew what the outcome *would*, or even *should*, be. Everything had to be constantly renegotiated, which certainly was a challenge that productively shattered each and everyone's idea of what urban humanities *can* be.¹⁰ It was a truly transformative experience, which, despite its challenges (or maybe because of it), inspired me to conduct *more* fieldwork and explore space—and my body moving through space—as a realm of intellectual inquiry. My major take-away for my dissertation, I believe, was to open myself up to experimentation in terms of research methodology. In terms of theory, it encouraged me to look at German fascism as the artificial implementation of a racial border between *German vs. non-German*—but also beyond disciplinary borders. Applying this approach to an object such as the cylinder *could* mean that by providing a narrative that opens up the hitherto inaccessible history of this building to a larger audience—while articulating its relevance as a memorial and for cultural history—I do 'justice' to the community's right to mourn and remember. By exploring the site by myself, entering the cylinder, climbing down into the measurement chambers, touching the concrete, walking through the neighborhood, talking to

⁹ Urban Humanities brings together architects, urban planners, artists, activists, humanists, and others, to work on 'spatial justice' related projects, thereby referring to the effort of transforming cities into spaces that fulfill the needs of their inhabitants. As part of the UCLA Urban Humanities Initiative Graduate Certificate Program: Los Angeles and Mexico City (2015-2016), we explored, and deconstructed, the borderlands between the US and Mexico, but also disciplinary boundaries, which encouraged me to look at the urban space as a realm of intellectual inquiry. An introduction to the field was recently published by MIT Press: *Urban Humanities: New Practices for Reimagining the City* (2020).

¹⁰ My motivation to participate initially was my interest in the history of architecture and urban history, and I believed that I will receive comprehensive overviews over these fields throughout the program, as 'bags of knowledge' that I could add to my repertoire. Instead, we were thrown into the 'cold water'. Rather than learning about the 'other' fields in the room, we were 'forced' to discover questions that all of us, no matter which discipline we were originally from, shared. This was impossible without overcoming the limiting jargon of each discipline, in order to discover, and emphasize, our commonalities. As such, it was the ultimate human challenge: the search for, and cultivation of, empathy. What we could all agree on was, in a nutshell, the (aforementioned) pursuit of 'spatial justice. So, rather than receiving another 'bag of knowledge', I was encouraged to change the way I think about knowledge production.

random visitors, and introducing a group of UCLA summer abroad students to the site—all practices that fall under “spatial ethnography”¹¹ in urban humanist jargon, I collected a *mosaic* of impressions and associations. Now what to do with it? I tried to gauge something that might not be even graspable, but is hopefully still trickled through my writing. In accordance with the urban humanities, I believe that we have to be cautious about the values we promote when arranging historical data into a narrative. We must be aware that we are constantly filtering information through a specific lens. In my case, through the eyes of a white European, middle-class male with a Catholic and ‘conservative’ background (Bavarian countryside), who chose to move to the ‘progressive’ California. Like any other positionality, mine is limited, and comes with a specific (not unproblematic) ‘societal protocol’ that lays out how one should act, think, and feel, and that the ‘protagonist’ is responsible for in many ways. In retrospect, what I was personally looking for (far more intuitive than anything else), was maybe indeed inspired by my upbringing. As the son of Slovak immigrants with an ambiguous cultural identity, it is no ‘surprise’ that I ended up conceptualizing *Germanness* as something that is fluid, layered, and complex, rather than defined by a wall between *German vs. non-German* (which would have inevitably excluded me due to my Slavic roots). It seems, despite my ‘otherness’, I feel the urge to be able participate in the overarching project of being German. Accordingly, I read the cylinder, which is ‘rooted’ in the traveling German soils, as an object defined by the tension between a *binary* and *non-binary* definition of Germanness. In order to be included, I had to dismantle the *binary* reading that informed its construction. Speer himself, who initiated the project, only mentioned it in passing, as it did not express what he wanted to be remembered for:

¹¹ A description of this multifaceted method can be found on pp. 24-26 of *Urban Humanities: New Practices for Reimagining the City* (2020). Key to it are mainly two things: (1) to work *in situ* and (2) to be aware of one’s limited perspective: “the positionality of the subject who brings her worldviews, epistemologies, languages, sensitivities, and biases to any practice of representation (24).

a grand and sublime architectural vision that speaks of an accordingly *monolithic* German identity. By foregrounding the in many ways ‘inconvenient’ memorial of the cylinder within the architect’s legacy, I hope to amplify the effort of historians to reveal the true violent nature of Speer’s ‘sublime’ vision. But, on a more ‘self-serving’ level, it also helped me to reinforce, and spread, a reading of Germanness that allowed me to participate in it despite my foreign roots in the first place. I believe that the strength of Germanness, historically speaking, was its conceptual plasticity that allowed for it to become a shelter for people with all kinds of backgrounds—and not fantasies of rigidity and purity. What they all had in common was that they saw meaning in participating in the German project—which I still do.

Archive

As the cylinder’s history has not been unearthed in detail yet, a large chunk of my work was archival. Looking at historical documents from a very foreign discipline, namely soil mechanics and foundation engineering, inspired me to think about the dynamics between buildings and soils as a battleground against ephemerality. Geotechnological engineers (to use today’s umbrella term for soil mechanics, foundation engineering, and other related subfields) maintain the illusion of our world’s structural stability by providing the data and technologies for designing firm building foundations. German fascism incorporated this approach into their violent attempt to align the material world to a static idea. Ideas like that came to me in the archives of the Deutsche Gesellschaft für Bodenmechanik (German Society for Soil Mechanics), short Degebo, while I unpacked the cylinder’s material history via geological maps, architectural plans, correspondences, experiment reports, drilling profiles, photographs, etc.¹² The Degebo was founded in 1928 and became instrumental for Speer’s redevelopment plans, especially for his

¹² I referred to the three different collections of the archive as Projektarchiv (project archive), Diaarchiv (photo archive), and Kartenarchiv (map archive).

projects of megascale that required the development of new technologies. The Degebo still exists today as Fachgebiet Grundbau und Bodenmechanik (Specialty Foundation Engineering and Soil Mechanics) at the Institut für Bauingenieurwesen (Institute for Civil Engineering) at the Technical University of Berlin. Even if the name Degebo was stripped off in the meantime, all their documents are still housed in the same building (close to the S-Bahn station Humboldthain) that they moved into shortly after their initiation. There is no official archive and the materials are mainly uncatalogued. Dr.-Ing. Marcel Ney from the Technical University of Berlin, a geotechnical engineer himself, granted me permission to the archives and was incredibly helpful and curious overall. Currently, the materials are located in a small room behind the restrooms and an interim space between a staircase and a laboratory. In total, there are ca. 100-200 binders and three small cabinets containing dias, file cards, and maps (with many pieces missing already). Some of the materials I was able to have digitized by the Berliner Unterwelten e.V. others were handed over to me in an already digitized form by Michael Richter. For the most part though, I used my camera. There are a lot more materials available (maps, construction plans, etc.), and in the future I hope to be able to start a digitization project to preserve them. Additionally, the Berliner Unterwelten e.V. were able to save some photographs that were located in a container (owned by TU Berlin) that was supposed to be demolished—so true pieces of debris of history. In terms of Degebo's institutional history, I also consulted their official chronicles, besides the archival materials. In terms of architectural and urban planning history, I looked at Speer's Germania plans via the materials available at the Landesarchiv and Bundesarchiv in Berlin and the Hauptstaatsarchiv in Munich. In terms of the history of technology, I looked at the company archives of Dywidag, the ferroconcrete construction company that built the cylinder in 1941. Their main archives are in Munich and there is also a

Teilarchiv in Maisach, where I located the lost construction plans of the cylinder. It was set up by a former expert of the company who bought part of its bankruptcy assets. As he told me, he catalogued the materials with the help of his children over a summer break. Many of the pieces I obtained have not made it into this study, but will appear in the subsequent monograph. Overall, my archival work allowed me to look at the history of architecture and technology from an urban humanist perspective. This posed the challenge of reading myself into a world that was entirely unfamiliar to me, and also hidden from the eye of the beholder: geotechnology. Working through these materials, I recognized the inherent fragility of any type of construction, if conceptual or physical, more than ever. Buildings are always in negotiation with the soils underneath concerning their (limited) longevity.

Metahistory

Conceptually, labeling my narrative a cultural geology is a *metahistorical* ‘move’. Metahistory is a concept mostly associated with Hayden Whyte’s monolithic study *Metahistory: The Historical Imagination in Nineteenth-century Europe* (1978), but was also used by conceptual historian Reinhart Koselleck (where I draw it from mostly).¹³ Metahistory emphasized that every *history* is at the same time a *story*—and therefore, as a genre of writing, a fiction enriched with facts. Quite related to that, I use the term to analyze the fascist will to control the narrative of history. In order to do that, they constructed the tale of a teleological German identity that was racially superior, eternal, and monumental—and resulted in the “überzeitlichen Charakter” (supratemporal character) of Speer’s/Hitler’s metahistorical architecture (Speer, 1969: 55).¹⁴ Their ‘narrative intervention’ also included the modification of

¹³ Conceptual history grew out of a need for theory in historiography in the late 20th century (with a focus on 19th century German writing). It departed from the self-reflection of the discipline of history. This makes it perfectly tailored for my analysis, as I look at Speer as someone who reflected upon history, in order to ‘construct’ it— what we now have to deconstruct.

¹⁴ In a typically Speeresque manner of weaseling out, he claimed that there was no “ideologisch begründete[r] Baustil” (ideologically grounded building style) during the regime, while simultaneously pointing out that the “Stil

material parameters such as soil/geology, as they were ‘bearing elements’ of history (that contradicted their metahistorical claim of homogeneity). The material consequence of this fiction was heavy load-bearing modernity (including monumental architecture and concentration camps). Besides encouraging me to analyze the *fascist* fiction of history, metahistory also allowed me to ask myself, in what form I wanted to present *my own* findings. I decided to call my study a *cultural geology*, as geologies are always vertical, multilayered, and heterogeneous. Thereby I was inspired by Koselleck’s *Sediments of Time* (2006). Throughout his work, he implemented a ‘geological model’ of time that he conceptualized as a plethora of simultaneous layers, such as cultural, political, economic, technological, and other histories, which are moving at different speeds and in manifold directions. While Koselleck’s approach was mostly metaphorical, I also approached it literal/materially, as already described.¹⁵ A book that applied Koselleck’s ‘geological model’ to urban histories (including Berlin’s) is *HyperCities: Thick Mapping in the Digital Humanities* (2014). The goal was to weave a ‘thick’, multi-layered, narrative of the urban space, something I aimed to do as well.¹⁶ Overall, my work is related to American literary critic Mark McGurl’s proclamation of “The New Cultural Geology” (2011). Under the label of this new cultural geology, he collected his reflections on several ongoing discussions revolving around the collapse of the distinction of *historical* and *geological* time. He

des Führers” tried to connect the “dorischen Stamm” (Doric tribe) with the “germanische Welt” (Germanic world) (55). This amalgamation of histories/bloodlines was obviously an attempt to construct the fiction of a racial purity, but Speer ‘seems’ not to be aware of that—as he, conveniently, as usual, (was) stuck to his ‘aesthetic’ perspective on things.

¹⁵ Noteworthy in this context is Jason Groves’ book *The Geological Unconscious: German Literature and the Mineral Imaginary* (2020) that looks at modern writers and their relationship to the subterranean.

¹⁶ As Presner, Shepard, and Kawano have pointed out in “The View from Above/Below: Toward a Media Archaeology of Google Earth” in *HyperCities: Thick Mapping in the Digital Humanities* (2014), Google reduces the space of the earth and enables a totalizing gaze: “Viewing the world in Google Earth has naturalized a set of habits (flying, panning, zooming) linked to a long-standing desire to rise above the earth and look down from the perspective of the Heavens”, which resonates with the paradigm of the sublime and the Nietzschean dichotomy of the Apollonian and Dionysian (85). The approach of *thick* mapping therefore is to come down from one’s ‘high horse’ and explore spaces from the ‘bottom-up’, in order to add layers of information that are not included in ‘top-down’ datasets.

also discussed related concepts, such as the Anthropocene, and the “*post-post-modern*” as “a range of theoretical and other initiatives that position culture in a time-frame large enough to crack open the carapace of human self-concern, exposing it to the idea, and maybe even the fact, of its external ontological preconditions, its ground” (380). This resonates well with my reading of fascism as the attempt to overcome the fear of being fragile. Summa summarum, I look at soil as a “metahistorical pregiven[.]”, as it determines the type of narratives we can weave, considering they are always erected upon shaky, heterogenous, moving grounds, both conceptually and physically (Koselleck: 28-29).

Materiality

The method to read a theory of history out of materiality has its own vast genealogy that would be worthy of discussion (starting with Marx’s teleological approach). But, to limit myself, what I am mostly drawing upon, as you have probably noticed, is Benjamin’s dialectical image. As he laid out in his theses on the philosophy of history, the material historian has to look for images in which historical *truth* crystallizes (702-703). Central to my reading is his dictum that “Es ist niemals ein Dokument der Kultur, ohne zugleich ein solches der Barbarei zu sein” (There is no object of culture, without simultaneously being one of barbarity) (696). Based on that, I argue that the cylinder is a technologically innovative laboratory born out of an inhumane regressive ideology. But on a larger scale, I wanted to show that we can trace echoes of an overarching dream in the materiality of the cylinder, namely the striving for infinite size, endurance, and imperial power, which is shared by humanity. It was summoned under the banner of fascism and executed by the ‘rational’ mind of the German technocrat. But, even today, we are constantly looking for possible solutions to grow in all directions and carry a heavier and heavier load into the future. Thereby we are often failing to recognize the presence of the oppressed body

underneath the larger heavy load-bearing body of civilization. Benjamin said in the *Passagen*¹⁷: “Aller Boden musste einmal von der Vernunft urbar gemacht, vom Gestrüpp des Wahns und des Mythos gereinigt werden. Dies soll für den des 19ten Jahrhunderts geleistet werden” (All ground had to be cultivated by reason, to be cleansed from the scrub of insanity and myth. This shall be accomplished for the 19th century here) (570-571). The myth of infinite growth materialized more violently than ever in the 20th century, but is still very much alive. In terms of existing scholarship, readings such as Biro’s were helpful for developing my cultural geology. He argued that Benjamin’s work “suggest[s] a post-stratigraphic vision of cultural history—one that sees culture not as a nonreversible evolutionary development, but rather as a movement that produces the new by constantly citing and recombining what has come before” (174), which means that layers of time always intertwine (on a narrative level), and are in a “force field of tension” to each other (166). A major inspiration was also Todd Presner’s take on Benjamin in the cultural geography *Mobile Modernity: Germans, Jews, Trains* (2007) that combines linguistic, intellectual, and cultural scales of analysis to form a ‘thick map’ of the topic. He constructed snapshots of dialectical pairs of German-Jewish thinkers and writers that revolve around a specific architectural structure (similar to my argument), the ruins of Berlin’s Anhalter Bahnhof. He looked at the building’s remains as a synecdoche for the acceleration of time enabled by the train as a specifically modern mode of transportation. But, simultaneously, it was site of countless deportations—and laid out the tracks for the holocaust. In that context Presner described German fascism as an “immobilization” of Germaness, as it conceptualized the latter

¹⁷ Famously, Benjamin chose the arcades to demonstrate his dialectical method. In a nutshell, it could be synthesized in the following: the classicist architectural elements of the arcades that decorated the shopping experience of the 19th century Parisian citizen allowed the oppressive forces of capitalism to hide behind the promise of equality and prosperity. The latter was summoned by the Greco-Roman aesthetic of the arcade’s columns and arches (which pointed towards the origins of the democratic Western world in the ancient Greek polis)—illuminated by the light flushing through the glass roofs—while exploitation, inequality, and poverty were lurking in the shadows.

as a static, timeless, and pure entity (29). To some extent, my project is a verticalization of his project, from a cultural *geography* to a cultural *geology*.

In a sense, my work is an invitation to apply a cultural geological approach to one's surroundings. An invitation to critically examine the built world, while we consciously move our bodies through space and explore how it is connected to the realm of thoughts. On our way, we can discover how complex and interwoven narratives of spaces, times, and identities are. This, ideally, makes us question the binaries of *matter vs. mind, us vs. them, progress vs. regress, urbanity vs. environment*, etc., and reflect upon our positionality as *individuals*, but also as a *collective* (species). This includes our terraforming capacities and the resulting societal and ecological responsibilities, a discussion that has been stimulated by the fields of urban/environmental humanities recently.

In the following historical overview, I want to start from a broad discussion of Speer's architectural vision and the role it plays in cultural memory and then zoom into the cylinder's role in it.

Historical Overview

In this section, I drew mostly upon the extensive archival work done by Magnus Brechtken and Paul Jaskot (but also Heinrich Breloer and others), as they provided a great overview of Speer's attempts to hide his violent traces in history. Unpacking the available historical data through the lens of (meta)physical weight that I established through my archival work, allowed me to create a foundation of knowledge upon which I subsequently began theorizing about heavy load-bearing modernity as a German fascist design of space, time, and identity.

In various publications, especially his widely circulated postwar memoirs, *Erinnerungen* (1969), the *Geschichtsklitterung* (falsification of history) that became a canonical work of reference about the fascist period, Speer staged himself as a tragic Faustian figure who was seduced by the artistic freedom Hitler promised him: the so-called “Mythos” Speer was born.¹⁸ He tried to save his ‘spot’ on the pedestal of history by posing as a seduced artist, an ingenious architect, a capable organizer—the ‘good Nazi’—who had never heard of the holocaust, but had intimate insights into the regime (Schroeter: 1-2). Thereby he had the full support of prestigious publishers and editors who saw Speer as a ‘savior’ of the German “Bürgertum” (bourgeoisie). Due to their intertwining with the fascist regime, this societal strata had lost much of its credibility and its former status as a foundation of culture and morality was significantly shattered. Speer, on the other hand, preached what so many Germans wanted to believe: they had

¹⁸ While countless monographs and biographies have been (and continue to be) written about this topic, the most helpful is probably *Albert Speer: Aufstieg und Fall eines Mythos* (2018) (Albert Speer: Rise and Fall of a Mythos) by Wolfgang Schroeter. He provided a typology of Speer's own myth creations: (1) Speer as apolitical artist and technocrat, (2) his “Rüstungswunder” (armament miracle), (3) his contribution to Germany's modernization, (4) his status as second most important figure of the Reich, (5) he didn't know about the holocaust, (6) his opposition to Himmler, (7) his resistance to Hitler (62-63). Just to name a few other major ones: Matthias Schmidt *Albert Speer: The End of a Myth* (1982), Gitta Sereny *His Battle with Truth* (1995), Dan van der Vat, *The Good Nazi: The Life and Lies of Albert Speer* (1997), Heinrich Breloer, *Speer und Er—Hitlers Architekt und Rüstungsminister* (2005), Martin Kitchen, *Speer: Hitler's Architect* (2015), Isabell Trommer *Rechtfertigung und Entlastung: Albert Speer in der Bundesrepublik Deutschland* (2016), etc.

just done their job. The charismatic and cultivated architect, offspring of a wealthy architecture ‘dynasty’, was able to perform a role that distinguished him sharply from other Nazi leaders, who often appeared way more ‘unrefined’ in comparison.¹⁹ Speer’s mannerisms put him in a position to stage himself (and be staged) as a figure who spoke to the postwar generation and their desire to evade facing their guilt while restoring their national confidence. Speer was an ideal projection surface for the technocratic tale of ‘innocent efficiency’ (Brechtken: 9-13).

Speer’s ‘contribution’ to cultural history in the form of the triumphal scale of his architectural vision that towered above all that human building history had to offer, became a fixation point to dwell upon in the (self-)reception of his oeuvre. He suggested the (now halted) rise of a ‘new German greatness’. Frequently, he raved about how his plans had outsized anything from the Egyptians to the Romans to Napoleon (to name a few recurring examples from his memoirs). Speer was very well aware of the power of narrative: “Die Phantasie der Menschen mit Bildern monumentaler Pläne und Bauten zu füllen erwies sich bisweilen als wichtiger als das Bauen selbst. Wie in allen Herrschaftsbereichen (auch später) suchte Speer die Kontrolle darüber, was erzählt werden sollte” (To feed the imagination of people with images of monumental plans and buildings turned out to be more important than building them. As in all domains (also later [=after the war]), Speer sought control over what was to be told) (Brechtken: 87). The story of his never materialized ‘new German architecture’ (with a few exceptions) offered the technocratically versed war criminal Speer an opportunity to reproduce his impressively detailed knowledge of plans, numbers and scales, which he had memorized, and shared ‘generously’ during his countless interviews and in his most prominent writings.

¹⁹ In an incidental conversation about the topic that I had with director Marcel Ophüls during a film festival in Los Angeles in 2017, he confirmed the acting skills of Speer. During his extensive interview with the architect for his documentary film *Memory of Justice* (1976), Speer completely won him over. This is quite impressive, as Ophüls is known for being extremely critical and outspoken against fascist ‘collaborators’.

Biographer Brechtken referred to this as “Überwältigung ... [durch] die Magie der abstrakt höheren Zahl” (overpowering ... [through] the magic of the abstract higher number) (181). Speer’s goal was to “überragen” (tower over) history (1969: 81). “Speer ragte heraus und ist doch zugleich exemplarisch für all jene, die sich ... so wie er für den Nationalsozialismus engagierten, ihn trugen und gestalteten” (Speer stood out and is at the same time exemplary for all those, who ... like himself ... engaged in National Socialism, carried and shaped it). At all times, Speer aimed to amplify his participation in historical greatness for which National Socialism had been an ideal career springboard. Therefore he had been eager to enter into the ‘unholy alliance’ with fascism and ‘rise to the occasion’. After the war, he aimed for the “Interpretationsherrschaft über die Geschichte ... um alles, was er getan hatte, umzuerzählen, vernebeln, in ablenkenden Fabeln auflösen zu können” (prerogative of interpretation over history ... in order to be able to reinterpret, obscure, and dissolve in distracting tales everything that he had done) (Brechtken: 10).

By taking control of the narrative of history (and how he was involved in it), Speer wanted to stand ‘above’ factuality and shape history by his image and through his will. In the first phase (from 1933-1942), he pursued the role of the greatest architect that ever lived. He planned a super-city for super-humans with a super-history and a “tausendjähriger Anspruch” (thousand-year-long claim) (1969: 83). He aimed to control how future generations of Germans would look back at their past (and Speer’s central role in it) through his (mostly unbuilt) gigantic monuments (168-169). Indeed, he wanted to be seen as the greatest designer of the fascist world, as long as this ‘project’ seemed realizable. In the second phase (from 1942-1945), he staged himself as the greatest war minister who ever lived and *personally* prolonged the war by years through his organizational ‘genius’. During that time, he controlled the “Schalthebel einer

europäischen Kriegsmaschinerie mit Millionen Arbeitern, Soldaten und einem Arsenal von Waffen, wie sie in der Weltgeschichte zuvor nicht eingesetzt worden waren” (operating levers of a European war machinery with millions of workers, soldiers, and an arsenal of weapons that had never been deployed in world history before) (Brechtken: 10). Once these two endeavors had failed, in the third phase (from 1945-1981), Speer wove the narrative of the greatest “Zeitzeuge” (contemporary witness): Hitler’s protégé, with intimate insights into the regime—but no involvement in its atrocities (9-11).²⁰ He made sure that his written and visual language spun a network of associations around his historical persona that would enforce the vision of himself that he desired as his legacy. Therefore he highlighted his ‘achievements’, the greatness of his architectural ambitions, his organizational genius, and the insights he had as witness. In all these three phases of his life he tried to be on top of the world and prolong the story of his own greatness. There was a clear strategy of deflection behind his emphasis on size that lured so many into buying (into) his narrative.²¹

What the Speer as vehemently as consistently denied was the barbaric side of his ambition for historical greatness and obsession with numbers and size (and/or his knowledge thereof). So, let us look at some numbers, to ‘measure’ how Speer’s merciless ‘drive to height’ not only took into account the racist ideology and inhumane practices of fascism—his vision was built upon it. In his memoirs he emphasized his passivity: “Heute, in der Rückerinnerung, habe ich mitunter das Gefühl, daß ich mich damals etwas vom Boden hob, mich von allen Verwurzelungen löste und zahlreichen fremden Kräften unterwarf” (Today, thinking back, I sometimes have the feeling that I elevated myself from the ground back then, untied myself from

²⁰ In the introduction to *Erinnerungen* Speer famously wrote: “wenn Hitler Freunde gehabt hätte, dann wäre ich sein Freund gewesen. Ich verdanke ihm die Begeisterung und den Ruhm meiner Jugend ebenso wie spätes Entsetzen und Schuld” (if Hitler had had friends, I would have been his friend. I owe him the enthusiasm and glory of my youth as much as later horror and guilt) (15).

²¹ By 1976 three million copies had been sold (including all different editions and translations). Especially in Germany and in the US the book was a bestseller. Speer received half of the revenue (Brechtken: 418-419).

all rootedness und subdued myself to foreign forces) (1969: 45). But, in fact, he was deeply entrenched. In his function as GBI (since 1937) and, later on, as “Reichsminister für Bewaffnung und Munition” (Reich Minister of Armaments and Ammunition) (since 1942), he planned (and started) to knock down over 50,000 apartments (during a housing crisis) (see fig. 8). In that context, he appreciated the additional destruction caused by Allied air raids as they contributed to his efforts to ‘pave the ground’ for Germania (Reichardt/Schäche: 158). Speer was also a driving force in the expropriation and deportation of Berlin’s Jewish population that was organized and supported by the GBI (159-180) (see fig. 9).²²

²² A detailed study on the topic is Willems, Susanne. *Der entsiedelte Jude: Albert Speers Wohnungsmarktpolitik für den Berliner Hauptstadtbau*. Edition Hentrich, 2002.

Übersicht über abgerissene und abzureisende
Wohnungen lt. Anforderung des Herrn Prof. Speer
vom 28. 2. 1941.

In Berlin sind bzw. werden für die Neugestaltung abgerissen
(nach dem Stande vom 8. 3. 1941):

1. Südachse bis Südbahnhof	18 236 Wohnungen
2. Südachse ab Südbahnhof (Südstadt)	7 759 "
3. Nordachse (Grosse Halle bis Nordbahnhof)	5 959 "
4. Nordachse (Nordbahnhof bis Ring)	3 484 "
5. Ostachse (Brandenburger Tor bis Ring)	6 333 "
6. Westachse (Brandenburger Tor bis Ring)	360 "
7. Reichsbahnabbrüche	10 013 "

*in Bereichsbahnbrüche
Grossen Halle
Brandenburger Tor*

~~52 244~~

~~53 629~~

fehlt
Gesamtzahl der Wohnungen in Berlin

1 476 000 Wohnungen

Verhältnis der Abrisswohnungen zur
Gesamtwohnungszahl

~~3,53 %~~

Noch zu erfassende Wohnungen in Gebiet
der Südstadt, schätzungsweise
(Pläne fehlen noch)

~~1 480 Wohnungen~~

~~= 0,10 %~~

Verhältnis insgesamt ungefähr

~~3,63 %~~

Berlin, den 1. April 1941

Fig. 8. GBI. Overview of the total number of apartments to be demolished by Speer in Berlin. 1
Apr 1941. LAB, A Pr. Br. Rep 107, 75/q, 227.

The demolitions were meticulously planned out and began at several locations in Berlin
in 1938, e.g. at the Spreebogen (for the Great Hall) and in Tempelhof (close to the planned

Southern Train Station) (Reichhardt/Schäche: 154-5). Nevertheless, there was a major deficiency regarding the “planning of compensating those who lost their homes (153). A large part of this contingent was taken from the so-called “Judenwohnungen” (Jewish apartments), whose owners were systematically disowned (and often deported). According to estimates by Robert Kempner, about 35,738 Jews were deported into Eastern extermination camps and an additional 14,797 into working camps—solely on the order of the GBI between 1941-1945, of which only the fewest survived (178-9). Two months before the Reichskristallnacht on November 9th, 1938, so on September 14th, Speer presented his plan to compensate the Germans who had lost (or would lose) their homes due to his building activities through the eviction of Jews to the city government during a secret meeting. On that occasion, he also requested an assessment of the number of all the existing Jewish apartments in Berlin (159). While the beginning of the war brought a temporary halt to the evictions and Speer was assigned other tasks rather than Germania, his ideas were picked up again in 1941, when Allied bombings destroyed much needed housing space. Evictions of Jewish people started soon thereafter. The GBI had ‘advanced’ to a resettlement office in the meantime, and introduced the word “Schachtung”, a reference to the kosher slaughtering of pigs, into their official language for that purpose (169). Their assessment of Jewish apartments was so detailed that they even caught two Gestapo officials, who had started dealing with apartments without the permission of the GBI. They both died shortly thereafter (175). The branch of the GBI that was in charge with the “Umsiedlung” (resettlement) created two “Judenkarteien” (Jewish files), and also maps with “Judenreine Gebiete” (Jew free zones). These included the especially large and valuable properties in the Hansaviertel, Tiergartenviertel, and Kurfürstendamm. All in all, it has to be said that the GBI was a main actor in the destruction of Berlin *and* the deportation of Berlin’s Jews (177-178).

Räumungskartei

Berlin, den 29. April 1941

C l a h e s

Abschrift

23. April 1941
II - C/Str.

Herrn Professor S p e e r !

Betr.: Unterlagen für Besuch Reichsminister Dr. Goebbels.

Aufgrund der Errechnungen werden durch Neugestaltungsmassnahmen nach dem heutigen Stand der Planung insgesamt

51.624 Wohnungen abgerissen.

Dies entspricht bei einem

Wohnungsbestand in Berlin von 1.476.000 Wohnungen
(Stichtag: 1.1.1940)

einem Prozentsatz von 3,63 % .

An Judenwohnungen sind vorhanden:

- a) in arischem Grundbesitz 12,325 Wohnungen,
davon sind Grosswohnungen mit mehr
als 5 Zimmer = 1355, also 11%;
- b) in jüdischem Grundbesitz 7,964 Wohnungen,
davon sind Grosswohnungen mit mehr
als 5 Zimmer = 1399, also rd. 18%.

gez. Clahees

Fig. 9. Clahees, Willi. Letter to Speer with a breakdown of Jewish and Aryan property to be demolished. 23 Apr 1942. LAB, A Pr. Br. Rep 107, 75/q, 227.

Towards the end of the war, Speer controlled about 500,000 camp inmates and several million forced laborers that worked for him on countless construction sites and in concentration

camps—especially brick factories and quarries that were often specifically set up to meet the gigantic material requirements for fascist building megalomania (Schäfer: 28). Therefore, we have to say that “Steine waren ... kein beliebiges neutrales Baustück, sondern ein wichtiges Motiv auch für Eroberungen und Zwangsarbeit” (stones were ... not any neutral element of construction, but an important motive for conquest and forced labor). Speer constantly tried to gain control over the respective resources in occupied territories and visited countless quarries to examine the quality of the stones (Brechtken: 69). For example, for the planned buildings on the Nuremberg Party Rally Grounds, almost the entire current natural stone production would have been required to meet the needs of this single project (for Berlin/Germania far more): about 5 million cubic meters (ca. 177 million cubic feet). This would be impossible without drastically increasing production (141). While brickworks could be built in any location, it was the opposite for natural stones: “Wo Vorkommen abzubauen waren, wurden neue Konzentrationslager eingerichtet” (Where deposits were [available] to be quarried, concentration camps were established”). This alone shows how connected Germania/Auschwitz were ‘logistically’.²³ Therefore, Heinrich Himmler became Albert Speer’s most important collaborator in the context of the *Deutsche Erd- und Steinwerke* (German Earth- and Stone Works) (DeSt), an enterprise of the SS that focused on quarries, stone processing, and brick works—which Speer all needed desperately for his grand building plans.²⁴ What they both shared was an insatiable hunger for power and influence. Speer’s megalomaniac plans, which had the full support of Hitler and thus

²³ “Speer advised DEST managers in choosing sites based on the type of granite for Natzweiler and Gross-Rosen, and possibly for Flössenburg and Mauthausen as well”, which shows how instrumental the scale of Speer’s Germania plans were in setting up the network of concentration camps (Jaskot: 29).

²⁴ The major goals of DeSt were “the opening of stone quarries and quarrying of natural stone” and “the running or acquiring of other enterprises related to quarrying and brick making. These goals were set up not only to ‘re-educate’ the inmates of concentration camps but also ... to serve the massive demands of the German construction industry”. In that context, the SS, which practically ran DeSt, often referred to Speer’s Germania plans, which prominently had Hitler’s full support, as the ultimate argument, when infiltrating the private sector illegally to expand their influence (Jaskot: 22).

were promising vehicles to rise within the hierarchy of the regime, gave Himmler a convenient pretense for widening his grip on the masses of forced laborers and extending the concentration camp network (100). As a direct result of their actions, inmates of the concentration camps worked in the notorious quarries of Sachsenhausen, Buchenwald, Neuengamme, Natzweiler, and Groß-Rosen (141). Also, in Mauthausen, Flossenbürg, and Natzweiler, which were “gesonderte Lager, die mit extrem hoher Sterblichkeit unter den Insassen betrieben wurden” (special camps, that were run with an extremely high death rate among the inmates). During a routine camp visit to Mauthausen in 1943, Speer deemed the prisoners’ barracks as too luxurious and ordered a transition to building more primitive housing (“*Primitivbauweise*”). Earlier, in 1942, he had granted funds for the extension of Auschwitz-Birkenau, which included new structures for the “Sonderbehandlung”, the ‘special treatment’, a euphemism for mass murder and the production of corpses in the gas chambers (Schäfer: 28). While documents that prove Speer’s active involvement in the extension of concentration camps have been available for decades, this knowledge still has not reached a larger audience yet. Brechtken has connected many of the scattered dots: after the Wannsee Konferenz and its proclamation of the so called “Endlösung der Judenfrage” (Final Solution of the Jewish Question), meaning nothing else but the physical annihilation of the Jewish people, on January 20th, 1942, Speer and Himmler knew that they had to reallocate their resources in the context of the “Ostwanderung” (relocation to the east). The latter referred to the ongoing process of deportation and annihilation. This led to an even closer collaboration between the two, who had already worked together so ‘well’ on the question of stones before. This time their collaboration materialized in a substantial extension of Auschwitz, both regarding housing and annihilation capacities. It was planned out beginning September 15th, 1942. Speer and Himmler’s goal was to ‘squeeze’ the maximum amount of profit and

workforce out of the inmates before killing them, a process that was veiled as “Abschöpfen” (absorbing) in official correspondences (171-172). Speer approved a budget of 13.7 million Reichsmark²⁵ for Auschwitz, which allowed the permanent accommodation of 132,000 people. In that context Speer wanted to grant the ‘employment’ of 50,000 Jews, who would (in fascist “Tarnsprache” (camouflage language)) “ihre Reise [nach Osten] unterbrechen und Rüstungsarbeiten leisten müssen” (have to interrupt their journey [to the East] and perform armament work) (qtd. in Brechtken: 172).²⁶ Within the next six weeks, a detailed construction plan officially named “Vorhaben: Kriegsgefangenenlager Auschwitz (Durchführung der Sonderbehandlung)” (Proposal: Prisoners of War Camp Auschwitz (Execution of the Special Treatment). These included a “Gleisanschluss” (railway siding) for the ramp and “Entwesungsanlagen” (disinfection facilities) for the “Sonderbehandlung” (special treatment)—including gas chambers, four crematoria, four mortuaries, twelve ovens, and four ventilation systems (about 20 feet tall, covering an area of about 11,000 square feet, so ca. 220,000 cubic feet of built space) (qtd. in Brechtken: 173).²⁷ This construction project was also referred to as “Sonderprogramm Prof. Speer” (qtd. in Brechtken: 173).²⁸ Once the construction work was finished in March 1943, due to Speer’s funding and allocation of construction materials, more than 4,000 people were cremated daily (173). As Jaskot summarized, fascist monumentality and forced labor were inextricably linked:

²⁵ As the Bundesbank stated that their estimates (of 1:4) are extremely imprecise around 1942, Brechtken suggested a conversion rate of 1:15 (RM:EUR) in terms of purchasing power based on the contemporary average annual salary (72). Based on that estimate, 13.7 million Reichsmark equals 205.5 million Euros, so about 240 million USD, today. I used that conversion rate for all my calculations.

²⁶ Originally from Nürnberger Dokument NI-15392, Aufzeichnungen Pohls vom 16. September 1942.

²⁷ Originally from Freund, Florian, Bertrand Pentz, and Karl Stuhlpfarrer: “Der Bau des Vernichtungslagers Auschwitz-Birkenau. ‘Vorhaben: Kriegsgefangenenlager Auschwitz (Durchführung der Sonderbehandlung)’ im Militärhistorischen Archiv Prag.” *Zeitgeschichte*, vol. 20: nr. 5/6, 1993, pp. 187-213.

²⁸ Originally from Akten der Zentralbauleitung Auschwitz, 502.1.82, Bl. 75-76, Kammler and Rüstungsinspektion der Waffen-SS und Polizei Bereich Posen, Zentralbauleitung der Waffen-SS und Polizei Auschwitz und nachrichtliche Ämter C I bis C IV, C 2.

Hitler and his chief architect, Speer, made aesthetic decisions that had a direct effect on the quantity and kind of materials being produced in this [=construction] market. DEST endeavored to mobilize their competing political and economic interests to take advantage of the opportunities available through the production of building materials for such privileged plans as the Reich Party Rally Grounds in Nuremberg. ... [T]he SS attempted to expand and differentiate the work in the camps to make forced labor indispensable to architectural policy. (3)

Given the fact that Speer's building plans relied heavily upon the concentration camps as source of building materials and labor, we can say that the stones with which Speer's imperial city was to be built, would have been literally stained with the blood of the workers and thus 'charged' with the spirits of the nameless dead. The fine materials, granite façades and marble interiors wrapped around ferroconcrete skeletons for the representative buildings²⁹ (and bricks for more ordinary structures), were just a 'cover up' for their barbaric core. Above this foundation of suffering, carried (out) by the workers caught in the vast network of concentration camps, Germania would have towered, physically and symbolically heavy, a suffocating metropolis.

²⁹ Even if Speer argued for an exclusive usage of stone for representative architecture in his theory of ruin value in his 1969 memoirs (or even earlier in "*Stein statt Eisen*" (1937)), scholarship has pointed out that the reality was that buildings such as the Reichskanzlei in Berlin or the Ehrentempel in Munich were ferroconcrete shells clothed in natural stones. What encouraged the usage of stone for representative architecture in the late 1930s was primarily the upcoming war that would have required masses of steel for its own sake (Fuhrmeister/Mittig: 229-232).



Fig. 10. GBI. Speer's 'translation' of Hitler's vision into an architectural model. 1939/44. BArch, B 146-III-373 / n.a.

As Speer proclaimed in the newspaper *Berliner Lokal-Anzeiger* on January 28th, 1938, Germania's center was to be a giant cross junction of two grand boulevards, the so-called 38 km (ca. 24 miles) long North-South and 50 km (ca. 31 miles) East-West Axes—cornered by representative architecture and connected by four concentric ring streets. This design was inspired by ancient Roman camps (qtd. in Reichhardt/Schäche: 62). The East-West Axis was partially finished, as it could be built along the already existing Prussian boulevards, remnants of the Second Reich that the fascists incorporated into the narrative of the Third Reich. The North-South Axis required the demolition of large parts of the city center and marked the clear 'break' with the old Berlin. As Speer details in *Erinnerungen*, the N-S-Axis was envisioned as "Große Achse" (Great Axis) where the German empire unfolded its full scale representative capacities. In particular, on a 7 km (ca. 4 miles) long section called "Prachtstraße" (Avenue of Splendours) (see fig. 10). This 120-meter-wide (ca. 400 feet) boulevard was to be cornered by cultural, economic, political, and military centers, designed in a monumental, simplified neoclassical style, which applied modernist reduction to the more ornamental neoclassicism established by Schinkel in Berlin. The two absolutely dominant architectural landmarks were to be the aforementioned world's greatest Triumphal Arch, in the south, and its counterpiece, the Great Hall, the world's largest assembly hall, in the north. As towering architectural bodies they were to embody the new German 'ego' that was looking down on the spectator, who was to feel miniaturized facing this 'greatness'. Both monuments were to be accompanied by two massive central train stations. This constellation was supposed to streamline Germania's traffic towards the two architectural giants that were designated to dictate and frame the urban narrative. The new train stations were supposed to replace the former terminal train stations in the north (Potsdamer and Anhalter Bahnhof) and the south (Lehrter and Stettiner Bahnhof), which would

open up the space necessary for construction and simplified traffic flow. The unusually futuristic Southern Train Station (Südbahnhof), which was supposed to feature massive glass façades, was planned as the city's major train station for international traffic. In terms of scale, it was envisioned explicitly as bigger than New York City's Grand Central Terminal. It was to stand in close proximity to the Triumphal Arch, which was designated as *the* major entrance gate to Germania. As a structure of 117 meters (ca. 380 feet) height, 160 meters (ca. 525 feet) width, and 119 meters (ca. 390 feet) depth, it was to be the largest arch in history—looking far down on Napoleon's arc de triomphe of 'only' 50 meters (ca. 164 feet) height. The names of the 1.8 million fallen German soldiers of WWI would have been chiseled into its stones, transforming the humiliating defeat of WWI into an eventual heroic triumph. Traveling north along the axis, the next major marking point was to be the so-called "Runder Platz" (Round Plaza), just south of the Tiergarten. It was to be arranged around a giant fountain and surrounded by an ensemble of monumental structures. These included the gigantic "Soldatenhalle" (Soldier's Hall), an ominous Walhalla-esque cubus in which accomplished generals and warriors were to find their last rest, and Göring's new "Reichsmarschallamt" (Marshal Department of the Reich) featuring the world's largest staircase. At the northern end of the Tiergarten, the two giant axes were to intersect.³⁰ Here, in the center of Germania, one was to see another plaza overpowered by the aforementioned world's largest assembly hall just north of it: the "Große Halle" (Great Hall), featuring the world's largest cupola at a height of 290 meters (ca. 950 feet), a diameter of 250 meters (ca. 820 feet), resting upon a square of 315 meters (ca. 1030 feet) edge length. Up to 180,000 people were to listen to Hitler's speeches inside this cultish dome, while over a million were to congregate on the plaza in front of it. The edifice, for which the Spreebogen (Spree arch) had to be pierced and fundamentally rearranged, was to dwarf the Reichstag on the eastern side

³⁰ Today, we can find a large underground tunnel there, which was originally envisioned as a traffic underpass.

of the hall (at a ratio of about 50:1), expressing the new power relations. On the opposite side, the pompous “Führerpalast” (Palace of the Führer), Hitler’s new residence, was to be built. The entrance to the plaza was supposed to be flanked by the “Neue Reichskanzlei” (New Chancellery of the Reich) (replacing the existing chancellery that was just seen as a provisorium) and the “Oberkommando der Wehrmacht” (Highest Command of the Armed Forces). To the North, the axis was to make a turn to the West, where another monumental plaza was supposed to open up between the Great Hall and the “Nordbahnhof” (Northern Train Station). It was to be centered around the “Großes Becken” (Great Pool) of 1,100 meters (ca. 3,600 feet) length and 50 meters (ca. 164 feet) width. This massive body of water, in which the silhouette of the Great Hall was to reflect itself, was supposed to be flanked by military and administrative buildings such as the townhall and the naval headquarters. The northern end of the axis was to be marked by the northern train station, which was to be placed along the Ringbahn (circular railway) (148-61). The new Berlin was to be dominated by the atmosphere of endless mobilization: troops constantly arriving from, and departing to, the battlefields. Never-ending military parades, the ongoing rhythmic stomping of boots and chanting of mouths, the smell of sweat pouring out of the uniforms. Germania would have been a “Verewigung des Lagers” (eternalized camp), as Heinrich conceptualized it. German fascism, as a power structure, broke down into a hierarchy of camps that served a plethora of purposes such as military training and ethnic cleansing—all of them were designed to perform the narrative of ‘racial purity’. Whereas the outskirts of the city were planned for residential, recreational, and industrial use, the center of the city, emptied of housing, was reserved for representative purposes (204). Berlin/Germania was supposed to be *the* center of the fascist empire, *the* epitome of their imperial power hunger, and *the* headquarters of their explosive military muscles. But this axis model that had been designed by Hitler long

before his reign during his Vienna days, was supposed to be introduced, in modified versions, into all other important cities as well. As the “Gesetz über die Neugestaltung deutscher Städte” (Law concerning the Redevelopment of German Cities) from October 4th, 1937 stated, Munich (as capital of the movement), Nuremberg (city of the party rallies), Hamburg (as strategically important harbor), and Linz (as Hitler’s favored city), were supposed to be transformed into “Führerstädte”³¹ (Leader’s Cities). Furthermore, there were also plans to apply the axis model to almost 30 cities (Brechtken: 126-127).³² As Heinrich described it, the Germania’s model and its concentric ring formation would have been echoed on the largest imperial scale as well. Planned was a vast network of hundreds and hundreds of monumental “Totenburgen” (death castles)³³, which were supposed to circle all the territories conquered by the German empire after the war. The ring of these castles was supposed to begin at the Ural mountains, go through Anatolia and North Africa, span along the Atlantic Wall, and then return to Russia at the Norwegian Coast. On top of each of these giant castles, an ‘eternal flame’ was to be placed. The names of the dead soldiers who had died in the nearest battle were to be inscribed inside the castle’s walls, while SS men were to be on guard duty in front of these structures—until the end of time (24).³⁴

³¹ On August 30th, 1940, Speer stated in a correspondence regarding the redevelopment plan of Berlin and the other cities preferred by Hitler that “[d]ie besten Architekten des Reiches sind auf 10 Jahre damit beschäftigt, ... Entwürfe ... aufzustellen” (the best architects of the Reich are busy for the next 10 years with ... making ... the plans) (BArch R 4606/476, Bl. 354).

³² During the war, Speer tried to get control over the redevelopment of all important NS-cities, including the 27 “Gauhauptstädte” (Gau Capitals) Augsburg, Bayreuth, Berlin, Breslau, Dresden, Düsseldorf, Graz, Hamburg, Hannover, Innsbruck, Köln, Königsberg, Linz, München, Münster, Oldenburg, Posen, Nürnberg, Saarbrücken, Salzburg, Stettin, Weimar, Würzburg, Bremen, Danzig, Memel, and Wuppertal, so that he would be the one who had the monopoly to shape the future of the German city (Brechtken 126-127).

³³ Speer mentions the plans for the “Totenburgen” that were designed by his architect Wilhelm Kreis (and approved by Hitler), in his prison diaries. He described them as “gigantische Friedhofsanlagen ... , die aussahen wie Tumuli der antiken Welt” (gigantic cemeteries ... , which looked like the hill graves of antiquity). They were part of the larger plan to design a colonial architecture that symbolized the presence of German culture in the conquered realms (237-238).

³⁴ Whoever visits the city museum of smaller towns like Landsberg today, will witness that they were also supposed to be transformed into a ‘miniature version’ of the axis model. It shows the totalizing scale of the Germania project, which spanned from the micro to the macro level, and would have transformed Germany’s design completely.

The excessive scale of Speer's structures that were to align classical imperial Roman architecture into the narrative of Germanness (as smaller predecessors) also produced a new, unforeseen material heaviness of the built space. Germania would have been so heavy that no existing data could determine whether Berlin's soils would be able to carry it. The city's upper layers of sand and glacial till that come with a high water table are famously challenging for construction. Therefore, the ancient craft of foundation engineering, revolutionized by the just emerging field of soil mechanics, a 'bridge' between geology and civil engineering, were key to planning the capital of a thousand-year-long and squillion-square-miles-spanning empire. Hence, the challenge of outdoing Rome did not always mean a return to ancient building techniques or to halt the further planning of the fascist world capital. On the contrary, the challenge accelerated technological innovation.

As a test-load, the heavy load-cylinder simulated the 1:1 soil pressure of the world's heaviest monument (the Triumphal Arch)—unprecedented in the history of test-loading. This allowed the geotechnological engineers to measure the reaction of Berlin's soils to this massive weight and to collect data necessary for its foundation design (Escher/Richter: 25). This was absolutely crucial, as Speer's giants were especially susceptible to damaging settlement, or even subsidence (so the collapse of the supporting soil underneath a building). Therefore, the calculations had to be extremely precise beforehand, as Degebo member Heinz Muhs³⁵ wrote in a manuscript of the paper "Durchführung und Ergebnis einer großen Probelastung"³⁶

³⁵ Heinz Muhs was born on September 19th, 1911 in Berlin. He studied at the Technische Hochschule Berlin-Charlottenburg and TH Munich from 1930-1937 and became a researcher at the Degebo in 1937. He received his Dr. Ing. from TH Berlin-Charlottenburg in 1941 and then became the head of the Degebo in 1945. In 1950 he started teaching at TU Berlin. From 1952-53 Muhs was a specialist for soil mechanics for the Snowy Mountains Hydro-Electric Authority in Australia ("Muhs, Heinz").

³⁶ The document has no title/author listed, but is the first document available in the folder 3352-1/1c Probelastung Bauwerk T in the Projektarchiv Degebo, and obviously an earlier manuscript. It goes into more detail and is more extensive than later versions available in the same folder (or in the published version). I will refer to it as Muhs' manuscript.

(Execution and Results of a Great Test-Load), which he published in 1948 as the first comprehensive analysis of the cylinder's data (Bl. 5-6). Albert Speer's strict rulework dictated a tolerable settlement of the Triumphal Arch of no more than 5 cm (about 2 inches) (Escher/Richter: 25)³⁷, while in total 19.3 cm (about 8 inches) actually occurred at the cylinder. But this could be fixed (Muhs, 1948: 110). The data collection at Speer's cylinder (and other sites in Berlin) was conducted by the Degebo. Their work continued into the late 1970s and was crucial for the construction of the modern metropolis. Their findings remain 'intact' until today, e.g. in the form of the building norm DIN 1054³⁸ that was shaped heavily by the work done at the cylinder during *and* after the regime (Escher/Richter: 25). The overarching soil mechanical problem that the Degebo approached was building damage caused by *soil movement*. It was a major problem in the late 19th and early 20th century, when human construction endeavors grew rapidly in scale, which caused countless catastrophic damages through landslides and building collapse. As a response to that problem, the Degebo was founded in 1928 in Berlin (Muhs, 1969: 1). It was governmentally funded and especially motivated by expertise required for the foundation of transport routes, shipping channels, and so called "Großbauten" (large buildings) (Escher/Richter: 12-13). Their largest projects were nevertheless funded by Speer and motivated by fascist building megalomania—it was not until he invested heavily into the Degebo before its business flourished. As an internal correspondence of the GBI from August 30th, 1941 details, Speer granted the Degebo an activation fund of 1.5 million Reichsmark for a subsoil map ("Baugrundkarte") of Berlin, for which the entirety of the city's soil mechanical properties were to be scanned—a monumental mapping project. Therefore, during 1937/1938, about 1,000

³⁷ Muhs' manuscript specified the number of 5cm in the context of the hall, but it is likely that the arch had a similarly low settlement requirement, even if I could not find an exact amount (Bl. 6).

³⁸ It regulates how to build on specific soil profiles like the one in south Berlin. For more see Speier, Ludger, and Stephan Görtz. "Bemessung von Grundbauwerken aus Stahlbeton nach DIN 1054 (01.03)." *Beton- und Stahlbetonbau*, vol. 99, nr. 5, 2004, pp. 345-55.

drillings and 16,000 soil samples were conducted and analyzed at the Matthäikirchhof, Teufelsberg, Königsplatz, and other locations. From 1938-1940, smaller scaled test-loads were conducted for the planned Highest Command of the Army at the Round Plaza (close to the Matthäikirche) of the N-S-Axis, and the Wehrtechnische Fakultät (Department of Defense Technologies) (whose façade was finished during the regime) at the Western end of the East-West Axis, in Grunewald. In the summer of 1941, the activity of the Degebo reached its peak with the measurements conducted at the heavy load-bearing cylinder (Escher/Richter: 14).³⁹

³⁹ The Degebo continuously expanded their international research reputation and for their 50th anniversary they received greetings from experts all over the world, such as Professor Dr. Dr.-Ing. E. H. Meyerhof from the Technical University Halifax, Canada. In a letter to the Degebo from 1979 he emphasized that with their “bahnbrechenden Forschungen, besonders ... den großmaßstäblich Belastungsversuchen ... hat sich die Degebo einen internationalen Ruf erworben” (cutting-edge research, especially their ... large scaled test-loads ... the Degebo has acquired an international reputation). He showed his recognition of their history by calling them “auf ihrem Arbeitsgebiet eines der ältesten staatlichen Forschungsinstitute der Welt” (one of the oldest research institutes in the world within their field) (Projektarchiv Degebo, Heft 33 einschl. Schriftwechsel).

The construction of the heavy load-bearing cylinder, which required masses of high-end ferroconcrete⁴⁰, was conducted by Dyckerhoff & Widmann AG, short Dywidag⁴¹, an innovative construction company (especially known for “Spannbeton”, the ‘prestressed concrete technique’, which allows for large roof constructions, among others). The construction plans were lost, until I located them in 2019 at the Teilarchiv Dyckerhoff & Widmann located in Maisach, which stores a large part of the bankruptcy assets of the company (which was demolished in 2005) (see fig. 11). They were bought by a former expert of the company. Thereby there are no documents about the actual construction process, or the workers involved. Nevertheless, the few photographs available in the Degebo archives strongly suggest that French or Italian forced laborers built the cylinder, as speculated by Berliner Unterwelten e.V. (“Schwerbelastungskörper”). While the plans give little information about how the construction proceeded in detail, this can be partially reconstructed by the documents available in the Degebo archives. All in all, due to its innovative nature, the cylinder counts as a “Kunstwerk des Ingenieurbaus” (art work of construction engineering) (Escher/Richter: 32).

⁴⁰ Ferroconcrete was an uprising building material since the late 19th century and the Nazis developed their own distinctive style in using it during the 1930s (Forty: 120). The basic innovation it brought to the construction world was that it strengthened the steadfastness of ordinary concrete, by reinforcing it with iron (or steel) rods. This exponentially enlarged the stability of the material and allowed new scales of construction. As a result, it was a crucial material for the Nazis, as it was a material prerequisite for their building megalomania. The plasticity of concrete that could set any desired shape into a seemingly ‘eternal form’, played into the ideological framework of the Nazis, unlike the dynamic, ever shifting nature of the soil that had to carry their monuments. On a material level, the use of concrete was a resurrection of ancient Roman cement building techniques, making it a historically ambiguous material that was caught up in a “tension between its progressiveness and its residual primitivism” due to its “reliance upon craft skills” and “earthbound beginnings” (15).

⁴¹ Dywidag was founded in Karlsruhe on July 1st, 1865, but later on expanded to Berlin, Wiesbaden, and Munich (Stegmann, 2009: 1371). The company was a dominant force in the early era of ferroconcrete construction, partly because they diverged from the old model of traditional craftsmanship towards a more profit oriented business model that implemented a heavy emphasis on public relations and advertising (Stegmann, 2014: 13). The company excelled in working with a particular type of ferroconcrete: “Stahlbeton” (ferroconcrete with steel aggregates). It was not coherently introduced into the engineering world until 1940, one year before the beginning of the construction of the cylinder, and was a highly progressive building material at that time (19).

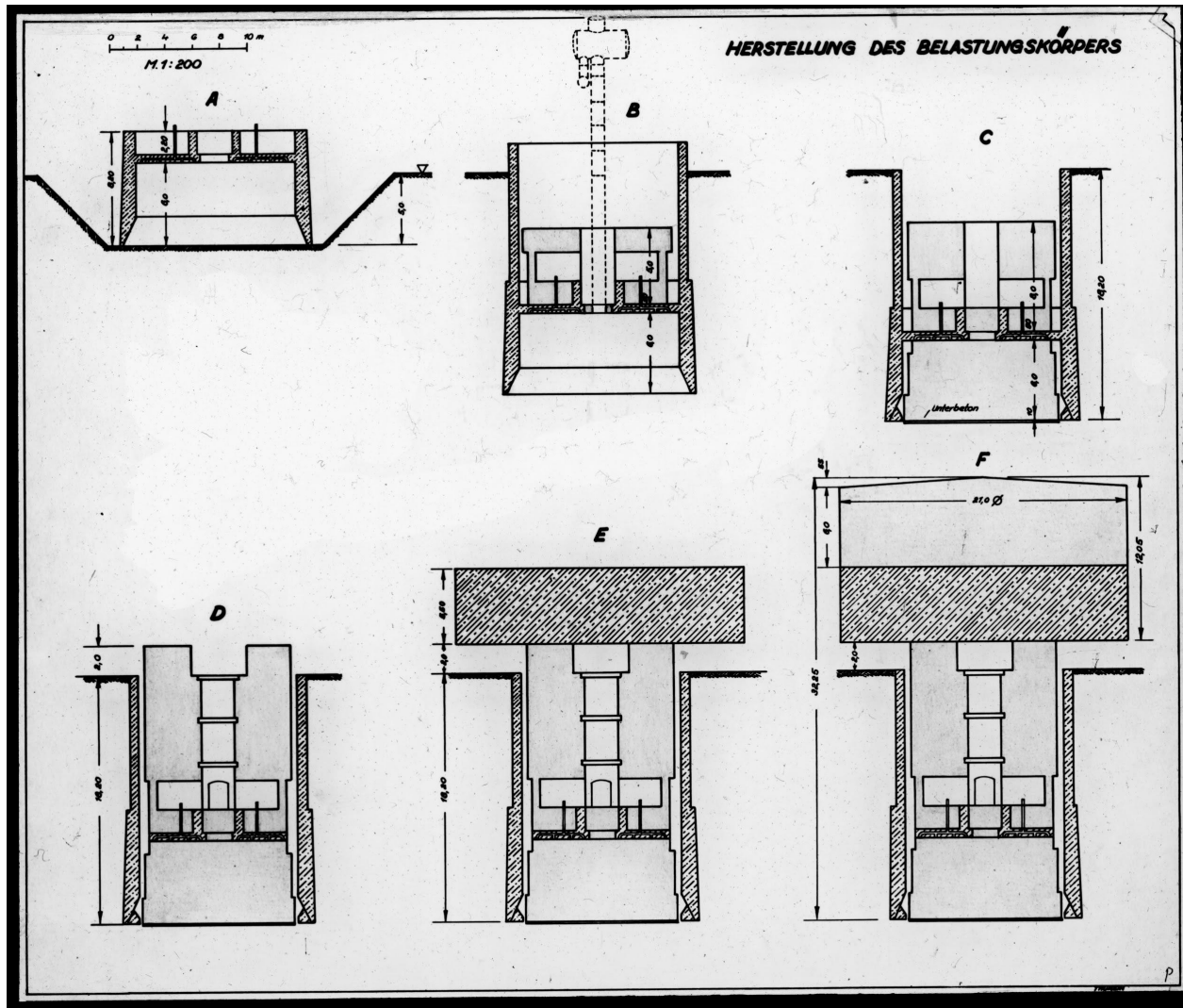


Fig. 12. Degebo. "Herstellung des Belastungskörpers." 1941. Diaarchiv Degebo.

Originally, test-loads examined the bearing capacity of buildings or materials, like a rooftop or a bridge, by placing weight on top of it (Bolle et al.: 701), or by simulating a building's weight on a foundation with the help of pressure (Escher/Richter: 25). The cylinder was a test-load with a unique design, as the dead weight equaled the applied weight and put the same pressure on the ground as the Triumphal Arch would have.⁴² This allowed the soil mechanics to test the bearing capacity of the soil extremely precisely and thus avoid calculation

⁴² The overall weight of the arch would have been much heavier than the cylinder presumably.

mistakes regarding the foundation design. The pouring of the concrete into the steel frame marked the beginning of the settlement measurement, because it was the moment when weight was initially applied to the soils (see fig. 11 for dates). Before that was possible, several construction steps had to be taken (see fig. 12). To place the cylinder into its position underground, a circular pit with a 13 meter (ca. 43 feet) radius in the depth of 18.2 meters (ca. 60 feet) was required, as earlier drilling had revealed that the layer of glacial till, which was supposed to be tested as bearing ground, was located there. The above layers of sand and pebbles, considered “nichtbindig” (non-cohesive) soils, were known as grounds that settle immediately with application of weight. Unlike that, glacial till, as “bindig” (cohesive) layer, had a delayed settlement process, making it harder to predict sinkage behaviour. Into this said pit, the so called “Caisson” or “Seztungskasten” (settlement case) was placed, consisting of a ferroconcrete ring, designed in a way that it sinks by ‘eating’ itself through the soils with its sharpened lower edges. In the first construction step, a five meter (ca. 16 feet) deep circular pit was dug, in which the concrete for the first section of the caisson was poured. It protruded eight meters (ca. 26 feet) out of the pit (so had an overall height of 13 meters (ca. 43 feet) (see phase A on fig. 12). At a height of six meters (ca. 20 feet), a ferroconcrete interim roof was attached to the ring. Onto this roof, more ordinary concrete was poured, step by step, to gradually increase the weight, while more soil was being removed out of the pit underneath the interim roof (by a pump). Thus, the edged caisson sank deeper and deeper, until the desired depth of 18.2 meters (ca. 60 feet) was reached (where the top of the layer of glacial till was located) (B). Then, the surface of the till was evened out mechanically, and a layer of concrete applied on it, into which the “Druckwasserkissen” (water pressure pillows) were placed (to measure the pressure of the weight later on). To get that data to the surface, “Hüllrohre” (covering pipes), into which the

measurement gauges would later on be placed, were incorporated into the structure. Afterwards, the space between the layer of till and the interim roof were filled with concrete (C). Then, the smaller of the two cylinders, which inhabits the measurement chambers, was finished by pouring the concrete into a height of 2 meters (ca. 6.5 feet) above the pit (D). Then, the iron bars that connected the interim roof (that carried the load above it) and the ring around it, were cut. As a result, all the weight was from then on applied to the glacial till at the bottom of the pit, and the test-loading officially began on August 27th, 1941. On this day, the settlement measurements started and were documented by handwritten charts. Until then, only a small part of the final weight of 12,650 ton had been accumulated. In order to reach this massive weight, a 5.50 meter (ca. 18 feet) thick ferroconcrete plate was placed on the lower cylinder. On top of this plate, a steel skeleton was built to form the larger, massive, upper cylinder (E). Into this steel frame, workers poured concrete into a height of 14 meters (ca. 46 feet) above the pit to form the massive upper cylinder. Therefore, on November 27th, 1941, the construction of the test-load was finished. Probably due to the ending of non-war related activities around that time that led to a recruitment of the workers and engineers for other tasks, the hastily processed construction was not without flaws. As a result, an imbalance occurred during the pouring of the concrete and caused the cylinder to sink in slightly tilted, which required correction (by evening out the weight on the other side). This caused cracks in the ferroconcrete and also manipulated the accuracy of the measurements (see fig. 13). Measurements were nevertheless taken until July 1944, but not comprehensively analyzed until 1948 by Muhs (Escher/Richter: 26-33).⁴³

⁴³ For far more details, see the entire report published by Muhs in 1948 (pp. 98-101), or the several longer manuscripts available at the Degebo archives (Projektarchiv Degebo, 3352-1/1c Probelastung Bauwerk T). Throughout all the materials, the engineers used the passive voice that made it possible to block out the presence of the workers entirely. While I reproduced this technical language for the most part (at least in this section), I will need to find a better solution in the future.



Fig. 13. Degebo. “Probebelastung auf Berliner Geschiebemergel in der Nähe der Kolonnenbrücke: Rißbildung beim sektorweisen Betonieren des Pilzkopfes.” 9 Oct 1941.

Diaarchiv Degebo.⁴⁴

⁴⁴ Test-load on Berlin’s glacial till close to the Kolonnenbrücke: Crack formation during the gradual concrection of the mushroom head.

Measurements were conducted on several scales (and by several entities): settlement (by Degebo), setting temperature (“Abbindetemperatur”) of the concrete (by Siemens & Halske), the distribution of pressure in the sole (by Dywidag), and the movements of the cylinder (by the Institut für Vermessungskunde der Technischen Hochschule Charlottenburg). There were three measurement chambers in the smaller cylinder, which consisted of the lower and middle chambers underground, and the upper chamber above the surface (see fig. 14). The overall movements were optically measured from a fixed point that was levelled and five gauges integrated into the cylinder (which were used to conduct more nuanced measurements and were double checked by a water gauge). The results from January 1948 reveal that the maximum temperature of the concrete was 74.3 Celsius (ca. 166 Fahrenheit) that decreased to 8 Celsius (ca. 46 Fahrenheit) until May 1942. The overall settlement was 19.3 cm (ca. 8 inches), whereby the layer of glacial till was compressed by 11.15 cm (4.5 inches). The conclusion was that the weight of 12 kg (ca. 26.5 pounds) per square cm (0.155 square inch) was too high for a foundation on the glacial till (and also the upper layer of sand). Therefore, it would have been necessary to densify the sand artificially into significant depths. These methods were available by the companies Franki via Erdfahlverfahren (earth post method) and Keller via Rütteldruckverfahren (vibration pressure method), which had been tested by the GBI in Berlin for the Poststadion in Moabit. Furthermore, for the Kongresshalle in Nuremberg, Franki’s technique had been successfully applied in 1936, where it had been presented to the international scene. Muhs also noticed that, both for sand and for glacial till, settlement did not end with construction, but continued until later (Escher/Richter: 33-36; in more detail Muhs, 1948: 101-111).

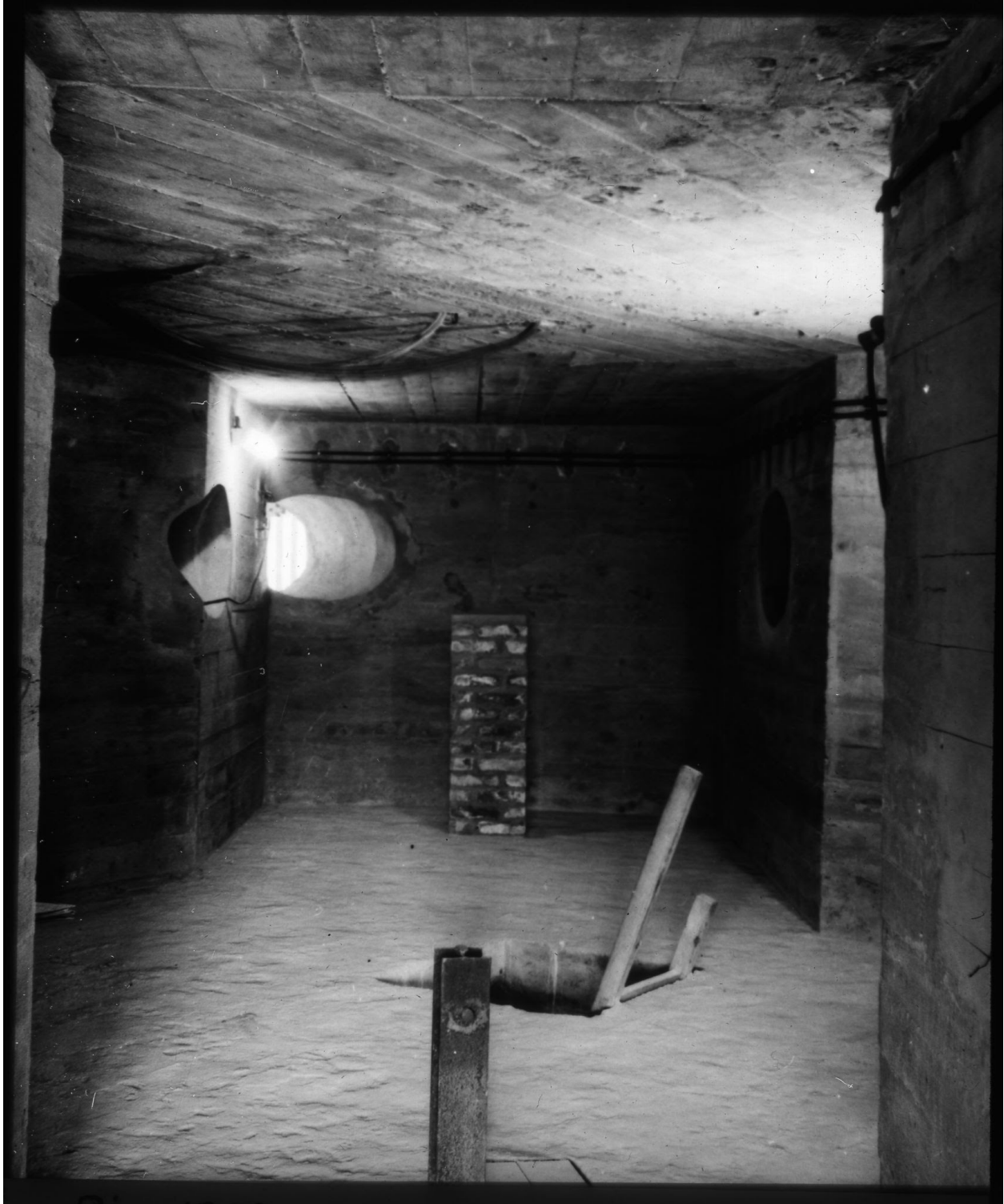


Fig. 14. Degebo. Upper measurement chamber with main gauge, ladder to the lower chambers, and console for leveling. 1941. Diaarchiv Degebo.

Due to the turn of the war in 1942, the cylinder was used for war related purposes, while preparations for Germania were declining rapidly.⁴⁵ One of the last major projects of the Degebo during the regime were test-loads conducted for the massive Flak Towers in Berlin at Tiergarten, Humboldthain, and Friedrichshain. They were built to fight off air raids but also provide shelter for Berlin's population during the attacks. The transition into the postwar-era came with severe difficulties and material and personal incisions for the Degebo (the head of the Degebo was taken to Russia as a prisoner where he died shortly). But thanks to the 'survival' of the majority of the documents of the research society (accompanied by measurement and experimental instruments) they were able to relaunch quickly. All these materials had all been placed in the cylinder and thus saved from destruction. First major publications were "Mammut-Probebelastung am Pilz" (1948), where the data at the cylinder was analyzed for the first time, and another article about the settlement measurement of Speer's Flak Towers (1952). In 1950, efforts were made to restart a measurement series at the cylinder, which was possible from 1951-1977. Additionally, in 1957, the settlements of the high rises in Berlin's Hanseviertel were documented for the Internationale Bauausstellung (International Construction Exhibition). Overall, the data collected at the cylinder resulted in major contributions to the building norms DIN 1054 Sicherheit im Erd- und Grundbau (safety in earthworks and foundation engineering), DIN 4014 Baugrund und Pfähle (building ground and stakes), DIN 4017 Baugrund, Berechnungsverfahren (building ground, calculation methods), which regulate the legal and technological requirements for how to build on a soil profile such as Berlin's. Today, the Degebo still 'lives on' as specialty Foundation Engineering and Soil Mechanics at TU Berlin that continues to contribute to large building

⁴⁵ Without ever fully stopping though. Speer made significant efforts to secure future projects and required resources for an anticipated construction start after the "Endsieg" (final victory) throughout all the stages of the war. This included the attempts to 'eliminate' competing architects (such as Giesler) and the ongoing extension of his power over the concentration camp network (Brechtken: 137-142).

projects (e.g. the Nord-Süd-Tunnel of Deutsche Bahn AG in the area of Spreebogen and Lehrter Bahnhof in the 70s) (Escher/Richter: 16-17). Therefore, the data at the cylinder, which outweighed all of modern structures by far, came in handy to the construction world. As a matter of fact, the 20th century metropolis is based on that data and is contaminated by it, it was used to construct dams, bridges, train stations, highrises, etc., and it is accurate to say that the heavy load-bearing cylinder, as flagship of the disciplines of foundation engineering and soil mechanics, made the height, the weight, the density, and the mobility of the 20th century as we know it possible.⁴⁶

⁴⁶ As just mentioned, the data collected at the cylinder (and other sites) shaped the establishment of several building norms that are still intact (and regularly updated). These norms regulate the requirements on how to build on specific soil profiles, such as Berlin's, all over Europe, and were also 'exported' internationally. Thereby the Degebo was involved both in theoretical research and the development of foundation designs of foremost large structures. In the report on the Degebo's activities from 1939-1940 (Tätigkeit des Arbeitsausschusses der Degebo im 12. Geschäftsjahr (1. April 1939 bis 31. März 1940)), they mentioned the preparation for especially high and/or heavy buildings in the form of ground examinations. These included several bridges, power plants, hangars, machine halls, and steel plants, in several German cities, such as Lübeck, Schöneberg, and Wittenau (5-6). Besides the ongoing preparation for a "Baugrundkarte" (subsoil map) that was supposed to scan Berlin's entire ground for Speer, "wurden für den Generalbauinspektor Sonderversuche für einzelne besonders schwierige und grosse Bauvorhaben durchgeführt" (special examinations for especially difficult and large building plans were conducted for the General Building Inspector). These exceeded anything ever tried before and resulted in the cylinder project in 1941 (7-8). As the Degebo expected to receive more tasks after the war, they stated that they will need more personnel (9). In the following years, nevertheless, several of their longstanding members died in the war and their number sank from 27 before the war to 19 (Bericht des Arbeitsausschusses über die Tätigkeit des Forschungsinstitutes der Degebo im 16. Geschäftsjahr. (1. April 1943 bis 31. März 1944): 5). The cylinder, which became Degebo's central research site in the postwar period, allowed an update of the the aforementioned norm DIN 1054 regarding "Zulässige Belastung des Baugrunds" (tolerable load of the building ground), so dictated the maximum amount of pressure legally allowed. Thereby it turned out to be "ein wohl einmaliges Glück, daß der Probelastungskörper für Hitler's Triumphbauwerk erhalten geblieben war" (a unique case of luck that the test-load cylinder for Hitler's triumphal edifice was preserved), as its excessive weight would allow to apply "nahezu beliebige Drücke und dadurch entsprechende Kräfte auf größere Versuchsfundamente" (almost any pressure and thus corresponding forces on larger experimental foundations). This would allow them to collect data for a plethora of foundation designs needed for rebuilding Berlin, as Muhs stated in the institute's chronicles (19-20). An ongoing series of experiments and dozens and dozens of publications that drew upon this data over the next few decades, showcased this (a small list is on pp. 24-26). This data came in very handy, especially for the rebuilding of the Hansaviertel, where ten highrises were built (21). Degebo's research and consulting activities continued after the war, e.g. for the ship- and dockyards in Warnemünde and Wismar, the airport in Schönefeld, the Russian embassy in Berlin, etc. (from 1945-1948) (15). After a couple of challenging years, the institute was able to reorganize itself and after 1950 they were heavily involved in the "Wiederaufbau" (reconstruction) of the damaged residential structures of West-Berlin (43% had been destroyed). This included settlements and satellite cities such as Charlottenburg-Nord and Märkisches Viertel, but also representative buildings such as the Kongresshalle, Deutsche Oper, and Philharmonie, a lot of infrastructure (bridges, streets, harbours, factories, subway, ring, etc.), governmental, and industrial buildings. As the institute was located in East-Berlin, they were only able to take on a limited amount of tasks in West-Germany. The latter included especially challenging tasks, such as building a power plant in Braunschweig and a concrete factory in Amönnenburg (18). Wherever in Germany you are, you are probably walking on grounds that have been measured

If everything had gone according to plan, by 1950 Germania, more a giant permanent camp than a city, would have throned on the shifting planes of Berlin's glacial valley and the remains of the millions and millions of slaves' bodies that had built this empire. They were to decompose in, and be deposited into, the soils, forming the foundation of suffering underneath the marble and granite laden cemetery of former Berlin. All that is left of Speer's grand plans for the Great Axis, projected as the geopolitical center of the German empire, is the heavy load-bearing cylinder. The test-load was designed as a 20 week project, to then be erased from the face of the earth. Now, what was supposed to disappear, remains as conceptual and material embryo of Speer's grand thousand-year-long plans—reminding us of the prevailing historical possibility of a simultaneity of technological progression and societal regression. All that remains is an unfinished, fragmentary, unrealized, speculative potential. If Speer contributed anything significant to cultural history in the form of technological progress, it would be this cylinder and his involvement in funding soil mechanics: our world is built upon this data that was sparked by fascist megalomania and its deadly consequences. The architect himself did not give the structure a prominent place in his memoirs—the crumbling ferroconcrete piece did not quite fulfill the aesthetic requirements of his pompous neoclassic vision. Nevertheless, his 'unwanted' child, as urban artefact, bears great potential for the material historian, "weil aus den Trümmern großer Bauten die Idee von ihrem Bauplan eindrucksvoller spricht als aus geringen noch so wohl erhaltenen ..." (as the idea of the construction plan of great buildings speaks more impressively out of their debris than through minor, well preserved ones...), as Benjamin phrased it (Ursprung des deutschen Trauerspiels: 409). Even Speer himself said "[a]uch das Nichtgebaute ist Teil der Architekturgeschichte" (also the not built is part of architectural history) (1994:151).

out by the Degebo in some way (Projektarchiv Degebo, 3112-3117 Geschäftsführung bis 1945, 3112 Tätigkeitsberichte).

Unfolding the layers of this historically charged and potent material object, will lead us vertically through the layers of architectural, soil mechanical, forced labor, and other histories, was the goal of this study that started at the remains of this violent, opulent, concrete dream (see fig. 15).



Fig. 15. Kurek, Paul. Underneath the heavy load-bearing cylinder. 2019. Jpeg.

Landscape Scan

As my project aimed to embed the heavy load-bearing cylinder into intellectual history as *the* dialectical emblem for German fascist modernity, I wove together my findings from my work in German studies, architectural history, history of technology and science, urban humanities, Holocaust studies, and intellectual history. These, and probably more, are all layers of what I conceptualize as cultural geology. It is the narrative ‘vehicle’ in which I chose to present my take on mapping out, and ‘undermining’, the streamlined ‘metahistorical’ architecture of fascism. Thereby the hitherto unknown material history of the cylinder, which is embedded in a plethora of geological and historical layers, served as the gravitational center of my analysis. My goal was to amplify a dialectical reading of Speer and his architectural vision that dismantles the fiction of ‘greatness’ he established in his memoirs—and that still dominates his public perception. To do so, I shifted the focus from the size of his architecture (which he highlighted) to the aspect of its weight—and especially who is carrying it—which allowed me to highlight the silenced role of the worker. (Re)inscribing the category of (meta)physical heaviness into (t)his tale helped me to create a more representative narrative of Speer’s architecture that reveals its violent conceptual and material foundations. My project relied on several important works that paved the way for me.

In terms of the history of technology and science more broadly, there is Jeffrey Herf’s *Reactionary Modernism: Technology, Culture, and Politics in Weimar and the Third Reich* (1986). The book explored the way engineers imported fascist ideology into their realm of ideas, among other things. The author analyzed this mainly through their use of language (and from a humanities perspective). A recent history of Berlin that chose the exact opposite approach is Timothy Moss’s *Remaking Berlin: A History of the City through Infrastructure, 1920—2020*

(2020), where the author departed primarily from technological developments. The field of soil mechanics specifically is rather uncharted in the humanities, probably because it is quite uncharted territory in general.⁴⁷ The obvious reason for that is its invisibility, at least according to soil mechanic, foundation engineer, and historian Jean Kerisel. His book *Down to Earth: Foundations Past and Present: The Invisible Art of the Builder* (1987) is probably the only history of geotechnical engineering that was written in a culturally sensitive and accessible language, and was of great importance for me. Kerisel framed building as an interaction between humanity and the earth that is worthwhile exploring: “Historians and writers search for the roots of ethnic groups, families and individuals; but it is also interesting to search for those of major human constructions and to admire the sensitivity of certain builders in their relationship with the earth” (vii). Apart from that, there is really only Karl-Eugen Kurrer’s *Geschichte der Baustatik: Auf der Suche nach dem Gleichgewicht* (2016) (The History of the Theory of Structures: On the Search for Equilibrium (2018))⁴⁸, which is slightly more technical, but gives a good general chronological overview of the many moving parts and innovators. In terms of the history of the structure more specifically, there is really only the very thoroughly researched information booklet *Der Schwerbelastungskörper: Das mysteriöse Erbe der Reichshauptstadt* (2005)⁴⁹ (The heavy load-bearing cylinder. The mysterious heritage of the capital of the Reich). It was written by architect Michael Richter (a student of architectural historian Wolfgang Schäche) with the help of historian Felix Escher and gives a great overview over the topic, which helped me

⁴⁷ For the translation of technical terms, I consulted *Elsevier’s Dictionary of Soil Mechanics and Geotechnical Engineering: In Five Languages, English, French, Spanish, Dutch, and German* (1989) compiled by J. D. van der Tuin in collaboration with Delft Geotechnics, or used the translations I found in the respective literature, if it seemed more fitting. The newest edition seems to be Canarache, Andrei, et al. *Elsevier’s Dictionary of Soil Science: Definitions in English with French, German, and Spanish Word Translations*. Elsevier Science, 2006.

⁴⁸ The earlier English translation of the book went under the name *The History of the Theory of Structures: From Arch Analysis to Computational Mechanics* (2012).

⁴⁹ Richter told me that a second edition is on its way based on my discovery of the cylinder’s construction documents.

immensely to orient myself in terms of my archival research.⁵⁰ Besides that, there are only the scientific publications, primarily the aforementioned essay “Durchführung und Ergebnis einer großen Probelastung” (1948) (Execution and Results of a Great Test-Load) by Muhs, and the few mentions of the structure in the chronicles of the Degebo (by Muhs and Weiß) and the GBI⁵¹ (Wolter’s Chronik).

When it comes to Speer’s historical role, I looked both at his own accounts *and* work that dismantled and/or complemented his self-fabricated role. In terms of memoirs, I looked primarily at Speer’s *Erinnerungen* (1969) and (occasionally) his prison diaries *Spandauer Tagebücher* (1975)⁵², as they were the most impactful and widespread publications regarding the prevailing historical image of Speer (and had the support of prestigious publishers and editors)⁵³.

Hitler’s *Mein Kampf* (1925/1926) was also a major point of reference, or a ‘deeper layer’, that I

⁵⁰ Artistic engagements with the cylinder are Susanne Kriemann’s *1265000* (2008), a photo collage ‘reflection’ upon the cylinder’s symbolic weight, which is almost impossible to get (as no library lends it out); the exhibition catalogue *Schwerbelastungskörper: Publikation Zur Ausstellung “unbequemes Denkmal—Ein Kunstprojekt Am Schwerbelastungskörper”* (2014) by Valeria Fahrenkrog, et al., which documents several art projects initiated by the Universität der Künste Berlin, and Evi Kruckenhauser’s collection of newspaper articles regarding the cylinder *Dieses Ding steht ganz für sich alleine II* (2014, limited to 50 reproductions). Other than that, there is nothing really insightful available, to my knowledge (besides occasional mentionings in blogs, news- and research papers, and some books about ruins). Another interesting recent project took place in 2019, when two surveying technicians conducted an extraterrestrial laserscan of the cylinder to document its decay process for their B.A. project.

⁵¹ The “Chronik des Generalbauinspektors für die Reichshauptstadt Albert Speer”, often referred to as “Wolters Chronik” or just “Chronik” in literature, was compiled by Speer’s friend, assistant, and fellow architect Rudolf Wolters, who was the Head of the Planning Bureau of the GBI. Unlike the *Erinnerungen*, it provides clear evidence for Speer’s involvement in fascist crimes. After the war, Wolters created a censored version of the chronicles, which was handed over to the public, while the “Original-Chronik” was kept hidden. Nevertheless, Wolters decided to have all of his materials published after his death, which Speer, shocked by the end of his friend’s loyalty, tried to prevent. Matthias Schmidt wrote the book *Albert Speer: Aufstieg und Fall eines Mythos* (1982) based on the original version of the chronicles. The book did nevertheless not gain much attention and was disputed by established historians. (Brechtken: 539-41). I worked with the photocopy of the chronicles available at the Landesarchiv Berlin under the name “Chronik des Generalbauinspektors für die Reichshauptstadt Albert Speer. Dargestellt von Rudolf Wolters, 1941” (LAB, A Pr. Br. Rep. 107, 25, 53A).

⁵² The later published English translation was entitled *Spandau: The Secret Diaries* (1976).

⁵³ The book was profoundly shaped by his editor Joachim Fest, whose stylistic skills played a massive role in creating the myth of Speer as seduced, but innocent, Nazi. Together with renowned publisher Ullstein, Fest helped Speer to rise to the top again. Speer wrote more books after the war (not all of them were as prominent or translated, to my knowledge), including: *Albert Speer: Architektur. Arbeiten 1933-1942* (1978) (*Albert Speer: Architect 1933-1942* (1985)), *Der Sklavenstaat: Meine Auseinandersetzung mit der SS* (1981) (*Infiltration: How Heinrich Himmler schemed to build an SS Industrial Empire*), *Technik und Macht* (1981), and the protocols of his first postwar interrogation by the US military *Albert Speer. Die Kramsberg-Protokolle 1945: Seine ersten Aussagen und Aufzeichnungen, Juni-September* (2003), edited by Ulrich Schlie.

re-inscribed into Speer's texts (to counter Speer's postwar distancing from his greatest benefactor). In terms of deepening the connection between Speer's tales and Holocaust memory, I looked at Primo Levi's memoirs *Survival in Auschwitz* (1986) (originally published in English in 1959) as an important document to 'illustrate' the Germania/Auschwitz dialectic. Levi described in great detail what Speer left out of the picture of his city: the daily toil of the inmates in the camps preparing Germania's construction. He gave the anonymous numbers of the dead a literary life and is an important witness and theorist of Germania that he analyzed through the body, the mind, and the spirit. His intimate and multifaceted accounts of the camp's soils thicken the flattening fascist concept of 'blood and soil' and allowed me to feed his voice into my cultural geology as a narrative layer that 'erupts' underneath Speer's 'sublime silencing'.⁵⁴ In terms of biographies that dismantle Albert Speer's self-fabricated role, I find Magnus Brechtken's recent take on the topic under the title *Albert Speer: Eine Deutsche Karriere* (Albert Speer. A German Career) from 2017 quite helpful, as he not only summarized previous scholarship, but also extensively revisited the archival materials. His book was motivated by his frustration with the fact that Speer is still mostly being perceived as an architect of grand scale, rather than a major war criminal, which he tries to 'correct' by collecting all the evidence that was brought forth through decades of research. In terms of other archivally driven work, I also want to highlight Heinrich Breloer and Rainer Zimmer's *Die Akte Speer. Spuren eines Kriegsverbrechers* (The File Speer: Traces of a War Criminal) from 2006, in which the authors collected, and reproduced, many of the archival documents that prove that Speer not only knew of the holocaust, but was a driving force.

⁵⁴ To paint a fuller picture including a more representative array of the victim's voices, it appears necessary to diversify the corpus of texts in a future revision of my project. Besides the many publications already available, the USC Shoah Foundation offers a vast array of hitherto unexplored stories.

In terms of Berlin's fascist architectural and urban planning history more broadly, the canonical work *Von Berlin nach Germania: Über die Zerstörung der 'Reichshauptstadt' durch Albert Speers Neugestaltungsplanungen* (From Berlin to Germania: About the Destructions of the 'Capital of the Reich' by Albert Speer's Redevelopment Plans) (2005; originally published in 1984) that was the first comprehensive, archivally based study on the topic, was an important point of reference for me. A unique angle on the topic philosopher of religion Klaus Heinrich (1927-2020)⁵⁵ provided with his comparative study *Karl Friedrich Schinkel / Albert Speer: Eine architektonische Auseinandersetzung mit dem NS* (Karl Friedrich Schinkel / Albert Speer: An architectural examination of the NS) (2015). It's a collection of lectures he held in the late 1970s at Freie Universität Berlin. Heinrich witnessed Speer's transformation of Berlin as a child and thus was able to offer a deep intellectual analysis of the topic that he synthesized over many decades and enriched by his memories. What struck me was his conceptualization of Germania as an 'eternalization' of the camp, which applied a constant tension on the Berliners through the omnipresent threat of racially motivated war (204). In terms of an art history perspective, I looked at Paul Jaskot's book *Architecture of Oppression: The SS, Forced Labor and the Nazi Monumental Building Economy* (2004). Based on extensive archival research, he showed the direct conceptual and logistical connection between Germania and the concentration camp network. He saw the latter as a reason for the need for "extending the definition of historically significant architecture to take into account not only major projects like Speer's plans for Berlin but also buildings like the guard towers at Flossenbürg" (2-3), as both were an "expression of a monolithic ideology" (5). This was extremely helpful to show that Germania/Auschwitz were

⁵⁵ When he was fifteen years old he served in the Luftwaffe and was persecuted for "Wehrkraftzersetzung" (undermining the military morale). After the war, he was part of the student initiative that led to the foundation of the Freie Universität Berlin (where he eventually ended up lecturing in the 1970s). In their understanding, *Freie* stood for the *freedom* from fascism after 1945, and the freedom from the Soviet occupants post-1945, who had infiltrated the university structures of the Humboldt Universität—and did not allow a *free* education anymore (2-3).

two sides of the same coin. Helpful was also the ‘anthology’ *Mythos Germania: Vision und Verbrechen* (2014) (Mythos Germania: Vision and Crime), published by Dagmar Thorau and Gernot Schaulinski, which features a variety of essays on different topics.

In terms of conceptual history, so when it comes to Speer as an ‘architect of time’, there is a large body of scholarship available regarding fascist constructions of time in general.⁵⁶

Central hereby is Speer’s notorious architectural philosophy, known as “Theorie des Ruinenwerts” (Theory of Ruin Value). It proclaimed that he aimed to build his monuments in a way that they would resemble ancient Roman ruins in thousands of years (by carefully selecting building materials and static precautions).⁵⁷ Thus, they would carry on the NS spirit into infinity and control how future generations would look back at their collective past (1969: 168-169).⁵⁸

⁵⁶ Christopher Clark gives a great overview over the many different approaches in his essay “Time of the Nazis: Past and Present in the Third Reich” (2015), pp. 156-161.

⁵⁷ Obviously, soil mechanics came into play here to prevent long term damages.

⁵⁸ The most active debate (since the 1990s) regarding ‘ruin value’ revolved around the question whether it ever existed as architectural practice or was one of Speer’s many historical fabrications. Apart from that, more recently, the topic stimulated insightful research regarding the fabric of fascism. In 2000, many (art) historians and publicists still believed that the ruin theory was ‘true’, but there were many opposing voices (Mittig, 2001: 10). This ‘authenticity’ debate reflected the contested status of fascist art since 1945, when many scholars argued for its autonomous value independent from its ideological breeding ground. The most famous defender was probably architect Léon Krier, who saw himself as ‘son’ of Speer in the 1980s and helped him to rehabilitate himself. The extensive apology of fascist art ended mostly in the 1990s, when the media paid more and more attention to uprising neo-Nazi groups (Mittig, 2001: 6). Another major argument was that the Nazis had been unable to create a coherent architectural style during their short reign. Nevertheless, this ‘critical’ standpoint was often used to justify the widespread recycling of Nazi aesthetics in advertising, fashion, and art (8-9). In this larger context, ruin value was one of many battlegrounds. Examples for the (often naive or uninformed) widespread acceptance of ruin value include Kempowski: 230, Scobie: 93-96, Reichel: 122; Knopp: 258; and Muhs/Wefing: 24. Probably the only well informed argument *for* the existence of the theory was presented by Welzbacher in 2005 (69-72). But, as Fuhrmeister/Mittig have pointed out, he showed that Speer’s architectural philosophy came close to his ruin theory, but there was *no* evidence he used it under that name before his memoirs (232-235). Overall, more and more scholars pointed out the lack of sources concerning the theory (Mittig, 2001: 9-10). A very early voice was Angela Schönberger, who suggested that Speer’s theory was just a retrospective theoretical glance to cover the fact that steel was needed for war purposes instead of his representative buildings (97-107). Furthermore, Mittig argued that the theory did *not* apply to various locations, such as Nuremberg and Berlin (1993: 21-24). Later, Mittig concluded that the theory was a typical product of the postwar era, and driven by its desire of a romanticism for ruins, something that was impossible to find for many in postmodern architecture, as it allegedly lacked a substantial core of “natural stone”, and instead implemented “cheap” paneling, which was despised by many architects and denounced as kitsch (2001: 10). Another major problem of the debate was the lack of interdisciplinary approaches, which limited the discussion to the strictly form oriented ‘unpolitical’ approaches of art historians (14-15). Fortunately, some scholars have done this in the meantime. E.g., under the rubric of German studies, Kranz interpreted the ruin theory as a desire to imagine futures, so as science fiction. She interpreted Speer’s promotion of “his” past future of Germania as an act of intentionally diverting the discussion from his own guilt regarding Berlin’s destruction (107-129). Besides the ‘authenticity debate’, scholars have explored the dynamic between Speer’s ruin theory, fascist concepts

Notable in this regard is Julia Hell's monograph revolving around the thousands-of-years-long genealogy of Speer's ruin value, *The Conquest of Ruins: The Third Reich and the Fall of Rome* (2019). Hereby, argued for the exceptional brutality of fascism among other imperial projects (171).⁵⁹ Apart from that, Clark's description of the fascism as "radical rejection of 'history' and a flight into deep continuity with a remote past and a remote future" revolving around the Aryan blood as a stable category (156), were helpful for me. Very insightful was also sociologist Mark Featherstone's interpretation that "Speer's monuments opposed the appearance of permanence to the chaos and temporality of the modern urban condition" and were "an architectural expression of an ideology that sought to trade the temporality of life for the eternity of death" (302).⁶⁰ This body of work helped me think about the fascist desire to overcome natural structural fragility by erecting artificial eternity. The cylinder obviously does not fulfill the requirements of Speer's ruin value, its ferroconcrete reveals its modern origins. Working through its 'untouched' history

of history, and their dialectical relationship to German intellectual history. In 2003 architectural historian Naomi Stead juxtaposed Speer's and Benjamin's coinage of ruin value, in order "not to set up a dichotomy between Speer's concept of 'Ruin Value' and Benjamin's account of allegory in the ruin ... because this would be a simplification into binary opposition of a relationship which is considerably more" (52). In 2005, Beshty/Schwab analyzed the ruin theory in relation to the heavy-load bearing cylinder (as the latter disrupted Speer's ruin agenda), choosing a creative, travel blog type approach, which they informed with prominent discussions about fascism (Canetti and Sebald) ("Stumped. What Remains of the Thousand-Year Reich?"). In 2011 philosopher Max Pensky stated that the "history of the ruin as a meaning-bearing location is the history of social and cultural modernity". He highlighted its status as meta-metaphor (67). While he does not explicitly mention Speer, he implied him when describing the "true *Ruinenwert* ... of Sebald" and his more humane theory of ruin value (85). To conclude, the discussion of ruin value is still ongoing and keeps being insightful, especially apart from the 'authenticity' debate (as the latter seems to be concluded).

⁵⁹ She wrote: "My thesis is that the Nazis, their theorists, and their artists were preoccupied with strategies to counter the specter of imperial decline raised once again by Spengler's enormously influential *Der Untergang des Abendlandes* ... at the beginning of this century of extremes. Nazi theorists and architects think up strategies of fortification—of architecture and of the imperial gaze itself—however, they also anticipate ruination. Rebuilding Germany as Reich with the ruins of the future in mind is not only an anticipatory defense against eventual doom, but one of the most glaring symptoms of this new Reich's criminal foundations, its murderous totalitarian logic that sets it apart from all other imperial projects and their imaginaries" (171).

⁶⁰ Featherstone drew a whole panorama of ruin value by tracking the evolution of the theory throughout the Third Reich in the larger context of fascist ideology, thereby drawing special attention to the significant conceptual accelerations within the motif that were induced by the developments of the war. According to him, the center of fascism is what he calls "thanatology" (312), so death induced by the desire to escape/stop the flow of time, which goes through the steps of monumentalization, total war, and suicide (301-304). Against the fascists 'right ruin value,' he puts Benjamin's "*ruin value of the left*" (305). Overall, he looks at a whole spectrum of ruin theorists (Jünger, Kafka, Simmel, Marx, etc.), thus showing the intellectual and political breadth of the matter.

not covered by any research so far allowed me to grasp the concrete material dimension of Speer's attempt to build on a superhistorical scale.

To sum everything hitherto up as briefly as I can: Speaking from the angle of a cultural geologist, I argue that the heavy load-bearing cylinder was a technologically innovative, but culturally regressive, metahistorical 'device'. As a soil mechanical laboratory it was used to scan Berlin's soils, so that they could be assimilated to the narrative of German fascist modernity, which Speer was weaving with his Germania plans. The cylinder was built to 're-mythologize' space, time, and identity, and 'immobilize' the shifting, diverse, and fluid nature of the soils, so that they could be 'aligned' to the binary hierarchical corset of fascism. This would have allowed Speer to narrativize the tale of German monumentality, eternity, and purity through the 'eternal' erection of his monolithic architecture.

Chapters

The structure of my argument breaks down into three chapters, which break down in further parts, evoking the stratigraphic structure of (interacting) geological layers. The first chapter, “Berlin/Germania”, sets the larger spatial and temporal stage, and explores how *Germania* speaks to *Berlin*’s long and complex etymological history (as a ‘flattening’ force not unlike soil condensation techniques)—and how the latter is connected to its technological history. The second chapter, “Superstructure”, hones into fascist modernity and articulates (and deconstructs) a philosophy of history that is contained in Speer’s architecture (and his accounts thereof). The third chapter, “Substructure”, drills deeper and ‘digs out’ the racist foundations of *Germania* (that Speer denied). All these chapters depart from the seemingly binary hierarchical oppositional pairs *Superstructure vs. Substructure* and *Berlin vs. Germania*, whose dialectically intertwined relationship I narrate through a ‘third space’. The latter opens up through the text itself and falls in between the pairs in a ‘deconstructive’ manner.

In my first chapter, I merged etymological and technological into an *etymo-techno-logical* history of the dialectical pair “Berlin/Germania”. The goal here was to show how the name *Germania* homogenizes *Berlin*’s complex cultural history, while unpacking the technological requirements of transforming *Berlin* into *Germania*. Thereby I drew upon archival materials from soil mechanics and various etymological sources. I divided my inquiry of *Berlin* into three short vignettes that capture its various meanings (*river-rake*, *city built on sand*, and *bear(ing)*) that go back to *Berlin*’s heterogenous Slavic-Yiddish-Germanic roots—which stand in stark contrast to the monolithic name *Germania*. I used these short etymological meditations as a springboard to dive deeper into the history of the Degebo that was founded (in Berlin) to manage the new scale of building activities (in terms of size, weight, and expansion). In this mostly

chronological section of my chapter, I go over the international problem of soil movement that was a major challenge in the late 19th/20th century—when buildings got heavier, cities denser, and infrastructural networks wider. Then, I showed how the discipline of soil mechanics, as a hybrid of civil engineering and geology emerged as a response to the problem of soil movement. Afterwards, I zoomed further into Berlin and sketched out the institutional formation of the Degebo. Finally, I showed how this society flourished under their collaboration with the fascist regime, as Speer’s building plans were impossible without their rare expertise. Overall, I showed how much of *Germania* is still contained in *Berlin* from an *etymo-techno-logical* perspective—and how crucial fascist building megalomania was in funding and researching the technologies that the modern city is built upon.

In my second chapter, “Superstructure”, I dug out the ‘covered up’ violent foundations underneath the ‘grand’ metahistorical design of Germania. Thereby I drew upon Speer’s memoirs, which I read as a site of an emerging architectural philosophy that aimed to control space, time, and identity, with the goal to erect German fascism as a monumental, eternal, and pure construct. To ‘thicken’ Speer’s highly reduced narrative, I drew upon archival accounts of Speer’s ties to the concentration camps that ‘illustrate’ the violent nature of his architecture constituted by its ruthless methods regarding resource mobilisation, especially in terms of labor and building materials. My narrative strategically intermeshed the layers of architectural and Holocaust history to show how Speer’s vision of excessive material and historical size directly correlated to the amount of violence occurring through the exploitation of the bodies of the laborers. The latter determined the fundamental design of the German fascist world: the to-be-visible *superstructure* was supposed to be bearing upon the to-be-erased *substructure*, constituting the inherent tension of heavy load-bearing modernity.

In my third chapter, “Substructure”, I continue to reframe the ideological foundations of fascism that are constituted by the static formula of “Blut und Boden” (blood and soil) as a heterogeneous and dynamic space of encounter between (architectural and biological) *bodies* and *soils*. Thereby I drew upon the archives of soil mechanics, which I read as the site of an ideological battle that seeks control over the natural heterogeneity and mobility of the *soils*—which revealed the inherent structural fragility of any building endeavor. I enriched this perspective with a reading of Primo Levi’s recollections of the mixing of his *blood* with the German *soil* in the camp. Both perspectives allowed me to read *blood and soil* ‘materially’ and ‘thicken’ the semantically ‘flat’ ideological shells of fascism. The overall goal of my narrative intervention was to change the perception of Speer’s Germania, which is still dominated from the ‘top down’ by the highly curated images of its aesthetic neoclassical ‘shells’. I wanted to ‘crack open’ the misleading cultural imaginary from the ‘bottom up’ through the silenced voices of those who suffered physically, mentally, and spiritually under Germania—and thus formed the violent foundation upon which German fascist modernity was erected.

By laying out German fascist modernity as tension between Berlin/Germania and Superstructure/Substructure, I tried to disrupt their binary separation as intended by fascist design. I highlighted the role of those who bore this tension and carried out the groundwork of Germania—the actual “heavy load-bearing bodies”. The workers experienced a relationship between *blood and soil* that had to be fundamentally different from how fascism prescribed it. They were sinking into the abyss, until their battered bodies were thrown into mass graves, or spread over the German landscapes through the chimneys of the gas chambers, from where they found rest in the soils eventually. The German soils were ‘enriched’ with their blood and stories,

with which they formed a narrative symbiosis in geological intimacy—and a new identity arose
beyond the soils of Germanness.

Prologue: in the Soils



Fig. 16. Chisel for a 500 meter drilling at the Königsplatz in Berlin. 1938. Berliner Unterwelten e.V.⁶¹

⁶¹ This photograph shows the massive scale of the technical instruments required for Speer's grand analyses (see fig. 16). Three workers stand around a gigantic chisel that is pulled up right behind the pipe in which it was inserted and led into the depth of 500 m (ca. 1640 feet). The men are in full action. While two workers on the left are pulling the instrument towards them by a string put around the chisel, a third worker, on the right is looking at them. They are all full of soil, and probably preparing to clean the chisel and collect the soil samples. This photograph, among others, was saved out of a construction waste container owned by the Technical University Berlin by a member of Berliner Unterwelten e.V. Interesting about the picture is to look at it as a part of an urban palimpsest. The drilling was conducted at the former *Königsplatz*, now *Platz der Republik* (the current site of the *Reichstag*), and the projected site of the *Große Halle*, the signature project of *Germania*. Also, it was the former site of the *Siegessäule*, which Speer relocated and enlarged as part of Berlin's transformation.

Currently, we are living in a time of heightened ‘seismic tension’ in terms of the structural fabric of our society and geo-politics. With the ‘outbreak’ of a global pandemic, widespread protests for racial justice, roaring wildfires, and diluvial floods, we are experiencing a moment in history, in which the inherent flaws of our current world design are coming to the forefront. Be it systemic inequality, our food culture of mass production (which has and will lead to more pandemics alike), and the climate altering scale of a civilization that has entered the Anthropocene. All of these symptoms force us to look into the mirror, where we might recognize the true colors of our age. Today’s problems are proliferated by the same capitalist mechanics that allowed modernity to emerge in the first place as a main catalyst of all innovations. As we are now forced to break with our routine and rethink what is meaningful to us, we also get the chance to consider structural modifications and work towards a new, more just, sustainable, and efficient future. As the abandonment of capitalism seems not only unlikely but impossible, we have to ask the question: how can we rethink capitalism, the force that enabled our current privileged Western life standard, in terms of technological know-how, life expectancy, wealth, and more, as a tool that serves a larger quantity and diversity of populations than it does currently? Is that even possible, can we still grow? Is growth what we actually need? Considering that our planet is taking more and more damage due to the growth of populations, the ongoing harvesting of resources, and our generally increasing ‘terraforming’ capabilities, how can we reinvent ourselves in a more ecologically sensitive framework and thus produce a better world? Will another ‘groundbreaking’ innovation provide the technologies needed to save us and the planet? It seems, we are currently experiencing a fundamental shattering of the Tower of Civilization—including our technological, biological, economical, societal, political, spiritual, and other pillars—and are now urged to repair our foundations. Again, this does not have to be a

catastrophic event—we can understand it as an invitation to offer our ideas for a new world design. The idea of a *cultural geology* is my attempt to grapple with some of these questions, and ideally my contribution to stimulate an intellectual ‘breeding ground’ that raises awareness to a range of issues, explores their origins, and encourages us to continue working on the much needed solutions. Let us dig into that idea further.

So why cultural *geology* in the first place? Because the concept of geology speaks to the multilayeredness of reality, and invites us to look at, and appreciate, the complexity that is hidden beyond the surface—and what meets the eye—and thus resists attempts of narrative homogenization. I do so by providing a ‘geological’ reading of a monolithic object such as Speer’s heavy load-bearing cylinder. Thereby I have no expertise in geology whatsoever. Moreover, I am comparing the work of a geologist, who conceptualizes the world as a stratigraphic sequence of spatio-temporal layers, with the historian, who conceptualizes history as layers of the cultural imaginary: technological history, architectural history, labor history, holocaust memory, intellectual history, and so on. These layers are by no means clean cut, just the opposite, soil movements, such as eruptions, landslides, subsidence, etc., constantly disrupt their chronostratigraphy. Therefore, the lines between imagined presents, pasts, and possible futures are blurred, they exist simultaneously and mix in chaotic ways.

A currently ‘erupting’ and quite fascinating field that also conceptualizes history as a layered structure is cliodynamics (*Clio* as the name of the Greek goddess of history). It is located at the intersection of evolutionary biology and mathematics. It is not entirely different from Koselleck (who I built my ideas upon) and also draws upon the analogy of history and geology, but operates on a quantitative, big-data basis, and is centered around the so-called Structural-Demographic Theory (SDT). SDT

proposes that the causes of revolutions and major rebellions are in many ways similar to processes that cause earthquakes. . . . In both revolutions and earthquakes it is useful to distinguish “pressures” (structural conditions, which build up slowly) from “triggers” (sudden releasing events, which immediately precede a social or geological eruption). (1)

Based on this approach, Peter Turchin ‘predicted’ in a paper from 2012 that the US would reach a peak of political turmoil in 2020, which is almost reminiscent of Spengler’s apocalyptic predictions about the decline of the Western world in the early 20th century. What I am more interested in, is not the predictability of history, but, the way in which Turchin conceptualizes history, while leaning into geology, as a structure consisting of three political layers. These layers are the general population, the elites, and the state, which are in tension with each other, which eventually leads to ruptures, which can be revolutions (but do not have to). Unlike Spengler, Turchin is quite critical about predictability in general (even if it ‘worked out’ for him this time). Nevertheless, he talks about “structural pressures” in terms of societal stratas that lead to eruptions eventually, in a quite seismic way:

Specific triggers of political upheavals are difficult, perhaps even impossible to predict. On the other hand, structural pressures build up slowly and more predictably, and are amenable to analysis and forecasting. Furthermore, many triggering events themselves are ultimately caused by pent-up social pressures that seek an outlet—in other words, by the structural factors. The main focus of SDT (as the name implies) is on the structural pressures undermining social resilience. The theory represents complex human societies as systems with three main compartments (the general population, the elites, and the

state) interacting with each other and with socio-political instability via a web of nonlinear feedbacks (1-2)

My own approach to history is obviously not built upon quantitative data. But, not unlike Turchin, I look into the past in order to locate a moment of extraordinary ‘structural pressure’. By examining German fascism, as a historical constellation referring to conceptual layers with material repercussions I cannot predict anything. But, I can try to inform you how we look at the interplay between technology and society in the present. Speer’s heavy load-bearing cylinder is a witness to the development of soil mechanics and foundation engineering that enabled more complex infrastructural designs (*technological progress*), while society regressed into a barbaric racism (*ethical regress*). These two historical layers occurred simultaneously, but moved in opposite directions, while ‘rubbing’ against each other, leading to an unforeseen tension and eruption. This particular constellation is only one possibility of the interaction of these two layers, which generally allow for a multitude of constellations and contingencies, meaning that technological progress does not automatically cause ethical regression. There is no teleology at work throughout history.

Correspondingly, the trajectory of my research was non-linear and unpredictable as well. I relied upon fieldwork, asking around, and reaching out to people. It was not until I made my way to Berlin and met René Krüger from the community organization Berliner Unterwelten e.V. at their office close to the Gesundbrunnen that my research got more concrete. He told me about his experiences with numerous ‘entitled’ architecture students from NYU (that is the example he actually used—I personally admire NYC), who had emailed him, in order to request Speer’s plans (which he was not able to provide). He was impressed that I actually showed up in person,

and via this connection, I got to know architect Michael Richter, who again helped me to link up with Marcel Ney from TU Berlin. Later on, when I located the cylinder's plans in Bavaria and showed them to Michael Richter, who had earlier provided me with scans and notes from his own archival work, I was glad to be able to give something substantial back. I felt accomplished and proud to have participated in the cultivation of the memorial site by adding another lost piece of history. At that moment, I felt like I was part of a collaboration of like minded citizens, who are curious about their surroundings and the stories hidden beneath its surface. Our shared interest in history even allowed us to break through the thick imaginary wall that stands (quite firm) between Berliners and Munichers. These connections (and others), enabled me to get access to both the informal Degebo archives⁶² and the structure itself—including the parts not publically accessible, so the underground measurement chambers (see fig. 17). Overall, it was not until I stepped foot onto Berlin's soil (and underneath it) that I was able to make all of these crucial connections and I was not sure what to expect before I got there. Therefore, I would like to describe my model of analysis as open-ended, collaborative, spontaneous, improvised, and sometimes unpredictable. There was not always a specific outcome—until I found one that makes sense for your project. It all began with the curiosity to explore the complexity of everyday language, objects, thoughts, emotions, and more—so with the urge to navigate my body through spaces while trying to activate all my sensors. What followed was the attempt to imagine possible meanings and connections in the context of the humanities (and especially German studies, in my case). The goal became to embed Speer, and especially his heavy load-bearing cylinder, into intellectual history in a meaningful way—so as to find out where he stands among the (not always so) 'sublime' minds of Kant, Hegel, Goethe, Nietzsche, Freud,

⁶² All my 'official' requests to look at the materials had remained unanswered by TU Berlin—possibly they had received too many requests from entitled students from overseas and had started ignoring their emails.

Mann, and all the others. This obviously required to re-think (and possibly undermine) ‘the canon’ from a dialectical perspective and to accept that sublimity can (and often did) coincide with barbarity. At this stage my project only shows you the early stage of me tentatively making the connections between my material findings and the vast field of German intellectual history. I hope, nevertheless, that my ‘open approach’ will encourage others to explore our hidden human desire to look behind—and *underneath*—façades, walls, canons, and hardened opinions. Ideally, this will play into the hands of a cultivation of empathy. Let curiositas be your inner compass! So, let us briefly talk about *depth*.



Fig. 17. Kurek, Paul. Lower measurement chamber. 2019. Jpeg.

Depth

The 'label' cultural *geology* automatically evokes the association with *depth*, rather than *height*. Instead of 'stacking up' layers into the skies, which evoke hubris captured by the image of the Tower of Babel, the *subterranean* is of primary interest to me. The subterranean is the structural element of any construction that is *load-bearing* and upon which *height* is erected and *weight* is imposed. Needless to say, we constantly need to keep 'digging' into our established towering narratives and canonical texts in order to discover further nuances and/or skeletons in the closet. The possibility of finding something new is obviously infinitely higher, when we actively keep looking beyond the surface (of history). To give an example, just recently (in May 2020), objects, mostly tools and cutlery, were found in Auschwitz-II Birkenau. Inmates had hidden them underneath a chimney in Block 17. For us today, these findings illustrate daily life in the camp and help us to establish a connection to the victims, whose stories are imprinted on these objects. It remains unclear why they were hidden in that location. Possibly they were used to repair or make clothing, to produce keys, used as informal currency, or even prepared a planned escape. Nowadays, we would rarely assign any type of significance to 'ordinary' objects like that. But knowing that the inmates saw them as valuable enough to risk their lives for them, forces us to reconsider how we look at them. They help us to dive into a different reality, a reality in which at least 1.1 million people were gassed, as they had been declared racially inferior and systematically stripped of their humanness ("Auschwitz: Hidden objects found at concentration camp"). The monolithic idea of a superior race was erected upon their suffering that was justified by contemporary 'science'. It is hard to believe today, but this was their reality, and this was the 'truth' that the camp produced in the gas chambers. As you can see, I do not look at *depth* as the 'location' that is closer to any type of *truth*. Rather, I see the aim for depth as the consideration

of the possibility of dynamic, fluid, and moving spaces *underneath* constructions of truths. Digging deeper reveals the shaky foundations of truths—and potentially allows us to discover the materials to build a new truth, possibly the truth we need.

Positionality

A thinker who articulated how limited the human perspective on truth generally is, was Friedrich Nietzsche. He saw our belief-systems as conditioned by our specific human biological design. He emphasized how shaky, improvised, and temporary these conceptualizations of truth were ‘by nature’. In his attack on the project of enlightenment, Nietzsche criticized the “Turmbau der Wissenschaften” (“tower of science”) as oppressive fabrication of monopolies of truth by science (and religion) (318). Undoubtedly, he is an important genealogical part of the conceptual history of *Geschichte*. His accounts, as profound, creative, and productive as they are, were nevertheless quite limited (especially from today’s perspective). He did not critically reflect upon his own positionality, as a straight, white, male, European, able-bodied subject, which did not leave much space for the cultivation of empathy in his realm of ideas. Benjamin even considered Nietzsche’s realm of thought as inherently caught up in the paradigm of imperialism in his Arcades Project (177). Obviously, we have to ask ourselves, how much sense it makes to ‘judge’ figures of the past by today’s standards. Nevertheless, by working through the past and the words of its actors, we have the opportunity to explore the foundations of our civilization in a critical light, and encourage ourselves to move towards a brighter future.

Many of the ‘gaps’ in Nietzsche’s thought have been filled in the meantime. We now know that, as humans, we have to be aware of our limited perspective, and try to broaden our horizons and definitions. For the sake of our own good, we, more and more, agree that we *have* to conceptualize the world as a living habitat for a diversity of human and non-human

epistemologies, which are co-inhabiting spaces and times on different scales (something Nietzsche also helped sketching out, I believe). Dipesh Chakrabarty commented on this in his recent essay “The Planet: An Emergent Humanist Category” (2019):

It is only as humans that we emphasize the last five hundred million years of the planet’s life—the last one-eighth of the Earth’s age—for that is the period when the Cambrian explosion of life-forms occurred, creating conditions without which humans would not have been. From the viewpoint of anaerobic bacteria, however, which lived on the surface of the planet before the great oxygenation of the atmosphere about 2.45 billion years ago, the atmosphere might look like a history of disasters (as recognized by such humangiven names as the Oxygen Holocaust). (25)

As Chakrabarty puts it, our shared humanness is what confines us in our conceptualizations of *truths*. This awareness constantly encourages us to listen to other human and non-human voices. To take on the positionality of anaerobic bacteria, which Chakrabarty attempts here, and thereby compare the oxygenation of our planet that occurred ‘naturally’ with a highly organized dis-oxygenation—the gassing millions of people—is probably not a very sensitive treatment of the topic. It shows to us the general danger of such (pre-)historical anthropomorphizing analogies (and their relativist potential), which is similar to the problems the emerging concept of the Anthropocene is afflicted with. A question left out here, for example, is the capacity for suffering, which Chakrabarty addresses by demonstrating the limited scope of human empathy. Do bacteria suffer like humans? Is this question too anthropocentric from the

get-go to be valid? What I take away from this, is that we certainly have to expand our scope of conversation partners by including actors beyond our species. In order to work on a more inclusive concept of ethics, we need to further explore its ties to ecology, for example. Part of this inter-human dialogue, which tries to critically approach the dangers of an all too human-centric perspective, is to continue questioning any visible and well-established construct of *truth*. Superstructures, be it governmental bodies, or any other voice of authority, which are used to impose *truths* from the ‘top down’, have to be examined from the ‘bottom up’, the substructures. In an ideal world, this exchange would be productive for ‘both’ parties. Accepting that we all participate in structures of power, and thus are part of super- *and* substructures at the same time, which can lead to simultaneous, clashing ‘scripts’ of truths we feel obliged to act out, can be a first step. Generally, it appears productive to believe that there is not only *one* truth, just different narratives of *truths* that often intersect and/or clash. *All* of them have to be critically examined regarding their intentionality, ideological agenda, etc.—within the pluralistic ‘voice-over’ of existences. On the other hand, in times of so-called ‘alternative facts’, which are often fabricated as a strategy of deflection and power gain, it is especially challenging not to fall back into the paradigm of ‘objectivity’. The deeper we look, the more complex and unambiguous things seem to get, but critically looking at the intention behind the production of truths seems unavoidable.

The *Schwerbelastungskörper* (heavy load-bearing body) captures the tension between several *superstructures vs. substructures*, including *German vs. non-German* and *humanity vs. nature*. When interpreted as a dialectical image that complicates the ‘truth’ of teleological progress, it captures the potential intimate proximity of *technological progress vs. cultural regression* and the tension resulting from the friction between these layers. Or, when we look at

the cylinder as a technological device implemented by humanity to continue their mission to dominate nature and the planet, it is a technological extension of the biblical dictum *macht euch die Erde Untertan* (subdue the earth). By measuring the soils for the purpose of grasping its data, it provided the information needed for preparing the world's domination. "Daß ich erkenne, was die Welt [i]m Innersten zusammenhält" (So that I may understand, what holds the world together in its deepest ends) (Goethe: 34). Speer described commented on the human will to dominate the earth and his role therein, as a

Nebeneinander von romantischen und technischen Elementen ... mit allen Widersprüchen und Reibungen, aber auch allen Verbindungen die mein Leben im ganzen beherrscht haben. ... Einerseits, fasziniert mich jeder technische Erfolg, ich bewundere jenen Geist der sich die Erde untertan gemacht hat und nun in den Weltraum auszugreifen beginnt, und bin doch andererseits, angesichts der unaufhaltsamen Verwandlung der Welt ins Technische, Moderne, Häßliche, voll von Panik und Schmerz. (1994: 574)

coexistence of romantic and technical elements ... with all their contradictions and frictions, but also all the connections that have controlled my life in its entirety. ... On the one hand, every success of technology fascinates me, I admire the spirit that has subdued the earth and now starts reaching into space, but, on the other hand, in the face of the unstoppable transformation of the world into the technical, modern, ugly, I am full of anxiety and pain.

Vermessung/Vermassung der Welt (measuring/massification of the world)

While figures such as Friedrich Gauss and Alexander von Humboldt measured the world mathematically and geographically, the other side of the *Vermessung der Welt* was the *Vermassung der Welt*. The latter refers to the increase of weight we put on the soils due to the growth of civilization and its infrastructure. This required a large-scale geological measuring that went hand in hand with our geographical expansion, as we had to make sure to lay foundations that were strongly ‘rooted’ in the ground so that the whole thing on top does not collapse altogether. This is a mostly ‘invisible’ and seldom told narrative, but nonetheless equally important. It adds a vertical scale to the horizontal conquest of the world: both are attempts to understand which ‘inherent’ laws move the world at its inner core. Understanding these laws allowed us to ‘rewrite’—or at least manipulate—them to our benefit. The human desire to ‘measure’ the world brought forth both the achievements and misdeeds of the modern era. “Arendt and Koselleck believed that the catastrophes of the twentieth century were caused by ideologies that claimed to execute the laws of history” (Franzel/Hoffmann: xxvii). In *The Human Condition* (1958) Hannah Arendt described our ‘will to power’ as a geographic mapping of the world with the goal to take control of it:

the discovery of the earth, the mapping of her lands and the chartering of her waters, took many centuries and has only now begun to come to an end. Only now has man taken full possession of his mortal dwelling place and gathered the infinite horizons ... into a globe whose majestic outlines and detailed surface he knows as he knows the lines in the palm of his hand. Precisely when the immensity of available space on earth was discovered, the famous shrinkage of the globe began, until eventually in our world ... each man is as

much an inhabitant of his earth as he is an inhabitant of his country. Men now live in an earth-wide continuous whole Speed has conquered space Nothing, to be sure, could have been more alien to the purpose of the explorers and circumnavigators of the early modern age than this closing-in process; they went to enlarge the earth, not shrink her into a ball. . . . Only the wisdom of hindsight sees the obvious, that nothing can remain immense if it can be measured. (250)

This “famous shrinkage of the globe”—as the process of an accelerated conceptual contraction of space and time throughout the “modern age”—was captured famously by Heine in the previous century. In response to the ongoing extension of the railway network that allowed cross-national traveling, he came up with the image of being able to smell the German Linden trees, whilst hearing the North Sea banging at his door, in Paris (Schivelbusch: 34). Both Arendt and Heine referred to a *geographic/horizontal* measuring of the world that defines modernity. The heavy load-bearing cylinder extended the project of measuring onto the *vertical/geological* scale.

The cylinder was the site of a deep geological micro-inspection of Berlin’s soils that paved the way for a macro-transformation of the city—and urban spaces in general. By piercing into the upper earth crust, it allowed the extraction of information regarding the world’s geotechnological-design. It provided both information about the micro-classification (of soil types) and macro-stratification (geological layers) of the planet. This information was collected by soil mechanics and translated by engineers into the design of the foundations of history’s largest city, Germania. Hence, the extracted geological knowledge was processed in an engineering framework, it was not knowledge for knowledge’s sake, but with a specific goal:

build something bigger than ever—even bigger than the ancient pyramids. No wonder, this knowledge became useful for other, smaller scaled projects as well. Overall, the project supported the human ‘conquest’ of the earth through allowing for larger (and deeper) geographical *and* geological incisions and transformations in the construction world. The term *Vermassung der Welt* captures the process of preparing the earth to carry more, larger, and heavier structures by increasing the ground’s load-bearing capacity, which is a result of and prerequisite for our growing civilization.

The analytical angle of *weight* opens up the ‘foundational’ history of “mobile modernity” that produced the train as an emblematic mode of transportation and vehicle to ‘manipulate’ space and time. “Railways represented progress because they were the technological realization of mobility, speed and exchange. They also became the first mode of transportation to move the masses, from the formation of mass politics to the implementation of mass deportations” (Presner: 3). The train, and other modes of modern transportation, relied (and rely) on certain ‘immobile’ elements, which allowed for “mobile modernity” to emerge in the first place. These included train stations, dams, bridges, shiplocks, roadbeds and railway tracks, which had to be built more and more with the extension of infrastructure and the density of its networks. All these structures relied on steady foundations and the advances in modern foundation engineering that happened over the last 200 years, which eventually led to the emergence of the discipline of soil mechanics in the 1920s. The latter played a crucial part in enabling our current mobile urban civilizations. The horizontal expansion of infrastructural networks, especially the railway, but also roads and shipping channels, relied heavily upon soil mechanics, and struggled immensely with the problem of soil movement, especially in the late 19th and early 20th century, when infrastructures were extended and urban centers densified, and more and more damages occurred

given the weight of the new world. It was a moment of grand shattering. The recurring “große Bauunfälle” (great construction accidents) forced us to look at soil differently than ever before: as a purely mechanical element whose mechanics we need to understand to control their mobility (Muhs, 1969: 1). What kind of role could the soil play within the larger mechanics of history then?

Koselleck looked at soil as a “metahistorical” parameter, by which he meant that due to the fact that the ground existed before human consciousness it profoundly shaped the possibility of historical narratives. He pointed out that “we lack a thorough conceptual history of ‘space’, even though many good accounts of the concept in the natural sciences are available. To this extent, then, my theoretical reflections on history and space move on unstable ground”, meaning that history is out of human control, to large parts, when we look at its larger geological and planetary conditions, which he refers to as “human *Lebensraum*” (25):

the natural pre-givens of human history are based on what astrophysics, geology, geography biology, and zoology study as sciences. All of these natural pre-givens have their own history, with developmental lines that are calculated in terms of millions and billions of years. In each case we are dealing with histories that occur independent of human consciousness, but that can only be reconstructed ex post within our historical consciousness. All of the data that these natural histories offer us should be defined as metahistorical in relation to human history. These metahistorical conditions of possible histories are those that withhold themselves from human intervention and that, as conditions of our action, provoke human activity. To name just a few familiar ones: land and sea, the coasts and the rivers, the mountains and plains, all of the geological

formations, including their natural resources. The latter are metahistorical pregivens as well, because they can be exploited but not replenished. Climate and climate change are part of this, without which we could not account for transformation in flora and fauna or the genesis of higher aggregated human cultures. In any case we are dealing with the pregivens of possible histories that escape human control but not human use. (28-29)

The literally and metaphorically “unstable ground” he described then accounts for the fact that humans are *not* in control of their “metahistorical pregivens”. Furthermore, the impact provoked by using/manipulating these pregivens ultimately remains unknown. This led to the ambition to take control of all the processes and resources involved thereby. Koselleck named climate change as one factor that *could* be brought under human control potentially, “just as for millennia the world of plants and animals increasingly became subject to human control”. Thus, the laws of metahistory are constantly being rewritten, as “[t]heoretically this would entail asking where the metahistorical pregivens of the human *Lebensraum* shift or are transformed into historical pregivens that humans can influence, master, or exploit” (29). If we look at it that way, the goal of soil mechanics then was to transform soil from a ‘metahistorical pregiven’ to a ‘historical pregiven’. To this day, the exploration/conquest of the soils, one of many histories that run through the cylinder, continues to drive technological progress. For example, the exploration of “deep earth” was continued by the “US defense establishment and the much-denounced oil and mining companies [who] developed the technology for drilling that was then modified to deal with ice”. This, again, provided the technology for climate scientists “to bore into the ice of eight hundred thousand years ago” and deepen their analysis of climate change (Chakrabarty: 17). It shows us how dialectical this process of conquest can be—and that the transformation of

metahistorical pre-givens (that are out of human control) are being transformed into historical pre-givens (that are under human control). Where will this lead to?

Within this larger ‘metahistorical’ framing, soil mechanics could be looked at as one of the many “developmental lines” Koselleck mentioned (28). One that tells us a literally overlooked, hidden history, which is documented in the archives of the German Society for Soil Mechanics. It outlines the human history of ‘taking control’, in which Speer’s cylinder emerged as a tool to overcome the shakiness of the foundations of our civilization. The practice of taking control over the planet relies on taking control over the own, and other, human bodies, and goes hand in hand with our vast histories of violence—a ‘shadow’ of our culture. It is weighing upon all of our backs, pasts, presents, and futures, as ‘controlling’ power structures are ingrained into every aspect of our lives. *Power* is not evil per se, we need a certain amount of power (over our bodies) to get up every morning and exercise or to tell our children not to beat up the other children. But, just as any other historical force/tool, power bears a vast potential for abuse, and the strife for unreasonable amounts of power has proven to be a major cause of human and planetary sufferings—as much as of (technological) progression. This dialectic of technological progress and cultural regression defines the nature of humanity, finds an expression in human practices of power, and we need to find ways to ‘measure’ the abuse of power structures.

***Gewicht* (weight)**

Finally, I want to introduce the category of *Gewicht* into my critical apparatus. I see it as a ‘container’ for an emerging awareness of the ecological and ethical ramifications of my analysis. The goal is to capture, and measure, a plethora of weights. In my case, the term *weight* spins an associative network around the semantic entity of *Raubbau* (overexploitation), referring both to the abusive harvesting of human and natural resources: the weight of the individual

buildings carried by the soils; the weight of the building materials ‘felt’ by the body of the worker bearing them; the decreasing weight of the worker’s body that is being diminished by an inhumane work load and their toil to erect the swindling masses of their disappearing bodies in their barracks every morning; the existential weight that drowns the drowned and is carried on by the saved; the weight of guilt bearing upon the German people; the weight of Speer’s word in writing, and distorting, his own history; the weight posed upon me by the stakes of my project.

The heavy load-bearing cylinder is probably *the* heaviest tool of the human will to conquer, control, and subdue. But it (potentially) ‘stands’ for so much more. Its complex history offers an opportunity to serve as a ‘thick’ narrative vehicle for the production of human knowledge that resists and dismantles the controlling and violent spirit that produced it. Instead of looking at it as a threatening metastasis of the fascist will to subdue, we can choose to read the object as the foundation of a new metastory of histories. *We* can transform the site to make it tell a story that looks ‘underneath’ the controlling gaze of the Tower of Babel sized panopticon that our age is erecting. To me, the cylinder is like an inverted tower, as it is embedded deeper into Berlin’s soils than it stands out. It’s depth is significantly higher than its height. It was designed to draw information from the soils. As a simulation of the heaviest building of humankind, it is a crucial part of the history of monumentality, which is a history linked to practices of praising the ‘higher realm’ of the gods, which again is inextricably linked to the use of forced labor and the exploitation of resources. Correspondingly, when we look at the cylinder from all these angles, we can choose to look at it as a memorial to the toil of the laborers (in and outside the camps). Their bodies were harvested in order to harvest the world’s stone deposits (which would have been used for Speer’s—and all the other—mega monuments). Thus, we can choose to declare the site to be a collective reminder for the violence that occurs whenever our human drive to take

control gets out of control. *We* can transform it to a place that offers a unique moment of ‘geological intimacy’ between *planetarity* and *humanity*, a place that is dedicated to a ‘deep listening’ (in)to the suffering of the earth and to the stories of those who have vanished. *We* can remind ourselves that the crumbling cylinder is a material witness to the *halted* imposition of the German fascist world design, which tells us about the inherent fragility of any imperial project and the limits of technological sophistication. *We* can remind ourselves that the structure was supposed to be erased from the face of the earth after 20 weeks—but, unlike Speer’s Germania, it still stands. *We* can make this fact speak to the *persistence* of our will to remember and commemorate the victims of heavy load-bearing modernity: the heavy load-bearing bodies that carried all its weight, and whose silent suffering was foundational for the fascist world design that was striving for monumentality, eternity, and purity. *We* can choose to summon their spirits there in any way that we desire. It is up to us to take control over the cylinder’s narrative. *We* can make this mute object speak the language of history. Only we can make *soil* and *soul* rhyme (again).

Now, let us dig a little bit deeper into Berlin’s soils and listen to what they have to say to us. To give you another glimpse of the scale of Speer’s measuring upfront, take a look at the drilling profile at the end of this section (see fig. 18). It was conducted close to the heavy load-bearing cylinder and prepared for its construction. It takes us 500 meters (ca. 1640) deep into history—which equals millions of years. The drilling profile breaks down the spatio-temporal composition of the ground into layers that reflect the geological eras of the history of the earth (“Mesozoikum”, “Tertiär,” “Diluvium”, and “Alluvium”). Nevertheless, for construction purposes, only the very top layers, about the first 30 metres (ca. 100 feet) would be interesting. These were primarily “Oberes Diluvium” (Upper Diluvium) and “Alluvium”, so

basically the last ice age and the post-ice age we live in, in total much more than 10,000 years.⁶³

This excessive research scale is a ‘penetrative pendant’ to Speer’s desire to erect history’s largest monuments with infinite stamina. It also allows us to look deep into Speer’s (and probably humanity’s) realm of thought, especially his obsession with size, depth, and hardness. This is also reflected in a passage in Muhs’ manuscript that was later on removed for publication. There, he commented on Speer’s false intuition to test for a deep foundation design for his Triumphal Arch, rather than pursuing a foundation on the upper layer of soil, as the Degebo recommended:

Diesem Gedanken lag wohl einerseits die gefühlsmässige Vorstellung zugrunde: “Je tiefer desto besser”, andererseits gab wohl die scheinbar so feste Beschaffenheit des Geschiebemergels, der mit der Spitzhacke gelöst werden muß, im Gegensatz zu der scheinbar lockeren Beschaffenheit des Sandes hierzu Anlaß. (7-8)

On the on hand, this thought was probably based upon the intuitive idea: “The deeper, the better”, on the other hand the seemingly so firm consistency of the glacial till, which has to be loosened up with a pickaxe, in contrast to the seemingly loose consistency of the sand, probably gave rise to that [intuition].

⁶³ *Diluvium* is an archaic word for ice age, but in the early 20th century it was state-of-the-art jargon, as reflected by the book title *Das Diluvium Deutschlands* (1920), written by Dr. phil. et med. Eugen Geinitz, a professor at the University of Rostock. As he described, the layer of geological history before the Diluvium, the pliocene, was imagined as a time of “Landhebung” (elevation of land), where tectonic displacements led to a postglacial rebound, which created high mountains and deep valleys. Therefore, before the ice age, the territory where Germany is located now, was imagined as ‘higher’ than it is now. For example, North Germany was about 100-200 meters (ca. 330-655 feet) higher than today. The high topographical curvature of the surface encouraged cold temperatures, leading to the formation of glaciers, resulting in another ice age. The Diluvium, so the last ice age, was conceptualized accordingly as a topographical sinkage. It was nevertheless a quite fluid category geologically. Geinitz stated that “[b]ei der Behandlung des Stoffes musste ich mehrfach über die Grenzen Deutschlands in benachbarte Gebiete übergreifen” (during my examination of the topic I had to cross the Germany’s borders frequently) and “[u]nsere Kenntnis des Diluvium ist durchaus nicht abgeschlossen” (our knowledge of the Diluvium is indeed not finalized), signaling that the research topic of the Diluvium was as border-crossing as booming, and contradictions had to be expected (1).

This quote shows us clearly that Speer firmly believed that what his eternal foundations really needed was a hard soil and a deep rooting. None of it turned out to be true; from a technological standpoint. But let's keep the parameters of his metahistorical designing plan, namely the pillars of *supersize*, *superdepth*, and *superendurance* in mind for the upcoming parts.

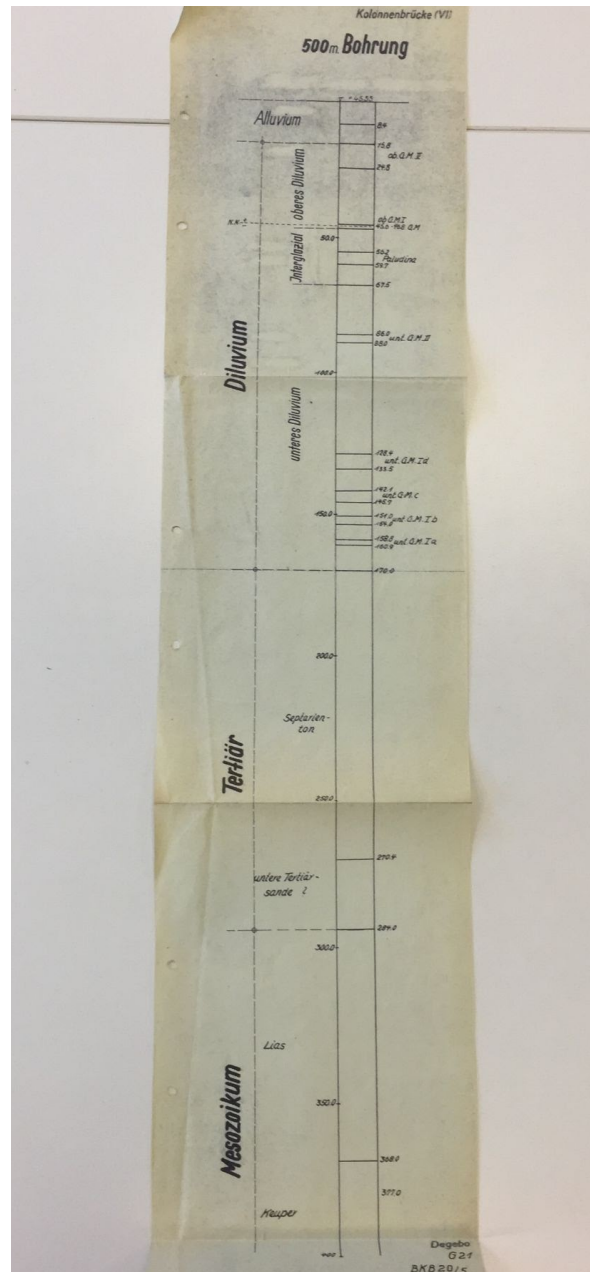


Fig. 18. Degebo. "500m Bohrung Kolonnenbrücke." 1941. Projektarchiv Degebo, BKB 20/5.

1 Berlin/Germania



Fig. 19. Giersch, Ulrich, et al. “Berlin - ‘Germania’”. Die projizierte Zerstörung Berlins durch Albert Speer’s Planungen der Nord-Südachse für ‘Germania’ als Hauptstadt eines großgermanischen Weltreiches.”⁶⁴ LAB, F. Rep. 270, A7848.

⁶⁴ The projected destruction of Berlin through Albert Speer’s plans for the North-South Axis of ‘Germania’ as the capital of a Great Germanic World Empire. The map shows the projected view of Germania in 1950 by juxtaposing 1943 aerial footage with digital reconstructions of Speer’s architectural models.

In 1948 Degebo member Muhs dove right into the heart of heavy load-bearing modernity by providing the first comprehensive analysis of the data gathered at the heavy load-bearing cylinder. By unpacking the foundational role of the structure within Speer's unfinished redevelopment of Berlin into Germania, Muhs established the metahistorical scale of the cylinder that allowed for fascist building megalomania to enter and shape reality. While the later publication would focus solely on the cylinder itself, Muhs' manuscript embedded it into a series of test-loads that were conducted all over Berlin—showing us that it was merely the 'tip of the iceberg':

Veranlassung zu den in der vorliegenden Arbeit behandelten Probelastungen gaben die von dem früheren Generalbauinspektor für Berlin geplant gewesenen Monumentalbauten in Berlin. Bei ihnen tauchte eine Reihe gründungstechnischer Fragen auf, die sich aufgrund der bisherigen Kenntnisse über das Verhalten des Baugrundes bei derartig grossen und schweren Bauwerken nur schwer beantworten ließen. In besonderem Maße war dies der Fall durch ausserordentlich strenge und schwer erfüllbare Forderungen der die Bauten entwerfenden Architekten. Trotz der infolge der großen Höhen und schweren Ausführung hohen Bodenbelastung sollten nach Möglichkeit ungleiche Setzungen völlig vermieden werden bzw. ganz bestimmte, sehr niedrige Beträge nicht überschreiten. Diese Forderung ergab sich dadurch, daß die betreffenden Gebäude sofort mit dem Hochmauern eine ziemlich dickbankige Werksteinverblendung mit sehr schmaler Fugenausbildung (2-3 mm) erhalten sollten, auf die sich auch geringere ungleichmässige Setzungen sehr unangenehm hätten auswirken müssen. Der Vorschlag, die Werksteinverblendung erst nach dem Hochmauern des Gebäudes, also nach dem

Aufbringen der eigentlichen Belastung auf dem Baugrund und damit auch nach dem Auftreten der Hauptsetzungen, anzubringen, wurde ebenso abgelehnt wie der Vorschlag, Setzungsfugen in den Wänden vorzusehen. (5)

Reasons for the test-loads treated in the following paper were the monumental structures planned by the former General Building Inspector of Berlin in Berlin. There occurred a series of questions regarding their foundation design, which were very difficult to answer given the previous state of knowledge about the behaviour of the building ground with such large and heavy buildings. This was especially the case due to the extraordinary and difficult to fulfill requirements by the architects that designed the buildings. Despite the high ground pressure as a result of the large heights and heavy design, uneven settlements were to be avoided entirely as far as possible, or else not to exceed rather particular, very low amounts. This requirement was due to the fact that the respective buildings were to immediately be equipped with a rather thick-bedded cut stone facing with a very thin spacing between the joints (2-3 mm) [ca. 0.08-0.12 inches] during construction, onto which minor uneven settlements also would have had very unpleasant consequences. The suggestion to apply the cut stone facing only after the construction of the buildings, so after the actual loading on the building ground and thus also after the occurrence of the main settlements, was denied, as well as the suggestion to apply settling joints in the walls.

The guiding question for the soil mechanics was, how deep and how evenly would the monuments sink into the ground, and how could they make sure that they will not take any

damage through the movements and forces unleashed by their settlement? Based on that data, the foundations of the edifices were to be designed in a way to prevent any of these damages that could occur as a result of the dynamics between the sinking buildings and the yielding soil.⁶⁵ I interpret this not only as a question of architecture, it was also a question about the structural stability of the German fascist world design that included the dynamics between spaces, times, and identities. Obviously, any fissures in Speer's monumental city would have been perceived as 'cracks' in the shell of German fascist modernity. What we can learn from all of this is that the Triumphal Arch, and all the other monuments dedicated to the erection of a new eternal German identity, would have been relatively delicate compositions that required calculations accurate to the fraction of an inch. This was due to their excessive scale and particular aesthetic that resulted in an accordingly complicated design. While on the outside, they were to summon Roman antiquity through their natural cut stone facing ("Werksteinverblendung"), on the inside they were to consist of highly modern ferroconcrete skeletons. As the two materials had different weights and thus settlement behaviours, they caused a structural tension within the buildings that was hard to resolve. To make it even more complicated, Speer insisted that the stone facing had to be applied immediately, so simultaneously to erecting the ferroconcrete core ("Hochmauern"), rather than waiting until the main settlement of the ferroconcrete was finished first ("Hauptsetzungen"), as the soil mechanics suggested.⁶⁶ The latter strategy would have made it easier to avoid tensions between the ferroconcrete and the stone facing layered upon it, which could potentially lead to cracks in the façade. So why take that risk? It is most likely that the

⁶⁵ It later turned out that the soil would have had to be densified to increase its bearing capacity for that purpose (Muhs, 1948: 101-111).

⁶⁶ Prior to that, the Nazis had already built several large structures such as the Reichsbank, Reichsluftfahrtministerium (Ministry of Aviation), and Flughafen Tempelhof in Berlin, whereby the shell constructions had been built before the stone cladding was applied. At this stage, it seemed like this should be avoided, possibly to 'buttress' the idea of eternity which the massive monuments were to embody (Escher/Richter 25-26).

architect tried to avoid having bleak ferroconcrete (or any other shell construction), as a material marker of modernity, to destroy the fragile illusion of his neo-ancient city. Therefore, he could not wait.⁶⁷ As a result, extremely precise test-loads had to be designed for these projects, so that the building settlement could be calculated and damage minimized. What was the larger idea behind these architectural giants that required so much technological development ‘just’ in order to recreate an ancient aesthetic? Why was any appearance of fragility such a source of anxiety?

In order to get a glimpse of the basic ideas behind the transformation of *Berlin* to *Germania*, let us dive deeper into their etymological and technological, so *etymo-techno-logical* histories in the context of German fascism, by drilling down into *Germania*, *Berlin(s)*, and *Degebo* as layers of the city’s history.

⁶⁷ This would also explain why even the massive Flak Towers erected all over Berlin during the war were designed in a way that made them look historic (Escher/Richter: 25-26). It was all about controlling the narrative on a surface level.

Germania

I want to begin by meditating about the etymological roots of *Germania* and thus start exploring the connection between naming, place-making, and identity. Therefore, I illustrate the aspect of ‘identity formation’ within Speer’s metahistorical design through a brief reflection upon the concept of the *Welthauptstadt Germania* (World Capital Germania) that is nowadays associated with Speer’s redevelopment plans of Berlin. Renaming Berlin to *Germania*, a Latin word famously used to name the territory of the Germanic tribes by the Roman historian Tacitus, would definitely make sense within the narrative of German fascism. The term captures the appropriation of Greco-Roman culture into the narrative of Germanness, an overall effort that was key within the cultural and educational politics of the National Socialists.⁶⁸ Nevertheless, the historical evidence for an actual plan to rename *Berlin* to *Germania* is quite scarce. But, just like the narrative surrounding Speer’s concept of ‘ruin value’, *Germania* has firmly sedimented in the cultural imaginary as *the* name for the new Berlin, and most scholars consider it, quite unreflected, as factual, even in the title of many publications. The common formula *Welthauptstadt Germania* turns out to be a result of the amalgamation of somewhat questionable sources for the reasons of ‘marketing’ Speer’s memoirs. Let us look at the two most common quotes.

The first one stemmed from Henry Picker’s *Hitlers Tischgespräche im Führerhauptquartier 1941—1942* (Hitler’s table talks in the Führer’s headquarters 1941-1942), an account of Hitler’s speeches based on protocols written by the author himself. The book, just

⁶⁸ French historian Johann Chapoutot recently published a whole book about this topic: *Greeks, Romans, Germans: How the Nazis Usurped Europe's Classical Past* (2016).

like Speer's memoirs, is a quite suspicious historical document.⁶⁹ Picker wrote the following (allegedly he is quoting Hitler speaking on June 8th, 1942):

Wie seinerzeit die Bayern, die Preußen usw. von Bismarck immer wieder auf die deutsche Idee hingestoßen worden seien, so müsse man die germanischen Völker Kontinentaleuropas ganz planmäßig auf den germanischen Gedanken hinlenken. Er halte es sogar für gut, dieser Arbeit durch Umbenennung der Reichshauptstadt "Berlin" in "Germania" einen besonders nachhaltigen Auftrieb zu geben. Denn der Name Germania für die Reichshauptstadt in ihrer neuen repräsentativen Form sei geeignet, trotz größter räumlicher Entfernung zwischen jedem Angehörigen des germanischen Rassekerns und dieser Hauptstadt ein Gefühl der Zusammengehörigkeit zu erzeugen. Daß eine solche Umbenennung Berlins auch technisch keine Schwierigkeiten mache, zeige die Verdeutschung Gdingens in Gotenhafen und die Umbenennung Lodz' in Litzmannstadt.

(98)

Just as the Bavarians, the Prussians, and so on, had to be pushed towards the German idea by Bismarck, the Germanic peoples of Continental Europe must be programmatically steered towards the Germanic concept as well. He even deems it good to give this task an especially lasting boost by renaming the Reich's capital Berlin into 'Germania'. Since the name Germania for the capital of the Reich in its new representative form would be

⁶⁹ Historian Mikael Nilsson meticulously researched the highly problematic and distorted body of source material available regarding 'Hitler quotes', including Henry Picker and Heinrich Heim's accounts. Nilsson, Mikael. "Hitler Redivivus." *Vierteljahrshäfte für Zeitgeschichte*, vol. 67, no. 1, 2019, pp. 105-146. For Speer's *Erinnerungen* specifically, Brechtken pointed out that many alleged Hitler quotes were fabrications by Speer and his editors Jobst Siedler and Joachim Fest (55).

suitable, in order to instill a feeling of unity between each and every member of the Germanic racial core and this capital despite a large geographic distance. The Germanization of Gdingens in Gotenhafen and the renaming of Lodz in Litzmannstadt show that such a renaming of Berlin does not cause any technical difficulties.

According to this ‘quote’, Hitler’s reasoning behind the usage of the term *Germania* was the belief that the word amplified the narrative of Germany’s static racial core, its imperialist ambitions, and desired super-historicity. As such, the word captures the reciprocity of fascist ideology with their urban plans quite well.

The second common point of reference (covering the term *Welthauptstadt*) is Heinrich Heim’s collection *Adolf Hitler, Monologe im Führerhauptquartier 1941-1944. Die Aufzeichnungen Heinrich Heims* (1980) (Adolf Hitler, monologues in the Führer’s headquarters 1914-1944. The recordings of Heinrich Heim). They are based on recordings of Hitler, which are potentially reliable sources, but the transcriptions have been subject to many manipulations. According to the transcripts, on the late night of March 11th, Hitler stated that “*Berlin wird als Welthauptstadt nur mit dem alten Ägypten, Babylon oder Rom vergleichbar sein! Was ist London, was ist Paris dagegen!*” (qtd. in Schäfer: 28) (As world capital Berlin will only be comparable with Ancient Egypt, Babylon, and Rome! What is London, what is Paris compared to that!).⁷⁰ The hereby described ambition of outclassing ancient architectural and imperial history fits seamlessly into the narrative of Speer’s memoirs.

⁷⁰ In the introduction to Picker’s table talks, Gerhard Ritter used an extended version of Heim’s quote, in which he also connects *Berlin*, *Germania*, and *Welthauptstadt*: “Berlin wird die ‘Welthauptstadt’ dieses Reiches sein, es soll deshalb den neuen Namen ‘Germania’ erhalten und so gewaltig ausgebaut werden, daß es ‘nur noch mit dem alten Ägypten, Babylonien oder Rom vergleichbar sein wird’, London und Paris dagegen verblassen” (19) (Berlin will be the “world capital” of this empire, therefore it shall receive the name “Germania” and be developed so hugely that it will “only be comparable with Ancient Egypt, Babylon, and Rome”, London and Paris [will] fade against it).

As historian Ralf Schäfer showed, the formula “Welthauptstadt Germania” appeared in the cultural imaginary for the first time on the blurb of Speer’s memoirs—as an amalgamation of these two somewhat questionable sources (Picker and Heim) (26). The term was picked strategically to amplify the cliché of the megalomaniac character of Hitler in Speer’s *Erinnerungen*. Against the backdrop of Hitler’s ‘fantasies of grandeur’, Speer was staged as a vehement critic of the total absence of the social dimension within the dictator’s buildings plans. The architect, supposedly, tried to compensate for this by supporting housing and other ‘functional’ projects.⁷¹ In reality, nevertheless, Speer operated mainly autonomously (after being appointed as GBI by Hitler in 1937). *He* systematically and relentlessly expanded his office to a powerful authority with almost 1,000 employees until 1938. *He* was responsible for the overall planning of Germania, which included the eviction and deportation of Berlin Jews, large-scale demolitions, and the extension of the concentration camp network for the recruitment of forced laborers and satisfaction of the vast material requirements (26-30). While the formula “Welthauptstadt Germania” certainly synthesizes the fascist ambition of building the capital of a great German empire quite well, the narrative strategy behind the use of the term was the distortion of history, as it was implemented to downplay Speer’s participation in the crimes of the regime. This distortion still ‘haunts’ the broader cultural imaginary, as the use of the term Germania has settled in public memory as the new name for fascist Berlin, and thus demonstrates how powerful effective storytelling is for historiography. In the end, the danger in using this formula is to prolong Speer’s fiction.

⁷¹ Speer goes into detail about how he ‘transformed’ Hitler’s plan, which focused solely on the representative core, into a full fledged functional city plan, including housing, recreational, and infrastructural elements (1969: 88-93). Overall, Speer’s detailed analyses nevertheless focus on the monumental parts as well. Also, as Brechtken emphasized, Speer always tried to take control of the most monumental building projects to secure his legacy, and thereby made sure he outsized all of his competitors in terms of proposed building scale (70). As long as the Nuremberg premises were the most prestigious project, Speer focused on getting control over it, once he received an even bigger task, namely Berlin, he lost interest in Nuremberg quickly (71-72).

But, as long as we understand Speer's *actual* role, the formula "Welthauptstadt Germania" can help us understand, and narrate, the ambition of Speer as a metahistorical designer. The word *Germania* captures the envisioned static racial core of Germanness by establishing a narrative continuity with ancient Germanic tribes, which also implies the thousands-of-years-long continuity of that blood-line. *Welthauptstadt* captures the aspired territorial size of the German empire that exceeded colonial empires of the past (France and England). It also tells us that the ancient metropolis (Rome, Babylon, etc.) was to act as a model in terms of monumentality. Summa summarum, the envisioned imperial German space had to be vast, the stamina of the empire eternal, and the blood of its people pure.

Keeping in mind its problematic, I looked at *Germania* as a powerful narrative that has settled in the cultural imaginary, in order to drill through it and excavate its specific cultural geology. I wanted to explore the ways in which it contains *truth*, in the sense of asking why it was so successful in shaping what is considered *true* in the public eye, and how we can 'manipulate' it to inscribe a more accurate picture of Speer into the cultural imaginary. Therefore, my goal was to unpack Speer's metahistorical agenda, while 'enriching' the architect's one-sided historical accounts dialectically, which meant re-inserting the violent reality of his 'sublime' architectural vision that keeps stimulating the spectator.

To get an accurate picture of Speer, we have to step away from the photographic reproductions of his well-lit architectural models and remind ourselves that we are not simply talking about an etymological, conceptual, or aesthetic question. The idea of the 'eternal city' *Germania* departed from the deeply barbaric reality of the concentration camps, where the stones and other materials were being produced under infinitely inhumane circumstances. As Levi described it, building in Germany meant "to push wagons, carry sleepers, break stones, dig earth,

press one's bare hand against the iciness of the freezing iron" under the most inhumane conditions (141), and exposed to constant acts of brutality, such as when the "Kapo grabs hold of a brick and throws it among the group" (137). If we were to press our ear against Speer's cylinder, or one of his other remaining buildings, in order to make them speak to us, we could get to hear something like the following from the spirits set in the stone (or concrete): "Any time during the day when we happen to listen to the voice of our bodies, or ask our limbs, the answer is always the same: our strength will not last out" (Levi: 137). Or, if we would listen a little closer, we might hear that "Our hearts sink. ... After fifty steps I am at the limit of what a person is theoretically capable to support: my knees bend, my shoulder aches as if pressed in vice, my equilibrium is in danger. At every step I feel my shoes sucked away by the greedy mud ... whose monotonous horror fills our days" (67). To me, reading this passage sounded like the inner voice of someone who carried all of the cylinder's weight by themselves. It made me imagine how the spiritual and physical pressure transferred by the human body onto the "mud" created some type of 'geological merging' between the body and soils that is central for mapping out heavy load-bearing modernity. As biological and geological beings under heavy pressure they entered a relationship and became allies in suffering under the weight of history. Levi's experience of "the greedy mud ... whose monotonous horror fills our days" reflected the fascist concept of "Blut und Boden" (blood and soil) being at work. Therefore, we need to find ways to give the soils their complexity, which was being flattened by fascist ideology, back. Passages like these reveal the 'internal monologue' of heavy load-bearing modernity that spoke through the heavy load-bearing bodies. They capture the violent essence, the biological reality, of building *Germania*.

While *Germania* as a factual name remains somewhat uncertain, the physical transformation of Berlin into a monumental fascist capital is well documented and graspable. *Germania* is part of a material(izing) history. While it remained largely unbuilt, we can find many traces of it. The heavy load-bearing cylinder (or body) speaks to the massive efforts undertaken towards *Germania*'s realization. Due to the problematic subsoil of Berlin, Speer initiated a large-scale scanning of the whole city and its soil properties, so that his North-South Axis could be built straight from the southern *Triumphbogen* to the northern *Spreebogen*—just the way *he* wanted it. Let us take a look at the material dimension of that project and the problems it faced.

From Triumphbogen to Spreebogen

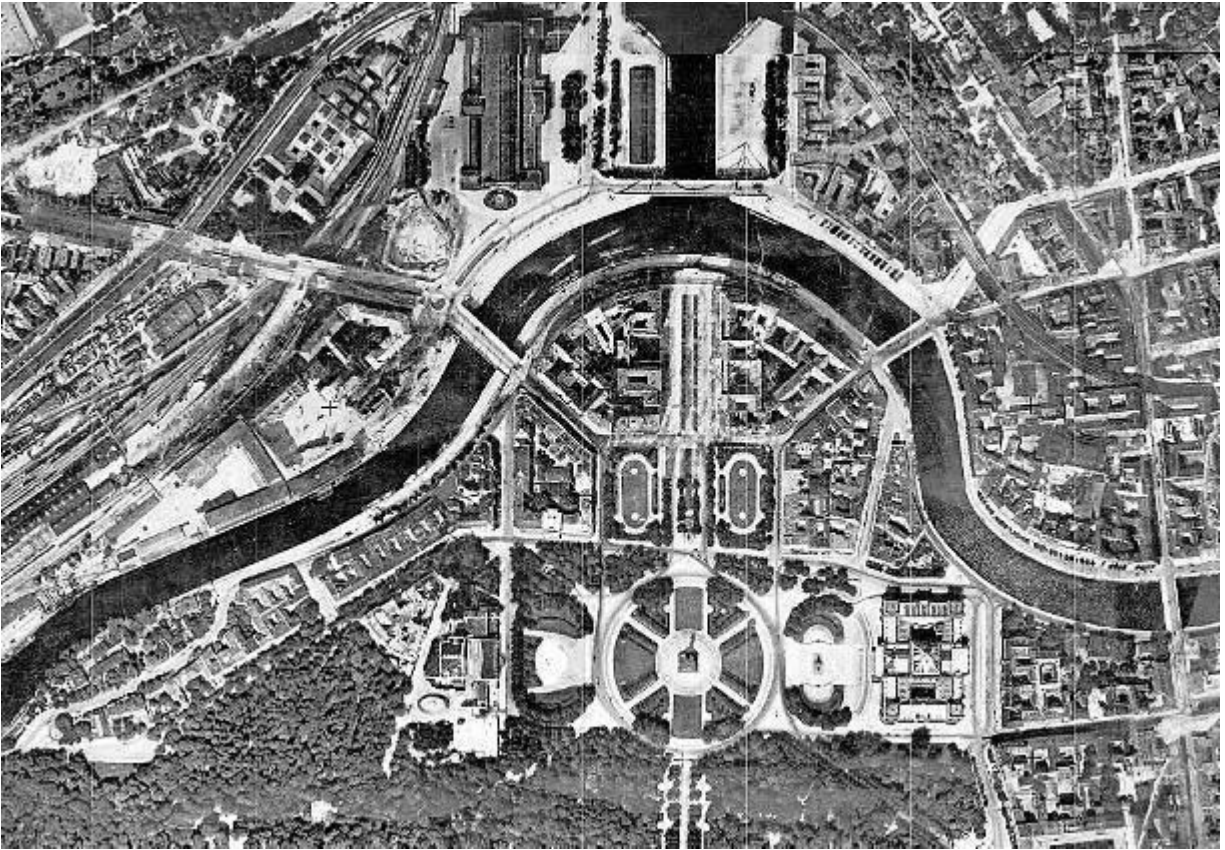


Fig. 20. Aerial Footage of the Spreebogen. 1928. *Der Tagesspiegel*, 24 Jul 2016, tagesspiegel.de/berlin/neubauplaene-in-mitte-der-spreebogen-berlins-beletage/13917776.html. Accessed 23 Feb 2021.

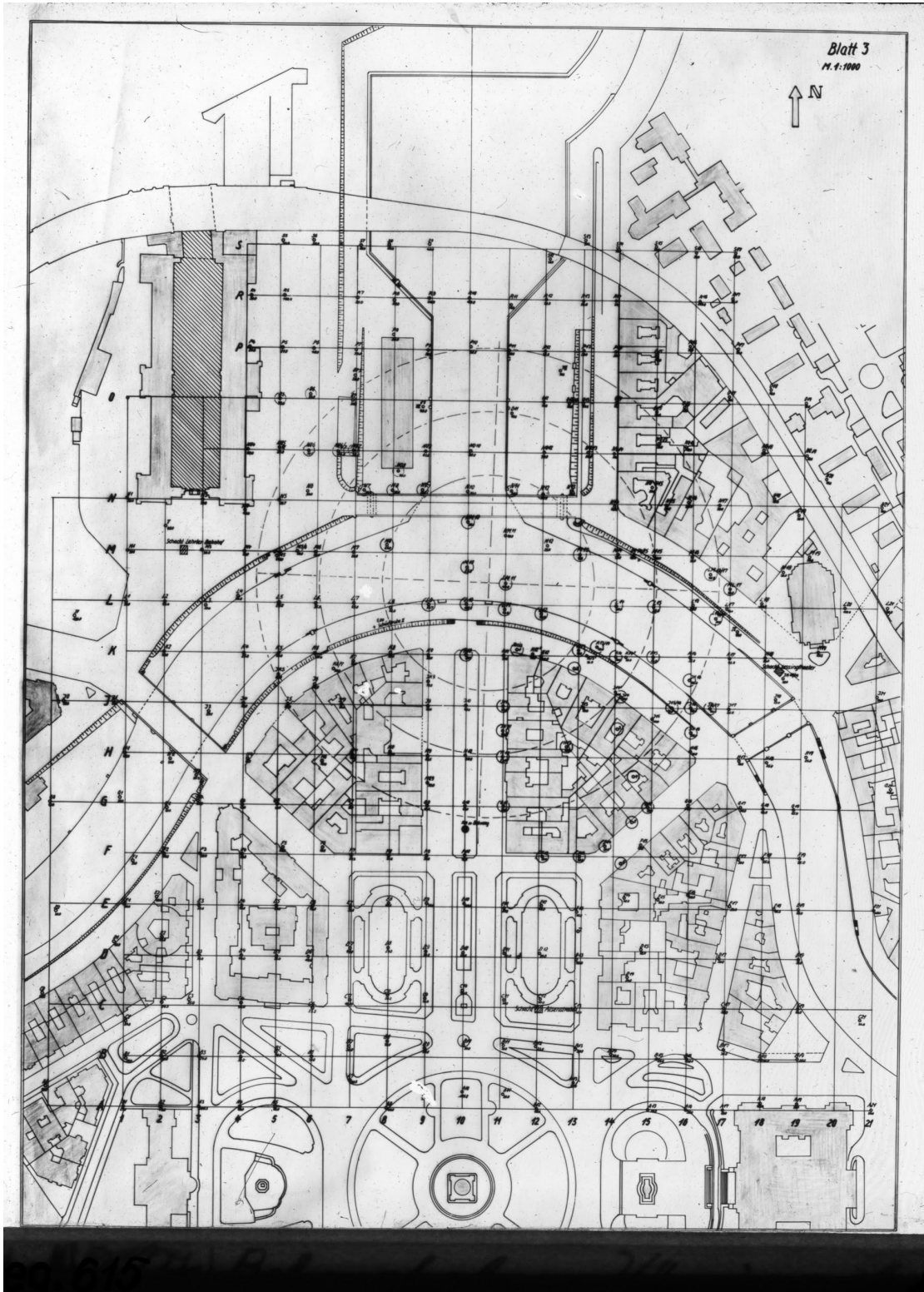


Fig. 21. Degebo. Map of drillings conducted at the Spreebogen. 1938. Diarchiv Degebo

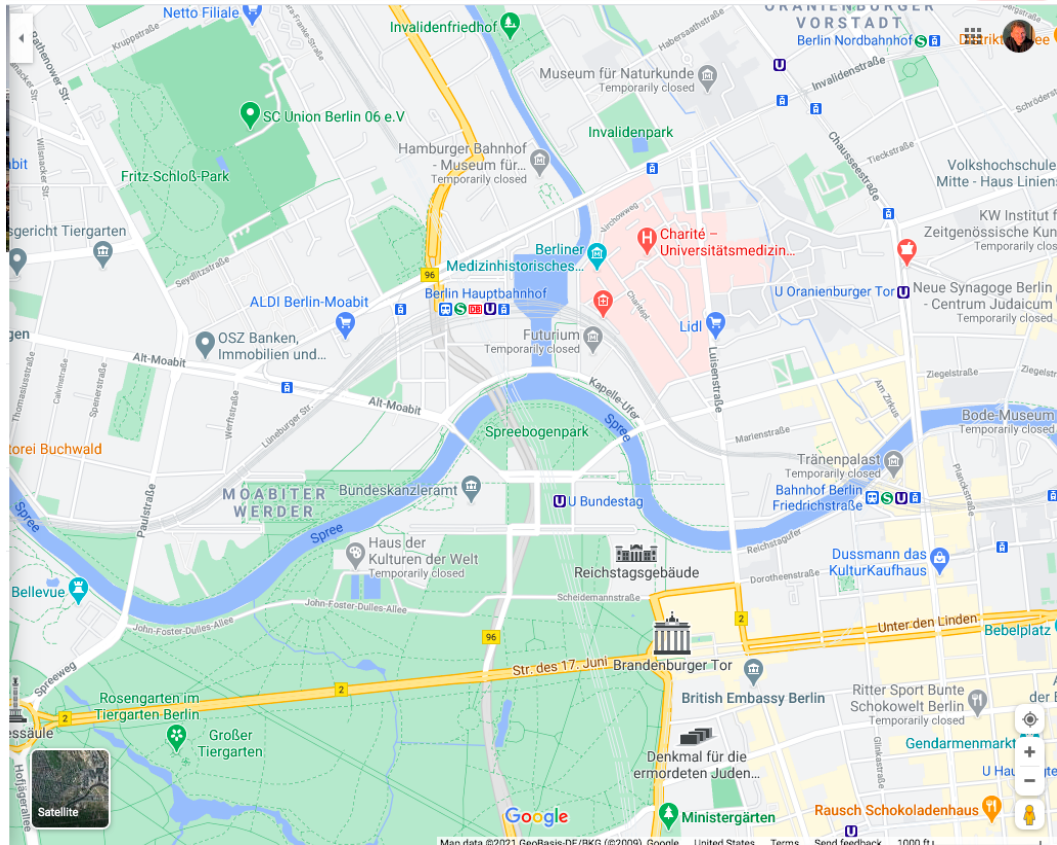


Fig. 22. Spreebogen. *Google Maps*, maps.google.com, 2021.

All the way from the first construction steps early settlers took to enable the emergence of *Berlin* as a city built to Speer’s *Germania* plans hundreds of years later, the taming of the water and the soils—the ‘big fluid’—remained a major challenge. *Speer*, whose last name (coincidentally) consists of a reorganization of the linguistic entity *Spree*, would be the one who initiated, and oversaw, a major reorganization of the said river for his *Germania* project. Consequently, he left deep traces in the geological strata *and* the ‘soils’ of history. Framing *Speer*’s project geologically helps us to visualize the vast scale of German fascism as a project that aimed to mechanically align the complex subterranean to their ideology—in order to impose their linear concept of history on the plurality of our worlds.

In *Bauen im Neuen Reich* (1938; Building in the New Empire), Gerdy Troost, the wife of Speer's predecessor Paul Troost, described the eternal struggle between *Volk* and *Raum* (space) as the tension between the "Urkräften seiner Erbeigenschaften" (primal forces of its inherited properties) and the "Urkräften seines Bodens" (primal forces of its ground).⁷² Within this realm of ideas, the ongoing battle between "Blut und Boden" (blood and soil) amalgamated to the "Heimatlandschaft" (native landscape) that was shaped by the cultivation of nature by the race (5). In order to put this into practice, the Degebo, which developed the technologies necessary for enforcing this domination of race over soil, was a major player. Let us briefly go over the application of this conquest of the soils by the example of the Spreebogen in Berlin, an area that was right in the power center of the city and Germany and therefore was an important site of fascist redevelopment plans.

The three maps at the beginning of this section show very different historical moments and representations of the Spreebogen, 'the arch of the river Spree' (fig. 20, 21, 22). It is the geographical landmark that still encompasses the Regierungsviertel (government district) and where the famous Reichstagsbrand (Reichstag fire) took place in 1933. The first image, an aerial photograph from 1928, depicts the well developed area before Speer's reconstruction (see fig. 20). The second, a soil mechanical drilling map, visualizes the scale of the redevelopment project by layering the megalomaniac plans for Berlin/Germania above the formerly existing structures that were erased for this 'speculative' past (see fig. 21). Thereby the rectangular grid, which optically divides the area, allows the spectator to localize the over 100 carefully numbered

⁷² Paul Troost coined the architectural style of the early NS-movement and built several large projects in Munich, including the "Ehrentempel" (Temples of Honor) erected at the Königsplatz as part of a planned antique forum. Like Speer, Troost's classicism resulted in a "Blutzeugen- und Totenkultarchitektur" (blood witness and death cult architecture) (Heinrich: 18). Speer's take on classicism emphasized the thanatal aspect and increased the 'chilling effect' on the spectator compared to Troost (18-19). After Troost's early death in 1934, Speer was able to take his place and emerge as the major architect of the regime. As Hitler saw Troost as the greatest architect of all during his lifetime, therefore his death must have been very convenient for the uprising Speer (Brechtken: 57).

drilling holes used to examine Berlin's soils. You can see the projected location of the Great Hall (in form of the dotted lines), right where the river transitions into a northward shipping channel via the Humboldthafen. The third map taken from GoogleMaps shows the emptied area, the grassy plain now known as "Platz der Republik" (Place of the Republic), just West of the Reichstag, as it is today, in schematic form (see fig. 21). This tripartite montage demonstrates, in the simplest way possible, the erasure of Berlin's history by Speer—even if the bird's-eye-view allows us only to grasp the horizontal expansion of the Great Hall (we will look at it from more angles later, especially in chapter 3). But, let us stick with the 'big picture' for now.

In Von Berlin nach Germania: über die Zerstörungen der "Reichshauptstadt" durch Albert Speers Neugestaltungsplanungen (1998) (From Berlin to Germania: about the destructions of the "Capital of the Reich" by Albert Speer's redevelopment plans), Schäche and Reichhardt went into more detail about the reorganization of the Spreebogen into the "Großer Platz" (Great Plaza). Obvious center of attention was to be the Great Hall—famously planned as the largest congregation hall in human history. The hall was supposed to be surrounded by water on its eastern, western, and northern sides—so that the reflection of the building in the pool that surrounded it would intensify its impression on the spectator. The plan was to have parts of the river flowing underneath the plaza in front of the hall as well. Therefore, the Spree was supposed to be extended into bassins and a two-armed tunnel built underneath the area as a shipping route. The transformation process began with the demolition of entire neighborhoods that used to be north-west of the Reichstag. One of them was the so-called Alsenviertel, a prominent diplomatic quarter full of representative mansions (see fig. 22). The fact that representative architecture was to replace diplomatic quarters was quite telling. This urban erasure was just a fraction of the planned demolition of over 50,000 apartments all over Berlin (over 15,000 were actually

knocked down by Speer independent of additional war-related destruction). In total, up to 200,000 people were to lose their homes in times of an already pressing housing crisis (156)—which was roughly the amount of people the Great Hall would have been able to accommodate (111). Therefore, “wurden bereits vor 1939 zahllose alte Gebäude in der Nähe des Reichstages ... niedergelegt, Untersuchungen des Baugrundes vorgenommen, Detailzeichnungen angefertigt und Modelle in natürlicher Größe aufgebaut” (already before 1939 many old buildings close to the Reichstag ... were demolished, ground examinations conducted, detailed drawings made and models in natural size built) (Speer 1969: 169). The extensive demolitions began in 1938 under the use of forced laborers who were mainly responsible for removing the rubble. In order to accelerate the process, Speer pushed for the use of explosives that allowed for the instant removal of whole blocks (Reichhardt/Schäche: 154-155). 1950 was the projected year of the completion of Germania. As the hall was the most complex of all the buildings due to its massive cupola, preparations began early on. In 1938, the GBI started acquiring the properties, demolitions began, plans were developed, construction firms hired, and materials gathered all over Europe, while the Degebo conducted soil tests. As the second heaviest project that was to be built on extremely challenging soils (right over the river Spree), the hall required an accordingly solid foundation design. In the end, the construction engineers decided for a massive concrete block with a volume of over three million cubic meters (105.944 million cubic feet) (116-117).⁷³ Heavy load-bearing modernity was approaching.

In order to make sure the foundations were designed in a way that would allow their massive weight to be transferred into the ground without a damaging settlement of the project

⁷³ A detailed study of the exact timeline of the technical development, including all the different actors and companies involved in that project, was conducted by Matthias Kunze: *Ingenieure für Hitlers “Germania”*. *Technische Planungen für die “Große Halle des Volkes”* (2001). In terms of the broader topic of technology and fascism, the ‘anthology’ *Technik und Verantwortung im Nationalsozialismus* (2004), edited by Werner Lorenz and Torsten Meyer, unpacked the history of the so called ‘technocrats’ who used facism as a career springboard (with or without ideological alignment).

(more details in chapter 3), detailed ground examinations were undertaken by the Degebo. This general challenge applied to most of the monumental buildings, and was a major factor in the cooperation of Albert Speer and the Degebo. Drilling maps from the 1930s and 40s show fragments of the data collected during the regime. They served as the foundation of more elaborate postwar visualizations that benefited from the comprehensive approach of Speer, who ordered for Berlin's ground to be mapped out in its entirety (Escher/Richter: 14).

Some of that data that the Degebo collected throughout the war helped to create maps such as the following one from 1956, which I took from their archives (see fig. 23). It covered a much larger area than the previous ones (including the Spreebogen):

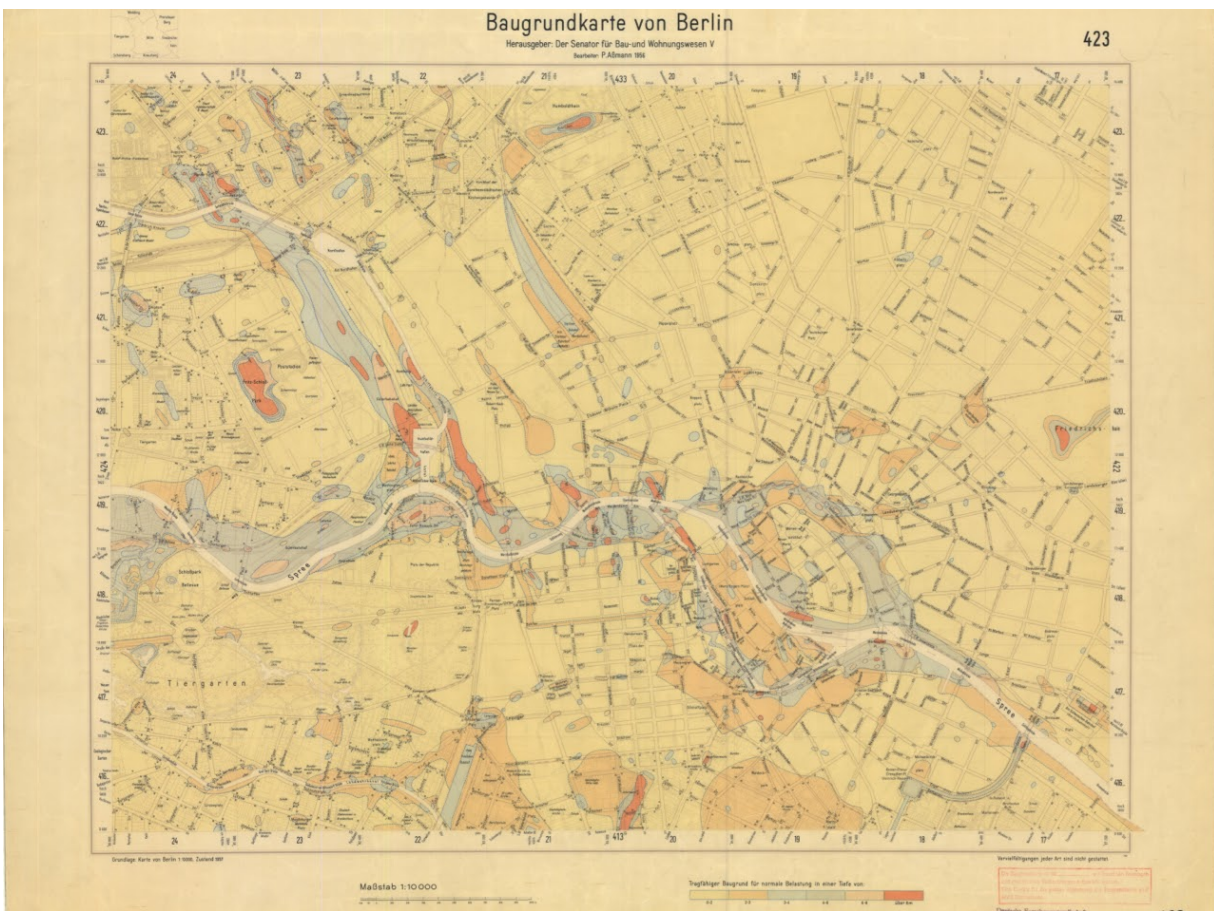


Fig. 23. Aßmann, Paul. "Baugrundkarte von Berlin." 1956. Kartenarchiv Degebo.

This so-called “Baugrundkarte” (subsoil map) visualized the locally varying load-bearing capacities of Berlin’s ground. It shows us how data gathered via drilling and soil sampling can eventually be synthesized to make the city’s soil mechanical properties visible. Concretely, it mapped out how deep the subsoil, so the soil layer that is able to carry a ‘normal load’ (“Tragfähiger Baugrund für normale Belastung”) is located. Usually, the foundations are placed on the subsoil layer. In this case, it lay in a depth between 0-8 meters (0-ca. 26 feet), which is correspondingly colorcoded. When we look at the area around the Spreebogen, where the hall would have been built, we see mostly blue and some orange areas (besides the river that is kept white). This coloring means that the subsoil was located either in a depth of 2-3 meters (ca. 6.5-10 feet; orange) or 3-4 meters (ca. 10-13 feet; blue). In maps like these, which were consulted by civil, structural, and foundation engineers, we can see how fascist data was, in this case ‘productively’, carried on by the foundations of the current urban space of Berlin. The city’s substructure continues to be contaminated by the layer of fascism to this day, which reminds us of the dialectical nature of our world. 50 years after the Degebo was founded, Weiß said the following about the measurements undertaken under Speer:

Die Ergebnisse der damals in den für eine Neugestaltung in Aussicht genommenen Gebieten rasterförmig angeordneten Bohrungen sind noch heute von erheblichem Wert, da sie wiederholt für die Voruntersuchung des Baugrundes von Neubauten herangezogen werden konnten und neue Bohrungen manchmal - z.B. beim Bau der Philharmonie am Rande des Tiergartens - völlig überflüssig machten. (26)

The results of the grid-type drillings ordered in the areas designated for the redevelopment back then are still of substantial value today, since they could repeatedly be consulted for pre-examinations of the building ground for new constructions and sometimes - e.g. during the construction of the philharmonia on the outskirts of the Tiergarten - make them entirely superfluous.

To explore this further, we will dive deeper into the collaboration of Speer with the Degebo, in the second half of this chapter. But let us take a longer detour into the city's beginnings first. By the redesigning of the *Spree*, Speer 'carved' his name into the city space and also left his geological marks, probably about 700 years after the initial human construction activity in the Berlin area. Germania was designed to express the fascist attempt to homogenize what it meant to be German, and to give a clear, teleological, racially grounded answer to the question of identity. In order to reverse Speer's linear narrative trajectory, let us drill into *Berlin* as a linguistic complex, and engage with its diverse etymological roots, while we start looking at the role of technology herein. Let us travel from the *Spreebogen*, as representative of Berlin's naturally complex and fluid geology, to the *Triumphbogen*, as representative of the fascist 'straightening' via technology. Thus, we can construct a South-North Axis, while we read the history of Speer's N-S-Axis 'against the grain'. Therefore, I read *soil movement* as a geological *and* cultural phenomenon that reveals the shaky foundations of architectural and conceptual constructions of any kind. As a major threat to the monolithic fabrications of fascist German modernity, it provoked deep incisions into the geological and etymological fabric of Berlin that tried to apply a corset to its widely ramified histories.

Berlin(s)

When we try to trace back the origins of the city of *Berlin*, by simply tracing the semantic sediments deposited in its name, we realize how difficult it is to pinpoint a clearly defined genealogical root, or a starting point, which must be located somewhere between its *river-rakes*, *sands*, and *bears*. This ambiguity might be frustrating for those who are chronically chronologically inclined to define clear ending and starting points, in order to filter, and channel, the overwhelming amount of historical information that our senses are absorbing and getting overloaded by. Therefore, these individuals might feel the urge to *stop* this ever-changing, fluid, dynamic, and mobile image of the past, and structure the world around them in a firmly and disambiguous way. This results in the cementation of a *before vs. after* and other binaries within their world-design and world-defining myths. Those who obtain from this tempting reduction for the sake of simplicity, and dive into the complexities, ambiguities, and pluralities beyond a binary world order, have to willingly expose themselves to the overwhelming chaos of spaces, times, and identities—this strong current that rips us with it and could drown us. We might, as a consequence, take longer to draw ourselves a picture of our world, *ich mal mir die Welt, so wie sie mir gefällt* (I draw myself the world as I like it). But, we will witness the *Villa Kunterbunt* (Villa Villekulla) of the colorful, diverse, fertile, contradictory, fragmented, multilayered, and speculative histories of the beautiful metropolis on the Spree. While drilling down into the semantic layers of the city, we will also witness the histories of violence engrained in the space that inhabited several formations of power—its *Leichen im Keller* (skeletons in the closet). They have accumulated over time, spanning from the First to the Third Reich, as powerful reinforcements of the simplifying corset of the binary logic, which separated us into tribes and nations, and cut through people(s), families, and bodies, by establishing clearly defined

geographical, anthropological, racial, gender, and other hierarchical (b)orders, reinforced by walls, laws, social practices, and cultural values. All of the histories I outlined allow for us to *begin* thinking about the necessity to map out a ‘thick’ account of the many *Berlins* that there were, are, and will be, and to speculate about what else there was, is, and will be—and could have been.

I want to start with drilling down into Berlin’s rich history via three etymological layers, my ‘soil samples’ that I laid out and analyzed in the form of short vignettes. Each of them addressed *one* semantic possibility deposited in *Berlin*: *river-rake*, *sand*, and *bear*. They refer to three emblematic moments, and (not so) distinct threads in the early history of the city, and speak to the difficulties the people encountered when building upon shaky soils, a challenge that shaped Berlin’s cultural identity. In my reading, the ‘deposited’ word *river-rake* captured the challenging, but promising, geographic and geologic capacities of Berlin, as a city built close to, and upon, water—which required innovative engineering solutions. *Sand*, as the upper layer of Berlin’s geological profile that shaped the dominant culture narrative of what became known as the *city built on sand*, articulates the necessity for us to dig beneath the surface to reach analytical depth—as there is so much more to discover. The *bear*, as the official emblem of Berlin, invites us to think about the role of power structures, and how their violent consequences, such as fascism, *overbear* the history of the city. This account of *Berlin’s* relative ‘thickness’ constituted by its various layers, allowed me to counter the homogenization of history into a single layer as intended by Speer’s *Germania*, which was designed to *overbear* all the other layers.

River-Rake



Fig. 24. Sturm, Horst. Berlin-Mühlendammbrücke. 13 Sep 1978. BArch, B 183-T0913-301.

According to the *The Oxford Dictionary of Family Names in Britain and Ireland* (2016), “[t]he German capital [Berlin] takes its name from a West Slavic word meaning ‘river-rake’, a scaffold of beams built over a river to prevent logs from jamming; the river in question is the Spree” (208). While early settlers chose the location probably sometime in the early 12th century, most likely to take advantage of the waters as resource and infrastructural route, it would also play a central role in Speer’s redevelopment plans in the first half of the 20th century, as we learned. Let us meditate briefly about a ‘river rake’, and how it, as primitive technology, contains Speer’s plans as contingent potential. The stream of a river can obviously be used to transport large logs or other materials that are needed for building, which has been a common practice for millennia (see fig. 24). What can happen thereby is that the logs jam and cause the water to flood, leading to severe damages on the land. A ‘river rake’ can prevent this, and thus is the inversion of a dam, which causes flooding. Both were crucial for building cities. A dam, in its most primitive form, can consist of erect large logs that are arranged vertically across the river, by drilling them deep into the river bed. These can then be held together by thinner horizontal logs, which span across the river and are nailed onto the larger logs, to make sure they keep their upright position, and do not jam (and the desired amount of water can pour through). Thinkable is also an inverted version, where the large logs are arranged horizontally, and smaller logs are placed in between them, to allow (a different) water flow. While these are just rudimentary descriptions of the design of a dam, you get the idea. River-rakes, dams, dirt rakes, etc., as some of the most ‘simple’ and ancient pieces of civil engineering, were important structural elements for the foundation of cities, as they allowed to channel the forces of nature into the hands of humans, in terms of drinking water supply, sewerage, waterwheels, shipping routes, harbors, and many others.

We were just recently reminded of how important the existence of dams is to our lives, when the Michigan dam, which had not been maintained properly, collapsed in May 2020. This forced 11,000 people to flee from their urban shelters in order to escape from the great flood of the Tillabasse river that is usually channeled into two lakes through a system of dams (Sgueglia and Maxouris). Just now, during the summer of 2021, Germany is being flooded due to excessive rainfall, leading to catastrophic damages, as the soils are collapsing underneath houses, cars are being carried away by the strong currents, and many people have lost the foundations of their existence. Moments like these remind us how fragile civilization is and how technology is constantly taming the natural forces that we cannot always see. Basically all structures need to be firmly grounded in the soils, in order to form a rigid barrier against the natural forces they are intended to manipulate for the cause of our safety. All of this emphasizes the importance of geo-technology, a craft that usually remains hidden from the eye of the beholder (and the cultural imaginary). The field draws upon the ancient practice of foundation engineering and the modern discipline of soil mechanics:

The study of foundations now forms part of the discipline known as soil mechanics. This science deals with the laws governing the equilibrium, deformation and rupture of the earth's crust, on land or under water, as a result of the variety of loads placed upon it by man or of the unloading occasioned by his cutting into slopes; it is therefore not only the science of foundations on the earth's crust but also that of the inclusions needed to strengthen, buttress and retain this soil, of deep incisions and of subterranean penetration. (Kerisel: vii)

This lineage of craftsmanship lay the foundations for the growth of the early loose settlements, which later developed into the much denser and multilayered city of Berlin. The challenges of the early settlers, who initially prepared the soils for the weight of human civilization, were preserved in the name of the city. It was built with the help of *river-rakes* and other constructions that tame or make use of the waters. Nietzsche, metaphorically, projected this dialectic of *rigidity* (of constructions) vs. *fluidity* (of the earth as a building ground), into the constructions of concepts of truths. He clothed it in an architectural metaphor as part of what I see as the foundation of a possible ‘philosophy of soil mechanics’:

Man darf ... den Menschen wohl bewundern als ein gewaltiges Baugenie, dem auf beweglichen Fundamenten und gleichsam auf fließendem Wasser das Auftürmen eines unendlich komplizierten Begriffsdomes gelingt—freilich, um auf solchen Fundamenten Halt zu finden, muß es ein Bau wie aus Spinnefäden sein, so zart, um von der Welle mit fortgetragen, so fest, um nicht von jedem Winde auseinandergeblasen zu werden.

(314-315)

One may admire the human ... indeed as an enormous construction genius who manages to erect an infinitely complicated dome of concepts on mobile foundations and so to speak flowing water—of course, in order to find support on such foundations, it must be a spider web like edifice, tender enough, to be carried away by the wave, firm enough, in order not to be blown apart by every wind.

While Nietzsche acknowledged the human skill to be able to erect complicated conceptualizations of truths, he reminded the reader that all these impressive conceptual domes are built on “beweglichen Fundamenten und gleichsam auf fließendem Wasser” (mobile foundations and so to speak flowing water). Thus, he emphasized the mobile and fluid subsystem underneath *any* building endeavor. Therefore, as he called out, persistent constructions have to be tender and firm, or elastic and rigid—at the same time. Also, Nietzsche cautioned, all of these constructions, no matter how elaborate, are temporal, and the illusion of permanence has to be shattered towards an open future and new temporal horizons. Anything else, would be “das Hart- und Starr-Werden einer Metapher“ (the hardening and stiffening of a metaphor) (316). Often these hardened metaphors are built “um nicht fortgeschwemmt zu werden” (in order not to be swept away” (318). Nietzsche saw only one solution in that case: “zerschl[agen], durcheinanderw[erfen], ironisch wieder zusammensetz[en], das Fremdeste paaren[] und das Nächste trennen[]” (smash, jumble, reassemble in an ironical way, [while] pairing up the most foreign and separating the most familiar). The price for that is losing everything that one can hold on to—”Jenes ungeheure Gebälk und Bretterwerk der Begriffe, an das sich klammernd der bedürftige Mensch sich durch das Leben rettet” (this vast woodwork and boardwork of concepts, onto which the the needy human clings to save their life)—so one’s sense of existential security, as he admitted (320). Thus he described a fundamental challenge of humanity: to erect structures of stability on naturally shifting grounds, which applies to the construction of buildings as much as for concepts—they are all temporary shelters in flux. We could apply this thought to the concept of Germanness as well. German fascism obviously aimed to freeze its transformative potential in order to set it in stone once and for all, as they wanted to have the monopoly on the truth production regarding German identity—thus creating a hardened metaphor, so to say. This

‘hard framework’ occurred in times of political and spiritual turmoil, when people had the feeling of losing their foundations. Additionally, the actual soil now started making trouble too.

In my interpretation of the early 20th century, I read the ‘discovery’ of soil mechanics as a symptom of another moment of ‘deep shattering’, in which humans, once more, recognized the shaky foundations of their building endeavors. They used their creative force to overcome this deficiency, even if they were often rather fixing the established narratives than recognizing, or accepting, their being without foundation, their fundamental *Fundamentlosigkeit* (unfoundedness)—which became a source of greatest fear. This fear was exploited by the fascists who offered an existential shelter with their hard framework that gave clear answers. But let us go back to Berlin, before we lose track.

How literally Berlin is built on/at water, becomes obvious when we look at its initial geographical placement.

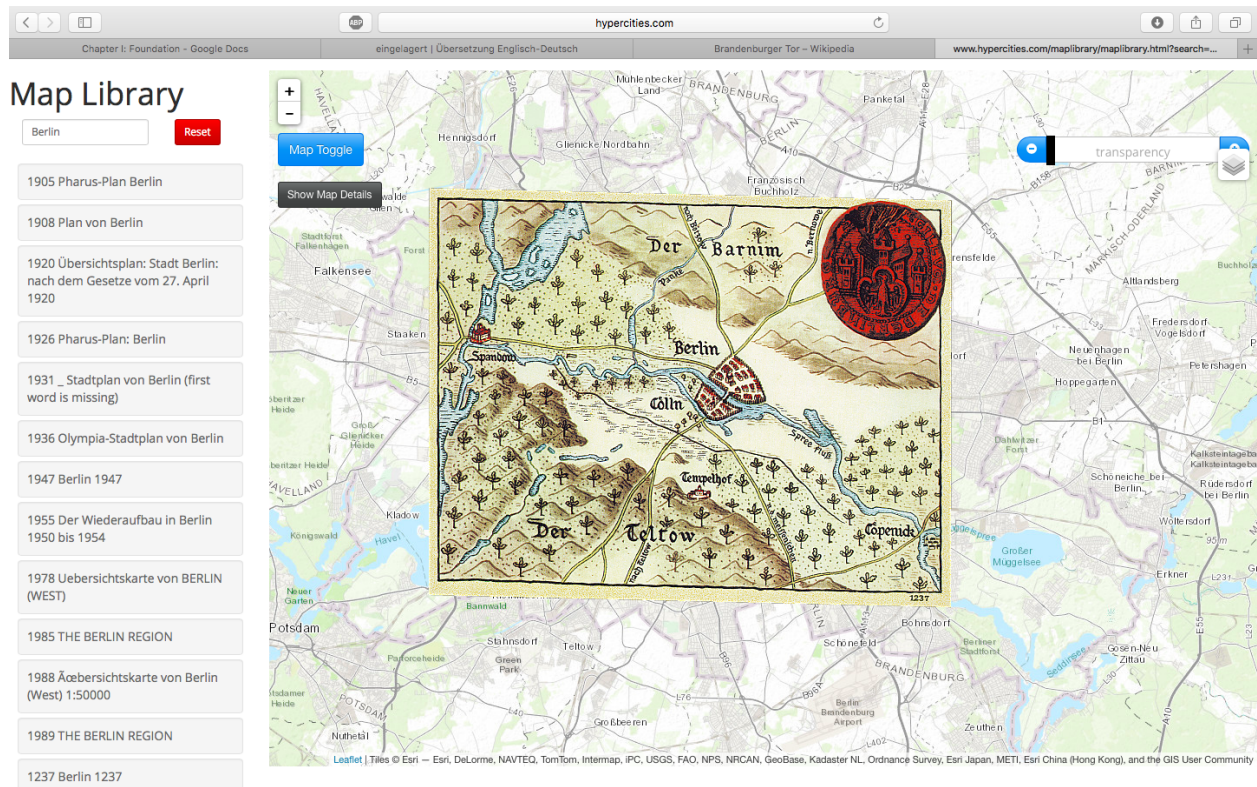


Fig. 25. Berlin 1237. *HyperCities*, hypercities.com/maplibrary/maplibrary.html. Accessed 25 Feb 2021.

The Spree, a river that runs eastwards through Berlin (it can reverse its direction during draughts), is depicted on this map from 1237—one of the earliest that we know (see fig. 25). We can look at it as one of the many cartographic stratas of Berlin that are available on the platform *HyperCities*, which allows the user to embed historical maps into the GoogleMaps interface. On this particular one, we can see the strategic placement of the early settlements *Cölln* and *Berlin* at the river right across from each other. Both are surrounded by large fences and are geographically divided by the river between them, but connected through a bridge. Later on, all the loose settlements we can see on the map grew together and turned into parts of the same town: *Spandow* (where Speer would later go to prison), located strategically where the Spree

crosses the Havel in the West, *Köpenick*, where the Spree crosses the *Dahme* in the East, but also the southern settlement of seemingly ‘waterless’ *Tempelhof*. Altogether, like strains of the same root, or of different roots that happen to grow together, they formed the metropolis of *Berlin*, as accumulation of human, water, architectural, linguistic, and other bodies, which filled the gaps between the early settlements, with their lives, cultures, roads, languages, stories, and constructions, all erected temporarily on the traveling soils, shaped by the ice ages.

Geologically, they all have one thing in common: they are connected through a rich underground water system, an omnipresent layer that is not always as obvious as in the spots where rivers and lakes have emerged (see fig. 26):

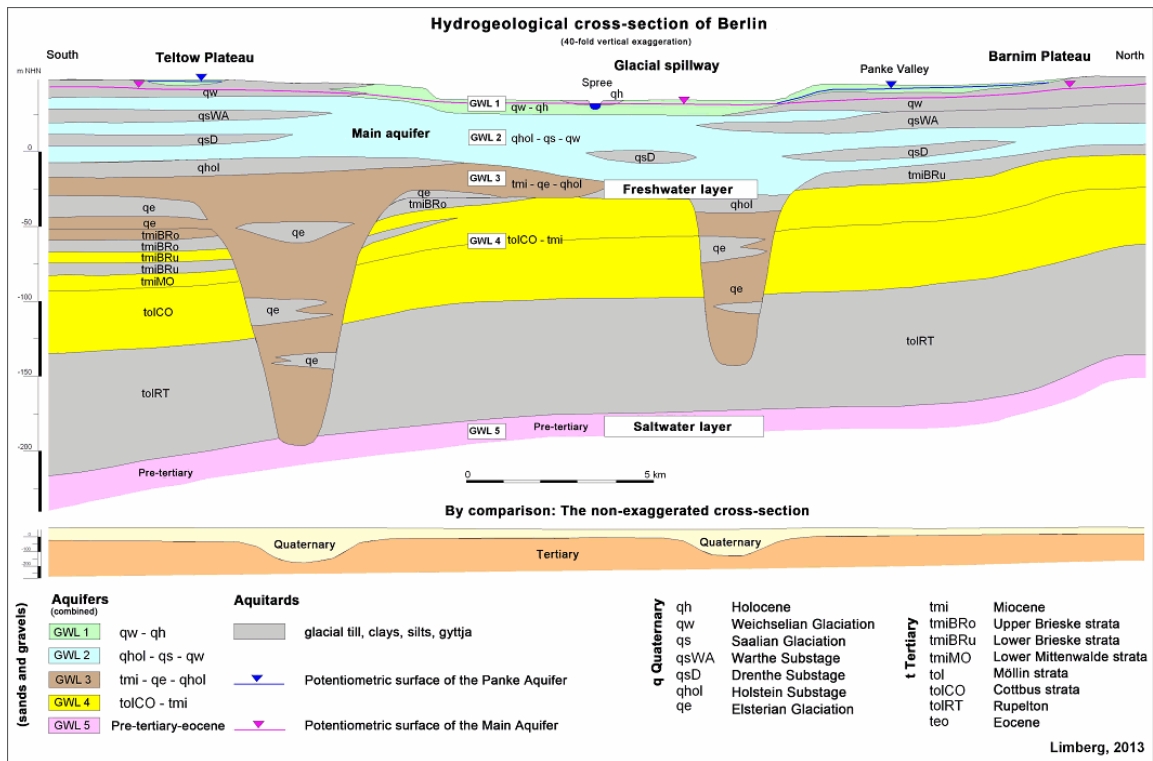


Fig. 26. Limberg, Alexander. “Hydrogeological cross-section of Berlin.” 2019, *Berlin.de*, berlin.de/umweltatlas/en/water/groundwater-levels/2019/introduction/. Accessed 25 Feb 2021.

This ‘big fluid’ underneath Berlin formed a stream that was reflected in the names of the city and its identities. The abundance of water, if on the surface, or underground, resulting in Berlin’s high water table, is, of course, a blessing. Apart from being a shipping route and a source of drinking water, it offers many recreational opportunities for the Berliners. Especially during the hot summers, they gather at Krumme Lanke to go kayaking, skinny dip in the Müggelsee, take the free ferry across the Wannsee, and so on. But it comes with some challenges as well. Not only the Spree currents had to be brought under control, but also the interaction of soils and water underneath all parts of the city. The resulting swampy grounds of Berlin are notoriously difficult for building, and there was always the danger of damaging sinkages. Speer, in anticipation of the acceleration of this challenge due to his planning scale, situated the heavy load-bearing cylinder right into the heart of this problem:

Um festzustellen, ob unsere Berechnungen über die Einsinktiefen von einigen Zentimetern im märkischen Sand richtig waren, wurde bei Berlin ein Probestück hergestellt. Es ist bis heute bis auf Zeichnungen und Modellfotos das einzige von diesem Bau verbliebene Zeugnis (169).⁷⁴

In order to ascertain if our calculations about the settlement of a few centimeters in the Mark sand were right, a test piece was produced in Berlin. It is, with the exception of a few drawings and photographs of [architectural] models, the only remaining evidence of this edifice.

⁷⁴ Speer mentioned the cylinder in the context of the Great Hall here. Given the different geological/soil mechanical environments of the southern Triumphal Arch and the northern Great Hall the data of the cylinder would not really be that helpful, even if the research reports were not always entirely unambiguous in that regard. Or, he might be talking about a different test-load. Symbolically, the cylinder certainly embodies all the efforts taken by the soil mechanics in Berlin, which is why I ‘follow’ Speer’s narrative here.

The cylinder was designed to test how much his buildings would sink into the Mark sand. While constructing the cylinder, the layer of sand had to be removed, and the incoming water kept under control through a drainage system (see fig. 27). Similarly, when we drill down into layers of history, we need to control and channel the flow of information. So, let us leave our thoughts revolving around *river-rakes* and move up a layer in Berlin's cultural geology, in order to meditate briefly about Berlin's iconic Mark *sand*—around which many stories *ranken* (trail).



Fig. 27. Degebo. Air pressure pump designed to keep the water out of the pit during the digging work. 1941. Diaarchiv Degebo.

Sand

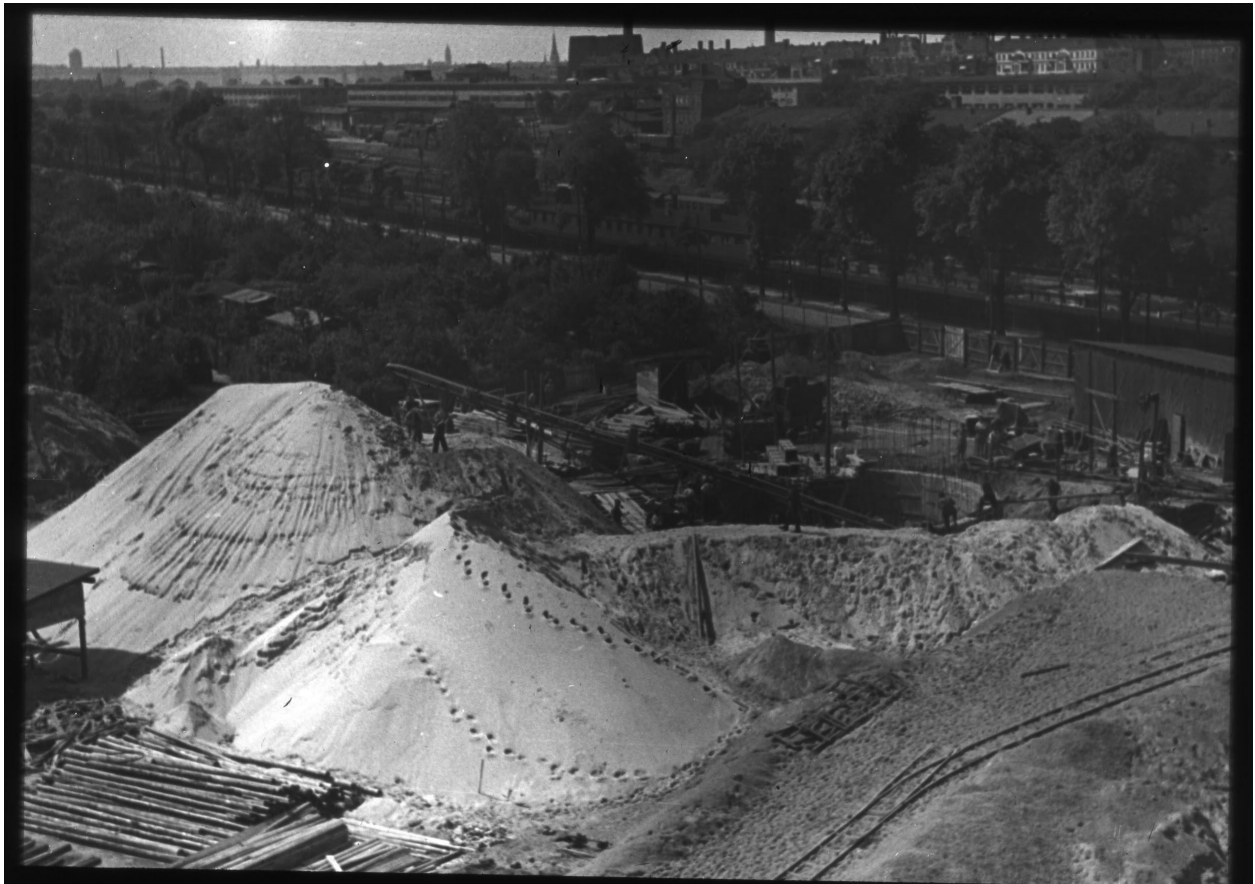


Fig. 28. Degebo. Piles of Mark sand dug out for the construction of the lower parts of the cylinder. 1941. Diaarchiv Degebo.⁷⁵

⁷⁵ When the cylinder's pit was dug out, the massive piles of sand became the center of an argument between the garden community and the GBI. The Stadtgruppe Berlin-Südwesten der Kleingärtner e.V. (City Group of Allotment Gardeners Berlin-South-West) filed several complaints about the sand left behind on their properties. Additionally, several fences had been damaged. The gardeners demanded to have their property reinstated, so that they could grow vegetables there (LAB, A Pr. Br. Rep 107, 350/3: Bl. 195). After several unanswered complaints, Dr. Neikes finally initiated a payment to fix these issues and explained why there had been no earlier answer: "Da fast alle Baubeamten der Generalbauleitung seit dem letzten Winter im Osteinsatz in Russland tätig sind, ist die Ausführung dieses Auftrages offensichtlich infolge des Stillliegens der Tätigkeit der Generalbauleitung unterblieben" (Since all construction officials of the General Building Management are occupied with the East Operation in Russia since last winter, the execution of this order was obviously omitted due to the decommission of the General Building Management) (202).

In 1933, geologist Leopold van Werveke, who analyzed and compared Hamburg's and Berlin's geological profiles, specified that the "über dem Geschiebemergel liegenden Tone, Sande und Kiese ... nur vereinzelte geringe Reste von Grundmoräne tragen" (clays, sands, and gravels, lying above the glacial till ... carry only a few scattered remains of ground moraine). Basically, he described how sand, as the upper geological layer covering up all the rest, had erased its own geological history—at least on the surface. Therefore, geologists, as historians of soils, had to drill through the sands to get a fuller picture of the ground's evolution. The glacial till (underneath the sand) was a contested space during these days. Based upon its distribution, geologists debated about the specific stratigraphic evolution of European soils and their corresponding chronological organization into geological timeframes. They measured the remnants of flora and fauna contained in soil layers, which they accessed through drillings and diggings. Based on their material findings, they spun their geological models and theories about layers of time and space, theories that were always literally full of holes, contradictions, and frequently had to be readjusted (204). But, despite the interest of the geologist in glacial till for measuring time and space, it was (and is) the cultural, not the scientific discussions, which led the discourse of Berlin's identity—such as Paul Scratons' history of Berlin called *Built on Sand* (2019). The community organization Berliner Unterwelten e.V. highlighted the city's "sandig-moorige[n] Untergrund" (sandy and swamy underground) as a neverending research topic ("Forschungsthema Untergrund"). Only if we dig deeper into the 'city built on sand', we can find out about the glacial till as another foundational layer, upon which the sands unfold themselves. The border between these two (and all the other layers beneath) is not clean cut, instead they form a fluent passage, just like the spaces, times, and identities that they carry.

Corresponding to this ‘sandy-swampy’ narrative, there is another layer within the etymological history of *Berlin*, lying upon the one I described earlier (*river-rake*). The *Online Etymology Dictionary* suggests a slightly different Slavic origin of the word *Berlin*, based upon the old Slavic word *ber-* that means “‘marshy place’, in reference to the old city’s location on low, marshy ground along the River Spree”. So, as the entry suggests, ‘*city in the swamp*’ is another possible etymological root of *Berlin* (“Berlin”).

If anything, researching Berlin’s etymology reveals the mobility of both the geological, geographical, and chronological origins of the city. Not only did Berlin evolve from the name of *one* of the *many* small settlements to the name of a major metropolis, since its estimated establishment in 1237. In 2012, the foundation of a burnt down house dated back to 1174 was dug out by archaeologist René Bräuning in Berlin Mitte, in which context they also discovered the skeleton of a burnt pig, suggesting that the discovered structure used to be a *Laggerraum* (storage space), as the tabloid newspaper *B.Z.* reported.⁷⁶ These remnants are *now* the earliest known material signs of human settlement in the area, showing us once more that history constantly needs to be rewritten, renamed, foundations remapped, and annual figures updated (“Im ältesten Haus ist auch die älteste Sau”).

Within my reading, *sand* stands for the deceiving surface, in a sense that humans imagine the world by the things that they see (first). Sand is what Berliners might see first whenever they open up the soil beneath them, in one of their many community gardens or on construction sites. But, it is important to drill deeper and inquire what might be hidden underneath this surface, or if it intends to ‘cover something up’. The massive shells of Speer’s architectural giants were supposed to cultivate the image of an overarching cultural stability and uniformity. To uphold this narrative required to cover up and tame the complicated natural parameters of the soil. To

⁷⁶ For more details: Bräuning, René, et al., *Archäologische Spurenlese in Berlin-Mitte*, Hendrik Bäbler, 2018.

linger *on* the surface, rather than diving *into* something, not only prevents reaching analytical depth and the discovery of complexity. It can also prevent an engagement based on *empathy*. If someone is merely concerned with the aesthetic appearance of a city and *not* how its design serves the people living in it, which arguably describes Hitler's/Speer's urban planning approach quite accurately, we take empathy out of the equation. What paved the way for Germania on a 'surface' level, so concerning the *Stadtbild* (cityscape) of Berlin, was, among other things, the—welcomed—destruction of Berlin through Allied air raids that opened the way for new construction. Massive monuments require space. As Wolters Chronik reveals, in August 1941, after several aerial attacks, Speer provided 3,323 people to work on the damages (597, Bl. 61). But despite the fact that the war continued to decelerate Berlin's transformation, Speer and other GBI officials saw the destruction of Berlin as part of their grand plan, as it cleared the space that would have to be ripped down anyways. Notable is Wolter's description of the attacks on Berlin on April 25th and 26th, which hit "drei Gebäude im Abrißgebiet südlich des Runden Platzes Der Engländer leistete damit wertvolle Vorarbeit für Zwecke der Neugestaltung" (580, Blatt 28) (three buildings in the demolition area south of the Round Plaza. . . . The English thus performed valuable groundwork for the cause of the redevelopment). Speer would, of course, leave out this cynical remark in one of the two only moments in *Erinnerungen*, in which the writing reaches some type of poetic 'height'. One of them was the notorious ruin value passage (68-69). The other one, which I want to look at here, was his recollection of an Allied bombing of Berlin in 1944 (which was a 'logical' extension of Speer's ruin theory).⁷⁷ The architect witnessed the

⁷⁷ In his brilliant panorama of various 'left' and 'right' theories of ruin value, Featherstone argued that "Speer/Goebbels' move to total war of 1943 announced the appearance of a new, high-speed, theory of ruins that was concerned to reduce Europe to rubble through the flash of lightning war While Speer's original theory of ruin value was buoyed by the confidence of the Nazi's initial military successes in Western Europe and reflected the view that the party had plenty of time to wait for the decay/fossilisation to occur, the announcement of total war in 1943 was driven by a manic desperation to ensure that ruination/redemption take place as quickly as possible. That is to say that the idea of total war was driven by a thanatological desire to ensure that the process of fossilisation through extinction developed long before the torrent of otherness was able to swamp the regime. As such, the theory

attack from the heightened position on top of one of the various Flak Towers he built.⁷⁸ From his elevated position, Speer witnessed Berlin's Mark sand and buildings being blown up into the air, thus 'paving the way' for his redevelopment (301).

In the said passage, Speer took up the position of a distanced historical spectator, evoking the paradigm of the sublime, not unlike Goethe, who visited the battle of Jena in 1807 (one year after he escaped French soldiers in Weimar). Thereby Goethe positioned himself as an emotionally distanced spectator against the suffering companions he traveled with (Blumenberg, 1997: 56-59).⁷⁹ Speer, unlike Goethe, witnessed the attack on Berlin live, during the later hours of November 22nd, 1944; but with a similar dark fascination, and a rational gaze reminiscing Goethe's controlled description of landscapes in his travel journals. In an act of heroic 'resistance' to Göring's order *not* to enter the platform on top of the tower—a role the architect presented himself in again and again in his memoirs—Speer witnessed the ongoing destruction of Berlin from the top-down. His distance to the destruction was both spatial and emotional, as he seemed to connect with the images merely on a surface level without regard for the people's suffering:

Die Angriffe auf Berlin boten vom Flakturm aus ein unvergeßliches Bild, und es bedurfte eines ständigen Zurückrufens in die grausame Wirklichkeit um sich nicht von diesen

Bildern faszinieren zu lassen: die Illumination der Leuchtfallschirme, von den Berlinern

of total war was emblematic of the Nazi's pursuit of critical mass and their necrophilic search for eternal life through instantaneous death. At terminal velocity (30 April 1945) the defensive monument of the bunker, which was initially meant to guarantee security, became a tomb that sealed the fate of its occupants. For this reason, Hitler's suicide at 77 Wilhelmstraße should be understood as the culmination of the suicidal tendency that sought to achieve eternal life through the various speeds of destruction represented by gradual decay (theory of ruin value), the shock of war (Blitzkrieg, total war on others), and instantaneous death (auto destruction, bullet to the head)" (304).

⁷⁸ Most likely, it was the one located at the Western entrance of the Tiergarten, as it was closest to his office in the Akademie der Künste, on the other side of the park, a little bit south of the Brandenburg gate. While some of the towers were demolished, you can still visit the one at Humboldthain today, for example.

⁷⁹ Hans Blumenberg interpreted Goethe's emotional and temporal distance in the context of his study of the trope of the shipwreck with spectator. He pointed at the moral ambiguity of his gaze, as Goethe presented himself as an emotionally distant "olympische[r] Zuschauer antiker Selbstprägung" (Olympic spectator of ancient self-imprinting), even if it possibly was a strategy to soothe his companions or to overcome his fearful memory (56).

“Weihnachtsbäume” genannt, gefolgt von Explosionsblitzen, die sich in Brandwolken verfangen, unzählige suchende Scheinwerfer, das aufregende Spiel, wenn ein Flugzeug erfaßt war und sich dem Lichtkegel zu entwinden versuchte, eine sekundenlange Brandfackel, wenn es getroffen wurde: die Apokalypse bot ein grandioses Schauspiel.

(301)

The attacks on Berlin offered an unforgettable image from the Flak Tower, and it required a constant recalling into the gruesome reality in order not to be fascinated by these images: the illumination of the glowing parachutes, called ‘Christmas trees’ by the Berliners, followed by flashes of explosions, which got entangled in fire clouds, countless searching floodlights, the exciting play, when an airplane got caught and tried to wrench itself from the light beam, a second long torchlight, when it was hit: the apocalypse offered a grand spectacle.

When consuming this pathos laden passage, in which the architect almost romanticizes about Berlin’s destruction, one has to keep in mind that the “Flakscheinwerfer” (flood lights), by whose aesthetic play Speer is so fascinated hereby, were the same ones used for his famous “Lichtdom” (light dome) installations. These took place during several ceremonial party occasions (for which they were borrowed from the Luftwaffe). Most famously, at the openings of the Nuremberg Party Rallies, where the light columns climbed several kilometers high into the night skies, presenting the thousands of thousands Wehrmacht soldiers in a transcendental temple of unity, creating a bonding and identity formation spectacle of infinite scale (Speer, 1969: 71-72) (see fig. 29).



Fig. 29. Albert Speer's Cathedral of Light in Nuremberg. 8 Sep 1938. BArch, B
183-1982-1130-502 / n.a.

This 'light architecture' was built above the earth and withdrawn from the physical world, creating the illusion of an abstract, *über-irdisch* (extra-earthly) Walhalla, declaring a cult of German blood, soilessness, and eternity. It unfolded a metaphysical breeding ground that was instilled into the participants, who would later on 'act out' the script of racial unity on the battlefields. This 'eternal bond' found further expressions in the concepts of *Nibelungentreue* (blind loyalty) and *totaler Krieg* (total warfare).

The repurposing of war equipment for aesthetic, mass mobilization purposes, showed the proximity of Speer's earlier event architecture with warfare, and his fluid transition from *the*

architect to *the* war minister of the Reich—as an uncanny prolepsis. His highly orchestrated mass spectacles set the stage for later warfare. In his memoirs, Speer responded to Berlin’s destruction that he had orchestrated, with his Wagnerian descriptions of the pirouette-esque play of “Lichtkegel” (beams of light) that were chasing airplanes, while being accompanied by the violent soundtrack of explosions. Speer commented on these ‘happenings’ with a sensually aroused, but empathetically distanced gaze, stating “die Apokalypse bot ein grandioses Schauspiel” (the apocalypse offered a grand spectacle) (301). The columns of light erected at fascist mass events had prepared the spectator for the appearance of enemy airplanes on a visual, ‘surface level’ basis—and took them back to their transcendental experience of the light dome.

Apart from the transcendental play, Speer also commented on the material destruction of Berlin, whereby he witnessed the misery of the population, but only in passing, just to drift back into his distanced, top-down gaze, too busy with his business (winning the war) in order to empathize with humanity.

Sowie die Flugzeuge abdrehten, begab ich mich im Auto in die betroffenen Stadtviertel, in denen wichtige Werke lagen. Wir fuhren über soeben zertörte, schuttübersäte Straßen, Häuser brannten, Ausgebombte saßen und standen vor den Trümmern, einige gerettete Möbel und Habseligkeiten lagen auf den Bürgersteigen herum; es war eine düstere Atmosphäre inmitten von beißendem Rauch, von Ruß und Flammen. Die Menschen zeigten mitunter jene merkwürdige, hysterische Heiterkeit, die im Angesicht von Katastrophen oft beobachtet wird. Über der Stadt hing eine wohl sechstausend Meter hohe Brandwolke. Durch sie wurde noch bei hellem Tageslicht die makabre Szene nächtlich verdunkelt. (301)

As the airplanes peeled off, I took myself by car into the affected city quarters, in which important factories were located. We drove over just now destroyed, rubble littered streets, houses were burning, bombed out people were sitting and standing in front of the debris, some saved furniture and belongings were lying on the pavement; it was a dark atmosphere in midst of biting smoke, of soot and flames. The people occasionally showed this strange, hysterical merriness, which is often observed during catastrophes. Above the city an approximately six thousand meter high cloud of fire was hanging. Through it the macabre scene was nocturnally darkened still during bright daylight.

Speer's first routined action once the attack ended, was to hurry to inspect important factories. Caught up in his role as Minister of Armament, who had to abandon his grand architectural plans (for now), he had to measure the damage done to the German war apparatus. On the way there, he fleetingly noticed the lives that have fallen apart, together with the buildings of Berlin. He perceived scattered belongings that have been saved, lying around on the sidewalk, among grotesquely relieved looking bodies of humans. But all of this is veiled in darkness, and what actually caught Speer's attention is, once again, high above the city. Namely, a giant cloud of smoke, almost as high as his dome of light at Nuremberg, about six thousand meters, as Speer's analytical eye measured precisely. In his mind, Speer was still on the tower. He kept observing the bigger picture and faded out the lives of the individuals that inhabited the city, their suffering, the suffocation through the dust, the separated families and bodies ripped apart, their tears, fears, and hopelessness. They were just pixels of data for him, who was prone to abstract from the physical dimension to pursue higher, transcendental, superhistorical goals.

He was looking at Berlin, as if he was looking at one of his Germania models, a giant camp that monumentalized *his* place in history, and laid the seeds for his grand world re-design. For him, it was all just staged, a grand world stage, a “makabre Szene” of delightful horror, in his play of warfare, which was beginning to really challenge him, as master organizer and manager, to his horrific delight (301). But let us step out of the sight of Speer’s mythologizing gaze from the tower, and continue our walk against Germania, on paved, moving, overlapping, layering, German soils.

Much of fascism was about controlling the surface level to support the overarching narrative of racial superiority. Be it renaming Berlin to Germania; breeding blond and blue eyed children in the *Lebensbaum*; clothing ferroconcrete skeletons with natural stone to create an ancient aesthetic that reinforced the genealogical ties of Aryans and Greco-Romans; preparing the soils to ensure their capability to carry Germania. This ‘stability’ nevertheless had to remain superficial. If you looked into soils, as deeply as fascist engineers did, you knew nothing was eternal, especially when scaled in geological time spans. German fascist ‘eternity’ was all about controlling the narrative about the ‘nature’ of things. When forced laborers were digging out the pit of the cylinder, while cutting through Berlin’s layer of sand and piercing the groundwater to get through to the layer of glacial till beneath it, they were (forced to) acting out the protocol of fascist domination. While there are no accounts of their experiences, Levi described the task of digging a pit both as spiritual and physical labor on several occasions. “Man’s capacity to dig himself in, to secrete a shell, to build around himself a tenuous barrier of defence, even in apparently desperate circumstances, is astonishing” and serves the purpose of self-preservation (56). During digging literal pits into the soil, their work seemed endless, useless, contrary to their survival, when “[we] have been stuck in the mud since the morning, legs akimbo, with our feet

ever deeper in the selfsame holes in the glutinous soil. We sway our haunches at every swing of the shovel. I am half-way down in the pit” and probably constantly sinking deeper inside (131-132). While many of these stories were lost, we have to try to imagine the toil of all these unknown heavy load-*bearing* bodies, which brings us to the next section.

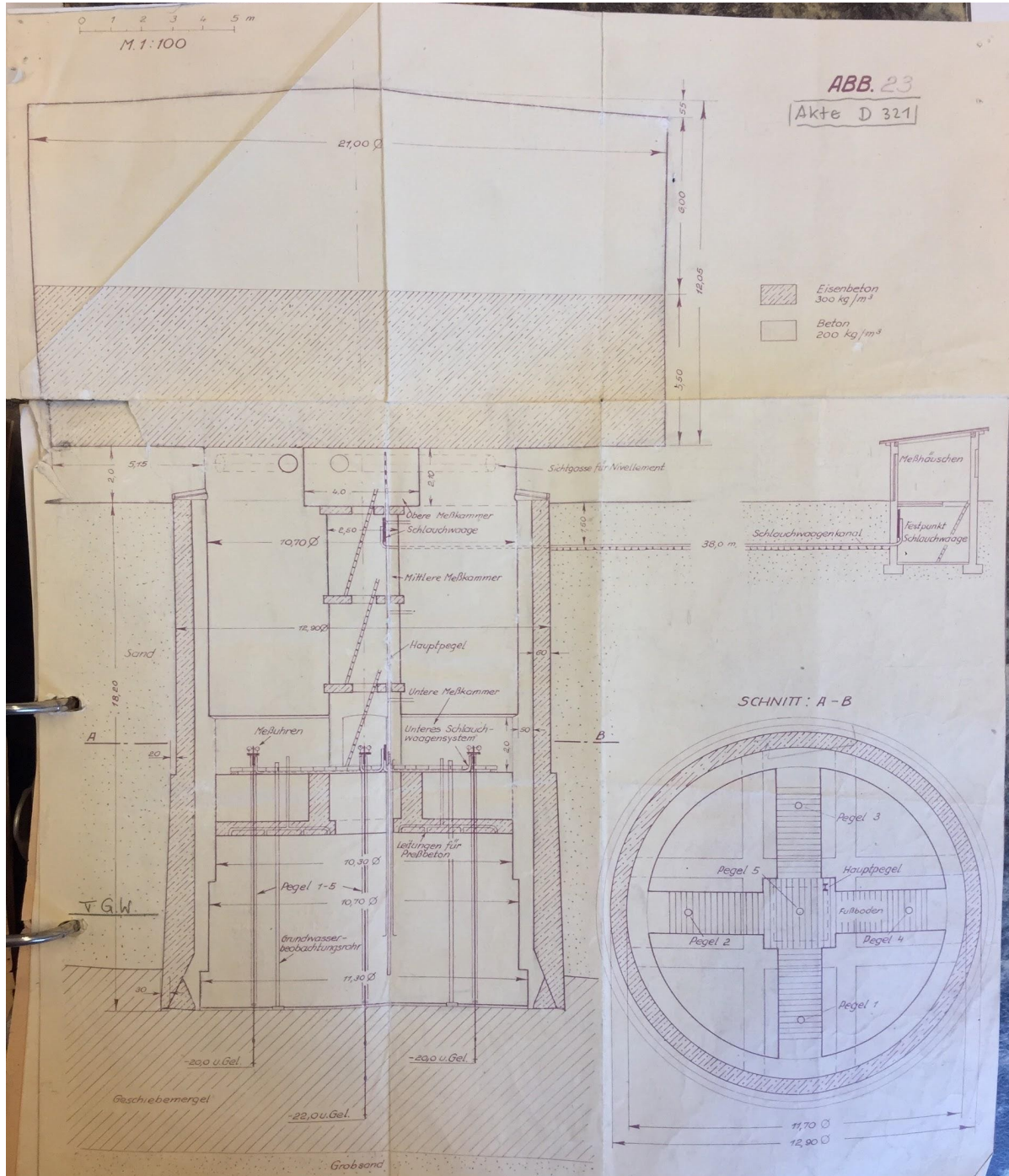


Fig. 30. Degebo. Cross-section 2 of the heavy load-bearing cylinder. 1941. Projektarchiv Degebo, 3352-1/1c Probelastung Bauwerk T.

Bear(ing)

As we all know, it is not *river-rakes*, *sands*, and/or *swamps*, but the iconic *bear* that stands for *Berlin* (and still decorates the official city emblem). This suggests that there is (at least) another, third, semantic layer upon glacial till (*river-rake*) and sand (*city in the swamp*). And indeed, as the *The Oxford Dictionary of Family Names in Britain and Ireland* mentions, in the German and Yiddish language (which are so close that they cannot be translated into each other⁸⁰), the word *Ber-* refers to the animal *Bär* (bear). Since *Berlin* sounds like the word's diminutive *Bärlein*, it suggests that the older, West Slavic layer(s) of meaning (*river-rake/city in the swamp*) were covered over by this new semantic layer. This probably occurred on a purely phonetic basis, just because the words happened to sound similar (208). It shows us that the German/Jewish communities, which (co-)inhabited the land, expanded, translated, and transformed the city's identities within their own linguistic and cultural frameworks. Contrary to that reading, others have suggested that the iconic *bear* is rooted in former power structures and goes back to Albert the Bear. He was the founder of the Margraviate Brandenburg, the geopolitical entity that contained the area of Berlin since 1157. This opened up the possibility of a reference to him in the name *Berlin*. Nevertheless, as the *Verein für die Geschichte Berlins* (Association for the History of Berlin) points out, this connection has never been confirmed, and Berlin's official city seal did not show a bear until 1280 ("Albrecht der Bär"). Accordingly, the oldest city seal of Berlin, from 1253, displayed the Brandenburg eagle as city emblem of Berlin, as the city's official homepage details ("Das Landeswappen"). Also, if you look back at the red seal in the right upper corner of the 1237 map, you can see an even earlier eagle in the seal,

⁸⁰ Presner argued that the two are too closely related, different but same, containing and "contaminated" by each other, like two intermixing layers of soil encompassing the same root. This helped him to map out the cultural geography of German/Jewish identity. "[T]he Jewish is entangled and already 'too close' to the German" (4), and writers like Kafka pointed out that "Yiddish deterritorialized the German language through both its untranslatable closeness to and difference to the latter". Due to its import of German, Hebrew, Slavic, English, French, and words from many other languages, it is an inclusive and multi-layered construct (2007: 5).

probably referencing the Holy Roman Empire of the German Nation (or First Reich), while the bear gained popularity in this function not until much later (see fig. 25). In the end, it does not matter how Berlin's name came into being. My goal here was just to sketch out *some* of the multiple layers of Berlin's etymological history while tying it back to related geotechnological questions.

The *bear*, as a threatening, colossal, and heavy-bodied animal, is certainly a productive associative vehicle to *embody* structures of power and/or a regression into the wild within the collective imaginary. In English, *bear* is even related to the word *bear-ing* (even if only on a purely phonetic basis), which allows for a poetic association with the heavy load-*bear-ing* cylinder. Let us explore this further by starting with a fictional example, in which the structure of society is based upon a stratification into *super-* vs. *substructure*. Thereby the latter is forced to *bear* the weight of the former.

In his anticipation of what was to come, Berlin based poet Gottfried Benn described the new fascist stratification of German society as based on a “radikaler Rassismus” (radical racism) through the lens of antiquity (133). In his essay “Dorische Welt. Eine Untersuchung über die Beziehung von Kunst und Macht” (1934)⁸¹ (Doric world. An examination of the relationship of art and power), he described antique Greek society as a “Männerwelt” (men's world) that “ruhte auf den Knochen der Sklaven” (rested upon the bones of slaves)—so was structured around the idea of a ‘high’ culture built upon a deep-seated barbarity. It were the slaves who were *bearing* this weight and the resulting societal tension with their bodies:

⁸¹ Heinrich referred to Benn's essay as a canonical piece regarding the analysis of the mechanics of the fascist *Lager* (182).

Die antike Gesellschaft ruhte auf den Knochen der Sklaven, die schleifte sie ab, oben blühte die Stadt. Oben ... die Gutgewachsenen mit den Namen der Halbgötter: Sieg und Gewalt und Zwang ... unten klirrte es: Ketten. Sklaven, das waren die Nachkommen der Ureinwohner, Kriegsgefangene, Geraubte und Gekaufte, sie wohnten in Ställen, zusammengepfercht Niemand dachte über sie nach, Plato und Aristoteles sehen in ihnen tiefstehende Wesen, nackten Tatbestand. ... Mühlsklaven ... Bergwerkssklaven Sie durften kein langes Haar tragen, hatten keine Namen, man durfte sie verschenken, verpfänden, verkaufen, züchtigen mit Stöcken, Riemen, Peitschen, Fußblöcken, Halskrallen, Brandmarkung. (130)

Ancient society rested upon the bones of slaves, grinded them off, the city flourished on top. On top ... the well shaped with the names of demigods: victory and violence and force ... below it jangled: chains. Slaves that were the descendants of the indigenous people, prisoners of war, robbed and bought, they lived in stables, jammed together Nobody thought about them, Plato and Aristotle saw lower beings in them, bare facts. ... mill slaves ... mine slaves They were not allowed to have long hair, had no names, you were allowed to give them away, pawn them, sell them, discipline them with sticks, straps, wips, ankle chains, collars, brandings.

The societal design that Benn described here was based on a strict racial segregation that produced demi-gods and slaves. The designated superhuman breed applied all their weight to the sub-strata of society, so the substrate formed by those considered subhumans. Their suffering allowed for the city and its people to flourish on top, while they relied on a vast underlying labor

force. This overarching structural injustice was ignored even by esteemed philosophers, who count as the founding fathers of 'high' culture and humanism (Plato, Aristotle).

Now, let us juxtapose the biological/spiritual/emotional/existential/racial pressure that Benn's portrait of an ancient civilization was built upon, to the geological pressure civilization (as a whole) posed on their substructures. In that way, we transition from our series of etymological vignettes to our deeper exploration of the relationship between technological developments and fascist megalomania. Let us stick with the concept of *bearing* for a while, and look at the method of test-loading, which tested how much the world can *bear* without collapsing.

Excursion: Test-Loading



Fig. 31. Demonstrative test-loading of a prestressed concrete ceiling designed by Dywidag. 1930s. Bolle, Guido, et al. “Geschichtliche Entwicklung und aktuelle Praxis der Probelastung – Teil 1: Geschichtliche Entwicklung im 19. Und Anfang des 20. Jahrhunderts.” *Bautechnik*, vol. 87, 2010, fig. 23, p. 705.⁸²

The history of test-loading is equally engineering and cultural history. As a practice, test loading goes back to the beginnings of mankind, when our ancestors tested the tear resistance of vines or the load capacity of fallen tree branches. By applying pressure to them in the most primitive fashion, they reassured themselves of the future stability of their constructions, via trial and error before developing more systematic approaches (Bolle et al.: 700-701). Test-loading is motivated by the basic human desire for creating the illusion of an overarching structural

⁸² “Historical development and current practise of load tests in situ – part 1: historical development in the 19th and at the begin[ing] of the 20th century.”

stability of the world as guarantor of a sense of security. This was reassured by the successful performance of test-loads:

Seit der Urzeit sind Menschen bestrebt, in allen Bereichen ihres Lebens ein möglichst großes Maß an Sicherheit zu erreichen. Für das Bauwesen gilt das in ganz besonderer Weise, denn das Versagen von Bauwerken ist in der Gesellschaft viel weniger akzeptiert, als zum Beispiel das Versagen von Kraftfahrzeugen oder elektronischen Geräten. ... Belastungsproben sind so alt wie die Menschheit selbst. (700)

Since the beginning of time people strive for reaching the highest level of security possible in all areas of their lives. That is especially the case for the construction world, as the breakdown of buildings is way less accepted by society than for example the breakdown of vehicles or electronic devices. ... Test-loads are as old as humanity itself.

As this quote suggested, we need to firmly believe that a house does *not* collapse on top of our heads in order to feel safe. Therefore, the practice of test-loading that was dedicated to ensure this desired “möglichst großes Maß an Sicherheit” (highest level of security possible) has quite an existential dimension. Collapsing buildings remind us that the world is inherently fragile—and has the potential to fall apart at any given moment. Buildings are spaces in which we find temporary shelter *from* that truth, and forget about the narrative of fragility inscribed on our existence. Load-tests made sure that this narrative is not interrupted (as long as possible), as they seemingly provided the empirical data necessary to construct a building in a way that it shall last. From the very beginning of civilization, builders forwarded the practical knowledge about

their craft to their students, generation after generation. But, it was not until the 17th century that attempts of theorizing the field mathematically began—but only sporadically (700-701). Therefore, in the 19th and early 20th century, theoretical approaches were still mostly unavailable, and the practice of test-loading kept playing a key role in gaining the trust of the public, especially regarding new materials and construction techniques. In public opening ceremonies, attended by large masses of people, an enormous amount of weight was accumulated on top of constructions, for example through piling up sandbags, stones, and/or people, on rooftops, bridges, etc., to prove their durability to the public eye (see fig. 31). To give an example, in October 1937, eighty four trucks and twenty eight streetcars filled with stones were positioned on top of the “Reichsbrücke” (Bridge of the Reich) in Vienna over the span of three days. This spectacle, like many others alike, was attended by masses of people, even if the measurements of building settlement and material elasticity conducted during these tests were generally of rather limited value for predictions in terms of long lasting stability (702-703). But, given its symbolic power, test loading continued to play a crucial role in the collective imaginary deep into the 20th century, especially for the introduction of new building materials, such as ferroconcrete (704-705)—even if accidents occurred frequently, leaving dozens of people dead (707). As the authors point out in the second part of their essay, today, test-loads are mostly obsolete (and have been taken out of standard practice since the late 1970s). But, looking back at this practice gives us a good impression about the collective need for a public simulation of structural stability and the maintenance of the resulting feeling of security among populations (786). From this angle, we can look at (Speer’s) national monuments as symbolic spaces *simulating* the existence of a certain permanent collective identity, which was another,

immaterial, existential shelter for the individual participating in an overarching, ‘sheltering’ narrative.

Within this larger history of test-loading, the heavy load-bearing cylinder occurred as *the* flagship of a new, highly advanced generation. It was designed to respond to the pressing problem of soil movement caused by the new scale of human construction endeavours in the early 20th century. In 1978, the head of the Degebo, Klaus Weiß (1932-2009), looked back at the cylinder project. He emphasized how Speer’s “Umgestaltung Berlins [mit] geplanten Monumentalbauten” (redevelopment of Berlin [with] monumental buildings) had offered a unique possibility for creating test-loads of an unforeseen scale in terms of weight and depth. He pointed out that the heavy load-bearing cylinder was “wohl die größte Probelastung ..., die je ausgeführt wurde” (probably the largest test-load ... ever conducted) (26), and therefore had offered the “interessanteste und aufwendigste Meßaufgabe” (most interesting and elaborate measurement task) of all time (39). The data collected on site was groundbreaking regarding the “zulässige Bodenpressung” (tolerable soil pressure) and “Grundbruchbelastung” (ground heave), so helped to figure out how heavy a building can press on a specific soil profile without a collapse of the ground. Given the “sehr große Zahl von Gebäuden, bei denen dieses Problem eine aktuelle Bedeutung besaß” (very high number of buildings, for which this problem was relevant at that time), he concluded that it was “ein einmaliges Glück, daß der Probelastungskörper für Hitlers Triumphbauwerk erhalten geblieben war” (a singular case of luck that the test-load structure for Hitler’s triumphal edifice had survived). Especially in the early 1950s, its data had been crucial in rebuilding many of Berlin’s housing structures that had been destroyed due to Hitler’s war (46). So, instead of testing the durability of a specific building material and/or a

building itself, test-loads in the 20th century also helped examine the maximal loadability of soil. Basically the earth itself was conceptualized as building material.

Despite the vast technological evolution of the craft since its primordial beginnings, the practice of test-loading, which had entered its heyday in the early 1900s, was still driven by the human fear of the world's fragility. Soil movement must have been a big reminder thereof. It urged one to ask: how much more can the world bear before collapsing? Let us dig deeper into that question.

Degebo

Soil Movement

The early 20th century marked a moment in history, in which human building activity reached a scale that became literally unbearable for the planet: heavy load-bearing modernity was both peaking and sinking—and threatening to fall apart. This age was defined by an exhilarating pace paired with grand ambitions to conquer the world geographically and geologically, which led to new vertical and horizontal challenges. The massification of populations and their built environments produced ever more skyscrapers, power plants, factories, airports, train stations, dams, shiplocks, shopping malls, bridges, and other gigantic structures. Simultaneously, our grip on the planet got tighter and cut deeper, we built more roads, train tracks, channels, bridges, tunnels, mines, and other routes. But, the earth turned out to be unable to carry the rapidly increasing size, weight, density, and expansion of the built space that civilization brought forth during these days. The ground yielded, buildings cracked, train tracks were carried away, dams imploded, and bridges collapsed. The pillars of civilization were breaking down in a higher frequency than ever. An international ‘soil crisis’ was on the horizon. This led to the foundation of the field of soil mechanics in 1925. In 1928, the German Society of Soil Mechanics was founded in Berlin. In 1934 their collaboration with the fascist regime began, and in 1937 they started working with Speer. In 1941 the collaboration of the Degebo and the GBI, and thus the field of soil mechanics altogether, culminated in the construction of the heavy load-bearing cylinder: history’s heaviest tool designed to tame the mobility of the ground that civilization is built upon. How did all this happen so ‘quickly’?

Landslides



Fig. 32. Degebo. Photograph of a landslide in a railway cutting at an unspecified location. 21 Aug 1935. Diaarchiv Degebo.

As the Degebo chronicles attest, the unfamiliarity with the mechanics of soil in the early 1900s caused countless “große Bauunfälle” (great construction accidents) with catastrophic consequences both in Germany and abroad, which drew more attention to the problem of soil movement than ever before. The drastic expansion of the road, railway, and shipping networks struggled with critical structural damages caused by landslides, which sometimes continued over

decades and mobilized massive amounts of soil (see fig. 32). For example, in one case the slippage at a railway cutting caused the 26-fold explosion of the project costs (from 50,000 to 1,300,000 Reichsmark)⁸³ in Oberschlesien. In another cutting close to Frankfurt/Oder, the soil had not stopped slipping since 1911. At a shipping channel close to Hildesheim, “Massenverschiebungen” (massive landslides) of more than 320,000 cubic meter (more than 11,000,000 cubic foot) of soil took place. The repeated occurrence of damages alike revealed a gaping epistemic hole in the construction sector, and called for new solutions (Muhs, 1969: 1-2).

The problem was not limited to the transportation sector, “Monumentalbauten” (monumental buildings) were equally affected by soil movement (Weiß: 26).

⁸³ Based on Brechtken’s conversion rate that would equal a cost explosion from ca. 880,000 USD to ca. 23 million USD today.

Settlement/Subsidence⁸⁴

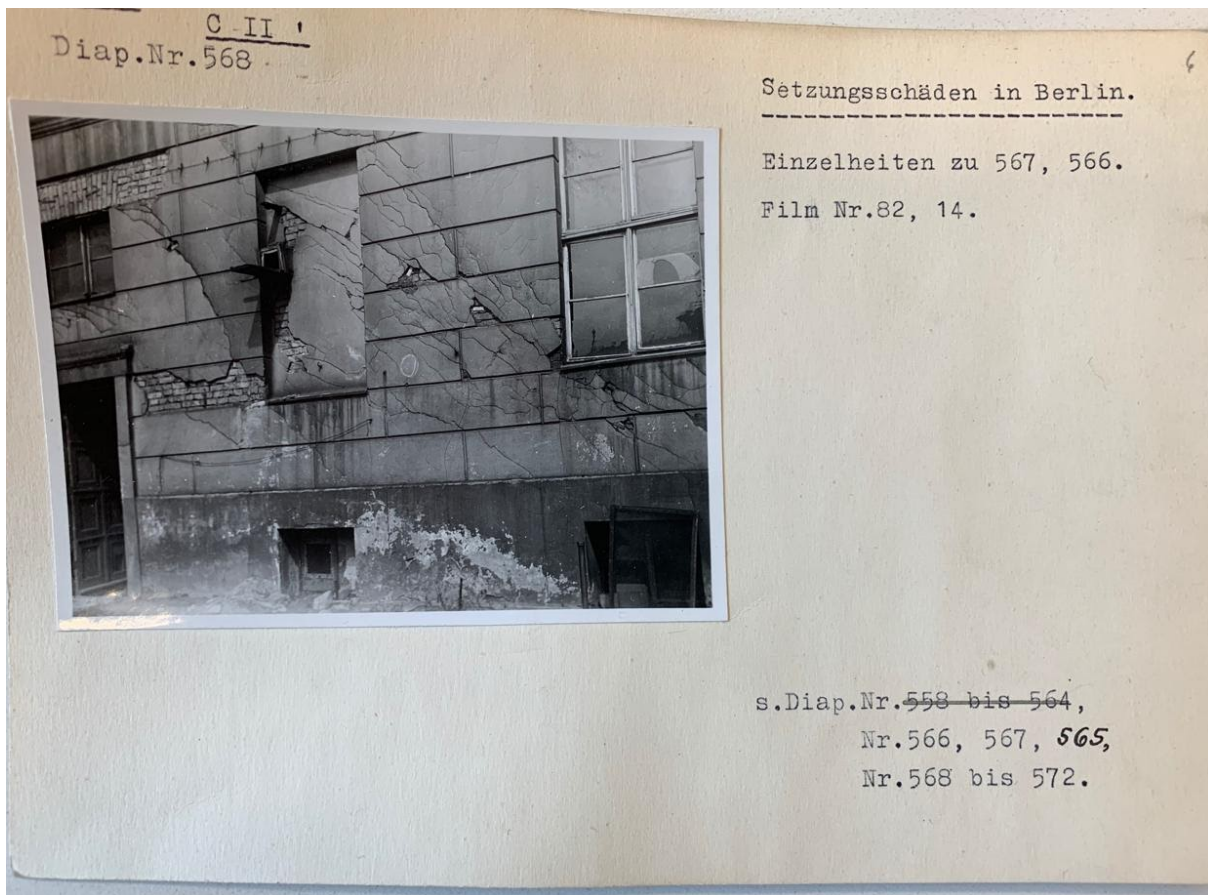


Fig: 33. Degebo. “Setzungsschäden in Berlin.” 1930s. Diaarchiv Degebo.

The above file card documents a case of so-called “Setzungsschäden” (settlement damage); so a symptom of the international ‘soil crisis’ in Berlin (see fig. 33). Sinking into the

⁸⁴ As the *Lexikon der Geowissenschaften* details, we have to distinguish between *settlement* and *subsidence*. While settlement occurs for every building, subsidence occurs when the weight exceeds what the ground can take (“Bodenmechanik”). Once a structure is built, it settles, as the ground needs to adjust to the new weight. The immediate settlement is called “Initialsetzung” (initial settlement). Once it’s finished, the sinkage does not fully stop, but progresses slowly over years or decades (depending on the soil type there are different settlement behaviours), which is called “Primärsetzung” (primary settlement). The latter is responsible for the largest amount of settlement (“Setzung”). *Subsidence* occurs when the weight of a structure is so high that the soil underneath it cannot adjust to the weight and loses its cohesiveness, which allows for the ground water to come through stronger. This causes the building to sink rapidly, which usually causes irreparable damage (“hydraulischer Grundbruch”). For more details, see, e.g. ch. 4 “Bodenmechanik” in Conrad Boley, editor. *Handbuch Geotechnik: Grundlagen - Anwendungen - Praxiserfahrungen*, Vieweg+Teubner, 2012, pp. 139-224.

ground, especially unevenly, can unleash tensions within buildings that exceed their material elasticity. This leads to more and more fissures in the structure that eventually surface as cracks in the plaster of a building, until the whole structure collapses, in the worst case scenario. In this case, the cracks revealed the brick construction beneath what looks like a natural stone cladding, inscribing a narrative of fundamental structural fragility into the eye of the beholder.

A very brief, but insightful general analysis of that problem (particularly for Berlin) was provided in the note “Ursachen von Setzungen bestehender Bauwerke” (causes for settlements of existing buildings) by Dr. Ing. Titze from August 12th, 1941. Originally, it had been published in the journal *Beton und Eisen* (Concrete and Iron) in 1938. The said copy was included as a point of reference (among many others alike) in the extensive folder “Oberkommando des Heeres Bauleitung” (Construction Management of the High Command of the Armed Forces), usually abbreviated as “OKH” (BArch, R 4606/5074).⁸⁵ The project was part of Speer’s Germania plans. Before we look at its soil mechanical properties, a few words about its architectural design to highlight the scale of the project.

⁸⁵ The archival folder includes several original folders, the said note is located in the first one available named “OKH Block 4 VIII E).



Fig 34. Kreis, Wilhelm, Albert Speer, et al. Drawing and model view of the OKH (r.) and Soldatenhalle (l.) at Runder Platz Berlin-Tiergarten. 1936-1940, *Berlinische Galerie Museum für Moderne Kunst*, sammlung-online.berlinischegalerie.de. Accessed 25 Aug 2021.

The extremely spacious OKH complex that would have covered a whole block was to be located on the western side of the planned N-S-Axis, right on the corner where it intersected with Tiergartenstraße (see fig. 34). Surrounding buildings were to be the so-called “Soldatenhalle” (soldier’s hall), a type of Walhalla, to the east. And on its southern side, the partially built “Haus des Fremdenverkehrs” (House of Tourism), which was demolished after the war. These two structures were to corner the “Runder Platz” (Round Plaza), a giant space just south of the Tiergarten, which was to be arranged around a fountain equipped with sculptures by Arno Breker. Wilhelm Kreis developed the monumental design for the OKH on the order of Speer. In accordance with the usual script for representative fascist architecture, the purpose of the OKH was to glorify the soldier and his bodily sacrifice to the *Volkskörper*. The square property of the OKH was to be centered around a rectangular courtyard dominated by a highrise (on its southern broadside), which faced an obelisk located across from it (on the northern end of the premises). The long sides were to be cornered by ‘flat’ temple-like buildings. After examining the models of the OKH, Göring was so impressed that he decided he needed a “Luftfahrtministerium” (Ministry of Aviation) of equal dimensions closeby—just across the axis on the north-eastern side of the Runder Platz. Therefore, Speer designed a complex that was centered around the world’s largest staircase that would have stretched over four stories. While neither the ministry, the hall, nor the OKH was ever built, they required extensive demolitions that were partially executed until 1942. Affected was the whole quarter between the Landwehrkanal and Bendler-, Matthäikirch-, and Tiergartenstraße, which was supposed to be entirely removed and redeveloped as OKH (Reichhardt/Schäche: 127-129).

While Germania’s architectural designs have been widely discussed in scholarship, let us look at the foundation design of the OKH. In contrast to its antique-like aesthetic that summons a

‘tiger’s leap’ into the past of an imperial Rome that charges at the present, the technological aspect reveals the fascist engagement with cutting edge research in terms of building materials, foundation engineering, and soil mechanics. In the said treatise “Ursachen von Setzungen bestehender Bauwerke,” Titze mentioned several reasons for the damaging settlement of buildings and other constructions (BArch, R 4606/5074). These included the unfamiliarity of the varying sinkage behaviours of soil types (cohesive, non-cohesive), the types of foundation implemented (deep, shallow), and the consequences of tremors (caused by urban traffic). To pick out some examples, while sand settles almost immediately after a load is applied on it, other types of cohesive soils (clay-, loam-, slime-) defer the settlement over the years, and lead to structural problems; shallow slab foundations are susceptible to uneven sinkages when the underlying soil layers vary in thickness; while a common mistake for deep pile foundations is a lack of quantity and length; while constant railroad and street traffic generates vibrations that start cracking up buildings. Thereby he also described the scenario of a typical settlement by explaining the progression of its symptoms, the “Setzungsriss” (settlement cracks), which we also saw on the file card (see fig. 33). As he laid out, the first cracks usually appear in the weak parts of a building, so around the doors and windows, cross walls, transverse walls—wherever things are put together. Usually the part of the wall above a crack stands relatively firm, while the part below the crack is sinking down (which is a consequence of the load distribution within the structure). This leads to a gradually deepening rift in the wall. Corresponding to how big the settlement differential between different parts of the building is, e.g. between the edges and the middle of the building, the amount of damage occurs. While a building weighing down onto unfamiliar soils is one potential source of damage, there is another danger coming up from the deeper waters (see fig. 35).

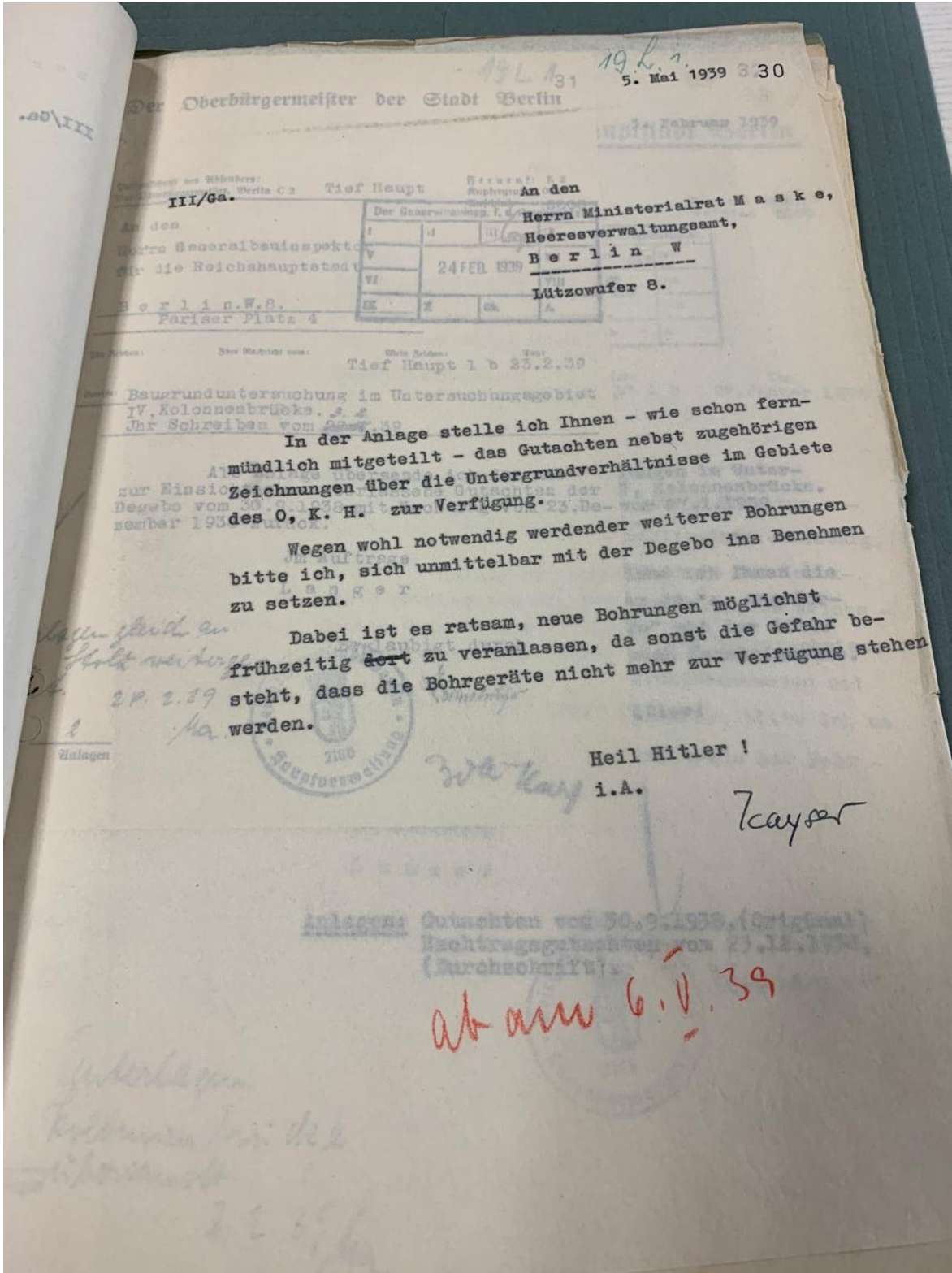


Fig. 35. Degebo. Letter from the military administration regarding the soil profile of the OKH and drillings. 5 May 1939. BArch, 4606/639, Bl. 30.

Water Aggression

Besides structural damages caused by a building's excessive weight, "Wasseraggressivität" (water aggression), so damage inflicted by ground water (and its chemical components) on concrete foundations, posed another major challenge.⁸⁶ Therefore, the GBI frequently ordered the Degebo to conduct a water analysis of the respective areas. Some of these documents can be found in the folder "Bodenuntersuchungen" (ground examinations) in the Bundesarchiv (BArch R 4606/639). E.g., on Oct 27th, 1938, Degebo member Wilhelm Loos⁸⁷ sent an assessment of the area Pichelswerder to the GBI, where he detailed the potential dangers of the area's specific groundwater profile (which contained carbonic acid and sulfate), and also gave the recommendation to use densified concrete as a protective measure (37-47). He stated:

Die Härtestufe des Wassers schaltet die vorhandene betonaggressive Kohlensäure als Betonschädling aus, der Sulfatgehalt kann zusammen mit der sauren Reaktion des Wassers dem Beton verderblich werden. Dicht hergestellter Beton in üblicher Zusammensetzung besitzt genügende Abwehrkraft. (39)

The water's hardness level eliminates the existing aggressive carbonic acid as a concrete-damaging factor, [yet] the sulfate content in combination with the sour reaction of the water can become poisonous to the concrete. Densely produced concrete in common composition has enough resistance.

⁸⁶ Publications such as Arnold Agatz' *Der Kampf des Ingenieurs gegen Erde und Wasser im Grundbau* (1936) (The Battle of the Engineer against Earth and Water in Foundation Engineering), show how the overcoming of the elements was conceptualized as a battle against nature during those days, which sometimes resonated with the fascist realm of ideas (Kurrer: 360-361).

⁸⁷ "Regierungsbaurat" (government building consultant) Prof. Dr.-Ing. Wilhelm Loos was a Degebo member from 1933-1945. From 1933-1939, he was the business executive ("Geschäftsführer"), from 1939-1945 he was the chairman of the working committee ("Vorsitzender des Arbeitsausschusses") (Weiß: 68).

On May 5th, 1939, the Degebo sent the military administration a preliminary geotechnological scan and also recommended further drillings to enable a more comprehensive mapping of the area's water profile (30). These, and many other documents, detail the immense effort the fascist regime put into maintaining the illusion of their indestructibility (see fig. 36). This tells us about their awareness of how infinitely fragile their monumental endeavors nevertheless were.

Ergebnis der chemischen Wasseruntersuchung.

Auftraggeber:	Baugrundkarte		
Ort der Probenahme:	Pichelswerder		
Bohr- Loch Nr.:	A11	A15	B9
Schürf:			
Tag der Probenahme:	4.2.38	26.2.38	2.12.1937
entnommen durch:	D e g e b o		
Tag des Eintreffens:			
Art d. Versandgefäße:			
Entnahmetiefe:	23,0	?	54,0 m
Grundwasserspiegel:	- 0,2	- 0,65	- 2,57 m
Temperatur der Luft	+ 9,0	+ 5,0	- 5,0 °C
Temperatur des Wassers	+ 11,8	+ 6,0	+ 6,0 °C
Aussehen	gelb, klar	gelb, getrübt	dkl. braun, vollkommen undurchsichtig
Geruch	schwach moorig	dümpfig	teerig
pH während der Entnahme	?	?	?
pH im Laboratorium	7,6	7,2	7,5
Abdampfdruckstand	344,8	287,8	694,2 mg/l
R ₂ O ₃	1,4	6,5	54,0 "
CaO	46,8	73,0	129,8 "
MgO	8,6	21,9	20,1 "
SO ₃	32,5	60,2	33,8 "
Cl ₂	37,7	35,6	234,5 "
betonaggressive CO ₂	3,3	2,2	1,1 "
Karbonathärte	5,9	5,0	4,5 °d.H.
Gesamthärte	5,9	10,4	15,8 °d.H.
Härtestufe	weich	mäßig hart	hart
NH ₃		positiv	

Fig. 36. Degebo. Results of the chemical water examination in the area of Pichelswerder. 5 May 1939. BArch, 4606/639, Bl. 48.

The unprecedented scale of human construction endeavors had once more revealed the fundamentally shaky ground civilization is built upon. Like a fourth humiliation of mankind, it threatened to shatter the illusion of the world's structural stability that allowed for humanity to veil themselves in a sense of security. To bring the problem of soil movement under human control, and transform it from a "metahistorical" to a "historical pregiven[]" (to Koselleck's terms), engineers and scientists explored the properties of the realm of the soils deeper than ever before and developed technological 'coping mechanisms' (29). For the first time in human history, soil had to be approached as a purely mechanical element, in order to halt the disastrous consequences to the stability of the world. This was necessary to meet the needs of the rapidly amassing of civilization in urban spaces. Their increasing interconnectedness through road, railway, airfare, and shipping networks across, above, and underneath the earth, was boosted by the new technological possibilities and the growing ambition of master builders. Altogether, civilization applied a tighter and tighter grip on the more and more ravaged earth, which had started crumbling under pressure.

Obviously, the problem of soil movement did not appear out of nowhere. It was just in that particular moment in the early 1920s, when humanity was upscaling heavily that the problem suddenly became extremely pressing: it was a historical 'tipping point' that decided about the continued rise or beginning downfall of civilization. Did we ever really get out of this moment? Let us take a brief look back at the disciplinary formation of soil mechanics out of other modern precursors.

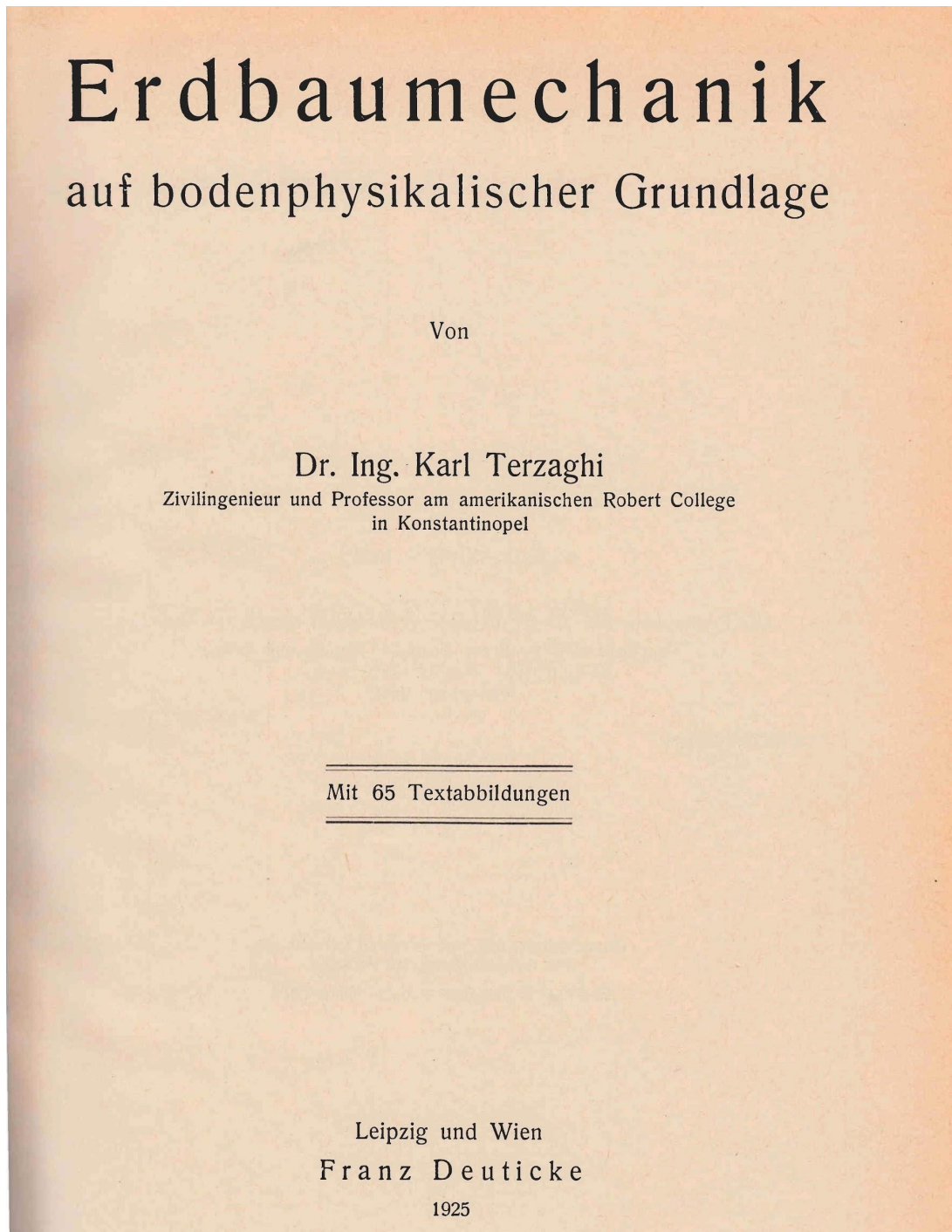


Fig. 37. Title Page of the 'bible' of Soil Mechanics. Terzaghi, Karl. *Erdbaumechanik auf bodenphysikalischer Grundlage*. Franz Deuticke, 1925.

The first time soil movement became an issue of ‘planetary’ scale, was in the Middle Ages, when Galileo proclaimed that the whole earth was moving. The question of the “Stillstand - Bewegung der Erde” (stand still - movement of the earth) became a discussion in which the dogmatic “Vorrang des Unbewegt-Zeitlichen vor dem Bewegt-Zeitlichen” (preference of the motionless-eternal over the moving-temporary) of that age crystallized (Blumenberg, 1960: 118-120). With the dawn of modernity in the late 18th century, we were already far away from any of these dogmas, and builders had already started the attempt of a “scientific understanding of the forces involved” in the dynamic between buildings and the earth. Theoretical approaches go back to the 16th century and culminated in Coulomb’s “Erddrucktheorie”⁸⁸ (earth pressure theory) in 1776. Nevertheless, for the most part this knowledge remained isolated and was often ignored or forgotten, and nobody put the pieces together to a systematic approach, yet (Kerisel: 57-58).⁸⁹ “In the 19th century in particular, the construction of railways and navigable waterways called for deep cuttings which, when the soils disturbed happened to be clayey, were frequently the cause of sudden landslides.” Around that time, it was the first time that someone (Alexander Collin) “had perceived the fundamental role of the cohesion of clay, and that this cohesion could be destroyed by water”, which caused landslides. While further progress was made in that direction, “it was only between 1910 and 1930 that important progress was made in the understanding of clays”. Clays were studied closely by the example of the devastating landslides occurring during the construction of the Panama Canal, and other gigantic projects, where they caused massive damages and exploding costs. While soil movement continued to cause

⁸⁸ For a recent study on this, see Hettler, Achim, and Karl-Eugen Kurrer. *Erddruck*. Ernst & Sohn, 2019.

⁸⁹ Kerisel covered the evolution of foundation engineering in “Part Two: The last two hundred years”. For a concise overview of the emergence of soil mechanics, see pp. 55-61 (section: “Coloumb ushers the scientific approach”). He also discussed the geographic expansion of building endeavors by the case study of the Panama Canal (section: “The Panama Canal: An ocean-to-ocean cutting with multiple side effects”), the increasing scale of individual building projects (in terms of height/weight) (section: “An architecture that defies the heavens”), and also talks about dams, footholds, and other subterranean constructions throughout the chapter (57-101).

significant problems in Germany and the rest of the world, individual attempts to fix the occurring problems were still made in situ. (59-60).

Things changed, when one Austrian engineer put all the pieces together and came up with a ‘diagnosis’ of the overarching structural problem that led to damaging soil movement. In 1925, Karl Terzaghi (1883-1963) published the book *Erdbaumechanik auf bodenphysikalischer Grundlage* (1925) (The Mechanics of Earth Construction Based on Soil Physics) (see fig. 37), which counts as the birth of the field of soil mechanics (Weiß, 1978: 1). Historian Karl-Eugen Kurrer described the book as a first-class synthesis and centennial achievement within civil engineering, especially regarding geotechnical engineering, in his book *Geschichte der Baustatik. Auf der Suche nach dem Gleichgewicht* (2016) (The History of Structural Analysis. On the Search for Equilibrium) (347). Kerisel highlighted Terzaghi’s accomplishment with the following words:

[T]he fundamental contribution was made by Austrian engineer Karl Terzaghi (1925), the father of soil mechanics. By 1927 ... the foundations for a science of soil mechanics based on sound physical principles had been laid. ... The measurements of soil compressibility now made it possible ... to calculate the settlement of soil under the weight of constructions. What was the weight limit for construction before the soils collapse? (Kerisel: 61)

To ask for the “weight limit for construction before the soils collapse” created a path into a heavier future (61). In the introduction to his seminal book, Terzaghi described his contribution as the first attempt to establish the much needed “Bindeglied zwischen der Geologie und der

technischen Praxis” (link between geology and technical practice) that was without any predecessor (1-2). This ‘link’ was necessary, as the common geological classification systems for soil were unable to grasp the attributes that were relevant for the structural engineer: how does soil react to weight? The problem was that the physical properties could drastically vary within each geological soil type, depending on its density, water content, and many other factors. This made existing geological classifications insufficient for building purposes, as no predictions regarding the reaction of a soil type to a building could be made on their basis. Terzaghi sparked a whole new way of conceptualizing the dynamic between the built world and the realm of soil based primarily on the latter’s loadability: weight became the focus of attention. (Kurrer: 347). Let us look at one example that highlighted the difference between geology and soil mechanics.

On November 7th, 1929, the Deutsche Reichsbahn-Gesellschaft Hauptverwaltung (Main Administration of the German Reich Railroad Association) sent a letter to the Degebo regarding the formation of an archive of landslides occurring in the railroad sector. In order to enable the Degebo to start gathering data about the problem, the letter included a folder with 37 reports about damages observed on railroad constructions, some of them spanning from the late 1870s to the 1920s (as in the case of a railroad embankment close to Neurode, for example) (Projektarchiv Degebo, 3332 Rutschungen, 3332-1 Bericht über Rutschungen bei der Deutschen Reichsbahn). The folder included cases of “Bauten (Kunstabauten und Erdarbeiten), an denen bei der Gründung, hinsichtlich der Bodenbeschaffenheit oder bei Auftreten von Rutschungen Beobachtungen gemacht worden sind, die für die Forschungen der Gesellschaft von Wert sein könnten, mit dem Anheimstellen gefälliger Prüfung” (constructions (buildings and earthworks), on which foundations observations have been made regarding ground conditions or during the occurrence of slides, which could be of value for the research of the society, leaving them open

to examination, if so desired). In one of the reports from Feb 11th, 1926, Prof. Dr. Fliegel⁹⁰, who was then Senior Director at the Preußische Geologische Landesanstalt (Prussian Geological Federal Authority), described the progression of landslides in a cutting close to Niederaußem, a small town not far from Cologne. In use of his geological expertise, he explained the reason for the damaging soil movement on this particular site, offering possible solutions that have worked in the past. Thereby he conceptualized the soil properties underneath the railroad by the logic of chronostratigraphy, as expected due to his geological training. In use of the vocabulary and concepts of his discipline, he looked at soil as a layered, but disrupted (and partially shifted) composition of the pleistocene (the last ice age) and the pliocene (the epoch that followed the last ice age). The ‘involved’ spaces, times, and soil ‘identities’ (classifications) merged in his geological narrative. He described that a river had washed out parts of the clay deposits originally located between the two geological strata (pleistocene and pliocene). As a result, parts of the older soil layer (pliocene) lay bare on the surface, in a so-called “Aufschluß” (exposure), which is not necessarily problematic. Nevertheless, landslides continued to occur on several parts of the cutting. Especially, in the north-eastern part, where “Sickerwasser” (seeping water) crossed the pleistocene layer and came in contact with the below pliocene sand. As the latter was (partially) extremely fine-grained, the sand and the water had formed the so-called “Schwimmsand” (quicksand). As a result, the soil layer above, the so-called “hangenden Massen” (hanging masses) of the pleistocene soil, had started sliding. This soil movement affected the entire cutting, in which the railroad tracks were placed (on top of a track bed), causing disruption in the railroad traffic. While usually draining the water out of the affected soil layer is a resort, it was not sufficient in this case, as the moving layer lay too deep. This example

⁹⁰ That was about three years before Fliegel was appointed as member of the Degebo, which he remained from 1929-1935 (Weiß: 67).

demonstrates a typical case of an (attempted) analysis of soil mechanics, as the geologist conceptualized soil as material that interacts with the foundations of a construction, in this case the railroad tracks, causing several mechanical problems due to its movement. While the geologist was confined by his geological classification of the soil, he tried to estimate its mechanical properties, in order to ‘translate’ his geological knowledge for a technical application. He came up with reasons for the occurring damage and suggested possible solutions, but seemed to recognize the limits of his knowledge. Therefore, the Deutsche Reichsbahn-Gesellschaft passed on the report, among many others, to the Degebo that would approach problems like these systematically through the lens of soil mechanics. Obviously, the railroad sector hoped for being able to improve their foundation design that way. Unlike geologists (who prioritize soil age, e.g.), soil mechanics classified soil *purely* by its mechanical properties, for the first time in history—and therefore required an entirely different and new soil classification system, as Terzaghi had proposed in 1925.

According to Kurrer, Terzaghi’s book marked the end of the initialization phase (1900-1925) of geotechnical engineering, which was just emerging as its own discipline back then. Accordingly, after 1925, all major universities around the world established chairs for soil mechanics and foundation engineering including earthworks laboratories (where soil samples could be adequately analyzed). Berlin was no exception (347). From then on, a plethora of research emerged in that field, with significant contributions by Degebo (Kurrer: 352).⁹¹

The German Society for Soil Mechanics

In 1927, Dr. Backofen, a “Reichsbahnrat” (consultant of the Reichsbahn) in Berlin, gave an impressive lecture about the ongoing catastrophic damages caused by soil movement.

⁹¹ Kurrer provided a list of representative publications from twelve subfields within/applications of soil mechanics on pp. 353-354. These include soil classification, soil compressibility, subsidence, road construction, and more.

Thereby he actively called for the formation of an institution that approached the problem systematically by examining the “mechanischen, chemischen und geologischen Eigenschaften der Bodenarten ... [um] zu einem Einblick in die ... statischen Verhältnisse im Erd- und Grundbau zu kommen” (mechanical, chemical, and geological attributes of soil types ... [in order] to get insights into the ... static conditions of earth- and foundation engineering) (Weiß: 15-16). This research perspective was very promising for the “Gründung von Verkehrswegen, Kanälen, und Großbauten” (foundation of transport routes, channels, and large buildings) (Escher/Richter: 12-13). As a result, in 1928, leading representatives of the governmental institutions of these sectors initiated the foundation of the Degebo in Berlin. These included the Technical University Charlottenburg, Reichsverkehrsministerium (Reich Ministry of Transport), Reichsbahngesellschaft (Reich Rail Company), and the Preußischer Minister für Wissenschaft, Kunst und Volksbildung (Prussian Minister for Science, Arts, and National Education) (Weiß: 16). The founders decided to designate 27 distinguished researchers and scientists for the task (18). Their most prominent recruit would probably be Terzaghi himself, who was quite an involved member from 1930-1939 (68). In the mid 1930s, he was doing consulting work for Speer’s Nuremberg Rally Premises. Allegedly, he even held private conversations with Hitler in that context. Also, in the years 1935/1936, when Terzaghi was lecturing at TU Berlin, Fritz Todt (who built the infamous Autobahn network for Hitler), tried to get him a professorship there (Goodman: 151). In terms of facilities, initially the Degebo was accommodated in spare rooms of the Technical University. But, in 1929, the foundations for their own university building were laid. They moved there in 1933 (Weiß: 18-19). As the original news release of the society’s foundation reflected, the main task in the earlier stages was to compile and channel all the existing knowledge about “Erdbau” (earthworks) and “Bauwerksgründungen” (foundation

engineering), as this had never been done before. From there, they conducted research about “Bodenarten als Baugrund und Baustoff” (soil categories as building ground and building material). In short, soil mechanics channeled the flow of information between geology and civil engineering. The goal was to create a new scientific engineering approach, which allowed to optimize construction processes (especially regarding foundations), and to solve the problem of unpredictable soil movements that endangered the structural stability of constructions. All of this led to the institutionalization of examinations of soil and its relationship to the weight of buildings for the first time in history (Weiß: 19).

Now that I have briefly outlined the emergence of the Degebo, let us look into their relationship with the fascist regime and then take a closer look at their relationship with the Speer’s office of the GBI.

Degebo and Fascism

Despite the urgent need for their expertise in the construction world, the Degebo did not receive as many research and building tasks as expected during the first years. This would change drastically with their decade-long collaboration with the fascist regime. Before that happened, the Degebo was struggling to establish themselves among the traditional fields of geology and civil engineering. The latter often saw the new field as unwelcome and unnecessary competition and therefore frequently spoke out against the legitimacy of soil mechanics (Weiß: 18). After over five years passed by without too much activity as a result of this unwelcoming atmosphere (22), things drastically changed for the Degebo in 1934. From then on, the Generalinspektor für das Deutsche Straßenwesen (General Inspector for German Road Engineering), Fritz Todt, involved the Degebo heavily into the construction of the German

“Reichsautobahnen” (23). All of these examinations helped build a passage towards a newer, larger, heavier, and denser era: heavy load-bearing modernity.

Tatsache erklärt das im Durchschnitt sehr ebene Planum, das die Walze erzielt, die gute Fortbewegungsmöglichkeit auch auf Böden, in denen sich gewöhnliche Walzen festfahren und die diesen überlegene Verdichtungsleistung. Wie aus Abb. 5a er-sichtlich ist, findet die Gürtelkonstruktion nur bei den Hinter-rädern Anwendung, während die zur einwandfreien Steuerung und zur Vermeidung von Verdämmungserscheinungen sehr doch im Gelenk fest mit dem Radtranz verbundene Platten auf-weißen. Die Plattenarößen sind für beide Achsen so bemessen, daß ein gleichmäßiger Bodendruck von rd. 3,25 kg/cm² bei rd. 12,6 t Hinterachsdruck und rd. 3,1 t Vorderachsdruck erzielt wird. Die mit Dreigangetriebe und einem Kaelble-Dieselmotor ver- schwindbare Walze arbeitet im 1. Gang, und zwar mit einer Ge- schwindigkeit von 1,5 km/Std. Bei der Verdichtung fährt die Walze auf dem Arbeitsfeld hin und her, wobei sie bei jedem Gang um eine halbe bis eine viertel Plattenbreite seitlich ge-

steuert wird. Hierdurch wird eine vier- bis achtfache Bearbei- tung jeder Flächeneinheit erreicht.

Die durch die Konstruktion der Vorderräder bedingten und bei den Versuchen beobachteten Schwierigkeiten (vgl. Absatz 3) sollen nach einer Mittelung des Erfinders möglichst behoben worden sein. Leider ließ sich Näheres darüber bisher nicht in Erfahrung bringen.

3. Beobachtungen bei der Verdichtung.

Bereits beim Anmarsch der Geräte bei der Überquerung eines durch Wasseransammlung an einem Durchlaßbauwerk (Moorloch) völlig durchfeuchteten und aufgeweichten Dammschnittes zeigte sich deren verschiedene Gängigkeit. Während der Dampftraktor die unsichere Stelle ohne weiteres überwand und auch auf der etwa 1:5 geböschten Rampe zum Verlauchs- damm keine Fortbewegungsschwierigkeiten hatte, wurden die anderen Geräte an diesen beiden Punkten behindert. So grub



Abb. 4. Delmag-Frosch 2,5 t.
Aufn.: Degebo (Reumann).



Abb. 5a. Gürtelradwalze. Werffoto.



Abb. 5b. Hinterrad der Gürtelradwalze. Werffoto.



Abb. 6. Delmag-Frosch, im durchschnittenen Damme stecken geblieben.
Aufn.: Degebo (Rees).

sich z. B. der 2500-kg-Frosch beim Springen etwa 0,50 m tief in den Boden ein, wobei das gespannte Borenwasser in einer Pfuge austrat (Abb. 6). Er mußte mit einem Kran heraus- gehoben und auf einem provisorischen Gleis zum Damme ge- bracht werden. Die Rampe überwand er dann ohne große Schwierigkeiten. Die Gürtelradwalze grub sich über dem Wasserloch ebenfalls bis zu den Achsen fest und mußte mit Hilfe einer Lokomotive auf eine Bohlenlage geschleppt werden, worauf sie dann sowohl das Wasserloch, als auch die Rampe überwand, auf der sie sich ohne dieselbe ebenfalls festgefahren hatte.

Bei der Verdichtung selbst machte sich die geringe Wen- digkeit der Gürtelradwalze auf dem lockeren Sand z. T. sehr hörend bemerkbar, insbesondere in den Randzonen des Damms. Während sie teilweise ein gutes Planum wie das in Abb. 5a erzielte, wurde an vielen Stellen des Verlauchsdamms durch das Mahlen der Vorderräder bei der Steuerung der Boden bis zu 30 cm tief aufgewühlt (Abb. 7). Die Arbeits- geschwindigkeit war bei vierfacher Überbedeckung (vgl. Absatz 2) etwa gleich der beiden Delmag-Frösche.

Von diesen interessierte hauptsächlich das neuere 2500-kg- Modell, dessen Arbeitsweise und Konstruktion sich von den älteren Typen von 500 kg und 1000 kg nicht unterscheidet. Beide Frösche arbeiteten bei einer gleichen Sprungweite und -höhe von 30 bis 40 mm mit dreifachem Abstampfen jeder Flächeneinheit, bei dem sie (vgl. Abschnitt IV) ihre höchste Wir- kung erreichen. Im Gegensatz zur Walze überwandnen sie

Fig. 38. Lange, Gerhard. Report on tests of soil condensation devices. 1941. Die Verdichtung von Dammschüttungen, Projektarchiv Degebo.

The large-scale expansion of Germany's road network relied heavily on the expertise of the Degebo. With their involvement, the Degebo supported the ideological infrastructure that prepared Germany for the upcoming war by securing the mobility of the troops (23).⁹² They worked on the topics of the freezability of soil (that often led to liftings that damaged the concrete surface of the roads) (Weiß: 23), the compressibility of soil (that often resulted in damaging subsidence underneath constructions), soil condensation methods, and generally conducted research that supported the construction of solid roads (24-25).

The report “Verdichtung von Dammschüttungen” (1941)⁹³ (Condensation of Embankments) by Gerhard Lange⁹⁴ gave an insight into the collaboration of soils mechanics and the regime (see fig. 38). It summarized the testing of several new soil condensation machines conducted by the Degebo on the order of Fritz Todt starting April 1939. In the introduction of the broader topic, Lange stated that the relevance of the “künstlichen Verdichtung von Erdschüttungen” (artificial condensation of earth fills), which increases the loadability of the ground, just recently emerged for two main reasons. First, the increasing weight of buildings, as “die modernen Großbauten ... Ansprüche an den Baugrund stellen” (modern large building projects ... make demands on the building ground) that cannot be sustained by existing technologies. Second, the rapidly increasing number of these constructions. Due to the emerging “zahlreichen Großbauten in Deutschland” (numerous large building projects in Germany), and the nature of the export market, there was a need for unprecedented quantities of these machines.

⁹² As Adrian Forty has shown in his brilliant book *Concrete and Culture. A Material History* (2012), the Autobahn network was not exclusively built for military purposes, but was also ideologically motivated. Instead of enabling the most efficient route from A to B, many routes were supposed to demonstrate the beauty of Germany's nature to the spectators—even if this led to significant detours. By leading the driver through luscious forests, which created a stark contrast to the ‘ugliness’ of the concrete laden modern urban space, the spectator's anti-modern sentiment was supposed to be amplified. Therefore, many routes were designed to lure the driver into a mythological space, rather than allowing the travelers to get to their destination as fast as possible (63-68).

⁹³ The article was originally published in the periodical *Die Bauindustrie* (The Construction Industry), issue 7, 1941.

⁹⁴ Gerhard Lange was a research assistant of the Degebo from 1939-1941 and died during the war (Muhs: 68).

Due to the resulting high demand at that time, a plethora of new soil condensation machines had been absorbed uncritically by the market. Therefore, these devices still required refined testing for the sake of quality control, and to find out which machine was best for what purpose. Among these were machines with obscure names such as “Delmag-Frösche”, a so-called “Explosionsramme” (explosion impact hammer), and “Vibromax”, a vibration device. These devices were used to increase the density of the ground by rolling over or stamping on it. The goal of one of these tests was to replace one particular, too costly machine, the so-called “Stampfbagger” (stamp digger). It was basically just a regular digger that was being repurposed as a soil condensation machine, and thus just an improvised, temporary solution. Due to its relatively small weight, it was easy to handle, but its capacity to condense soil was limited. The testing for potential alternatives started in April 1939 (231). For that sake, different construction scenarios were simulated and the various machines applied to different terrains. Which machine showed the best results on what soil and in which depth (“Tiefenwirkung”)? Which machine was the easiest to handle? Which one was the fastest? Which one was the most agile? Which one could handle difficult terrains, such as mud and water holes? Which one would get stuck in the soil? (231-238). In the end, the heaviest of all (up to 2.5 tons), the aforementioned “Delmag-Frosch”, made the cut (238). During that time, another, heavier task, the heaviest of all, had appeared on the horizon for the Degebo: Germania.

Degebo and Albert Speer

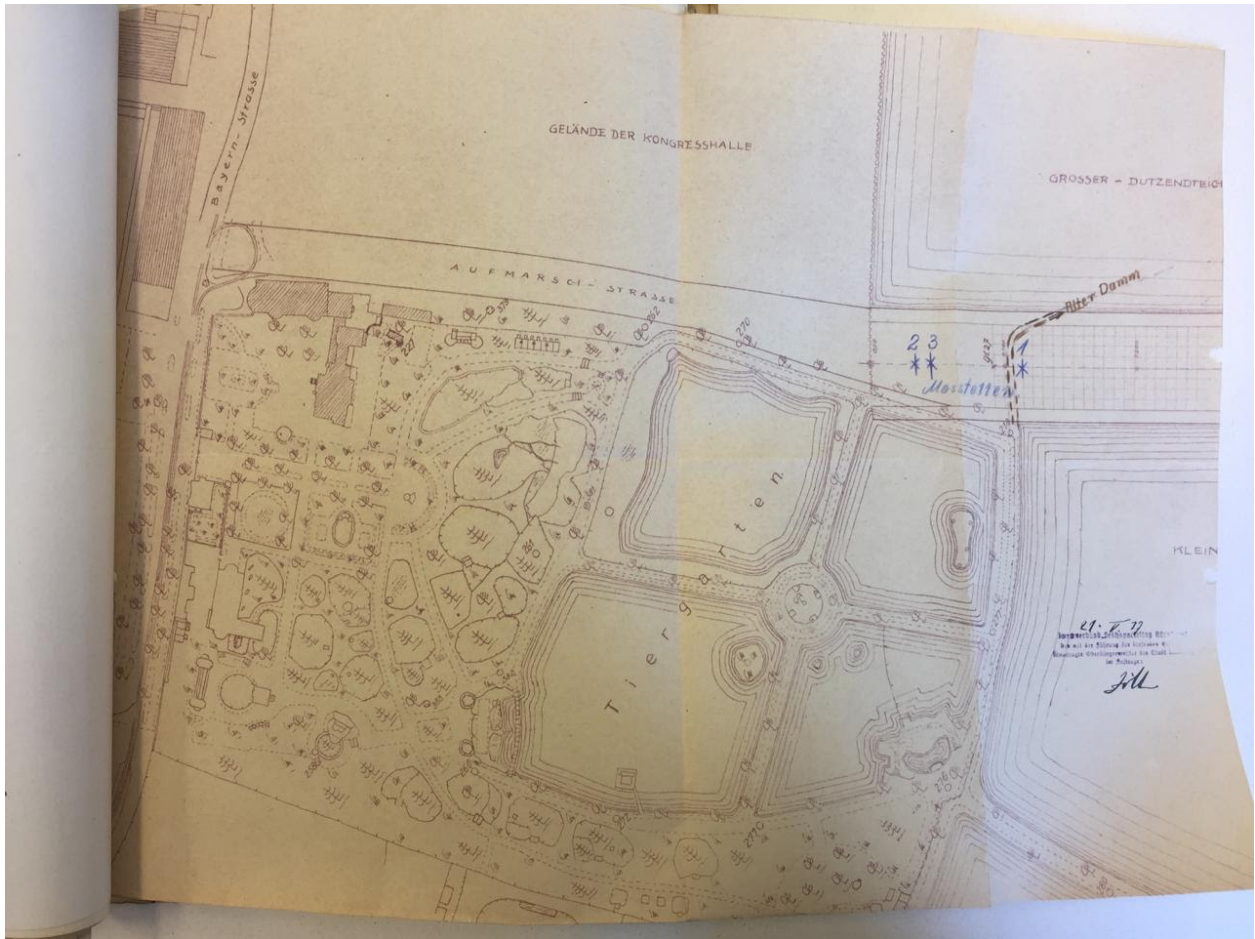


Fig. 39. Degebo. Plan of the Nuremberg Party Rally Grounds with locations of conducted dynamic examinations. 26 May 1937. Projektarchiv Degebo, 3361 Verdichtungsnachprüfung, Untersuchungen Kongresshalle Nürnberg.

In 1937, Speer, who would rapidly turn into the Degebo's most generous funder and by far biggest employer, started consulting the research society for his monumental transformation plans of Berlin/Germania (Weiß: 26). The opportunity that Speer offered to basically liberate them from economic, political, or ethical constraints. By providing big budgets (and probably

forced labor), he created a space for them in which unique soil mechanical experiments took place.⁹⁵ These paved the way for the present metropolis and remain influential and unique until today. But before we get there, let us take a look at the structural merging of the Degebo with the GBI. On January 11th, 1937, the office of the mayor of Nuremberg reached out to the Degebo on behalf of the Zweckverband Reichsparteitag Nürnberg (Special Purpose Association Reichsparteitag Nuremberg). They requested the Degebo's services regarding a comprehensive "Bodenprüfung" (soil analysis). Thus, the Degebo came in touch with Speer's first big project, the Reichsparteitagsgelände (Reich Party Rally Grounds) (see fig. 39). Prior to their involvement, the soil on the designated premises had been mechanically condensed to improve the ground's resistance to potential damage on the premises. This treatment had prepared the construction of the "grosse[]Strasse" (great street) through the area. Therefore, the embankment, so the foundational composition of soil on top of which the great street was later placed, had been mechanically condensed in order to improve its resistance to weight. Thereby an apparatus called "Rüttler 'Original Losenhausen'" was used to densify the ground mechanically through shaking. The task of the Degebo would be to test the success of this soil mechanical procedure (Projektarchiv Degebo, 3361 Verdichtungsnachprüfung, Untersuchungen Kongresshalle Nürnberg).

The Degebo summarized their findings in the report "Bericht über die dynamische Verdichtungsnachprüfung auf der Grossen Strasse im Reichsparteitagsgelände Nürnberg" (Report on the examination of the dynamic condensation on the Great Street of the Nuremberg Party Rally Grounds) from May 26th, 1937. They stated that their tests had proven the success of the soil treatment. To do so, they had conducted "dynamische Untersuchungen" (dynamic

⁹⁵ The folder BArch, R 4606/47 contains documents regarding numerous high payments processed by Speer in favor of the Degebo, e.g. on October 13th, 1937, he initiated a payment of 80,000 Reichsmark (ca. 1.4 million USD today) to the Degebo for their ground examinations regarding the Great Hall (Bl. 318).

examinations), which measured the speed of acoustic oscillations in the soil, in order to quantify the occurred its current density. Afterwards, they compared these results to existing data, e.g. from the unmodified soil profile on top of which the Congress Hall, the centerpiece of the Nuremberg party rally grounds, had been built, to draw their conclusions (Projektarchiv Degebo, 3361 Verdichtungsnachprüfung, Untersuchungen Kongresshalle Nürnberg: Bl. 1-2). On page four, the soil mechanics state that, indeed, the apparatus had significantly improved the ground in terms of its resistance to weight: “Die Messungen zeigen einwandfrei eine deutliche Wirkung durch den Losenhausschwinger ..., dass sich der Boden nach der Einrüttelung merklich verfestigt hat.” (The measurements demonstrate flawlessly the clear impact of the Losenhausschwinger, ... that the ground has been noticeably rigidified). With this project, at the *very* latest, the Degebo crossed the line between civil engineering and ideological architecture—and their entanglement with the regime would only get stronger and stronger ().

The “Bericht über die Tätigkeit der Degebo im 11. Geschäftsjahr (1. April 1938 bis 31. März 1939)” (Report on the activities of the Degebo during the 11th fiscal year (April 1st, 1938 until March 31st, 1939) showed that the work with Speer had turned out to be a true ‘game changer’. The archival documents reflect the Degebo's enthusiasm for this collaboration that continued to bring a plethora of promising and unique opportunities both in terms of research and application. Not only did the Degebo continue their work for Fritz Todt’s Autobahn all over Germany, they also worked on the Ufa-Filmakademie in Babelsberg, the Hermann Göring Werke in Linz, the Wehrtechnische Fakultät in Grunewald, NSDAP buildings in Weimar, several power plants and industrial facilities all over Germany, and the Königsplatz in Berlin (Projektarchiv Degebo, 3112-3117 Geschäftsführung bis 1945, 3112 Tätigkeitsberichte, Bl. 1-11). All of these projects were overshadowed by their work for Speer. Therefore, they dedicated a separate section

of the report to describe the latter. “Die im Auftrage des Generalbauinspektors für die Reichshauptstadt durchgeführten Untersuchungen nahmen innerhalb unserer gesamten Arbeiten einen derart breiten Raum ein, dass es zweckmässig erscheint, über diese gesondert zu berichten” (The examinations conducted on the order of the Generalbauinspektor of the Capital of the Reich occupied such a large space among our entire operations that it appears appropriate to report on them separately). Their work for Speer consisted of two major tasks. First, the examination and mapping of the ground conditions of all the areas that were supposed to be developed (so the whole of Berlin). In that context, 1,600 drillings were conducted, some of them reaching a depth of 250-500 meters (ca. 820-1640 feet). Thereby 36,000 soil samples were collected. Second, in-depth examination for especially large projects, such as the “grosse Versammlungshalle am Königsplatz” (large congregation hall at Königsplatz) (better known as the Great Hall). Besides the usual procedures (drillings and the analysis of samples), “fanden Grossversuche in bis in 30 m Tiefe abgeteuften Senkkästen statt” (large-scale tests with caissons drilled into a depth of up to 30 m [ca. 100 feet] took place), which allowed more precision in the mapping out of the ground. Soon, the mass of tasks assigned by the GBI were not manageable within the limited work space of the Degebo in the Technical University. Therefore, Speer provided them with an extra barack. Additionally, the Degebo hired a geologist, Dr. phil. nat. Mauz⁹⁶: “Da die vielen Bohrungen einen umfassenden Einblick in den geologischen Aufbau des Berliner Untergrundes bieten, werden sie durch einen neuerdings bei uns tätigen Geologen überwacht und ausgewertet” (As the many drillings offer an expansive insight into the geological composition of Berlin’s ground, they will now be overlooked and evaluated by a geologist employed by us) (12-13). As a reflection of their extensive work, Karl Buchholz⁹⁷ published the report “Betrieb und Leistung

⁹⁶ Joseph Mauz was a research assistant for the Degebo from 1938-1941 (Weiß: 68).

⁹⁷ Karl Buchholz worked as a research assistant for the Degebo from 1937-1939 (Weiß: 68).

bei Tiefbohrungen in Gross-Berlin” (Operation and performance of deep drillings in Greater-Berlin” in 1938 (17).

The next year (1939-1940), there continued to be an immense amount of activity, especially regarding the “Baugrundkarte”:

Die Arbeiten für die ‘Baugrundkarte Berlin’ wurden ... weitergeführt. Ihr Ziel ist es, für die Gebiete, die dem Generalbauinspektor für den neuen Bebauungsplan der Reichshauptstadt geeignet erscheinen, die Baugrundverhältnisse bereits jetzt festzustellen. Es wurden zahlreiche neue Gebiete - vor allem im westlichen Teil der Stadt - erschlossen. Die Zahl der hierbei durchgeführten Bohrungen beträgt annähernd 400. Darunter befinden sich mehrere Tiefbohrungen, von denen 2 bis auf eine Tiefe von 250m, 2 bis auf 180 m und etwa 6 bis auf ungefähr 120 m unter Geländeoberfläche niedergebracht wurden. ... Die Bodenproben wurden von einem Geologen durchgesehen, die Ergebnisse auf Schichtenplänen aufgetragen und dem Generalbauinspektor Bericht über die bautechnische Eignung der einzelnen Gebiete erstattet. (Projektarchiv Degebo, 3112-3117 Geschäftsführung bis 1945, “Tätigkeitsbericht 1939-1940”: Bl. 6)

The work on the ‘Subsoil Map Berlin’ ... continued. The goal is to scan the building ground properties of the areas that seem appropriate for the new development plan of the General Building Inspector already now. Numerous new areas - especially in the western part of town - have been scanned. The number of the conducted drillings hereby amounts to nearly 400. Among these are several deep drillings, of which 2 reached a depth of as far as 250m (ca. 820 feet), 2 180m (ca. 590 feet), and 6 approximately 120 m (ca. 390

feet) below the surface. ... The soil samples were examined by a geologist, the results plotted on drilling maps and a report about the construction suitability of the individual areas given to the General Building Inspector.

By then, not only had the Degebo penetrated Berlin's soils and gotten deep insights into the mechanics of the earth. They had also drilled right into the inner circle of fascist power—and were now an integral part of its machinery. Speer was now *the* major employer of the Degebo by far. As a result, they were ready to take their relationship to another level.

The next logical step of their collaboration became apparent in an internal correspondence of the GBI regarding the “Mitgliedschaft des Generalbauinspektors für die Reichshauptstadt in der Degebo” (Membership of the General Building Inspector for the Capital of the Reich in the Degebo) from August 30th, 1941 (see fig. 40). It details that by that date, almost half of the Degebo's entire income came directly from Speer. This prompted the decision of the GBI to purchase a membership in the Degebo, as it would allow him to request a prioritization of his over other tasks within the society. Thus, Speer was able to tie the Degebo even closer into his redevelopment plans. The letter stated:

Die Deutsche Gesellschaft für Bodenmechanik (Degebo) ist von Seiten des Generalbauinspektors zu umfangreichen Arbeiten herangezogen worden, die die Klärung der Baugrundverhältnisse innerhalb Groß-Berlins zum Ziele hatten. Eine Sonderstellung innerhalb dieser Aufgaben stellte der Forschungsauftrag “Baugrundkarte” dar, der seinerzeit mit einem Anfangsfond von 1,5 Millionen RM erteilt wurde. Die Arbeiten

durch den GBI nahmen einen derartigen Umfang an, daß sie fast 50% der Gesamteinnahmen der Degebo darstellen, d.h. sie waren wesentlich umfangreicher als die Arbeiten für die Mitglieder beispielsweise die Reichsbahn oder das Reichverkehrsministerium. (BArch, R 4606/4052)

The General Building Inspector has consulted the German Society for Soil Mechanics (Degebo) for extensive tasks, which had the goal to analyze the building ground conditions of Greater-Berlin. The research task “Subsoil Map” had a special status within these tasks, and was launched with an initial fund of 1.5 million Reichsmark⁹⁸ at that time. The tasks for the GBI reached such a scale that they constituted almost 50% of the entire revenue of the Degebo, which means that they were substantially larger than the tasks for the members, for example the Reichsbahn (Reich Railroad) or the Reichsverkehrsministerium (Reich Ministry of Transport).

⁹⁸ 13.7 million Reichsmark would equal 22.5 million Euros (ca. 26 million USD) today.

Hauptabteilung III/4
We./N8.

Berlin, den 30.8.1941

R

Herrn
Verwaltungsdir. Hille
Berliner Straße 4/9

Der Generalbauinspektor für die Reichshauptstadt Berlin	
Eing. 30. AUG. 1941	

Betrifft: Mitgliedschaft des Generalbauinspektors für die Reichshauptstadt in der Degebo.

Im Nachgang zu unserer fernmündlichen Unterredung überreiche ich Ihnen mit einer kurzen Schilderung der bisherigen Verhandlungen das Schreiben des Herrn Reichsverkehrsministers vom 26.4.41 sowie eine Abschrift der Geschäftsordnung der Degebo mit der Bitte, mir diese Anlagen später zurückzureichen.

Die Deutsche Forschungsgesellschaft für Bodenmechanik (Degebo) ist von Seiten des Generalbauinspektors zu umfangreichen Arbeiten herangezogen worden, die die Klärung der Baugrundverhältnisse innerhalb Groß-Berlins zum Ziele hatten. Eine Sonderstellung innerhalb dieser Aufgaben stellte der Forschungsauftrag "Baugrundkarte" dar, der seinerzeit mit einem Anfangsfond von 1,5 Millionen RM erteilt wurde. Die Arbeiten durch den G.B.I. nahmen einen derartigen Umfang an, daß sie fast 50 % der Gesamteinnahmen der Degebo darstellen, d.h. sie waren wesentlich umfangreicher als die Arbeiten für die Mitglieder beispielsweise die Reichsbahn oder das Reichsverkehrsministerium.

Diese Tatsache, sowie die Überlegung, daß es richtig wäre, die Degebo noch mehr für die besonderen Belange des G.B.I. einzuschalten, ließ die Mitgliedschaft des G.B.I. in der Degebo wünschenswert erscheinen. Dazu kommt, daß die Forschungsarbeiten der Degebo ohne Unterstützung von interessierter Seite nicht in dem Umfange weitergetrieben werden können, wie sie im Interesse des G.B.I. erforderlich wäre. Die Mitgliedschaft des G.B.I. dagegen würde hier eine gewisse Verbesserung mit sich bringen.

Aus den Unterlagen der Degebo über die Einnahmen von den verschiedenen Mitgliedern geht hervor, daß z.B. das R.V.M. die Degebo laufend wie folgt unterstützt:

Forschungsbeitrag jährlich	RM 12.000,--
Für Gehalt des Geschäftsführers und der Angestellten rund jährlich	RM 27.000,--
insgesamt	RM 39.000,--

Fig. 40. GBI. "Mitgliedschaft des Generalbauinspektors für die Reichshauptstadt in der Degebo."

30 Aug 1941. BArch, R 4606/4052.

As we all know by now, the “Baugrundkarte” (subsoil map) that had “a special status” within the society’s activities was to be an all encompassing map that would have extended the fascist gaze deep into Berlin’s geographies and geologies. But, despite all the measuring activities this map was never finished during the regime. Nevertheless, the plethora of data generated by the Degebo thereby contributed significantly to several ”Baugrundkarten” that were created after the war, as I started unpacking in the beginning of this chapter, when I embarked on a journey from the *Spreebogen* to the *Triumphbogen* as representatives of fluidity and rigidity (see fig. 20, 21, 22). While the war was already unfolding and first losses occurred, the Degebo remained generally optimistic throughout the year 1940 and started planning far ahead—for the time after the anticipated *Endsieg*⁹⁹:

Bei Beendigung des Krieges dagegen wird vor allem auch durch die neu erlassenen Richtlinien des Generalbevollmächtigten für die deutsche Bauwirtschaft mit einer noch stärkeren Beschäftigung unseres Instituts durch die Bauindustrie gerechnet werden müssen, da diese Verordnung ebenso wie die in Vorbereitung befindliche Dinnorm 1054 die Mitarbeit von Erdbauinstituten bei Gründungsfragen nahe legt. Wenn in grösserem Umfange Forschungsarbeit nach Beendigung des Krieges bei uns geleistet werden soll, muß unbedingt eine Erhöhung der Zahl der wissenschaftlichen Mitarbeiter erstrebt werden. (Projektarchiv Degebo, 3112-3117 Geschäftsführung bis 1945, “Tätigkeitsbericht 1939-1940”: Bl. 9)

⁹⁹ The chemical laboratory was closed, seminars canceled, and engineers pulled into military service. The personnel shrank from 27 to 22 (7-8).

By the end of the war we have to expect an even stronger engagement of our institute through the construction industry especially due to the newly issued guidelines by the General Representative of the German Building Industry, as this decree as well as the Dinnorm 1054 that is currently being prepared suggests the participation of earthwork institutes regarding questions of foundation. If research on a larger scale should be performed by us after the war, we absolutely need to aim for an increase in the number of research assistants.

As we can see here, despite the more and more difficult working conditions during the war, all that the Degebo thought about was growth and more building tasks. This optimism continued even into the next phase of the war that came with deeper incisions into their apparatus.

The annual report from 1940-41 documented the end of the project “Baugrundkarte Berlin” due to a lack of available workers at the drilling company they worked with (2). “Dagegen wurde die Planung besonders grosser Bauten sehr eingehend behandelt. Es ergab sich dabei wegen der Einmaligkeit dieser Großbauten eine grosse Reihe neuer Fragen, wie sie uns noch nicht gestellt wurden” (However, the planning of especially big buildings was treated thoroughly. Due to the singularity of these big building projects there occurred a large series of new questions, which we have never been asked yet). So, while the overarching scanning of the city had found an end, the Degebo found a replacement of similar scale very soon and had something to be excited about. The preparation of monumental buildings continued more or less unhalted, and the Degebo was excited about the “Einmaligkeit” (singularity) of these projects that navigated them onto new research territory. While so far, their main question had been the

possibility of artificially condensing the sand, the main questions “im zweiten Kriegsjahr” (during the second year of the war) was to measure the subsidences of “Geschiebemergel und Sand, den beiden vor allem in Berlin vorkommenden Böden” (glacial till and sand, the two most common grounds in Berlin). While they applied their expertise to several war related projects, such as the massive flak towers built in Berlin, “[f]erner wurde an der Planung für eine in sehr grossem Maßstabe vorgesehene Probelastung des Geschiebemergels gearbeitet. Die Ausführung dieses Probekörpers ist zur Zeit im Gange (Senkkasten)” (furthermore, we worked on the planning of a test-load on glacial till that was envisioned with a very large scale. The construction of this test piece is ongoing at the moment) (“Tätigkeitsbericht 1940-1941”: Bl. 2). This “Probekörper” (test piece) was nothing else than the heavy load-bearing cylinder, Degebo’s most prolific project. With its weight of 12,650 tons weighing down on 100 square meter (ca. 1080 square feet), it created a ground pressure of 1.26 Meganewton per square meter (ca. 2.6 million pounds per square foot) in a depth of 18.50 metres (ca. 600 feet) to simulate the weight of history’s greatest Triumphal Arch. While it was never built, the cylinder remained an experimentation site until 1977 (Richter 13-14). It marked the climax of the relationship between the Degebo and Speer, the discipline of soil mechanics, and of the (in-)human conquest of the soils altogether. But with its peak came its downfall.

While the cylinder project was being finalized, the increasing war efforts started drastically pulling off resources of the Germania project—and thus from the Degebo.¹⁰⁰ While they frequently commented on how their work became harder the further the war progressed (members were sent to the frontlines, funding canceled, resources reallocated for war related purposes), they never acknowledged any responsibility for their involvement in the ideological

¹⁰⁰ In his manuscript, Muhs mentioned the interference of the war into their research multiple times. E.g. he mentions the removal of workers from the project that was now deemed as part of “nicht unbedingt kriegswichtigen Arbeiten” (non war-related tasks) (Bl. 58).

architecture of facism, which had led to all these catastrophic events. If they said anything at all, which happened quite rarely, their words signalized their ideological alignment to the regime. For example, in their report on the year 1943-1944, they lamented that many of their members “fanden ... im Kampf um die Freiheit unseres Volkes den Heldentod” (met ... their heroic death during the battle for the freedom of our people) (Bericht des Arbeitsausschusses über die Tätigkeit des Forschungsinstitutes der Degebo im 16. Geschäftsjahr. (1. Aril 1943 bis 31. März 1944): Bl. 5). In their last activity report before the end of the war from the year 1944-1945, they regretted that “[w]egen der immer ungünstiger entwickelnden Kriegsverhältnisse und der infolge der andauernden Luftangriffe schwierigen Arbeitslage in Berlin konnten die Forschungsarbeiten nur im geringen Umfange fortgesetzt werden” (due to the ever more inconveniently developing war conditions and as a result of the difficult working conditions in Berlin due to the ongoing air attacks it was only possible to continue the research projects on a limited scale) (1). Nevertheless, they continued supporting the Germania project, e.g. by finishing their work on the 6 Flak Towers in Berlin (2). And, despite the general limitation of their business activities, orders regarding ground examinations kept pouring in, mainly due to “der großen Zahl von Bunker- und Ersatzbauten für die verlagerte Kriegsindustrie” (large amount of bunker and replacement constructions structures for the relocated war industry) (3), even if there were only 17 Degebo members left at the end of the war (4). Was the notorious *Nibelungentreue* at work here? Did they see themselves as heroes as they said? What were the principles they were operating on?

Beyond the Degebo

While the Degebo was the major operator of the cylinder, it was overall a highly collaborative project that involved a multiplicity of actors all across the regime. This circumstance highlights that technology is *not* forged in an ideological vacuum, as many technocrats—insisting they just ‘did their job’ and were innocent—claimed after the war (Speer, for example). While there was a massive amount of enthusiasm among the Degebo for all the possibilities Speer offered them, as we saw, they did not seem to feel any responsibility for the regime they collaborated/merged with, at least they never expressed anything in that direction, not even in the later chronicles (from the 1960s and 1970s).

Even the first activity report written after war (which covered 1945-1948), highlighted the involvement of Degebo members in the “Volksturm”—the prominent last big attempt to defend the German soil from the approaching troops through a mass mobilization of soldiers of all ages. Suddenly, the Degebo members, who were especially skilled in ‘conquering’ the soil vertically—through deep drillings and other measurement techniques—found themselves at the core of a battle that was fought horizontally. During the last days of the war, the Wehrmacht used the Degebo’s premises as a command post and repair workshop for tanks and artillery. Until the Russians reached the borders of Berlin on April 25th, 1945, the Degebo continued with their measuring activities (Projektarchiv Degebo, 314 Geschäftsführung ab 1945+Haushaltspläne, 3141 Tätigkeitsberichte, “Bericht über das 17., 18., 19. Und 20. Geschäftsjahr der Deutschen Forschungsgesellschaft für Bodenmechanik (vom 1. April 1945 bis zum 31. März 1948)”: Bl. 1-5). During the very last “Schlacht um Berlin” (battle for Berlin), the Degebo’s premises were also occupied by a Norwegian SS-Unit, which dissolved then and there. After the *Endniederlage* (final defeat), Degebo’s almost entire equipment was dismantled and shipped east by Soviet

troops or plundered by civilians. Luckily, prior to that, the most important pieces, including measurement instruments, their library, and archives, were barricaded in the heavy load-bearing cylinder that was repurposed as a ‘conservation chamber’. Due to this, the Degebo was able to relaunch quickly after the war (Muhs, 1969: 15). Obviously, this also provided for the basis of my own research project that drew extensively on these documents ‘saved’ in the cylinder.

Another telling moment regarding the Degebo’s political consciousness (or lack thereof), was their total incomprehensibility about the fact that their “Geschäftsführer” (business executive), Rudolf Hoffmann, was taken to Russia as a prisoner of war “aus nie geklärten Gründen” (due to reasons that have never been clarified). Years later they learned that he had died in a prison camp in 1946 (Muhs, 1969: 15). There are no further comments to find anywhere, this seemed to be the whole extent of their (self-)investigation. Maybe, there was no interest in ‘clarifying’ their role under fascism or acknowledging any potential ‘guilt’. Maybe, proving their innocence was not a priority, it was *a priori*, for them. Or, maybe the ‘technical mind’ is not concerned with questions alike; instead it looks for the next big task to be mastered. And after the war, there were many of them. Berlin was lying in shambles and had to be rebuilt. The Degebo members could not wait to jump on this next big opportunity and immediately ‘revived’ the cylinder as a site of technological ‘progress’—unmoved, as if nothing had ever happened. But, not so fast.

Let me contrast this ‘progressive’ narrative (in terms of technology) with the other, more ‘regressive’ forces that shaped the cylinder project, long before forced laborers poured the concrete in the casing and the Degebo could lay their hands on it.

As we learned before, the cylinder project emerged for the first time in the document “Gründung des Triumphbogens” (Foundation of the Triumphal Arch) on March 4th, 1939 (see

fig. 2). In that document that was signed by Speer himself, the GBI addressed the president of the relatively young “Durchführungsstelle”¹⁰¹ (Implementing Agency), an office subordinated to the GBI. The cylinder itself was not mentioned yet. Instead, the research question was raised that led to the development of the cylinder. The question, as we know, was of geotechnical nature. Would Berlin’s soils be able to carry the enormous weight of Speer’s Germania, and if not, how could the ground be modified so that it can do so? We can not isolate this soil mechanical question from the manifold contexts it is entangled with.

To launch a gigantic project such as the arch, as *the* exemplary case for ideological architecture, required a careful scan of the geological, political, legal, administrative, architectural, socio-cultural, infrastructural, and technological foundations of the fascist empire. All of these realms had been aligned to the ideas of Speer and synchronized with his *Raumplanung* (spatial planning), in order for the cylinder to be successfully built. The Degebo was ‘just’ one of the many cogs in this machinery that was planning to take over the world and history. But, before the Degebo was assigned that project, many things had to happen. By unpacking this briefly, we can comprehend the network of power the Degebo was integrated in,

¹⁰¹ The “Durchführungsstelle für die Neugestaltung der Reichshauptstadt” (Implementing Agency of the Redevelopment of the Capital of the Reich) was created on June 16th, 1938, as a result of Speer’s GBI appointment the year prior. As the *Reichsgesetzblatt* from 1938 detailed (under § 1 RGBI. I), its task was the execution of the GBI’s orders regarding administrative, financial, and construction tasks (635). Speer restructured and expanded his bureaucratic apparatus constantly to spread his influence in all directions. Early on, the establishment of the GBI had been a way to bypass Berlin’s government that did not support Hitler’s building plans. After that, the ongoing tensions between Speer and the mayor of Berlin, Lippert, eventually led to the removal of the latter. From then on, Speer seemed unstoppable. In 1940, the GBI reached its major operating form consisting of three main branches (Brechtken: 79-86). “Wolters Chronik” documented this in the following way: “Durch den 3. Erlass über einen Generalbauinspektor vom 18. Oktober 1940 sind die Aufgaben der Durchführungsstelle ... unmittelbar auf den Generalbauinspektor übergegangen. ... Es wurden drei Hauptämter gebildet mit folgenden Bezeichnungen: I Planungsstelle, II Hauptamt Verwaltung und Wirtschaft, III Generalbauleitung” (Through the 3. Enactment of a from October 18th, 1940 the tasks of the Implementation Agency ... were immediately transferred to the General Building Inspector. ... Three central offices were created with the following names: I Planning Office II Main Administration and Economics Office, III General Building Management (574, Blatt 17). Overall, the institutional history of the Degebo reflects Speer’s calculated and ruthless strive for power. For an overview of the GBI apparatus in its ‘peak form’, see Reichhardt/Schäche, pp. 56-57.

and thus look at the cylinder as what it really was, namely, first and foremost, an ideological project.

The second relevant planning document available regarding the cylinder is a subsequent protocol of a GBI meeting from March 17th, 1941 (LAB, A Pr. Br. Rep 107, 350/3: Bl. 143). About two years had passed since the initial idea and the plans were quite concrete by now. Present were Vicepräsident Claheš,¹⁰² Neikes,¹⁰³ Mietzner from the “Hauptamt Verwaltung und Wirtschaft” (Main Administration and Economics Office), “Baurat” (Governmental Building Officer) Liebermann¹⁰⁴, “Bauleiter” (Construction Manager) Deffland, and Dipl. Ing. Bredow from the “Generalbauleitung” (General Construction Management). While these names are probably unfamiliar to the reader, most of them supported the fascist movement enthusiastically from the very beginning, and were deeply involved in major war crimes and crimes against humanity. As a loyal extension to Speer’s rampant apparatus of power, they managed his legal and bureaucratic business on a daily basis. I cannot go deeply into their stories here, but at least I wanted to mention their names, in order to hint at the larger breeding ground out of which the cylinder emerged. In this meeting, they had already decided on the specifics of the project and immediately approached its realization.

The process towards the construction of the cylinder could be divided into five subsequent steps: *Idee, Planung, Räumung, Bohrung, Bau* (idea, planning, eviction, drilling, construction). As the first two steps, *idea* (in 1939) and *planning* (1941) had already concluded,

¹⁰² Paul Otto Hermann Willi Claheš, the former mayor of Braunschweig, was the lawyer who organized the eviction of Berlin’s Jews for Speer, among other things, as Jörg-Michael Schiefer discussed in his book *Speers Vollstrecker: Willi Claheš* (2015) (Speer’s Executor: Willi Claheš) (4).

¹⁰³ Dr. Hans Neikes managed the legal department of the GBI and also processed its liquidation after the war (Schröter: 55). He was the former mayor of Saarbrücken, and had enthusiastically embraced the annexation of the Saarland by Hitler in 1935. The year before, in 1934, he had awarded Hitler an honorary citizenship (Schleiden: 491-2). Neikes signed most of the legal documents regarding the cylinder project on behalf of the GBI.

¹⁰⁴ Karl Friedrich Liebermann was the architect who initially supervised the construction of the SS-Ordensburg Vogelsang for Himmler, before he was ordered to help out at the Party Congress Rally Grounds in Nuremberg, in 1937/38 (Heinen: 34). There, he met Speer (Jaskot: 52).

the *eviction* of the premises was next. Therefore, the current occupants of the cylinder site had to be *evicted*, the premises *acquired*, and existing infrastructure that interfered with their plans *redirected*.

As the *redirection* was more of a long term project, I want to mention it first. On February 22nd, 1941, GBI members highlighted the role of the notorious “Räumgskartei” (Eviction Department) within their plans of the future face of Berlin. As the projected location of the Triumphal Arch plus the designated “Bau- und Lagerplätze” (construction and storage sites) interfered with existing railway lines, a long term rerouting of the train traffic was unavoidable (see fig. 7). The immediately affected route was “Berlin - Anhalt”. This redirection would require the demolition of several residential blocks (both block Immelmannstrasse and Bayernring at Ecke Löwenhardtdamm, and the blocks on both sides of the Gontermannstrasse). The latter would become due not until later (by the projected end of the war). The evictions regarding the cylinder project nevertheless, which interfered with an allotment garden colony, had to happen immediately in the same year (see fig. 41) (LAB, A Pr. Br. Rep. 107, 226: Bl. 34-35).

Berlin, den 24. März 1941

Betr.: Bauwerk T

Laubenkolonie Steingrube
(an der Löwenhardtstr. u. Kolonnenbrücke)

Eigentümer: Finanzamt f. Liegenschaften,
Berlin W, Kurfürstendamm 191/192

sofort beanspruchtes Gelände / Druckkörper

<u>Nr.:</u>	<u>Name:</u>	<u>qm</u>
1	Fritz Werner	455
2	Friedrich Rogast	540
21	Erich Pecht	265
22	Walter Ruve	325
23	Herbert Dlugos	425
24	August Althaus	395
25	Paul Wendland	405
26	Erwin Scholtz	385
27	Herbert Hustedt	385
28	Theod. Reinke	390
113	Wilh. Stumpf	475
114	Clemens Thier	420
115	Julius Herrenstück	385

neue Bohrstelle T 12 u. T 13.

35	Artur Löwe	430	} T 13
36	Wilh. Teggmeier	225	
61	Ludwig Schütt	420	
45	Ernst Kirch	375	} T 12
46	Georg Kühn	415	
51	Josef Bonicke	405	

Fig. 41. GBI. List of owners/tenants to be immediately evicted by the GBI. 24 Mar 1941. LAB,

A Pr. Br. Rep 107, 350/3, Bl. 159.

After a long back and forth with the allotment garden community, “ca. 450 ehemalige Wohnlaubenbesitzer und Rentner”¹⁰⁵ (ca. 450 former summer house owners and pensioners) were evicted during March 1941, as the “Chronik” summarizes briefly (573, Bl. 15). What had slowed the eviction process down was, e.g., the “Kündigungsschutzverordnung” (eviction moratorium) issued by the “Reichsarbeitsminister” (RAM; Reich Minister for Work)¹⁰⁶. It stated that gardens could only be cleared “im Reichsverteidigungsinteresse” (for the purpose of the Reich’s defense) and with a “besondereren Ausnahmegenehmigung” (special permission) issued by the city president (LAB, A Pr. Br. Rep 107, 350/3: Bl. 167-69). Subsequently, the GBI officials discussed if the cylinder project qualified as “kriegswichtig[]” (war relevant), as they were concerned that the city government wouldn’t approve it otherwise. In the end, it all came down to Speer’s will (and his capacity to trump the city government): “Ohne eine Entscheidung von Herrn Prof. Speer hinsichtlich der Kriegswichtigkeit des Bauwerks werde man aber die Räumung der Kleingärten kaum erreichen” (Without the decision of Prof. Speer regarding the war relevance of the structure we will hardly be able to evict the allotment gardens). Therefore, they agreed upon contacting GBI’s “Räumungskartei” (eviction department) by Wednesday (144). In the end, after a seemingly endless bureaucratic battle with the RAM, the owners, the garden community, and the various local city governments, they were successful, and everything

¹⁰⁵ This was just the tip of the iceberg. According to the document “Stand des Kleingartenwesens der Reichshauptstadt Berlin zu Beginn des Jahres 1941” (state of the allotment gardens in the Capital of the Reich Berlin at the beginning of the year 1941), about 20,000 “Kleingartenparzellen” (allotment garden parcels) had already been cleared due to Speer’s building plans (and 10,000 more were about to), while only 5,000 new gardens had been created. The city was legally obligated to allocate “Erstzparzellen” (compensatory parcels). But, due to resource and planning shortages, this could mostly not be fulfilled. Despite many gardens being under legal protection, the prognosis was that there would be a significant reduction of them after the war (167-169).

¹⁰⁶ The RAM handled the worker's rights and social politics in all occupied territories under the leadership of Fritz Seldte. He was the former leader of the paramilitary organization Stahlhelm during the Weimar Republic and thus had Hitler’s trust (Nütznadel: 20-28). The charged history of the RAM is still mostly uncharted territory. Recently, the Bundesministerium für Arbeit und Soziales (Federal Ministry for Labour and Social Issues), the democratic ‘successor’ of the RAM, supported the book project *Das Reichsarbeitsministerium im Nationalsozialismus: Verwaltung – Politik – Verbrechen: Geschichte des Reichsarbeitsministeriums im Nationalsozialismus* (2017), published by Wallstein. It provides a first in-depth analysis in the form of “historische[] ‘Tiefenbohrungen’” (historical ‘deep drillings’), as the editor described it in the introduction (8).

proceeded as planned.¹⁰⁷ Once the garden community agreed to voluntarily vacate their premises (for a compensation of 12,324.10 Reichsmark¹⁰⁸) (169), probably in order to avoid a forceful eviction and to stay on good terms with Speer (who had the power to provide them with rare building materials), everything went very quick (173-174). But, the deed was not done yet. The gardeners were only the renters of the premises, while the owners were the local municipality of Tempelhof—they also had to be convinced.

When the mayor of Tempelhof, the last hurdle, started acting difficult, the GBI lost their patience and made a few clear statements, before practically *acquiring* the premises. While the mayor gave his initial consent to the transaction on April 16th, 1941 (which was a rental contract), he attached a statement that proposed the details of the transfer of the premises (from Tempelhof to the GBI). It specified the amount of rent and the time of annual payment, who would be responsible to pay for the taxes/duties (and to shovel the snow), who would pay the compensation to the gardeners, and also the condition that “vor Rückgabe des Geländes ist das Bauwerk zu entfernen und der frühere Zustand wieder herzustellen” (before the return of the premises the structure has to be dismantled and the previous state be restored) (181). In a response to the mayor’s proposal on April 25th, 1941, Dr. Neikes, representing the GBI, clarified that none of these conditions will be met, and, in fact, the city will have to pay the GBI to use the premises, once they will be opened for the public (182). Neikes stated: “Das Gelände ... fällt nach der Planung des Generalbauinspektors in die Nordsüdachse. Der Erwerb der für den Straßenkörper ... [ist] Sache der Stadt. ... Ebenso kommt eine Rückgabe des Geländes ... nicht in Frage (182) (The premises ... will be part of the North-South Axis according to the planning of

¹⁰⁷ For 70 pages of a quite Kafkaesque bureaucratic back and forth argument, consider the folder “Bauten unter Mitwirkung des Generalbauinspektors. Bauwerk T” (Structures with Involvement of the General Building Inspector), pp. 140-210.

¹⁰⁸ This would equal an amount of ca. 218,000 USD today.

the General Building Inspector. The purchase of the street ... [is] the responsibility of the city. ... A return of the premises is also ... out of question). The city had no option but to agree to that on July 31st, 1941 (191). Then, there was a break in the overall correspondence. In the meantime, the *drillings* in the respective locations had already started. Some of these drillings were conducted in allotment gardens (which were evicted first) (143). As I will look deeper into the drillings later on (ch. 3), I will just give a brief overview here.

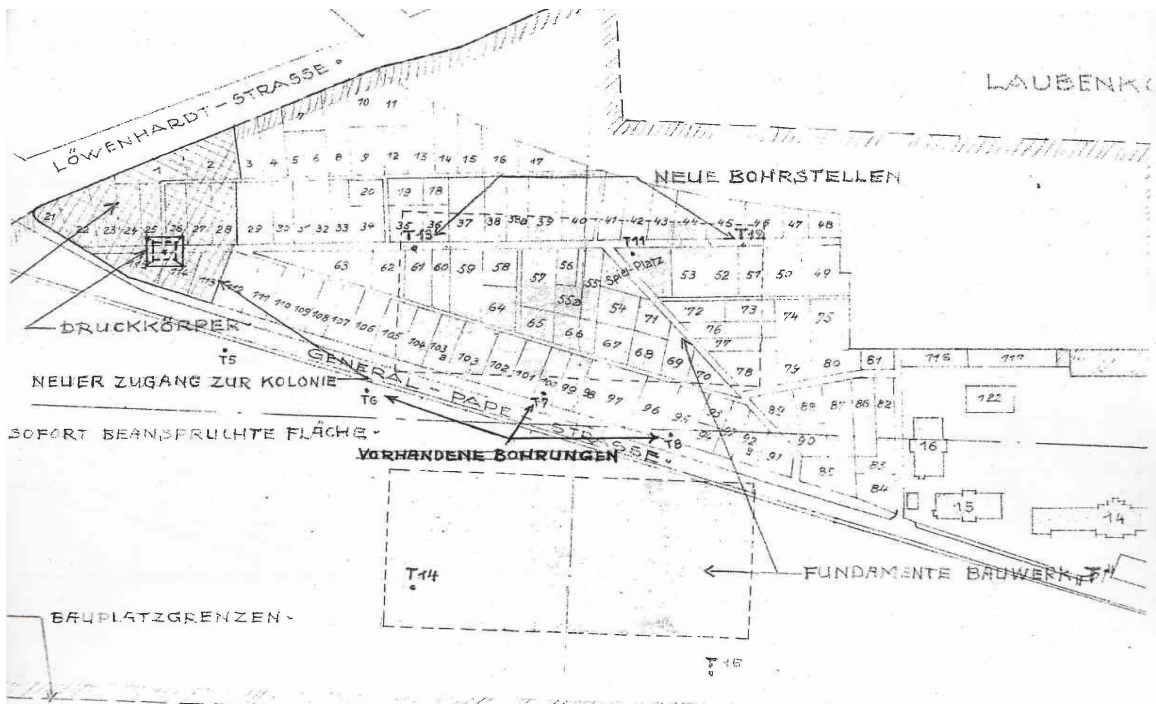


Fig. 42. GBI. Map of garden colony and drilling holes in close proximity to the cylinder and the foundations of the arch, LAB A Pr. Br. Rep 107, 350/3, Bl. 145.

Here, you see a part of a map with the title “Laubenzolonie ‘Paperstrasse’ u. Versorgungsam[t] im Baugelände des Bauwerks ‘T’” (Allotment Garden Colony ‘Paperstrasse’ a. Pension Offic[e] within the construction site of the Edifice “T”) from March 17th, 194[1] (see

fig. 42).¹⁰⁹ It shows you the locations of the garden colony parcels, the cylinder (under the name “Druckkörper” (pressure body)), the (projected) location of the foundations of the arch, and the existing and planned drilling holes (“vorhandene Bohrungen [...] [and] neue Bohrstellen”). It becomes obvious that the projected locations of the arch’s two southern foundations (their contours are dashed) in the south-east of the cylinder (“Fundamente Bauwerk ‘T’”), would require a removal of about 50% of the gardens in the immediate surrounding area. The two northern foundations of the arch covered over a dozen garden parcels including a playground (“Spielplatz”). Corresponding to the earlier mentioned meeting protocol, the map also specified which area had to be evacuated immediately (“sofort beanspruchte Fläche”). While there is a lot to unpack here and it would be tempting to zoom in much closer in order to look into the lives of the people living in that area at the time (or even measure their reaction to the cylinder project, what did they think about it, what part did it play in their lives?), we need to drill further into the cylinder project to get to the bottom of it.

The purpose of the *drillings* prior to the cylinder’s construction was to find out, in which depth the layer of glacial till was located. The plan was to place the cylinder right onto that layer (to see how it reacts to the weight). Below you can see the section of a “Bohrprofil” (drilling) of the designated area (see fig. 43).¹¹⁰

¹⁰⁹ While the image obviously shows a section, the original in the archive is cut off as well, which I marked with (my additions in) square brackets.

¹¹⁰ For the sake of orientation, the x-axis shows “m.ü.NN” which stands for “Meter über Normal Null” (meters above normal-nil), an outdated “Höhenreferenzsystem” (height reference system) which oriented itself by a specific reference point for vertical measurements (German: 62-66). Fortunately, for our understanding, the beam that represents the drilling, also provides the depth of the drillings in meters.

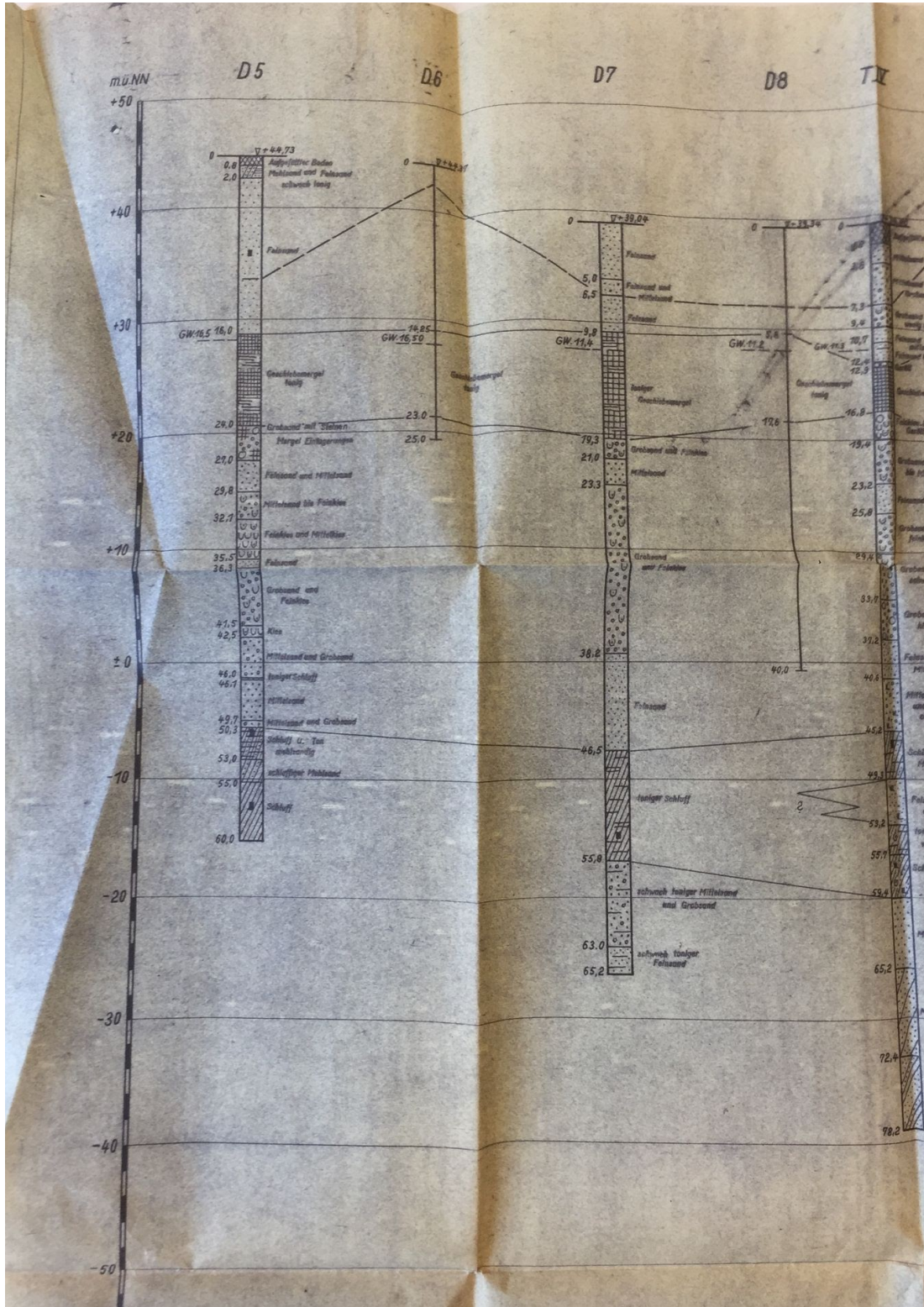


Fig. 43. Degebo. Section of a drilling profile conducted at the heavy load-bearing cylinder. 1941.

Projektarchiv Degebo, BKB 20/7.

The results of the drilling hole “D5” breaks down the vertical soil layers in the following way: on top was “Feinsand” (fine sand) and other sands, apart from the artificially “[a]ufgefüllter Boden” (replenished soil) that is only 0,8 meters (ca. 2.6 feet) thin, and negligible here (fig. 43). Below the sands, in a depth of 16-24 (ca. 52.5-79 feet) meters, was the targeted “Geschiebemergel” (glacial till). The drilling hole next to it, “D7”, shows a different soil profile, despite being only a couple of feet away. This shows us how uneven the layer progression was in general. Once the drillings had located the exact position of the glacial till layer on site, the *construction* could begin.

According to the “Chronik”, Speer gave the official order to build the cylinder on April 17th, 1941—as part of a much larger task. On that day, he gave a presentation in front of high representatives of major German construction companies. Seven of these companies had formed a working group (“Arbeitsgemeinschaft”), led by the Siemens-Bau-Union, in order to be able to tackle the challenging building tasks of the upcoming years with united strength. This task was, of course, Germania; especially the transformation of Berlin around the Königsplatz, where a plethora of monumental buildings, including Große Halle, Führerbau, OKH, etc., was planned (576-77, Blatt 21-24). Professor Brugmann¹¹¹ from the GBI commented on the ‘joint venture’:

¹¹¹ Speer met Walter Brugmann in Nuremberg in 1933 whilst working on smaller designs for the Nuremberg premises. “In working on this project, Speer met Walter Brugmann and K.F. Liebermann, both of whom were to play key roles in the construction of Nuremberg and Berlin. Later in the 1930s, they became important as intermediaries between Speer’s office of the GBI and the SS. Brugmann in particular exemplifies how social and political connections between architects and administration could work to streamline and centralize architectural policy in NS Germany. Joining the city’s building administration in 1922, Brugmann steadily rose in the ranks overseeing various building projects (construction and design) in the Weimar Republic. In the Nazi period, he worked on the ‘restoration’, following Nazi principles, of the old section of the city and was given control over on-site effort at the Party Rally Grounds. In this capacity, he and Speer systematically cut off initiatives coming out of the city administration and furthered their respective careers in the process. For his efforts, Brugmann, like Speer before him, was given by Hitler the honorary title of ‘professor’ on his fiftieth birthday in April 1937” (Jaskot: 51-52).

Der Zusammenschluß ist bedingt durch die außergewöhnliche Größe, die Eilbedürftigkeit und die besonderen technischen Spezialanforderungen des Gesamtauftrages. Es dürfte dies der größte Auftrag sein, der jemals auf dem Gebiet des Hoch- und Ingenieurbaus im Reich vergeben wurde Herr Speer erläuterte ihnen ... am Modell 1:100 seine Entwürfe und Pläne. Er wies darauf hin, daß es sich um den Auftrag handelte, der dem Führer ganz besonders am Herzen liege. (576-77, Blatt 21-24)

The coalition is necessitated by the extraordinary size, the urgency, and the particularly special technical requirements of the overall task. It is probably the biggest task ever assigned in the field of civil and underground engineering in the Reich Mr. Speer explained them ... his designs and plans on a 1:100 model. He pointed out that it is a task that is especially close to the Führer's heart.

In that setting (and on the same day), the function of the heavy load-bearing cylinder as central measuring device for Berlin's soil properties, came up as well, and the task was assigned to a specific company:

Am gleichen Tage wurde der Firma Dyckerhoff und Widmann die Herstellung eines Großbelastungskörpers im Bereich des Bauwerk T für die Gesamtsumme von rund RM 400 000.– übertragen. Dieser Druckkörper dient der Untersuchung des Untergrundes für Neugestaltungsmaßnahmen in der Reichshauptstadt, soweit sie auf Mergelschichten stehen. Über das Verhalten des Mergels besteht heute noch keine volle Klarheit. (577, Blatt 23-24)

On the same day a total amount of 400,000 RM¹¹² was transferred to the company Dyckerhoff and Widmann for the construction of the great test-load cylinder in the area of the edifice T. This test-load serves the examination of the underground for the redevelopment of the Capital of the Reich, as far as they stand on layers of marl. So far there is no full clarity about the properties of the marl.

A few months later, the companies that would build the Triumphal Arch were chosen as well:

Am 7. August wurden zur Durchführung des Bauwerkes T durch Professor Brugmann die Firmen Beton- und Monierbau AG, Deutsche Bau AG, Berlin, Hoch- und Ingenieurbau, Düsseldorf, Heilmann & Liftmann, München zu einer Arbeitsgemeinschaft zusammengeschlossen. Die Federführung liegt bei der Firma Beton- und Monierbau AG (597, Blatt 61).

On August 7th by Professor Brugmann united the companies [designated] to carry out the edifice T [,] Beton- und Monierbau AG, Deutsche Bau AG, Berlin, Hoch- und Ingenieurbau, Düsseldorf, Heilmann & Liftmann, München to a working group. The chair is the company Beton- und Monierbau AG.

As these few excerpts from the chronicles showed, the GBI was turning into a highly organized, massive powerhouse that had access to, and gained control over, the absolute elite of Germany's construction sector. Several of the names dropped are still big players on the market,

¹¹² About 7 mio USD today.

e.g. Siemens, a household name in and outside of Germany.¹¹³ The infrastructure and technologies developed at that time, whether we want it or not, are still among, above, beneath, inside of us—and constantly taken to the next level. While Speer was forging an absolute *superstructure* that reverberated through—and recruited—the highest circles of German society, others fell through the cracks and were swept under the carpet. The giant apparatus summoned by Speer was built on the backs of the *substructure* that was to carry heavy load-bearing modernity.

Shortly after the formation of his construction power house, Speer ordered the evacuation of 5,000 Jewish owned apartments and therefore enlarged his apparatus of oppression:

Gemäß Speer-Anordnung wird eine weitere Aktion zur Räumung von rund 5000 Judenwohnungen gestartet. Der vorhandene Apparat wird entsprechend vergrößert, damit die Judenwohnungen trotz der allseits bestehenden Schwierigkeiten infolge der Kriegslage schnellstens instandgesetzt und mit Abrißmietern aus den vordringlich zu räumenden Bereichen belegt werden können. Durch diese Maßnahmen werden die Judenwohnungen ihrem vorbestimmten Zweck zugeführt und auf der anderen Seite weitere Leerwohnungen für Katastrophenzwecke bereitgestellt. (599-600, Bl. 66-67)

According to a Speer-Decree another action to evict around 5,000 Jewish apartments will be started. The existing apparatus will be enlarged accordingly, so that the Jewish apartments can be quickly refurbished and be occupied by tenants facing demolition from the areas to be urgently evicted despite the overall existing difficulties due to the war conditions. Through these measures the Jewish apartments will be allocated to their

¹¹³ My father worked for the telecommunication branch of Siemens for about thirty years.

designated task and on the other side further empty apartments made available for the case of catastrophes.

This concluding juxtaposition of Speer's apparatus of progression/oppression and their modus operandi gave us a glimpse of how German fascism operated at its inner core. The amalgamation, and the carrying to the extreme, of these two 'opposite' structural historical forces defined its dialectical nature. The potential renaming of *Berlin* into *Germania* captured the homogenization of Germanness—based on the belief in a *superhistorical* racial core. As an overbearing linguistic edifice *Germania* was designed to condense the *complex* layers of the city's history into one *monolithic* tale. This was a monumental construction task built on the backs of communities sinking under its endless pressure. Their pain was not only taken into account, it was built in 'by design'. They were formed into a sinking *substructure* that was systematically being pushed down into the abyss, while, on the surface, giant *superstructures* were to be erected rising into the skies. The grasp for the highest heights went hand in hand with a penetration of the deepest depths. The Degebo was one entity (of many) that enabled Speer's *etymo-techno-logical* transformation, as they extended the fascist gaze into a geological depth. While scanning the ground's complex nature, they developed techniques on how to tame it. The future they helped build was to be defined by a binary, hierarchical, oppositional constellation: the eternal battle of *superstructure vs. substructure*. While Speer's giants were never built, their data is still 'contaminating' the city's subterranean, showing us the proximity of today and yesterday, progress and regress.

Thus, we are back at where we started, at the shambles of history, looking at megalomaniac plans that never materialized, but are part of the foundation of the modern city

and civilization. Speer's cylinder was built to ensure that his architecture would last and be able to narrate the eternity, purity, and colossality of the German fascist *superstructure*. Today, chunks of Speer's ferroconcrete are falling down; threatening the visitor of the memorial site (see fig. 44 & 45). As a reference to that, my next chapter started with, and deepened, one of the 'cracks' within Speer's construction of his own history: his claim that he designed his monumental architecture without the knowledge of its violent foundations.



Fig. 44. Krüger, René. Chunk of concrete that fell off the cylinder. 2019. Jpeg.

2 Superstructure

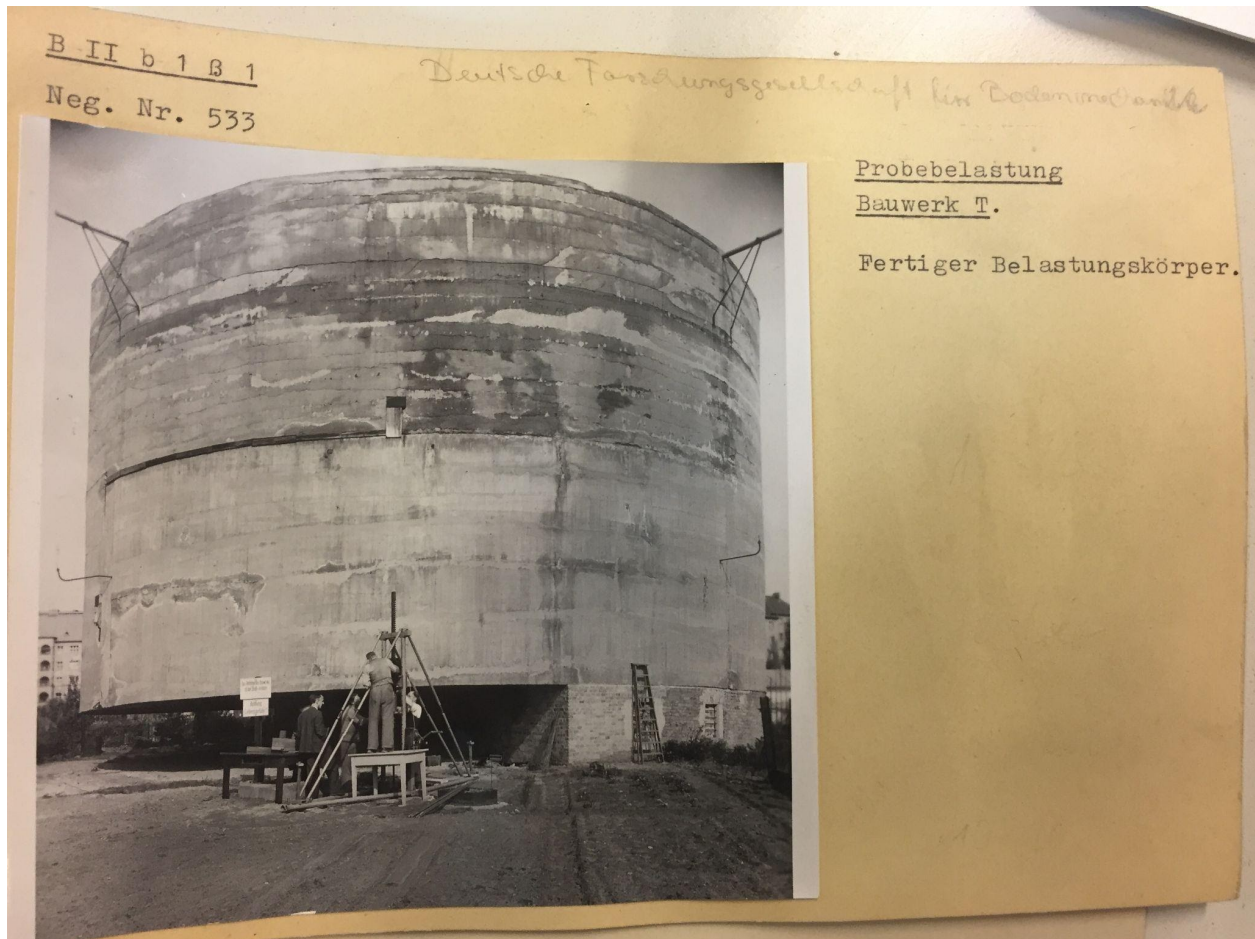


Fig. 45. Degebo. Photograph of the finished heavy load-bearing cylinder. 1941. Diaarchiv Degebo.

According to Marx and Engels, the *superstructure* (“Superstruktur”), is the formation of an “illusorische Gemeinschaftlichkeit, aber stets auf der realen Basis der in jedem Familien- und Stamm-Konglomerat vorhandenen Bänder, wie Fleisch und Blut, Sprache, Teilung der Arbeit im größeren Maßstabe und sonstigen Interessen ... die in jedem ... Menschenhaufen sich absondern und von denen eine alle andern beherrscht” (illusory collectivity, but always on the real basis of the bonds existing in every family and tribe-conglomerate, such as flesh and blood, language,

division of labour on a larger scale and other interests ... that ... separate themselves in every pile of people and of which one controls all of the others) (33-36). This dominating illusionary community, which forms the overarching, identity establishing idea of an era, is thereby always a reflection of materiality and the material relations among people. “Die Produktion der Ideen, Vorstellungen, des Bewußtseins ist ... unmittelbar verflochten in die materielle Tätigkeit und den materiellen Verkehr der Menschen, Sprache des wirklichen Lebens” (The production of ideas, imagination, consciousness is ... directly intertwined with the material activity and the material exchange of people, [which is] the language of real life. “Das Vorstellen, Denken, der geistige Verkehr der Menschen” (what people imagine, think, their intellectual exchange) are correspondingly a “direkter Ausfluß ihres materiellen Verhaltens” (direct discharge of their material behaviour). This includes the “geistige[] Produktion, wie sie in der Sprache der Politik, der Gesetze, der Moral, der Religion, Metaphysik usw. eines Volkes sich darstellt” (intellectual production, which presents itself in the language of politics, law, morality, religion, metaphysics, etc. of a nation” (26). By pointing all of this out, Marx’s goal was to turn around the overall approach of German ideology, which he saw as stuck in the *matter vs. mind* binary, as it was based on the assumption that the ‘divine’ realm of ideas is separate from ‘profane’ materiality. Therefore, we should not look at the ivory tower of the mind as the location of the larger structuralizing principle of history anymore. Instead, we need to turn back to the ground: “im Gegensatz zur deutschen Philosophie, welche vom Himmel auf die Erde herabsteigt, wird hier von der Erde zum Himmel gestiegen” (in contrast to German philosophy, which descends from heaven to earth, we will ascend from the earth to heaven here) (27). Thus, Marx highlighted the importance of the *substructure*, as the foundation upon which we build the *superstructure*.

All of this, figuratively, resonates with the practice of “Hoch- und Tiefbau” (civil and underground engineering):

Generally, there are two major components of a building project which are substructure and superstructure. The substructure is the part of the building that is built below the ground level whereas superstructure is the part of the structure that is constructed above the ground level. (“What is Substructure and Superstructure in Building Construction?”)

Accordingly, the word *superstructure* is commonly used to describe the *weighing* elements of a building that are above surface level; so the parts that stand on the ground, and are visible:

The superstructure is the portion of a building which is constructed above the ground level and it serves the purpose of [the] structure’s intended use. It includes columns, beams, slab upwards including all finishes, door and window schedules, flooring, roofing, lintels, and parapets.

Meanwhile, the *substructure* is the *bearing* part that transfers the pressure into the ground, while avoiding excessive settlement or subsidence (so the collapse of the soil underneath a weight), as major causes of structural damage.

The substructure is the lower part of a building which is constructed below the ground level. The function of substructure is the transfer of loads from the superstructure to the

underlying soil. So, the substructure is in direct contact with supporting soil. Substructure involves footing and plinth of a building.

While civilization can of course not unconditionally be compared to architecture, I will use this analogy in several ways that I think help my argument. Firstly, the comparison emphasizes that history, and historical narratives, are a construction that has to be analyzed for its stability and feasibility. Secondly, thinking about the distribution of pressure encourages us to locate the structural problems of constructions of any kind, no matter if conceptual or physical. So, to put it in a simple way, if the weight from the ‘top down’ is applied in such a way that the bearing elements cannot bear it from the ‘bottom up’, the whole thing collapses. Needless to say, to look at humans as mechanical parts of a construction is an abstraction from their humanness for a ‘higher’ purpose (the purpose of a distanced analysis), which is as common as dangerous feature of civilization. Therefore, when thinking about civilization as a building, I want to look at *pressure* not solely as mechanical. It can also be emotional, psychological, spiritual, and more. It can relate to the whole complexity of the human being—which is produced by the interplay of physicality and its discharges of metaphysicality. Therefore, let us take a look at the design—and the construction practices—of Speer’s *superstructure*.

As “Dokument 60: Der Reichsminister für Bewaffnung und Munition an den Reichsführer SS und Chef der Deutschen Polizei Himmler, 30.5.1943” showed, on May 30th, 1943, Speer, in his function as Minister of Armament and Ammunition, sent an official letter to Heinrich Himmler, head of the SS (qtd. in Breloer: 205-206).¹¹⁴ In this letter, Speer responded to Himmler’s request for a contingent of building materials, mainly metals, for a range of construction projects. Speer *denied* Himmler’s request for materials with the exception of *one* particular purpose. Speer emphasized that the contingent of approved “Baueisenmengen sind nur für den Ausbau der KZ-Lager, insbesondere Auschwitz, zu verwenden” (quantities of

¹¹⁴ Originally reproduced from the Bundesarchiv Berlin under BA Berlin, NS 19/1994 on p. 226 by Matthias Schmidt in *Albert Speer: Das Ende eines Mythos. Speers wahre Rolle im Dritten Reich* (1982).

construction iron are only to be used for the extension of concentration camps, especially Auschwitz). Speer's approval was based on reports of concentration camp visitations that his subordinates had handed over to him earlier. In a handwritten addition to the typewritten letter, Speer emphasized that "[e]s freut mich, dass die Besichtigung der anderen K.Z. Läger ein durchaus positives Bild ergab" (I am delighted that the visitation of the other concentration camps made such a positive impression). Concretely, the materials Speer approved were used by Himmler to build facilities regarding the "Sonderbehandlung" (special treatment) in Auschwitz, so the construction of crematoria, ovens, ventilation, train tracks, and further cogs of the German fascist destruction apparatus. In total, this building measure enabled the daily cremation of over 4,000 bodies in March 1943. The name of the operation was "Sonderprogramm Prof. Speer" (Special Program of Prof. Speer) (Brechtken: 173). Prior to that, Speer had paid a routine visit to the concentration camp Mauthausen himself, in order to check upon the operations of his power apparatus for 'quality control'. As a reaction to this visitation, Speer formally complained about the excessive 'luxury' in which the inmates were living. To save resources on future housing projects, he consequently ordered a transition to "Primitivbauweise" (primitive design) on April 5th, 1943, as the "Dokument 57: Der Reichsminister für Bewaffnung und Munition an den Reichsführer der SS und Chef der Deutschen Polizei Himmler, 5.4.1943" showed (qtd. in Breloer: 197-198).¹¹⁵ As a reaction, high SS officials expressed their frustration with Speer in an internal correspondence. They that Speer knew exactly that the sanitary facilities of the camps were less than intact and that the camps had to struggle with a high mortality rate due to epidemics ("Dokument 58: Der Chef des SS-Wirtschafts-Verwaltungshauptamtes Oswald Pohl an SS-Obersturmbannführer Rudolf Brandt, Pers. Stab Reichsführer SS, 19. April 1943"; qtd. in

¹¹⁵ Originally from BA Berlin, NS 19/1542, Bl. 49-53.

Breloer: 200-201).¹¹⁶ Possibly, Speer, in use of this authority, tried to urge his subordinates to handle the Reich's swindling resources carefully in times of war. Or, Speer 'just' wanted to demonstrate his power and that *he* was the one in control. Anyhow, these are just a few impressions of the many documents that prove clearly how well-informed Speer was about the concentration camp system, how involved he was, and how little regard he showed for the fate of the people in there. Despite his obvious knowledge of the horrific condition of their existence, he not only refused to address their suffering. Speer cynically described the inmate's lives as luxurious, and self-handedly worsened their already unworthy circumstances. Did he even see them as humans? Within Speer's realm of ideas, his behaviour must have been 'no more' than the 'logical' execution of the German fascist world design that relied upon a rigid classification between who is human and non-human, German and non-German, worthy or unworthy. Auschwitz's "barbed wire that separates us from human society", as Levi described the rift between the inmates and the world beyond the camp's fence, was 'just' a material expression of the binary mythology of German fascism (80). When thought 'logically' within that concept of world history, the concentration camps were a legitimate method to provide the materials Speer needed for his building activities. The labor of the inmates, the toil it applied to their body, was at the very foundation of his architectural vision, they were building materials themselves for him, just like the stones they had to break out of the earth. The casualness with which Speer touched upon the fate of these people shows his complete lack of empathy. He was comfortable with the fact that the German fascist *superstructure* that *he* was building, weighed so heavily upon its *substructure*, so that everyone, who was made part of that 'lower' strata by design, was completely suffocated and bereft of their humanness. Nobody knows what he thought when he saw the people, his 'subordinates', carry (out) heavy load-bearing modernity, with every stone,

¹¹⁶ Originally from BA Berlin, NS 19/1542, Bl. 55f.

every brick, every blow, every bullet they received by the guards, and every drop of blood spilling from their mouths or battered bodies onto the campgrounds, coloring them red. Accordingly, Germania would have been soaked in the blood of the victims, as Jochen's map reproductions commented on (see fig. 46). Speer owned and embodied this superstructure (and it owned and embodied him).

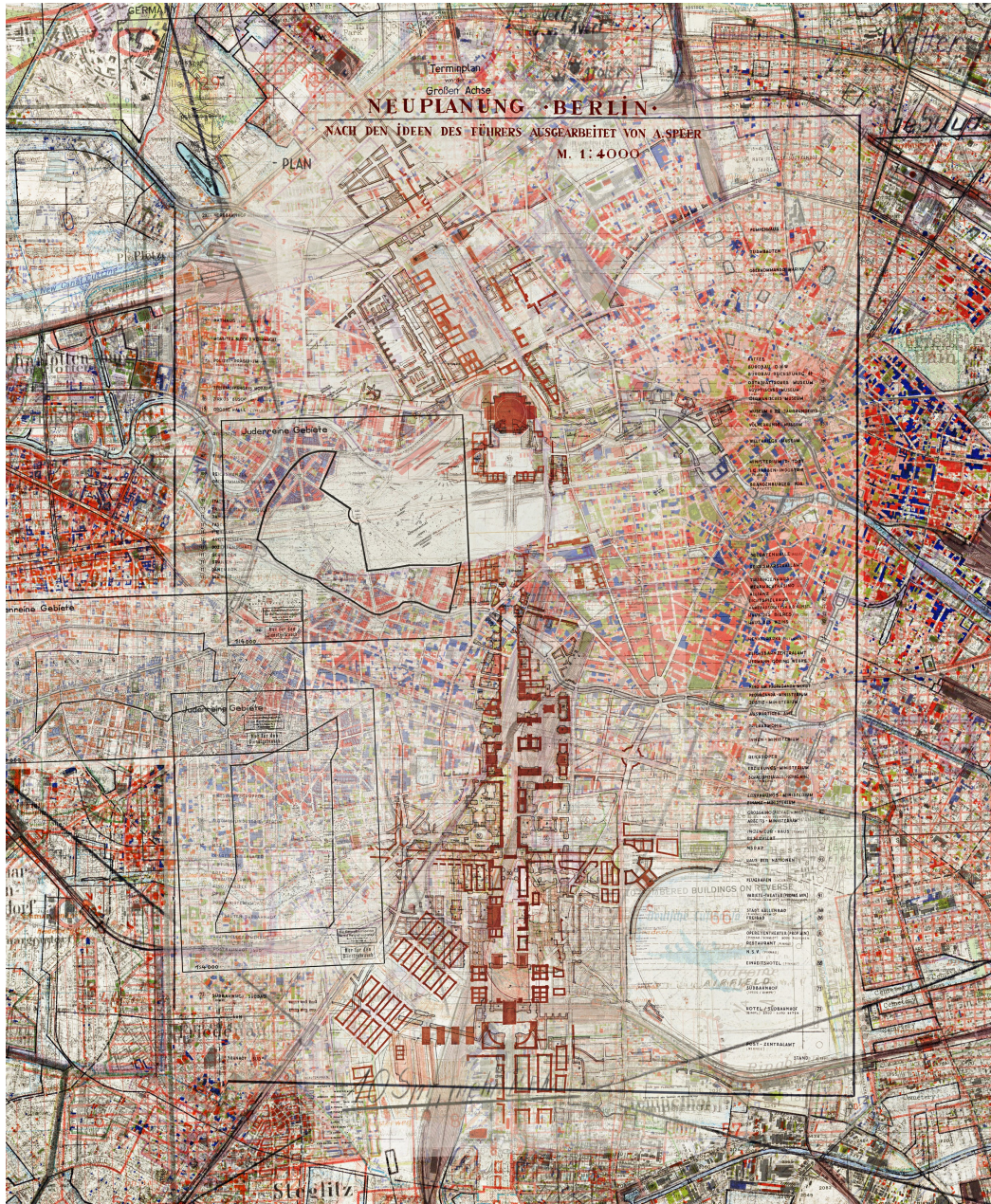


Fig. 46: Kocken, Gert Jan. Depictions of Berlin 1933-1945. *Wordpress*, 21 Mar 2013, emilewohlfahrt.wordpress.com/2013/03/21/mapping-history-gert-jan-kocken/. Accessed 26 Aug 2021.¹¹⁷

¹¹⁷ Kocken's artistic map reproductions are all available on his website: gertjankocken.nl. For more: Ferdinand, Simon. "Drawing Like a State: Maps, Modernity, and Warfare in Gert Jan Kocken's Depictions." *Mapping Beyond Measure: Art, Cartography, and the Space of Global Modernity*, U of Nebraska P, Lincoln, 2019, pp. 105–141.

According to Marx, “[d]er Gegensatz zwischen Stadt und Land fängt an mit dem Übergange aus der Barbarei in die Zivilisation, aus dem Stammwesen in den Staat, aus der Lokalität in die Nation” (the opposition of city and countryside begins with the transition from barbarity into civilization, from tribalism to state, from the local to the national) (36). The opposite was probably true for Berlin/Germania, which was a planned out monumental tiger leap into a barbaric past built upon the most modern technologies (see fig. 47).

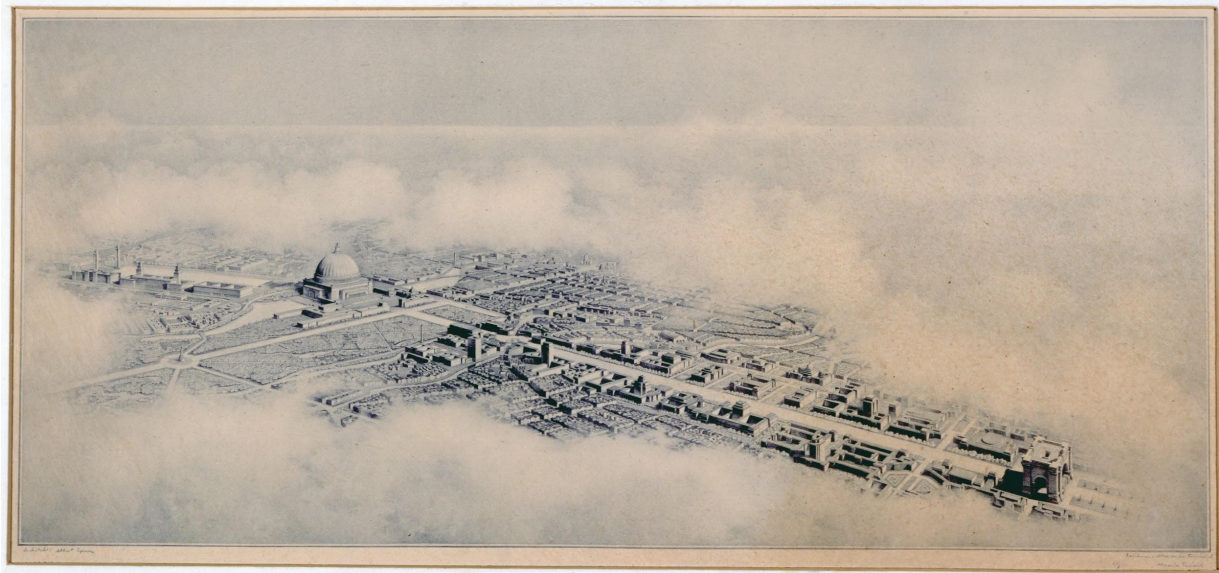


Fig. 47. GBI. Drawing of Albert Speer’s North-South Axis. 1939. LAB, F. Rep. 270, A8750.

Why Berlin?

Berlin's redevelopment plans were shaped by Hitler's general distaste for the modern metropolis as a civilizational formation, which manifested in a strong pastoral desire soaked in 'blood and soil' mythologemes. For Hitler, it was a question of size and representativeness. In its current state, Germany's capital, as the epitome of modernity, was 'insufficient' to transport the grandiose spirit of the NS "Weltanschauung" (worldview). The 'appropriate' *superstructure* still had to be built. Berlin looked 'small' and unordered compared to what other world capitals had to offer.

Between 1850-1890, Berlin's population had quadrupled (faster than other booming modern cities such as Paris and London). After becoming the capital of the German Empire under Prussian hand in 1871, it continued to expand at "a dizzying rate" until it reached a peak population of about 4 million in 1920. At that time, it was the "most modern city in Europe but also [its] greatest manufacturing center" (Whyte/Frisby: 1-2). But, this rapid growth led to devastating living conditions for a majority of Berliners, who were crammed into poorly maintained housing blocks, the so-called "Mietskasernen" (rental barracks). The phenomenon of Berlin also interested intellectuals and sparked various theoretical discussions about the concept of the future city. This "generated new fields of knowledge devoted to urban design and city planning, which addressed such issues as the wider parameter of urban expansion and growth, the regulation of this growth, and its infrastructural requirements". With the end of the monarchy, and despite inflation and political fragmentation, the capital experienced a boom in the 1920s, and became *the* site for "intensely utopian and visionary expectations ... particularly ... among the architects". This brief period stimulated Berlin's extraordinary politically conscious art scene during these years. But this period also turned out to be "a powerful link between the

nineteenth-century romanticism and the quasi-religious and messianic hopes of redemption and salvation that impelled Germany toward dictatorship in the 1930s” (2-3). During the fragile Weimar Republic, “Berlin became a laboratory for modern living. From the micro scale of the labor-saving kitchen to the macro scale of the new city quarter or the model town of the future, Berlin’s architects, planners, and politicians developed the blueprints for twentieth-century urbanism in the industrialized world” (4). Despite this rich history, Hitler’s crushing verdict was—according to Speer—that “Berlin ist eine Großstadt, aber keine Weltstadt. Sehen Sie Paris an, die schönste Stadt der Welt! Oder selbst Wien! Das sind Städte mit einem großen Wurf. Berlin aber ist nichts als eine unregelte Anhäufung von Bauten. Wir müssen Paris und Wien übertrumpfen” (1969: 88) (Berlin is a metropolis, but no world city. Look at Paris, the most beautiful city in the world! Or Vienna! These are big-time cities. But Berlin is nothing but a disorderly accumulation of buildings. We have to trump Paris and Vienna). As Hitler had studied (and even memorized) the plans of these two cities intensely, they significantly shaped his idea of a future Berlin as a monumental capital:

In Wien bewunderte er die städtebauliche Schöpfung der Ringstraße mit ihren großen Bauten, dem Rathaus, dem Parlament, dem Konzertsaal oder der Hofburg und den Museen. Er ... hatte gelernt, daß man repräsentative Großbauten ebenso wie Monumente ... von allen Seiten sichtbar planen müsse. ... Mehr noch war er von den großen Straßendurchbrüchen, von den neuen Boulevards beeindruckt, die Georges E. Haussmann in Paris von 1853 bis 1870 ... errichtet hatte. Er hielt Haussmann für den größten Städtebauer der Geschichte, hoffte aber, daß ich ihn übertreffen würde. (89)

In Vienna he admired the urban planning creation of the ring street with its great edifices, the town hall, the parliament, the concert hall or the Hofburg and the museums. He ... had learned that representative grand buildings and also monuments had to be planned as ... visible from all sides. ... He was even more impressed by the great through streets¹¹⁸, the new boulevards, which Georges E. Haussmann ... had constructed in Paris from 1853 to 1870.

Accordingly, monumentality became the core of the fascist planning idea. The rest of the city space had to be shaped around it. So, housing, parks, any type of ‘social infrastructure’, only received a subordinated, ‘supporting’ role. They existed to make sure that the main ‘actors’, the monuments to the fascist ‘idea’, could shine, and were visible for the urban dweller from all angles, in a towering and dominating fashion. The destruction of historical architecture was a legitimate method hereby, if it increased this visibility. It is, of course, not surprising that imperial Vienna and Paris were the spaces that had shaped Hitler’s idea of an ideal capital. Both had been designed within the paradigm of the “eternal city” of Rome that every empire looked up to as epitome of imperialism. Rome embodied “permanence, order, [and] authority” (Edwards: 2-3). That is exactly the script that Hitler aimed to impose onto the existing space of Berlin from the ‘top down’, with little regard to its ‘bottom up’ needs (such as housing due to urban sprawl).

¹¹⁸ “Straßendurchbruch” is hard to translate. It refers to a street that rips through an already developed area, in this case the old Paris, which required the demolition of a lot of historical architecture. It is a reduction of the cultural layerdness/thickness of a city, so to say.

Berlin, Monumentality, History, Community

In his ‘manifesto’, *Mein Kampf*, Hitler looked at cities from a remote (romanticized) past and a far future—with little regard for the present. What Hitler had in mind, when he designed his monuments, was the gaze of future generations of Germans, who, as he imagined, would look at these colossal structures as epitome of their racially superior ancestors. But in its current state Berlin offered nothing of proper scale. He lamented: “Würde das Schicksal Roms Berlin treffen, so könnten die Nachkommen als gewaltigste Werke unserer Zeit dereinst die Warenhäuser einiger Juden und die Hotels einiger Gesellschaften als charakteristischen Ausdruck der Kultur unserer Tage bewundern” (Would Berlin suffer Rome’s fate, then the vastest buildings of our age that the descendants could admire would be the warehouses of some Jews and the hotels of some companies as characteristic expression of the culture of our age) (695). Capitalism, as a symptom of modernity (that he blamed the Jewish people for), was obviously not the legacy that Hitler wanted to leave behind in the built form. This is why he looked back to the ancient world that resonated more with his vision of a ‘timeless’ architecture. What distinguished the ancient from the modern city, according to Hitler, was that the former had a clear identity expressed by “das ganze Stadtbild beherrschenden Denkmälern . . . , die nicht für den Augenblick, sondern für die Ewigkeit bestimmt schienen” (monuments that reigned over the entire cityscape . . . , which appeared not to be dedicated to the moment, but for eternity). Unlike mansions, these structures summoned a collective spirit, as they did not symbolize the “Reichtum des Einzelnen” (wealth of the individual) but “die Größe und Bedeutung der Allgemeinheit. . . . Ihnen gegenüber sank das Wohnhaus wirklich zu einer unbedeutenden Nebensächlichkei zusammen” (the greatness and importance of the community. . . . In the face of them the residential houses really sank down to a minor matter) (693). Therefore, a culture could assert their superhistorical dominance by leaving

behind monuments that towered over (by size) and outlasted (by time) the remains of other cultures. Germans, in the way Hitler envisioned them, had to be on top of the food chain and accordingly he proceeded to mold them into a collective unity striving for greatness.

Hitler's architectural and urban vision was echoed in Speer's so-called 'theory of ruin value' ("Theorie des Ruinenwerts" or "Ruinenwerttheorie"), in which the architect mainly 'sold' Hitler's ideas as his own. But, allegedly (according to Speer's *Erinnerungen*), what initially sparked this prominent idea, was the debris left behind by a tramway depot that had been demolished for the construction of the Nuremberg Party Rally Grounds. Whether contemporary or not (probably not), the theory provided a quite clear synthesis of the philosophy behind fascist architecture. Let us take a look at the passage:

Mit dem Bau des Zeppelinfeldes wurde unverzüglich begonnen, um wenigstens die Tribüne bis zum kommenden Parteitag fertigzustellen. Dieser musste das Nürnberger Straßenbahndepot weichen. Als es gesprengt war, kam ich an dem Gewirr der zertörten Eisenbetonkonstruktionen vorbei; die Eiseneinlagen hingen heraus und hatten zu rosten begonnen. Ihr weiter Verfall war leicht vorstellbar. Dieser trostlose Anblick gab den Anstoß zu einer Überlegung, die ich später unter dem etwas anspruchsvollen Namen "Theorie vom Ruinenwert" eines Baues Hitlers vortrug. Modern konstruierte Bauwerke, das war ihr Ausgangspunkt, waren zweifellos wenig geeignet, die von Hitler verlangte "Traditionsbrücke" zukünftigen Generationen zu bilden: undenkbar, dass rostende Trümmerhaufen jene heroischen Inspirationen vermittelten, die Hitler an den Monumenten der Vergangenheit bewunderte. Diesem Dilemma sollte meine "Theorie" entgegenwirken: Die Verwendung besonderer Materialien sowie die Berücksichtigung

besonderer statischen Überlegungen sollten Bauten ermöglichen, die im Verfallszustand, nach Hunderten oder (so rechneten wir) Tausenden von Jahren etwa den römischen Vorbildern gleichen würden. Zur Veranschaulichung meiner Gedanken ließ ich eine romantische Zeichnung anfertigen: sie stellte dar, wie die Tribüne des Zeppelfeldes nach Generationen der Vernachlässigung aussehen würde, überwuchert von Efeu, mit eingestürzten Pfeilern, das Mauerwerk hie und da zusammengefallen, aber in den grossen Umrissen noch deutlich erkennbar. In Hitlers Umgebung wurde diese Zeichnung als “Blasphemie” angesehen. Allein die Vorstellung, dass ich für das soeben gegründete tausendjährige Reich eine Periode des Niedergangs einkalkuliert hatte, schien vielen unerhört. Hitler jedoch fand die Überlegung einleuchtend und logisch; er ordnete an, dass in Zukunft die wichtigsten Bauten des Reiches nach diesem “Ruinengesetz” zu errichten seien (68-69).

We immediately began with the construction of the Zeppelin Field in order to finalize at least the tribune by the upcoming party rally. Nuremberg’s tramway depot had to vanish for the latter. After it had been blown up, I came by the entanglement of the destructed ferroconcrete constructions; the iron deposits were sticking out and had begun to rust. Their further decay was easy to imagine. This dismal sight initiated the reflection that I later recited to Hitler under the somewhat sophisticated name “theory of the value of the ruins” of a building. Its basis was that modernly constructed buildings were undoubtedly little qualified to generate the “bridges of tradition” for future generations that Hitler demanded: unthinkable that rusting piles of debris would communicate the heroic inspirations that Hitler admired on monuments of the past. My “theory” was supposed to

counteract this dilemma: the use of specific building materials and specific static precautions should allow for buildings, which would resemble their ancient Roman role models, in a state of decay, after hundreds, or (as we calculated) thousands of years. In order to visualize my thoughts I had a romantic drawing made: it illustrated how the tribune of the Zeppelin Field would look like after generations of neglect, overgrown by ivy, with collapsed pillars, the masonry collapsed here and there, but still recognizable in its broad outlines. In Hitler's circles this drawing was seen as "blasphemy". The notion alone that I had taken into account a period of downfall for the thousand-year-long empire was outrageous. Hitler, on the other hand, estimated the notion as plausible and logical; he ordered that in the future the important buildings of the empire would be built according to this "ruin law".

This passage provided quite a few striking insights about the internal mechanics of fascism as an (anti-)intellectual movement. The desired anti-modern transformation started at the very beginning. A tramway depot, as an 'incarnation' of mobile modernity, was destroyed in favor of the Nuremberg Party Rally Grounds, so the future site of an annual cultish celebration of the German race, ergo the production site of a new Germanic mythology. This systematic replacement of modernity with antiquity 'triggered' Speer's ruin theory on a purely aesthetic level. As he pointed out, it was specifically the iron aggregates ("Eiseneinlagen") protruding out of the fragmentized ferroconcrete constructions ("Eisenbetonkonstruktionen"), which caught his attention. He realized that the rusty debris ("rostende Trümmerhaufen") would never be sufficient to 'trigger' the desired heroic past ("heroischen Inspirationen") in the way ancient monuments ("Monumenten der Vergangenheit") did. Therefore, ferroconcrete, as a clear marker

of modernity, was ‘disqualified’ as building material for representative purposes, as it would make it too easy to historicize his buildings and thus break with the desired narrative of timelessness. Instead, he decided to select buildings materials, which, combined with static precautions, would allow him to control the decay process over several millennia, and thus ‘engineer’ the desired aesthetic simulation of ancient Roman ruins (“Die Verwendung besonderer Materialien sowie die Berücksichtigung besonderer statischen Überlegungen sollten Bauten ermöglichen, die im Verfallszustand, nach Hunderten oder ... Tausenden von Jahren etwa den römischen Vorbildern gleichen würden”). He even provided a visualization of the ruin design that he had in mind (allegedly he had a drawing made of it). Thereby, he emphasized that despite overgrowth with nature and minor structural damages, the contours of his buildings would remain the same (“überwuchert von Efeu, mit eingestürzten Pfeilern, das Mauerwerk hie und da zusammengefallen, aber in den grossen Umrissen noch deutlich erkennbar”). So, even if Speer predicted the decay and partial breakdown of his buildings, he assumed the stability of their core. In that way, his structures would carry on the superhistorical truth of Germany’s superiority. The ravages of time would change its make-up, but not its essence.

Monuments are mainly of ‘superhistorical’ use, in a sense that they have no ‘immediate’ practical (or vital) function, whereas residential structures, shopping malls, and train depots fulfill immediate needs of human existence, as they provide shelter, nourishment, mobility, and protect us from the elements, hunger, and other things. Monuments offer a space of reflection, memory, or communion, and have a social, but no ‘vital’ function. Especially, in the case of Speer, where they were to showcase mainly inflated, hypermasculine, nationalist, and militarist motifs (that were seen as crucial for a ‘racial survival’ though). Hitler’s/Speer’s emphasis on the symbolic space of the monument (rather than addressing the housing crisis, etc.) is telling. The

deep conceptual incongruence in the *National-Social-ist* agenda was the overemphasis of the representative (*nationalist*), and a neglect of the ‘life-supporting’ (*social*) elements. The Germania project, full of monumental ‘shells’ that were designed as massive containers of an idea of superhistorical greatness, was a direct translation of this imbalance into urban planning—just like Speer’s architecture was a translation of Hitler’s realm of ideas.

Erinnerungsschichten (layers of memory)

A central thread throughout Speer’s postwar self-staging was the constant reinforcement of the *Hiter vs. Speer* binary. The core of this dramatic play was Speer's self portrayal as the *cultivated* architect who stood in stark contrast to the *barbaric* Hitler. Thus, Speer fabricated the narrative of a new, ‘emancipated’ identity. This allowed him to ‘reveal’ intimate insights into the mechanics of fascism without having to take too much responsibility for fascist atrocities on the public stage of world history. In a passage of his prison diaries, Speer gave an interesting insight into the literary method behind his recollections of the past that have shaped the distorted image we have of him today—a moment of honesty? The said passage is so insightful in that context, because in it Speer undermined the grand staging of himself by admitting the ‘weak’ foundations of his own historical accounts: his unreliable memory. Thereby, almost as a byproduct, he deconstructed the linear concept of fascist time by revealing the mobile, merging, and layered account of the structure of his own memories. In the said entry dated back to February 21, 1948, he began to doubt his ability to create a precise image of the past. This concern had been triggered by a rereading of the diary entries he had written during the prior days (144). The original motivation behind this memory ‘test’ was, as he put it, to test the waters whether he can write a Hitler biography. His major concern thereby was his (in-)ability to take critical distance, as “mein Leben ist stets in seines verflochten” (my life is always intertwined with his) (139). The

prior entry from February 15th, so the one-to-be-‘tested’, was centered around a conversation with Hitler in Augsburg that had taken place in the famous “Hotel Mohren” in the Maximilianstraße (139-144).¹¹⁹ The major topic of the conversation was the transformation of several German cities into “Gau” cities. Thereby they were mostly concerned with making sure that the representative architecture towers above other building types. In this case, in particular the renovation and extension of Augsburg’s 19th century theater that Hitler supported, had initiated the trip. The construction had started about six months ago and Hitler wanted to check up on the project. He “erkundigte sich über Fundamente, über Mauerstärke und konstruktive Einzelheiten” (enquired about the foundations, wall thickness, and construction details) of the new “Bühnenhaus” (stage house), whose “Baugrube” (building pit) just had been “ausgehoben” (excavated) (142). But, just a few days after writing this entry, Speer began to ‘dig’ deeper into his memory about this event and started to doubt the spatial, temporal, and identity-based coordinates of it. They had all turned fluid in the realm of his memories. Overall, he became unsure about the location and date of their conversation. He also could not remember, whether Hitler formulated his hierarchy of architecture in Augsburg on that particular occasion, as “es könnte auch aus anderem Anlass in Weimar oder Nürnberg gewesen sein” (it could also have been Weimar of Nuremberg on a different occasion). Furthermore, he could not remember which Hitler it had been? How was his mood? Was it the civil or the military minded Hitler? All of the details necessary to recreate this particular memory were gone. “Das alles ist mir entglitten, während sich anderes, einzelne Sätze, ein unmutiges Räuspern, ein Blick, eine Veränderung der Stimme unverlierbar ins Gedächtnis eingegraben haben” (All of this slipped away from me, whereas other things, single sentences, a displeased harrumph, a gaze, a change of voice have

¹¹⁹ As someone who grew up near Augsburg, I know about the layered nature of this street. It was built upon the old Roman *Via Claudia Augusta* that crossed the military camp that developed into today’s city.

entrenched themselves undetachable into memory) (144). He suggested that the excessive amount of time he had spent with Hitler over the twelve years (of the thousand-year-long empire they were building) was the reason for his memory's dysfunctionality. Additionally, he blamed the repetitive nature of Hitler's speech patterns:

Das hat natürlich damit zu tun, daß sich bei einem zwölfjährigen Zusammensein die Erinnerungsschichten übereinanderschieben, vor allem bei einem Mann wie Hitler, der dazu neigte, Thesen, einzelne Sätze, Wortbilder immer erneut zu wiederholen. So stellte ich fest, daß es Mosaiksteine sind, die ich zu einem Bild zusammensetzen muss. Alles fragmentarisch. Wenn ich mich wirklich daran machen sollte, das Buch zu schreiben, wird meine Hauptanstrengung darauf gerichtet sein müssen, die Bruchstücke des Erinnernten zu einem in sich schlüssigen, bruchlosen Bild zusammensetzen. Ob mir das je gelingen kann? (144-145)

That of course has something to do with [the fact] that layers of memory overlap during twelve years of being together, especially with a man like Hitler, who had the tendency to repeat theses, single sentences, and figures of speech again and again. So I came to the conclusion that they are mosaic stones, which I have to put together into a picture. Everything [is] fragmentary. If I should really proceed to write the book, my main effort will have to be directed towards assembling the fragments of memory into a coherent, seamless image. Can I ever manage to do that?

Here, he stated that his ability of recalling a coherent image of the past was limited. He described how his memories became mobile, overlapped (“*übereinanderschoben*”), like layers (“*Erinnerungsschichten*”), and turned fragmentary, so that any of his recollections would be like putting together a mosaic (“*Mosaiksteine*”). I suspect that Speer *did* end up writing that book he mentioned—but not under the banner of a Hitler biography. Instead, he wrote his own biography, which, as he said himself, is always intertwined (“*verflochten*”) with Hitler. One could even say, they merged to a certain extent. Speer commented on this ‘merging’ several times—not without resistance. He had to stick to his role as Hitler’s cultivated counterpart. To build up this narrative, Speer, on numerous occasions, framed himself as a cultured artist within the humanistic tradition of the West—and totally separate from Hitler’s primordial visions. For example, Speer disagreed with the exclusively martial interpretation of his foregrounding of sculptures in the urban space, (in particular the ones of his friend, Arno Breker) (1900-1991):

Mein Ehrgeiz war, der Skulptur, die so lange in die Säle der Museen und die Häuser der Sammler verbannt gewesen war, wieder zu ihrem Recht auf den Plätzen und Alleen der Städte zu verhelfen. Es überraschte mich manchmal, daß heute in diesen Läufern, Bogenschützen und Fackelträgern nur die martialische Geste gesehen wird. Uns kam es damals so vor, als holten wir die menschliche Figur zurück in die Städte, die unter dem Ansturm des Technischen ihren Charakter zu verlieren drohten. ... Im Verdikt über meine Bauten, über die Skulpturen von Breker ... ist immer auch das Verdikt über Hitler enthalten. Es ist falsch und ungerecht; aber ich verstehe es. (539)

It was my ambition to help the sculpture, which for so long had been banned into the halls of museums and the houses of collectors, regain its rightful spot on the plazas and boulevards of cities. It sometimes surprises me that today only the martial gesture is seen in these runners, archers, and torch bearers. It appeared to us, as if we brought back the human figure into the cities, which were threatened to lose their character in the onslaught of technology. ... The verdict of my buildings, about the sculptures of Breker ... always contains the verdict of Hitler. It is wrong and unjust; but I understand it.

His major argument hereby was that he wanted to re-humanize the development of the future city, by centering the image of the human in his urban design. He suggested that his urban vision wove a sub-narrative that was independent from, and even oppositional to, the ‘call to arms’ (“martialische Geste”) that Hitler ‘saw’ in these statues—as the two ‘saw’ things differently in that regard. He even called the deconstruction of the supposed *Hitler vs. Speer* binary “ungerecht” (unjust). Instead, Speer highlighted his ambition to build cities as fortresses against the alienation of the world that was being overrun by technology. On that occasion, he did *not* describe what *his* concept of humanness, which he allegedly wanted to pronounce with his sculptures, actually was.

Speer’s ‘Hitler episode’ was not the only moment of fundamental shattering for him. Several times during his life, Speer’s constructions threatened to collapse, while he tried to hide his intertwinings with the ‘dark part’ of the regime with all force. The latter, even if not known publicly, were all well documented, e.g. in Wolter’s *Chronik*. But, this ‘other’ *truth* seemed to be building up slowly but gradually. In 1971, an article was published that proved that Speer had been present during Himmler’s speech in Posen on October 6th, 1943. On that day, the SS leader

had commented on the ongoing annihilation of the Jews in detail. Speer's public image was largely unphased by this publication, as it did not stir too much controversy. In his conversations with biographer Sereny, nevertheless, he described the traumatizing effect of this article on his belief in his own memory. At some point, he stated that he thought he was going crazy and could not believe himself anymore, as he was *sure* he left two days before the speech. During these moments of doubt, he even wrote a confession letter (to the widow of a resistance fighter) about his presence at Himmler's speech, which was not published until 2007. Later on, nevertheless, he got back to 'repairing' the construction of his innocence (Brechtken: 460-62). Like Speer's concept of truth, his buildings, supposed to tell the tale of eternity, need(ed) large scale repairs to remain 'standing'—which counts for the Nuremberg premises as well.

So, as we have established Speer as an unreliable narrator and builder with a fragile memory now, let us have his actions, rather than his recollections speak, and add more fragments to our mosaic of Speer's understanding of humanity that he withheld from us. Thus, we can create a text that 'fills' the narrative gaps of Speer's own accounts and, in a sense, continues the work he began in the small passage of his diaries, where he began doubting his memory: namely, the (self-)deconstruction of the *Hitler vs. Speer* binary. When we consider Speer's extensive use of forced labor, it appears true that he brought the human figure into the urban space, in some sense. Namely, onto his construction sites. As *Untermenschen* (*subhumans*), they were forced to build the *supercity* for the *superhuman*. This gives us a clear hint about the design of humanness that drove Speer's urban vision. To look at, and 're-insert', the 'left-out' 'factual' knowledge allows us to understand the violent foundations of the architectural 'fantasies' he presented. It is an opportunity to transform his flattened out memoirs into a richer (counter-)historical document.

By ‘populating’ it with non-fluid facts, enables us to look at Speer’s endless and repetitive discussions of (his) historical size in a more critical light.

***Geist* (spirit), *Körper* (body), *Stein* (stone)**

Speer reflected upon his architectural vision as a vehicle of historiography, namely as an encounter of “Geist” (spirit) and “Stein” (stone), in which Hitler’s body acted as ‘impregnator’. This ‘passing on’ from *leader* to *building* to *population* operated through an impression of the spectator through the monumental scale of architecture. The goal was to transfer the spirit of the fascist movement, incarnated by Hitler, into the stones, which would then be charged up with “einer großen geschichtlichen Vergangenheit” (a grand historical past), so that they would give his successors the same “Macht” (power). Thus, they could establish a “Tradition” (tradition) that would prolong the NS-movement (into infinity). The physical presence of Hitler’s body in these buildings, over the course of a few years, was seen as key to setting this historical lineage in stone. According to Speer, Hitler said the following about the massive scale of his planned private residence (“privater Wohnpalast”) and official working place (“Reichskanzlei”) in 1939: “Sehen Sie, deswegen müssen wir das noch zu meinen Lebzeiten bauen: damit ich darin noch gelebt habe und mein Geist diesem Bau Tradition verleiht. Wenn ich nur ein paar Jahre darin lebe, dann reicht das schon aus.” (172) (See, therefore we have to build it during my lifetime: so that I will have still lived in there and my spirit bestows tradition to this building. When I live there only a few years, then that is already enough). While the architect claimed he received this concept of ‘impregnation’ from Hitler, Speer’s recollections clearly stated his understanding of the role as an architect within this particular realm of ideas. He described himself as an *interface* between the *body* of Hitler as bearer of the fascist *spirit* and the *stones* that would absorb it, in order to carry it on through *history*. Speer understood his job was to provide the superstructural

containers into which Hitler would feed (t)his spirit. This emphasizes that the architectural bodies of Germania were centered around the body of Hitler, and not built for people, or their bodily needs. Instead, they were designed to prolong, firm up, and purify the narrative of German fascist modernity as a storage space of this spirit.

This whole myth of impregnation was obviously saturated by salvation history, *Heilsgeschichte*, and, among many other things, appropriated the Christian structuralization of time to stage Hitler as Messianic savior of history. Speer was one of the disciples who received Hitler's 'unholy spirit' through his tongue of fire. While Speer did not describe the specific nature of this spirit and its relationship to his architectural vision in more detail, we can reconstruct it from Hitler's realm of ideas.

Excursion: Kulturgründer (founders of culture), Kulturträger (bearers of culture), und Kulturzerstörer (destroyers of culture)

Why did Hitler so firmly believe he could build structures that had been impossible in the past, as they exceeded available technologies? What was the 'spirit' behind his belief-system? A key passage to understand Hitler's superhistorical ambition is found in his discussion of "Kulturbegründer" (founders of culture). It was basically a sweeping 'synthesis' of the history of humankind. Here, he asked (and answered) the question, which race was the original "Begründer" (founder) of "Menschheit" (humankind). Thereby he chose to unfold the topic from the present. He described the competence of building long lasting foundations (of any kind) as racially grounded here (755):

Würde man die Menschheit in drei Arten einteilen: in Kulturbegründer, Kulturträger und Kulturzerstörer, dann käme als Vertreter der ersten wohl nur der Arier in Frage. Von ihm

stammen die Fundamente und Mauern aller menschlichen Schöpfungen Er liefert die gewaltigen Bausteine und auch Pläne zu allem menschlichen Fortschritt (755)

Would one divide humanity in three kinds: into founders of culture, bearers of culture, and destroyers of culture, then the Aryan would be the only one in question as representative of the first. The foundations and walls of all human creations stem from him... . He provides the massive building stones and also plans for all human progress.

Here, Hitler argued that the entirety of humanity's creative potential is 'stored' in the figure of the Aryan. He saw him as the historical actor, who laid *all* foundations and provided the plans and materials for *all* development and progress. He went on to say that the Aryan was "allein der Begründer höheren Menschentums" (the sole founder of a higher humanity), because "[e]r ist der göttliche Prometheus der Menschheit, aus dessen lichter Stirne der göttliche Funke des Genies zu allen Zeiten hervorsprang" (he is the godly prometheus of mankind, out of whose luminous forehead the godly spark of genius leaped out at all times). As he, the Aryan, is the only stimulator of creative spirit, without him, "die menschliche Kultur würde vergehen und die Welt veröden" (human culture would fade and the world become deserted), as all "an menschlicher Kultur, an Ergebnissen von Kunst, Wissenschaft und Technik ... ist nahezu ausschließlich schöpferisches Produkt des Ariers" (of human culture, of achievements in art, science and technology ... are almost entirely the creative product of the Aryan).¹²⁰ This

¹²⁰ As the editors of the critical edition of *Mein Kampf* point out (in vol. 2), the concept of the *genius* that Hitler operated with carried obvious traits of its specific 19th century configuration. As coined by thinkers such as Nietzsche and Schopenhauer, the concept can be narrowed down to the belief in an *Übermensch* that can overcome all obstacles, and even rises to the occasion when going through enormous existential pressure. This obviously resonated well with the idea of a higher race (1138). Nevertheless, it appears worthwhile in that context to refer to Nietzsche's discussion of the "Baugenie", which allowed for a reading that suggests a significant conceptual difference between the philosopher and fascist ideology, as I briefly discussed in the last chapter (314-315).

suggested that the flourishing of the entire human species relied on the survival of the Aryan race. As a result, any action that supported this ‘survival’, how (un-)ethical it might be, was justified. Correspondingly, “Kulturzerstörer” (destroyers of culture) were the ‘natural’ enemies of the Aryan within that ‘logic’—and had to be wiped out.

Given this historical ‘truth’—the emergence and storage of earth’s entire productive ‘forces’ within the figure of the Aryan—Hitler went on to explain how these ‘forces’ went to work throughout history. This foreshadowed what would be put into practice during his reign: eugenics, aggressive warfare, slave labor, and building megalomania—all justified practices within his concept of world history that relied upon a collective reaching for eternity to ensure racial, and thus humanity’s, survival. It was a simple, but not light, world view straight from the drawing board that revolved around a clean-cut *us vs. them* mythology. Hitler painted the following picture of time. Over the course of history, Aryan tribes, again and again, conquered foreign people. Boosted by the local natural and human resources (climate, soil, slave labor), they inevitably unfolded their mental and organizational potential that was stored in their racial core and always flourished when it was properly cultivated. But, once Aryans started mixing their blood with the ‘minor’ people, their ‘star’ began to fade (759). Hitler sent a warning message to the discipline of history that might disagree with his accounts, claiming that “die Aufgabe einer künftigen Kulturgeschichte und Weltgeschichte” (the tasks of a future cultural history and world history) would be to ‘research’ according to *his* outline of history (761). One problem he mentioned, was the difficulty (for others) to understand the genius of the Aryan race, even if it clearly manifested itself in “Erfindungen, Entdeckungen, Bauten, Bildern usw.” (inventions, discoveries, buildings, paintings, etc.). He admitted that it can take a long time to be collectively acknowledged (765). Therefore, one should *not* be discouraged by *any* critique

(based on morality), e.g. regarding the use of slave labor, as this ‘method’ has always been an integral part of unravelling and accelerating the Aryan’s creative potential over the course of time (765-777). Clearly, Hitler intended to dismantle existing histories to replace them with his own version of history, regardless of the factual flaws in his narrative (obviously the 19th century also produced many massive national monuments, not only antiquity). But, it seemed, Hitler’s concept of historical truth was not based on the coherence of his statements with objective facts (according to the modern rational paradigm). Instead, *truth* meant actively constructing the strongest, biggest, heaviest, most ‘persevering’ argument, and defending it with force until it became ‘true’. He saw ‘truth’ as an act of creation and will. A major part of this strategy to construct grand arguments were the monumental building plans Hitler came up with in the 1920s, when he was still far away from being the leader of Germany. By then, he had already constructed his vision of history in its contours, so that he could impose it on reality later on, and synchronize it towards his realm of ideas. Integral part of this synchronization process was Speer, who had the expertise to translate Hitler’s ‘visions’ into architectural reality, which he willingly did, as an *interface* between Hitler’s concept of *Germania* and *reality*.

Not much remains of Speer’s buildings nowadays other than his grand concepts, as almost nothing was built, except for the notorious Nuremberg Party Rally Grounds (“Reichsparteitagsgelände”), where the National Socialists held their annual party celebration that Leni Riefenstahl famously captured in *Triumph des Willens* (1935). Even if the unfinished premises are in a somewhat dilapidated state these days, which barely live up to the “tausendjährigen Anspruch” (thousand-year-long claim) of Speer, the grand architectural ambition certainly shone through the sheer measurements of the project. Boosted by the mass spectacle of the 1936 Olympics in Berlin that had been held in a new stadium built specifically

for that purpose, Hitler ordered Speer “to build an even grander stadium as part of the rally grounds in Nuremberg. Hitler envisioned a building whose vast scale and seating capacity—it was to hold 400,000 spectators—were unprecedented in the history of architecture” (Gallo: 218).¹²¹ Speer reflected about the historical scale of this project in his memoirs, by pointing out how the project outclassed the greatest pyramid ever built, the Cheops pyramid, in terms of size, by far:

The pyramid of Cheops, with a base of 756 feet and a height of 481 feet, measured 3,277,300 cubic yards. The Nuremberg stadium would have been 1815 feet long and 1518 feet wide and could have enclosed a volume of 11,100,000 cubic yards, some three times more than the pyramid of Cheops. The stadium was to be by far the largest structure on the tract and one of the biggest in history. (Gallo: 218)¹²²

The excessive size of the planned stadium was estimated as ‘just’ appropriate considering the historical relevance of the project. Hitler stated future Olympic games will take place, “for all time to come, in this stadium”. Size and historical endurance went hand in hand for Hitler. Speer commented on this obsession: “He wanted the biggest of everything These monuments were an assertion of his claim to world dominion” The construction of the Nuremberg premises began in 1937, but the giant stadium was never finished, due to the war (218).

The overall argument to be articulated with this (and other) monumental projects was, at its core, the following: we need to wage war to conquer territory to nourish our people and

¹²¹ Architect Werner March designed the stadium for the 1936 Olympic games, in which context he was encouraged to discuss the natural stone façades with Speer by Hitler (Brechtken: 79).

¹²² Here, I used the translation provided by Ruben Gallo in his book *Mexican Modernity. The Avant-Garde and the Technical Revolution* (2005) instead of my own, as usual.

protect the purity of our race for the sake of the survival of humanity: *Blut und Boden* (blood and soil). This belief was centered around the idea of an Aryan race carrying the seed of the genius that gave them the skills to fertilize any type of soil. As founders of culture, the Aryan was the only racial entity able to be creative and to maintain humanity. To contaminate its racial purity meant to endanger the survival of the human race in its entirety. Therefore, the protection of racial purity transcended history, morality, and ethics—it was the first, the last, and the only task. Thereby, Hitler and Speer estimated Roman, Greek, Egyptian, and other imperial architectural styles as useful vehicles that could be appropriated to construct a new Germanness. All of these would be integrated into the fabrication of the myth of the eternal Aryan. The latter was seen as the racial ‘motor’ behind all previous great empires that were about to culminate in the Third Reich, the greatest empire that there ever was. The scale of Speer’s Germania, as the greatest capital, was to amplify this vision of history that followed the logic that size and endurance *is* truth. So, who was supposed to build this ‘truth’?

Bauarbeiter (construction worker)

Let us imagine, if there *was* a spirit that was transferred through the physical presence of a body into a building, whose stones would then be ‘impregnated’ by it, and carry it on. What would happen to the spirits of those who cut the stones, built the walls, sweated, bled, and died on the construction sites? Their contact with the building material was way deeper and more intimate than an emperor striding through his palace. Wouldn’t they leave behind their spirits too? Obviously, Speer did not think about them, the character of the construction worker does not play a major role in his world history (as laid out in his memoirs, etc.). Instead, he kept on reproducing his detailed knowledge of impressive numbers and designs. But, there is a passage, in which he summoned a speech that Hitler allegedly gave in front of “Bauarbeiter” (construction workers) in 1939. This was in the context of the construction of the Nuremberg premises (that had begun in 1937). In this said speech, Hitler was trying to justify the excessive size of his buildings: “Warum immer das Größte? Ich tue es, um dem einzelnen Deutschen wieder das Selbstbewußtsein zurückzugeben. Um auf hunderten Gebieten dem Einzelnen zu sagen: Wir sind gar nicht unterlegen, sondern im Gegenteil, wir sind jedem anderen Volk absolut ebenbürtig” (82) (Why always the biggest? I do it, in order to give the individual German his confidence back. In order to tell it to the individual in hundreds of domains: We are not inferior, to the contrary, we are absolutely equal to every other nation). Here, Hitler defined building size as an expression of national and superhistorical confidence (what he obviously implied was the overcoming of the humiliation of Versailles). If this speech actually ever happened, Hitler only addressed the *German* workers in a somewhat encouraging way here, but does not mention all the others. Many must have been non-German forced laborers, some very likely from

concentration camps.¹²³ A glimpse into the archives shows the different treatment of both groups on Speer's construction sites. As the document "Rundschreiben der Reichskanzlei vom 28. September 1942 über die Beschäftigung deutscher Arbeiter in den besetzten Gebieten" shows, the racial hierarchy between German and non-German workers was enforced on the order of Speer (qtd. in Brechtken: 171).¹²⁴ This was reflected in the type of tasks these two groups were assigned. Germans were spared 'simple', but physically challenging tasks, and acted as "Vorarbeiter" (construction foreman) instead. The non-Germans had to follow their instructions and do all the hard manual labor. The *German vs. non-German* binary was the guiding thread in the treatment and classification of workers on Speer's construction sites—as a direct translation of his realm of ideas. Primo Levi, who we will get to in more detail later, made the brutality of this binary graspable for us (as far as a narrative can do that). He described it as a type of pressure that turned humans into "an anonymous mass, continually renewed and always identical, of non-men who march and labor in silence, the divine spark dead among them, already too empty to really suffer. One hesitates to call them living ..." (90).

As I mentioned, if we decide to read Speer's accounts from a literary perspective, the 'character' of the "Bauarbeiter" (construction worker) fell quite flat. Generally, there is not that much material available that shows actual interactions. We do find some accounts of their nature in the aforementioned "Chronik", nevertheless. Let us look at a passage, where Speer's assistant made judgements based on the worker's *ethnicity* in regards to their *productivity*—and thus proliferated racial stereotypes:

¹²³ Yasmin Doosry wrote a book about the construction of the premises with the title "*Wohlauf, Lasst Uns Eine Stadt Und Einen Turm Bauen...*": *Studien Zum Reichsparteitagsgelände in Nürnberg* (2002). She covered the labor conditions, use of prisoners of war and forced laborers, the deportation camps erected on the premises, and more.

¹²⁴ Originally reproduced from the Bundesarchiv Koblenz BAK R 43/II/652a by Dieter Rebenitsch in *Führerstaat und Verwaltung im Zweiten Weltkrieg* (1989), Bl. 390.

Die für die Speer-Bauten angeworbenen Kroaten haben sich leider als sehr unzuverlässig erwiesen. Die Arbeitsleistung eines kroatischen Maurers wird am besten dadurch gekennzeichnet, daß er in einer Stunde 17 - 20 Steine vermauert, gegenüber der Leistung des deutschen Maurers, welcher in der gleichen Zeit eine Leistung von 80 - 90 Mauersteinen vollbringt. Versuchte Ausübung eines Druckes auf die Kroaten hat zu dem Ergebnis geführt, daß diese ... ihre Arbeitsstelle verlassen und versuchen, wieder in ihre Heimat zurückzukehren. (607, Bl. 81)

The Croations hired for Speer's buildings have turned out to be very unreliable. The working performance of a Croatian mason can be best described by the fact that he lays 17-20 bricks per hour, in contrast to the performance of a German mason, who accomplished the achievement of 80-90 brick walls in the same time. The attempt to put pressure on the Croatians has led to the result that they ... leave their job and try to return to their home country.

The workers, whose 'worth' was 'measured' by their ability to lay an x amount of bricks in a y amount of time, were racially hierarchized here: the stereotype of the hard working Aryan, who is more productive than his racially inferior counterpart, was reinforced on a quantitative basis. The Croatian workers, nevertheless, had the possibility to break their contracts and leave their occupation, despite being pressured by their supervisors—a 'privilege' that forced laborers, which Speer used as well, did not have.

Körperbau (physique)

In another passage, Wolters talked about Speer's selection process of forced laborers, and how the architect got personally involved. This added some texture to the rare accounts of interactions between the Speer and his subordinates. In 1942, when Speer was in charge of Berlin's air raid protection system, he complained about the lack of efficiency of Soviet forced laborers that he had been assigned. As a reaction, he decided to go into the camps and choose his workers by himself, from then on:

Da festgestellt wurde, daß die dem Generalbauinspektor auf Weisung des Führers zugewiesenen russischen Kriegsgefangenen in ihrer körperlichen Verfassung nur als Ausschuss bezeichnet werden konnten und offenbar der Generalbauinspektor diejenigen Kriegsgefangenen erhielt, die die Wehrmacht für eigene Zwecke nicht gebrauchen konnte, hat Herr Speer sich entschieden, ... daß diese Kriegsgefangenen der Generalbauinspektor in den Sammellagern selbst aussucht und dann in die eigene militärische Betreuung nimmt (607, Blatt 81-82).

As it was noticed that the Russian prisoners of war that had been assigned to the Generalbauinspektor by the Führer could only be referred to as discard due to their physical condition, and obviously the Generalbauinspektor had received those prisoners of war, which the Wehrmacht could not use for their own purpose, Herr Speer decided, ... that the Generalbauinspektor will choose the prisoners of war in the concentration camps himself to then take them under his own military supervision.

As we can see, Speer measured the workers by their *Arbeitskraft* (work capacity) and their overall “körperlichen Verfassung” (bodily condition). He did not conceptualize them as humans, as he described them as “Ausschuss” (reject/discard), a word commonly used for outsourced (building) materials or products, not humans. Their ‘value’ was not measured by their human qualities, but their ability to produce stones, or fulfill other types of labor. The human dimension was totally absent from his evaluations. Conceptually, under Speer’s gaze, humans became stones themselves, *Mensch als Material* (humans as materials), so to say. Speer conceptualized them as *Baukörper* (structural shells), measured their value by their *Körperbau* (physique), ergo their ability to carry stones. He did not see them as *bauende, schwitzende, leidende, weinende, sterbende, fühlende, fürchtende, lebende Körper* (building, sweating, suffering, crying, dying, feeling, scared, living bodies). Speer’s words carried a lot of weight, and his usage of the word “Ausschuss” had crushing consequences for those labeled as such—they became the pillars of heavy load-bearing modernity. Speer’s verdict undermined them physically, emotionally, psychologically, conceptually, and spiritually. Levi described the consequences of this *weight* on the heavy load-bearing body as a form of existential *sinking*. In Auschwitz, “[t]o sink is the easiest of matters; it is enough to carry out all the orders one receives, to eat only the ration, to observe the discipline of the work in the camp” (90). We should always keep this in mind, when we look at reproductions of Speer’s ‘sublime’ architectural vision. The ‘fine’ black & white photographs, the well-lit models, and the detailed city plans, which have received a lot of praise for their aesthetic composition (by the ones of Krier). It helps us to recall how, and under which working conditions, Germania was supposed to be built—and maybe even to summon the spirits of the workers. Their memory was supposed to be forgotten and erased from history. As they were considered historical “Ausschuss”, Speer was not too interested in building

up, or maintaining, the body of the workers beyond the efficient exploitation of their construction capacities, either. His task was to sculpt the idea of a collective body in stone, which demanded human (self-)sacrifice, from each and every (non-)German.

Volkskörper (body of the volk)

Speer's *Germania* was designed as a cementation of the belief in the racial superiority of the *Volkskörper* (body of the people). In *Erinnerungen*, Speer situated the day he 'conceived' the first glimpse of this monumental urban vision into the spring of 1936. While visiting the construction site of an Autobahn, Hitler solemnly announced to Speer: "Einen Bauauftrag habe ich noch zu vergeben. Den größten von allen" (I still have to assign one building project. The greatest of all). It was not until the summer of the same year that he revealed to Speer what it actually was, namely the total redevelopment of Berlin's based on Hitler's own plans from the 1920s. As the current city government was not too fond of it, he needed someone to execute the task properly. On that occasion, Hitler passed on a drawing to Speer—in a symbolic act: he was now in charge (87). The official 'torch-passing' occurred on January 30th, 1937, when Speer was appointed as GBI (90). The core of this project was a representative axis breaching through Berlin. This axis was envisioned as an extra-wide street of 120 meters (ca. 394 feet) and 5 km (ca. 3 miles) length. It would have required the relocation of the Potsdamer and Anhalter Bahnhof, and enabled the connection of the Wilhelmine "Siegessallee" (victory boulevard) to the planned "Prachtstraße" (avenue of splendors), thus connecting, or embedding, the Second to the Third Reich (87-88).

As Speer told it, apart from the drawing of the city center, Hitler also passed two cards with little drawings¹²⁵ on to him, which he had (supposedly) made in 1925 (see fig. 48 & 49).

¹²⁵ These early drawings might or might not be authentic, the fact that Speer suddenly pulled them out for the 1969 publication of his memoirs is somewhat suspicious. They have never been confirmed as authentic or revealed as fake, to my knowledge.

They depicted the signature building elements of Germania: The Triumphal Arch and the Great Hall. As *the* landmarks of the representative section of the North-South Axis, they were to protrude out of the urban fabric due to their excessive size and geographic location/constellation, towering over the German empire and the people's heads looking up to them:

Alle baulichen Größenordnungen Berlins wurden durch zwei Bauwerke gesprengt, die Hitler an der neuen Repräsentationsstraße errichten wollte. Am nördlichen Ende ... sah er eine riesige Versammlungshalle vor, einen Kuppelbau, in dem der römische Petersdom mehrfach Platz gefunden hätte. Der Durchmesser der Kuppel sollte 250 Meter betragen. Darunter konnten sich auf einer rund 38 000 Quadratmeter großen frei überwölbten Fläche über 150 000 Menschen stehend versammeln. ... In einigem Abstand vom Südbahnhof wollte Hitler, als Gegenpol zu dieser Halle, einen Triumphbogen errichten, dessen Höhe er auf 120 Meter festgelegt hatte: "Das wir wenigstens ein würdiges Denkmal für unsere Toten des Weltkrieges. Der Name jedes unserer 1,8 Millionen Gefallenen wird in Grant eingemeißelt werden. ... " Er übergab mir zwei auf kleine Karten gezeichnete Skizzen: "Diese Zeichnungen machte ich vor zehn Jahren. Ich habe sie immer aufgehoben, da ich nie daran zweifelte, daß ich sie eines Tages bauen werde. Und so wollen wir sie nun auch durchführen" (88).

All architectural scales of Berlin were exceeded by two edifices that Hitler wanted to erect on the new representative street. On the northern end ... he planned a giant congregation hall, a cupola construction, into which the Roman St. Peter's Cathedral would have fitted multiple times. ... The diameter of the cupola was supposed to be 250

meters (ca. 820 feet). Underneath, over 150,000 people could assemble in a freely vaulted area of about 38,000 square meter (ca. 410,000 square feet). In some distance from the Southern Train Station, as the opposite pole to this hall, Hitler wanted to erect a Triumphal Arch, whose height he determined as 120 meters (ca. 394 feet): “At least this will be a memorial worthy of our dead in the world war. The name of each of our 1.8 million fallen soldiers will be chiseled into the granite. ...” He handed over sketches drawn on two little cards to me: “I made these drawings over ten years ago. I have always kept them, as I never doubted that I will build them one day. And thus we shall realize them now as well.”

The idea behind this vision was built upon the principle of accumulating living, dead, and inanimate masses, who were all designated to be mobilized for the modelling of a historical physiognomy according to the belief-system of the NS-movement. The congregation hall was designed as a space where *living* Germans could gather for mass events and summon the new ‘big’ Germanness (bigger than Rome), whereas the Triumphal Arch symbolically inhabited the spirits of *dead* soldiers, whose names were carved into the stone. Both edifices would have been an accumulation of a vast amount of natural *stones* wrapped around ferroconcrete skeletons. All these building materials carried invisible traces of the dead laborers that Speer did not mention. Heavy load-bearing modernity was shaping up. Who was supposed to carry all that weight?¹²⁶

¹²⁶ Coincidentally, the same year, in 1925, when Hitler allegedly drew the first plans of Germania in Vienna, Terzaghi, who was a professor at the University of Vienna at that time, published his ‘bible of soil mechanics’. Without Terzaghi’s groundbreaking research, Hitler’s architectural vision, which obviously relied on extremely heavy structures, would probably not have been realizable on a technological basis. It is certainly interesting to see how the foundations of German fascist modernity crossed and coincided with a revolution in foundation engineering/soil mechanics. Allegedly, Terzaghi even discussed some of the building projects with Hitler in Berlin in 1935/1936 (Goodman: 151).



Fig. 48. Hitler, Adolf. Sketch of the Triumphal Arch. 1925. *Erinnerungen*, by Albert Speer, Ullstein, 2005, p. 160-161.

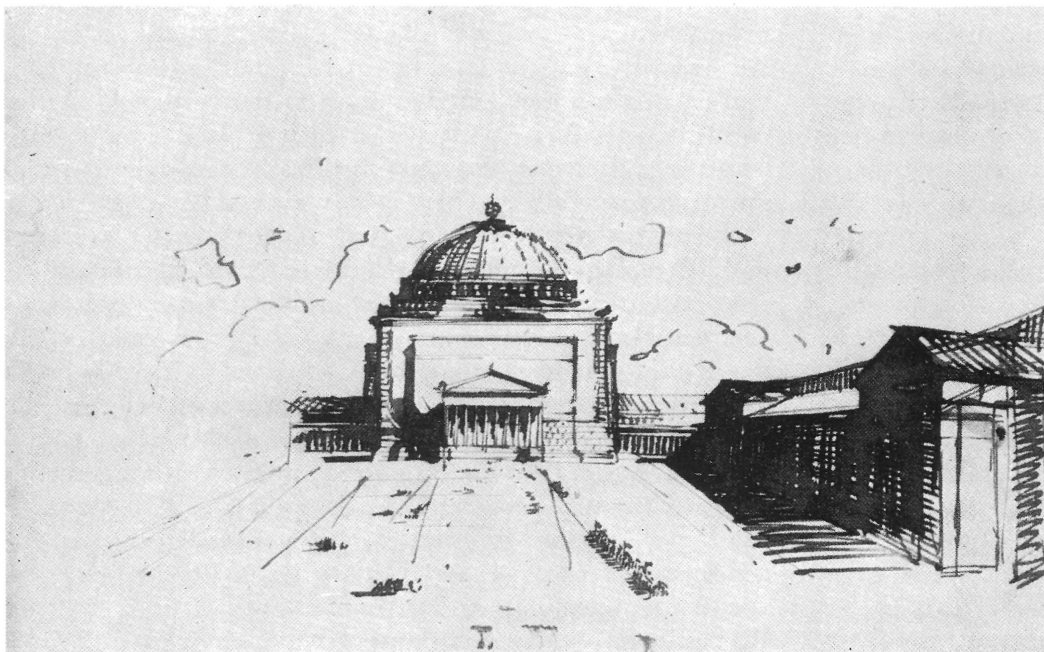


Fig. 49. Hitler, Adolf. Sketch of the Great Hall. 1925. *Erinnerungen*, by Albert Speer, Ullstein, 2005, p. 160-161.

While the two proposed monuments would have been individually imposing, they were also supposed to be placed into a specific constellation to each other (see fig. 50). Together, they were to dictate the first image visitors to Germania would witness, when they entered the urban space:

Unser Triumphbogen mit hundertsechzig Metern Breite, hundertneunzehn Metern Tiefe und hundertsiebzehn Metern Höhe hätte alle Bauten des südlichen Abschnitts der Straße bei weitem überragt und maßstäblich geradezu degradiert. ... Dies war ein Herzstück seiner Planung, ... das beste erhaltene Beispiel der architektonischen Vorstellungen, die Hitler in seinem ... Skizzenbuch in den zwanziger Jahren entwickelt hatte. ... Hinter der achtzig Meter hohen Öffnung des “Großen Bogens” verlor sich in fünf Kilometern Entfernung, so stellten wir es uns vor, im Dunst der Großstadt das zweite Triumphbauwerk dieser Straße, die größte Versammlungshalle der Welt mit einer zweihundertneunzig Meter hohen Kuppel. (Speer: 149-50)

Our Triumphal Arch with one-hundred-sixty meters (ca. 525 feet) width, one-hundred-nineteen meters (ca. 390 feet) depth, and one-hundred-seventeen meters (384 feet) height would have towered above all buildings of the southern section of the street by far and degraded them by scale. ... This was a centerpiece of his plan, ... the best preserved example of the architectural ideas that Hitler developed in his ... sketchbook in the twenties. ... Behind the eighty meters high opening of the “Great Arch”, in five kilometers (ca. 3 miles) distance, as we imagined, in the haze of the

metropolis, the second triumphal edifice of this street, the largest congregation hall of the world with a two-hundred-ninety meters (ca. 950 feet) high cupola, lost¹²⁷ itself.

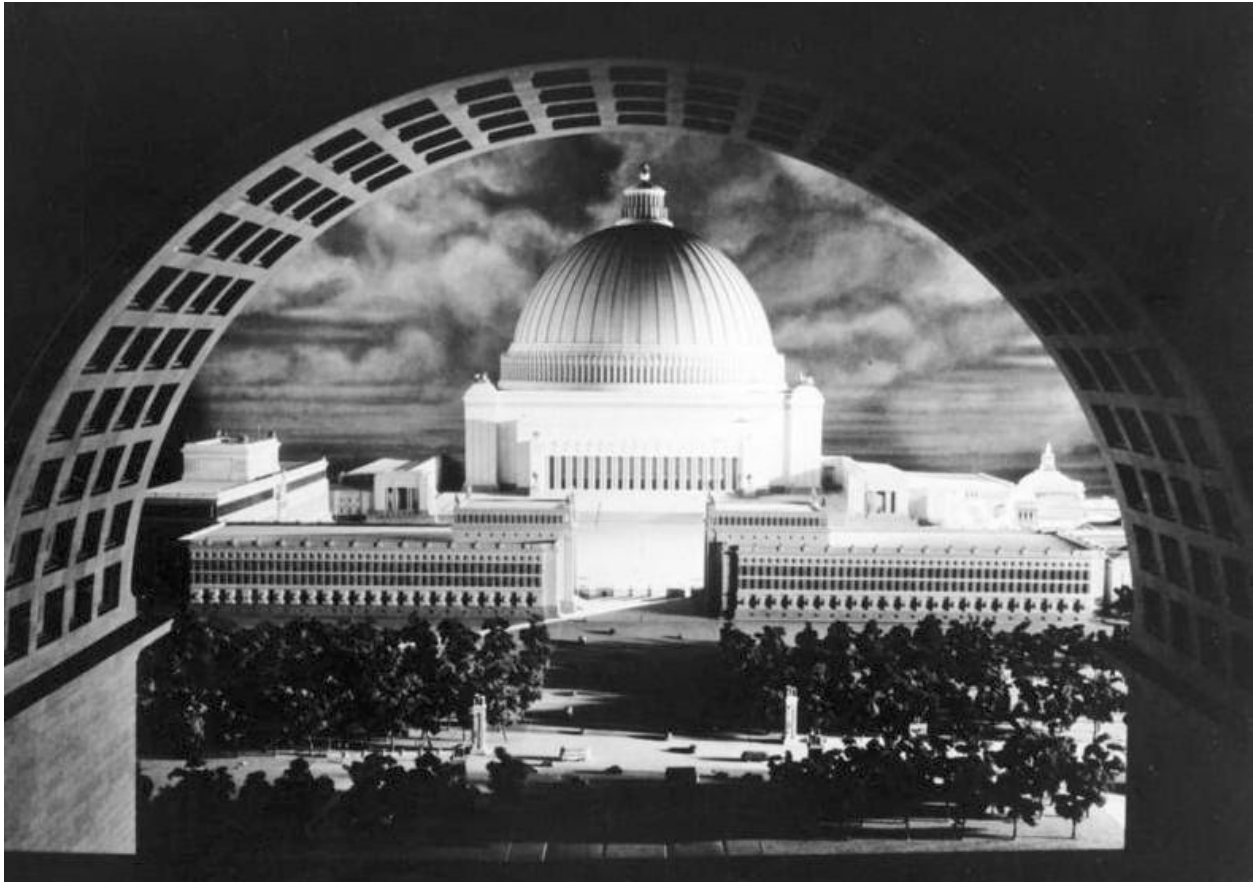


Fig. 50. Gaze on the Great Hall through the Triumphal Arch. 1939/44. BArch, B
146-1983-018-03A / n.a.

As a result of the aligned placement of arch, axis, and hall, visitors were to encounter a dense, layered view of Germania, in which heavy load-bearing modernity crystallized in all its size. To curate this experience meticulously, the monumental and futuristic “Südbahnhof” (southern train station), was designated as a major infrastructural entrance point to the imperial

¹²⁷ What he probably meant by that is *delineated*.

capital (for national and international travel). Its unexpectedly modern aesthetic would have resulted in a train station, “der sich durch ein weitgehend sichtbares Stahlskelett, das mit Kupferplatten verkleidet und mit Glasflächen ausgefacht werden sollte, von den übrigen steinernen Ungetümen vorteilhaft abgehoben hätte” (which would have distinguished itself favorably from the other stone monstrosities through a largely visibly steel skeleton that was supposed to be revetted with copper plates and filled in with glass surfaces). Under the glaze of its undoubtedly modernist aesthetic, the typical Speerian ambition to tower over architectural history was lurking, as he specifically designed the station to outclass the size of New York’s Grand Central Terminal. The ‘progressive’ impression it nevertheless might have had on the visitor was soon to be broken (Speer, 1969: 149).

The moment one left the station, one would have been welcomed by the excessive celebration of warfare that was to dominate the new face of Berlin. When walking the 800 meters (ca. 0.5 miles) from the station to the nearby arch, the path was to be cornered by exhibited “Beutewaffen” (looted weapons), while leading over a plaza modeled after the ancient Egyptian “Widderalle von Karnak nach Luxor” (Aries Boulevard of Karnak at Luxor) (149). “Speer ... beabsichtigte, zwischen Südbahnhof und Bauwerk T etwa 30 schwerste Beutegeschütze und besonders große Stücke am Bahnhof selbst aufzustellen, so daß der Bedarf etwa 200 Stück der schwersten Art betrage. Auch besonders große Tanks sollen vor bedeutenden öffentlichen Gebäuden aufgestellt werden (Wolters Chronik: 599, Blatt 66) (Speer ... intended to exhibit about 30 of the heaviest looted canons and especially large pieces between the southern station and the Edifice T, so that the demand came down to about 200 pieces of the heaviest kind. Especially large tanks should also be exhibited in front of important public buildings). The very ‘lucky’ ones, would even have witnessed one of the many gigantic military parades that were to

lead from the arch through the rest of the city.¹²⁸ Even once you left the area, the theme of war was to be omnipresent. Be it the exhibited loot brought home from battlefields or the symbolic mythological war scenes that decorated the new German architecture.

While getting closer to the arch, you would discover further details. On top, a symmetrical arrangement of sculptures: two naked male warriors, each holding a horse by the stirrup, the animals with their heads held high into the skies (see fig. 6). Two hands of the men met in a tight grip around a long rod erected vertically in the air between them—the Roman legionaries called it aquifa—topped off with an eagle. In this case, the raptor was holding a globe in his tight grip on, which symbolized the claim to world power by the German empire, driven by a social darwinist ideology of warfare, conquest, enslavement, eugenics, and annihilation. Apart from the stylized bodies, the edifice was to be decorated with the insignia of the Reich: Three eagles, resting upon a swastika, were to be attached to the side of the southern front. Two of them, the ones on the left and the right, would have their wings spread wide open, maybe symbolizing the reach of the fascist empire from the East to the West. The eagle in the middle would be holding his wings tight and high behind his back, as if he was about to launch an attack on the spectator.

Muskelmann (muscle man)

The iconography of fascist art was centered around the sculpting of the Aryan warrior as a powerful, muscular, and superhuman body, who arose against the threat of demonic enemies, which appeared in the form of dragons, snakes, and other creatures to be slayed (see fig. 51). It

¹²⁸ On May 12th, 1941, Speer met up with Hitler at Obersalzberg to discuss the military parades planned at the Triumphal Arch in Berlin. An occurring difficulty was the right angle between the East-West Axis and the Tiergartenstraße, which threatened to interrupt the flow of the parade. Speer suggested to have the majority of parades move from north to south, while “(l)ediglich die Truppeneinmärsche nach Feldzügen sollen in der Richtung von Süden nach Norden durch das Bauwerk T vorgenommen werden” (only the troops returning from battles should be marching from the south to the north through the edifice T), for which Speer provided a suitable solution on that occasion (Wolters Chronik: 583, Bl. 44).

illustrated the myth of the Aryan warrior that was at the core of Hitler's conceptualization of world history. Prominent pieces carried martial names such as "Der Wächter" (the guardian), "Der Rächer" (the avenger), "Vergeltung" (retaliation), "Kameraden" (comrades), "Fackelträger" (torch bearer), "Kampf" (battle), "Rossebändiger" (horse tamer), "Aufbruch" (departure), and so on ("Breker"). For example, one of Breker's reliefs, which was planned for the pedestals of the Triumphal Arch, portrayed an Aryan warrior holding a giant rock on top of his head, looking as if he was to crush an enemy with it at any given moment (see fig. 52).

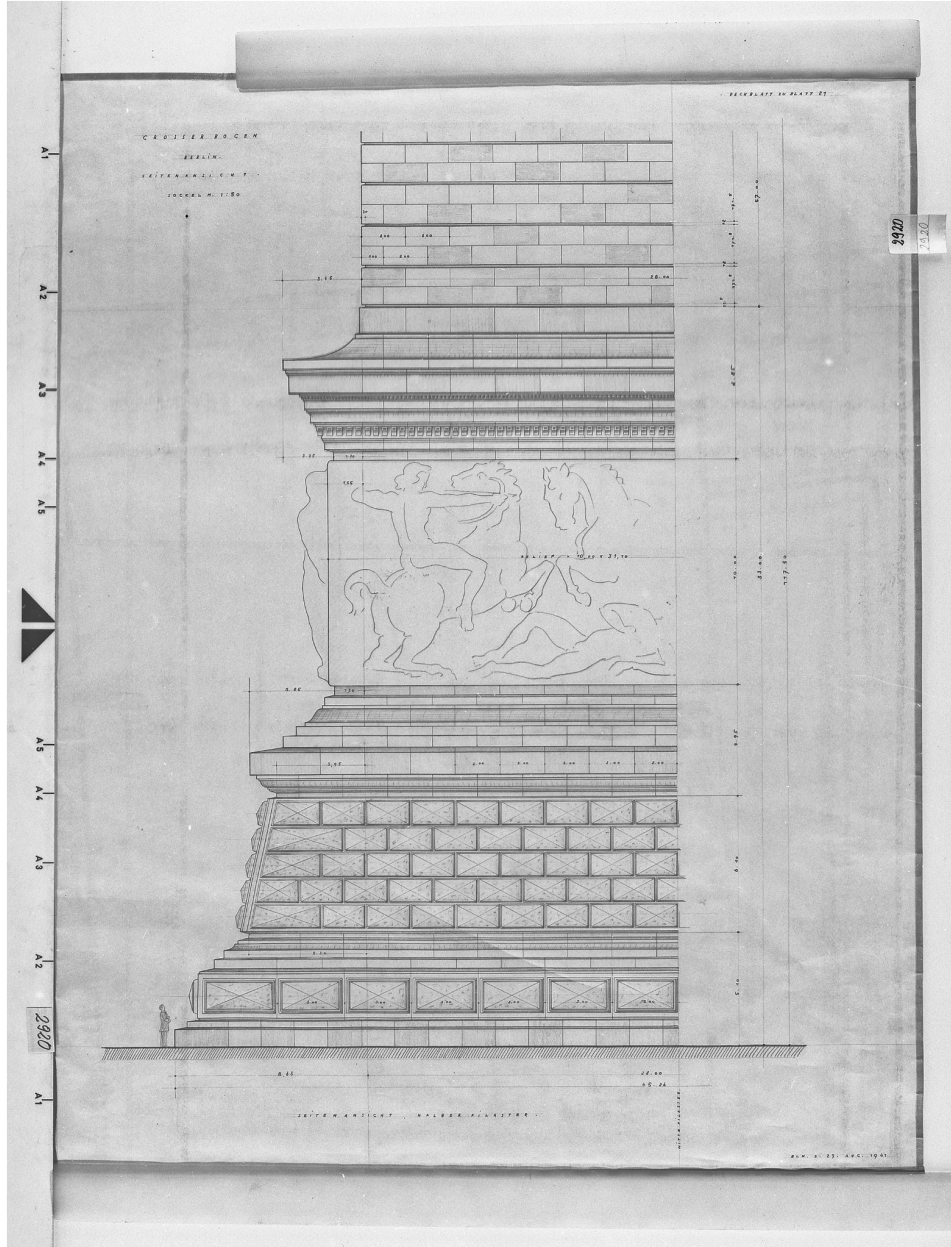


Fig. 51. Büro Speer. "Grosser Bogen Berlin, Seitenansicht Sockel." 29 Aug 1941.

Hauptstaatsarchiv, Büro Speer Pläne, 2920.

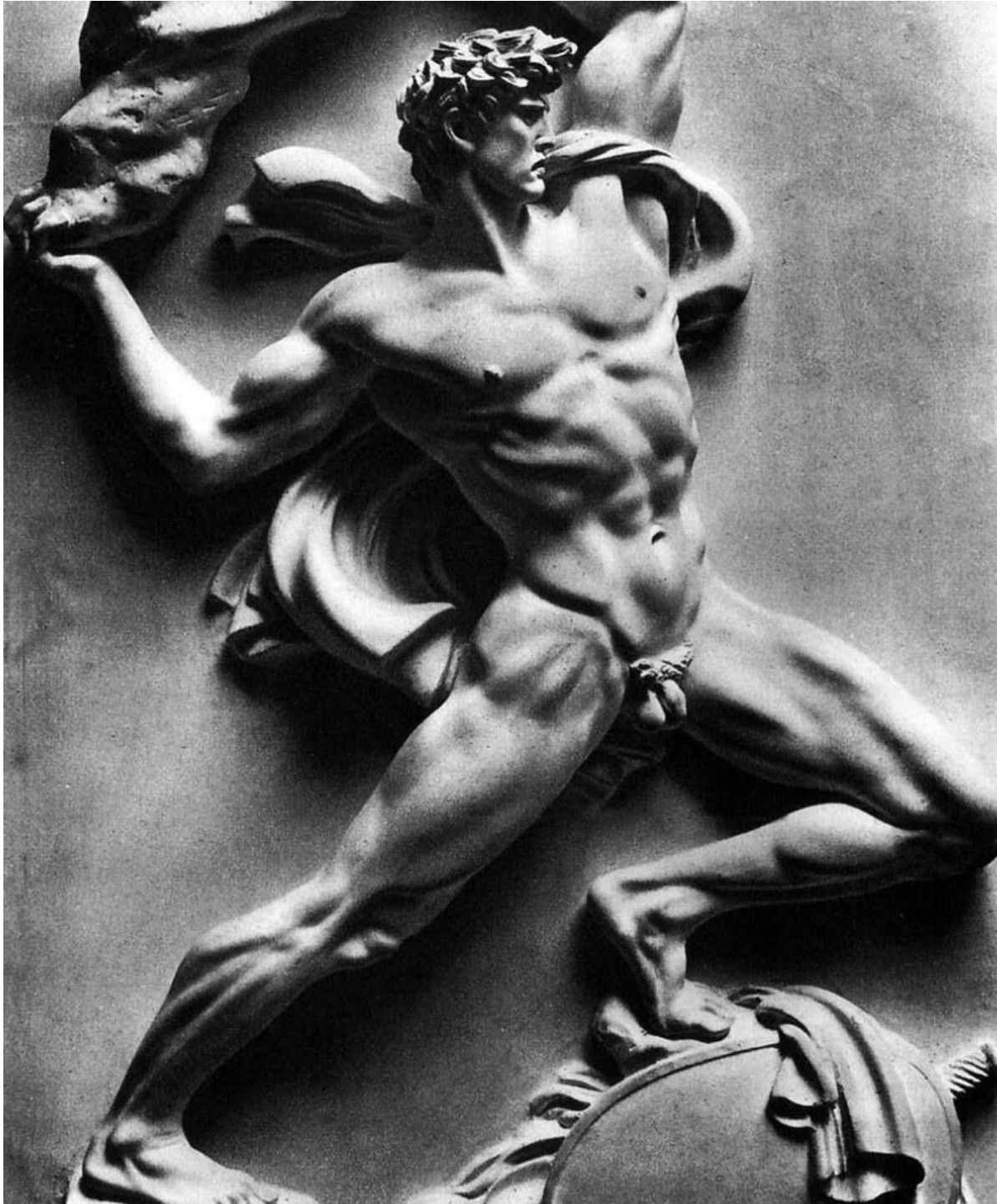


Fig. 52. Breker, Arno. “Vergeltung”, relief for the “Triumphbogen”. 1938, *Flickr*, 4 Dec 2014, flickr.com/photos/davisson123/15944731221/. Accessed 8 Mar 2021.¹²⁹

¹²⁹ More of Breker’s work can be seen on the website of the Museum Arno Breker (museum-arno-breker.org) located in Schloss Nörvenich outside of Bonn alongside the Museum für Europäische Kunst (Museum for European Art).

Breker populated his reliefs and sculptures systematically with Greek and Roman elements to construct a simultaneity of their cultural spheres. They were all amalgamated into one monolith layer under the umbrella of the Aryan race that contained Greek, Roman, and Nordic elements, which all had emerged of the same raw 'mass':

Breker's plans were dominated by the figure of the hoplite: his nudes were frequently depicted in the Greek peplos, flowing robes that gave his figures a beautiful draping effect, as well as the hoplon, the round shield of the Greek infantry, and the gladius, a sword whose shape and scabbard were more evocative of Rome. This Greco-Roman synthesis was also evident in one of Breker's most monumental bas-relief projects, *Der Wächter*, as well as a sketch of a monumental frieze for the Soldatenhalle in Berlin, called *Auszug zum Kampf*, a blatant imitation of the frieze on the Parthenon, ornately decorated with Roman-style eagles. This sort of confusion may seem surprising, but the simultaneous presence of Greek and Roman elements was due neither to accident nor to the ignorance of the artist: blending Greek and Roman symbolized the syncretic image of a Germanic-Nordic humanity understood in terms of an ahistorical and hagiographic racial unity. Hoplites and legionnaires, Greeks and Romans coexisted and commingled to provide the image of a single, inalterable Nordic warrior that the new Germany had resuscitated. (Chapotout: 184)

Thus, three quite distinct cultural historical layers were condensed into a single one, forging a cultural monolith built upon the reduction and homogenization of the complexity of history. Obviously, the Aryan warrior needed an enemy that gave him the chance to commit

heroic acts. Only that way, the *Muskelmann* could arise from history as the superior counterpart to a dehumanized and demonized enemy. The fascist myth of the eternal battle of *Germans vs. non-Germans* offered a clear metahistorical script that found a grand expression in Breker's neoclassical design. By proliferating this script, Breker helped to transform world history into the stage of a never ending, racially engineered war.

To be able to execute Hitler's world history the *Muskelmann* sculpted his body in training camps and put it to work on the battlefield, where many of his kind left their lives. But his death was not to be forgotten. After he dominated the war, the memory of his great blood sacrifice was to dominate the urban space. His and his comrades' names and struggle was to be carved and depicted on history's greatest monuments. His *superhuman* sacrifice was to be sacralized for eternity on top of the German fascist *superstructure*—which created the necessity for a *substructure* that was carried by the *subhuman*. This role was assigned to the *Muselman*, whose 'contaminating' body was declared a racial threat. Their task in history was to die and to give the *Muskelmann* a reason to kill. But, *their* deaths were not to be remembered. Their stories and tears were to fade away until they were—finally—erased from history. But, on the way to their industrialized death, they had to fulfill the 'greatest task of all', namely to build the *superstructures* that would *not* carry and remember their names. While the *Muselmänner* were being maltreated, no resources—stones, chisels, and bloodshed—were spared for the monumentalization of the death of the *Muskelmann*.

As main architect *and* Germania manager, Speer was especially invested in the Triumphal Arch. He made sure that Breker, the assigned sculpturist, would get anything he wanted. First and foremost, Speer guaranteed that only the finest stones were delivered. The contract issued by the GBI made very specific details about the requested prime quality (see fig. 53): "Die

Rohsteine müssen aus gesunden, nicht verwitterten Lagen, also aus dem Kernfels gebrochen sein. Die Steine dürfen keine Risse, Stiche, schädliche Einsprengungen, Schußpreller, Blätterungen, schiefrige Absonderungen und dergl. enthalten” (The raw stones have to be broken out of healthy, non eroded layers, so the core rock. The stones may not contain any fissures, stitches, damaging inclusions, bruises, flaking, slaty secretions and alike). Once they would arrive in Berlin, they would be handled with the greatest care and only touched by “geschulte[n] Steinmetzen und Steinbildhauer” (trained stone masons and stone sculptors) (BArch R4606/4727: Bl. 5).

Secondly, Speer made sure Breker had *absolute* control over the project. The contract stated that “[d]er Auftragnehmer ist verpflichtet, die von Herrn Prof. Breker, Berlin, für erforderlich gehaltenen Bildhauer, die seinem künstlerischen Empfinden¹³⁰ entsprechen, jederzeit in den Arbeitsprozess einzuschalten und entsprechend zu entgelten” (the contractor is obligated to engage the masons that Prof. Breker, Berlin deems necessary, which meet his artistic vision, into the construction process at any time and compensate them accordingly). Also, he had the right to control the progress of the process at any time (7).

In terms of costs, there was no limit either. In 1940 the stones were ordered from the company Vereinigte Fichtelgebirge-Grant-Syenit-und Marmorwerke A.-G. (Grasyma) in Wunsiedel for one million Reichsmark in total (ca. 17.6 million USD today) (1). The salary of a “Hilfsarbeiter” (unskilled laborer), who was lowest in the hierarchy, was “RM 0,50” (ca. 9 USD) per hour. The wage of a trained stone mason was “RM 1,20” (ca. 21 USD) per hour (4). Speer had issued *himself* a payment of 50,000 RM (ca. 885,000 USD) for his contribution to the project

¹³⁰ Speer was quite sensitive to Breker’s needs as correspondence between Hitler’s private secretary, Martin Bormann (1900-1945), from November 25th, 1941, reveals. When Bormann notified Speer that Thorak, another ‘great’ sculpturist, would publish his book on the matter half a year before Breker, the architect decided not to inform Breker. He was concerned “[b]ei der ‘empfindsamen’ Künsternatur Brekers würde Ihre Auskunft nur Unsicherheit hervorrufen” (your news would only trigger insecurities of the ‘sensitive’ artistic nature of Breker) (BArch, R 4606/476: Bl. 10).

“Triumph-Bogen” prior to that (on March 7th, 1939). This would cover his “Planungskosten (Honorare und Modellkosten)” (planning costs (honoraria and costs for models)) (BArch, R 4606/476: Bl. 110).

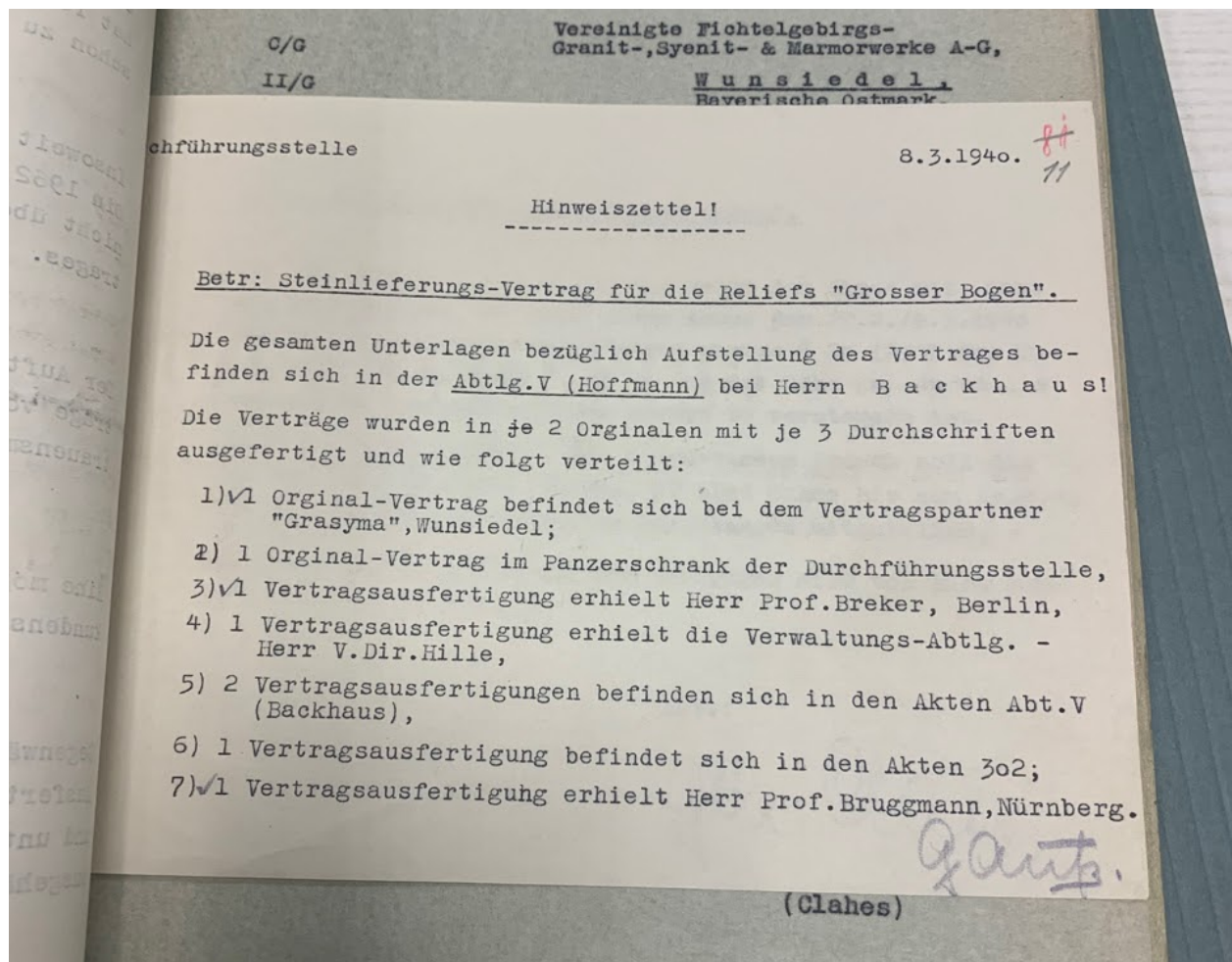


Fig. 53. GBI. “Steinlieferungs-Vertrag für die Reliefs ‘Grosser Bogen’.”¹³¹ 8 Mar 1940. BArch R4606/4727, Bl. 11.

Within the Reich, any type of labour, be it artistic, industrial, craftsmanship, manual, etc., was reframed as “Wehrdienst” (military service), as “soldatische Prozesse” (martial processes),

¹³¹ Stone delivery contract for the reliefs of the Great Arch.

which formed a giant obedient mass that was willing to take on and express themselves with the ‘greatest’ task of history: racial purification. “Diese Erfahrung der Bereitschaft zum Auslöschen und die Erfahrungen des Auslöschens selber, die Erfahrungen der Ausrottungsaktionen selber, standen ... im Zentrum dieser ... Erarbeitung der Arbeitserfahrung” (this experience of the willingness to annihilate and the experience of the annihilation itself, the experience of the operation of the eradication itself stood ... in the center of this ... design of the experience of work). Fascism looked at “Arbeit ... als eine mythische Größe” (work ... as a mythical entity)—and Speer's task was to design its grand “Opferbühne” (stage of sacrifice) (Heinrich: 16). On this stage, a play was performed based on the “enge Verzahnung von Totenkult, soldatischer Heldenverehrung, körperlicher Ertüchtigung und Massenversammlung” (tight interlocking of death cult, military hero worship, physical exercise and mass rallies) (Sigel: 36)

Both *Germania/Auschwitz*, as the habitat(s) of the *Muskelmann/Muselmann*, took part in the same ‘logic’ of an overarching superhistorical racial engineering with purity as the final goal of history. Everyone, if they wanted or not, worked on it—and/or was worked on *by* it. It required a total mobilization of all aspects of life towards it. This, paradoxically, resulted in the creation of an overarching, ‘permanent’ camp, which was constantly on the brink of marching out for *the* battle (against any *internal* or *external* threat of racial ‘infection’). It created a tension that could *never* be solved, as Heinrich described his experience of Berlin’s transformation (204). Would a visitor of Germania have seen the smoking chimneys from the roof of the arch, while overlooking the monumental camp formerly known as Berlin? If so, would they know? Speer knew—he was designated to be sculpted into stone, so that his spirit could be passed onto future generations. Meanwhile, his empire gassed future generations. In between meetings with Hitler about armament and receiving honors for his GBI office, Speer found the time for Breker to

make a bust of him in 1941 (see fig. 54) (Wolters Chronik: 605, Bl. 78). Thus they both contributed to the building of the myth of Germania.

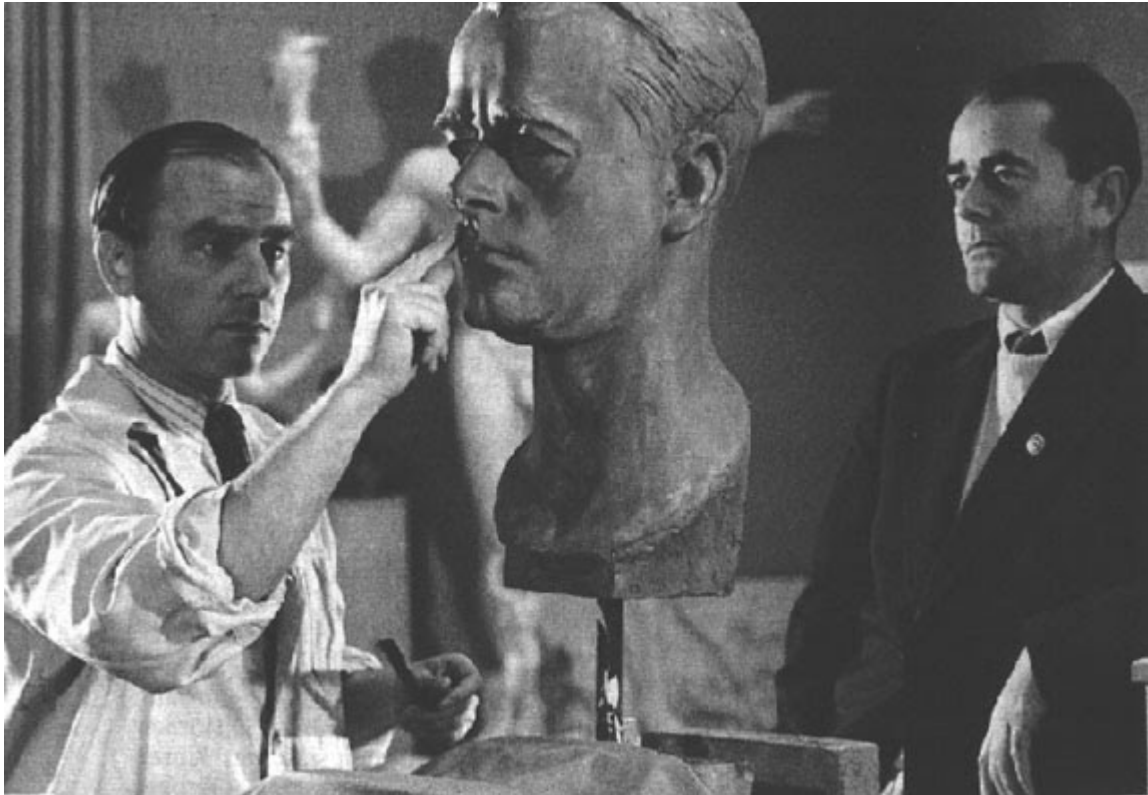


Fig. 54. Rohrbach, Charlotte. Arno Breker sculpting Reichsminister Albert Speer. 1941. *Museum of European Art*, 17 May 2005, meaus.com/96-albert-speer-und-fest.htm. Accessed 28 Aug 2021.

When close enough to the arch, in the very south of town, one could have seen a straight line leading up to the very north of town, where the silhouette of another colossal edifice emerged out of the clouds: the Great Hall. Within this visually layered condensation of the major elements of Germania—the arch, the axis, and the hall—the essence of what Germanness was supposed to be, crystallized: the living masses congregating in the hall, the dead massed

inscribed in the arch, both connected by the axis as grand passage from life to death, articulating the imperative for self-sacrifice under fascist rule. Germania's topography was designed to offer an identity construct that distinguished itself by its spatial enormity, temporal eternity, and racial purity, which was encoded in a lot of stones, a lot of weight, and a lot of empty air. Altogether, this illusion of supersize, supertime, and superego, was to form an imposing argument, which was resting upon the silent moaning in the soils as a fading voice of resistance.

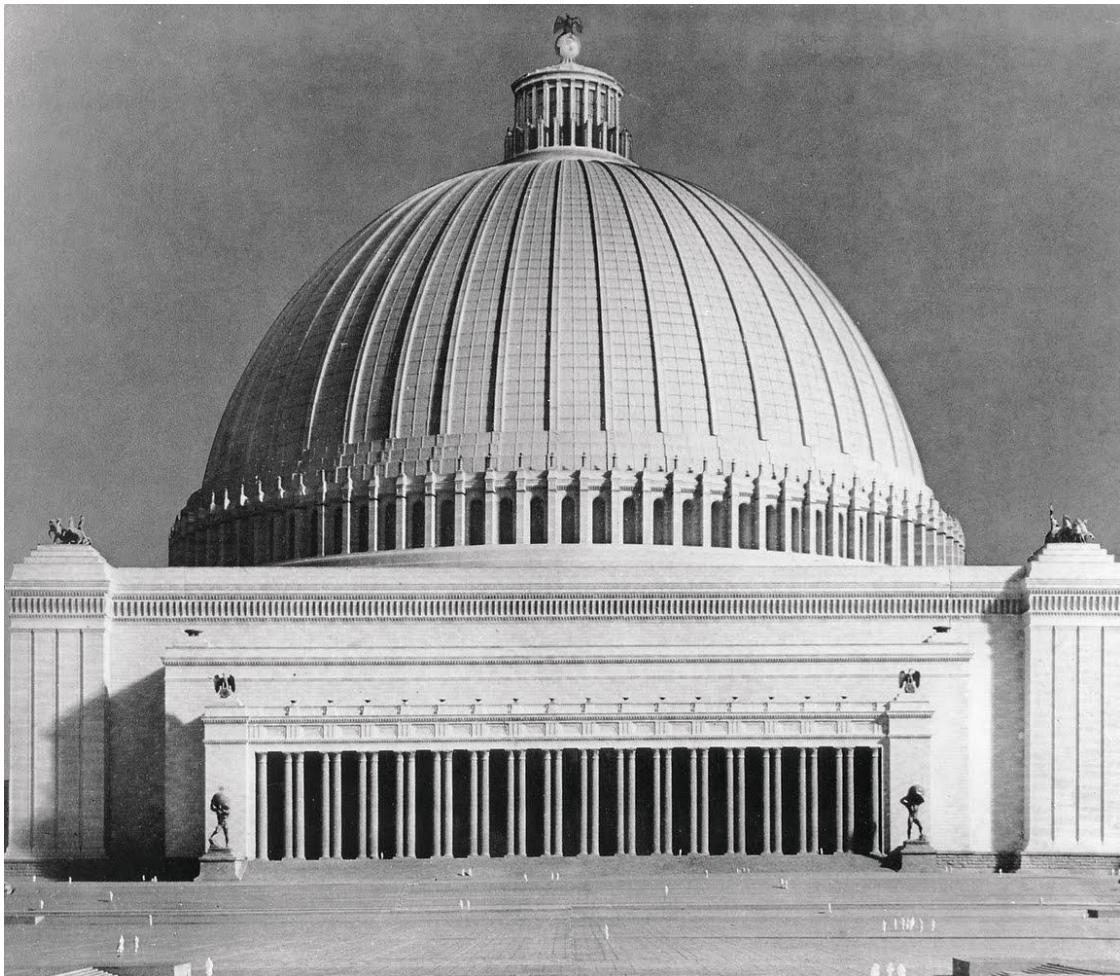


Fig. 55. Glancey, Jonathan. Albert Speer's Great Hall. 1939. *Archdaily*, 8 Mar 2017, www.archdaily.com/806680/unbuilt-nazi-pantheon-unpacking-albert-speer-volkshalle-germania-jonathan-glancey. Accessed 8 Mar 2021.

As Speer wrote in *Erinnerungen*, the Great Hall, also called “große[] Kuppelhalle” (great cupola hall) or “Volkshalle” (hall of the people), was supposed to be the “größte bis dahin erdachte Versammlungshalle der Welt” (greatest hitherto envisioned congregation hall of the world) and power center of the German Empire (see fig. 55). Indeed, it was planned to be colossal in measurements: from the outside, a total height of over 320 meters (ca. 1050 feet). The building’s 230 meter (ca. 720 feet) high, green cupola (patinated with copper plates) was supposed to be topped with a 40 meters (ca. 130 feet) high glass lantern (framed in a light metal construction) carrying an eagle holding onto a globe. It symbolized the fascist grip on the world. All of this mass was supposed to be resting upon a square base of 315 meter (ca. 1000 feet) side length and 74 meters height (ca. 240 feet) (made of bright granite).

In order to make the sheer mass of the cupola processable for the human eye looking from the outside, it was optically intercepted by a continuous row of 20 meter (ca. 65 feet) high pillars that created a textured look. The vast size of the square base upon which the cupola rested, was supposed to be highlighted by a delicate frieze, a “gebündelt” (focused), channeled pillar on each of the four corners, and a columned hall attached to the front of the edifice. This portico was supposed to be flanked by two giant, 15 meter (ca. 50 feet) high statues of allegorical meaning related to the theme of *weight*: one of them was *Atlas* carrying the universe, the other one *Tellus* carrying the globe. Heaven and earth were supposed to be glazed with emaille, and the contours of the zodiac signs with gold (168). Once you stepped through this giant portal, you would have encountered an equally impressive interior space (see fig. 56).

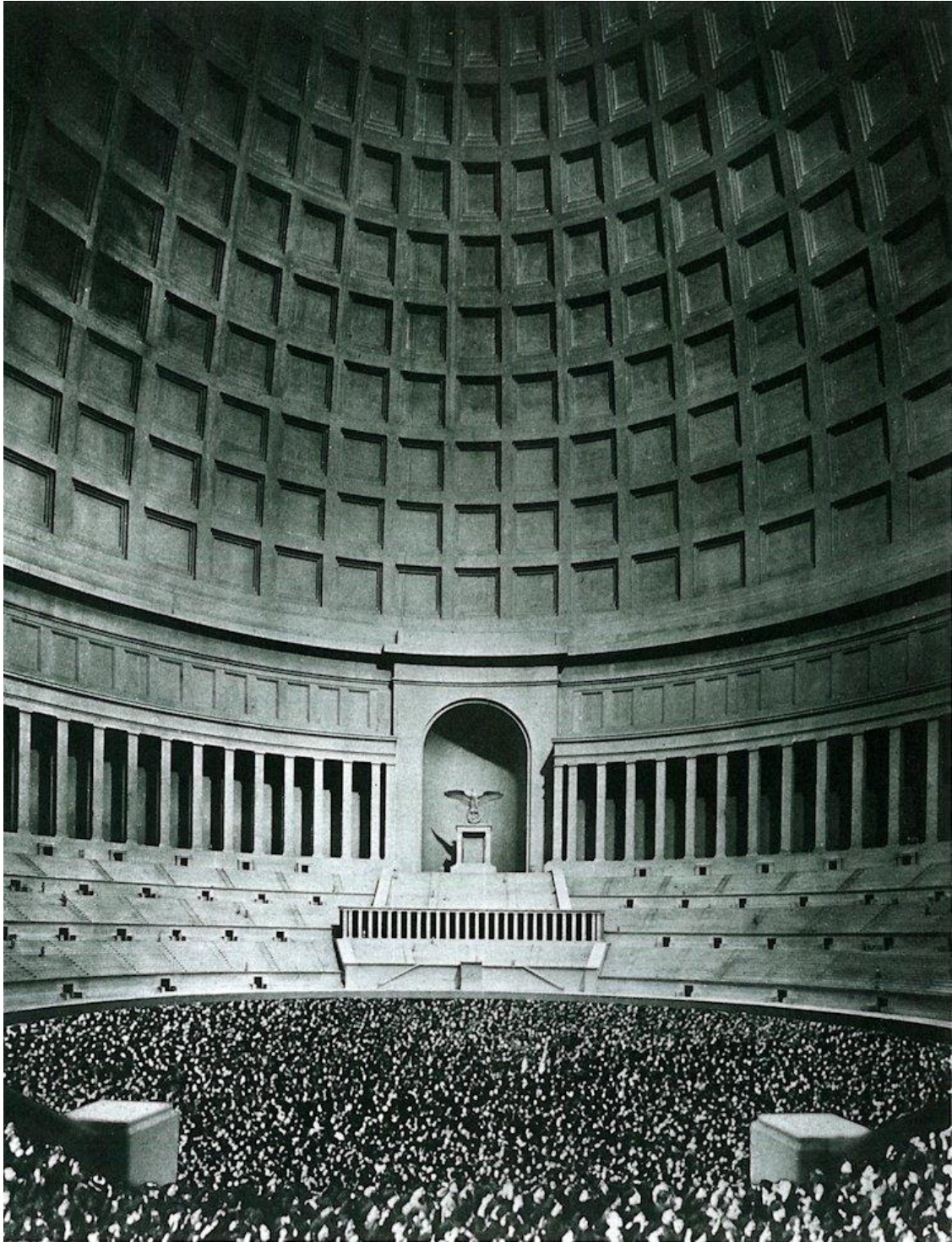


Fig. 56. The interior of the Great Hall from the south. 1937/1940. *Karl Friedrich Schinkel / Albert Speer: eine architektonische Auseinandersetzung mit dem NS*, by Klaus Heinrich, edited by Nikolaus Kuhnert et al., Arch+, 2015, p. 189.

Inside the dome, one could have witnessed a circular interior with a diameter of 250 meters (ca. 820 feet). The vertex of the cupola was at 220 meters height (ca. 720 feet) and its parabolic curve found its conclusion at 98 meters (ca. 320 feet). The design was inspired by the Roman Pantheon. Accordingly, the fascist ‘super-pantheon’ was also supposed to have a circular “Lichtöffnung” (light opening) with a diameter of 46 meters (ca. 150 feet) (which is about the diameter of the whole cupola of the Pantheon). This interior space accumulated to the 17-fold volume of the St. Peter’s Cathedral (also in Rome. The outer circumference of over 21 million cubic meters (ca. 740 million cubic feet), would have fitted the Capitol in Washington many times (167-168).

The interior design of the circular space directed the spectator’s towards a golden “Reichsadler” holding on to a swastika wrapped in an oak leaf wreath, placed upon a 14 meter (ca. 45 feet) high pedestal—located right across from the entrance to catch the eye of the visitor. It would stand in front of a 50 meter (ca. 160 feet) high and 28 meter (ca. 90 feet) wide niche, with golden mosaic floors, that interrupted the cornice of 100 rectangular marble pillars decorating the circular wall. The statue was supposed to mark the end of the pompous “Prachstraße” (avenue of splendors) that began at the Triumphal Arch in the south of Berlin. Below the giant eagle, the “Platz des Führers der Nation” (plaza of the leader of the nation) was supposed to be located, from where Hitler would send his message to the people of the German empire. All eyes would have been directed towards the leader: therefore, tribunes would rise up to a height of 30 meters (ca. 100 feet) in three ranks, surrounding the remaining circular space of 140 meters (ca. 460 feet) (168). Thus, between 150,000-180,000 people would have been able to listen to Hitler in a single room (167).

The edifice was conceptualized as a “Kultraum” (cultic space) and the “Zentralbau” (central building) of the empire. Similar to the St. Peter’s Cathedral, it was supposed to be charged with a ‘sacred’ meaning to the German people. Over the course of the coming centuries, this meaning was supposed to be carried on by tradition and “Ehrwürdigkeit” (venerability) (167). In his prison diaries, Speer ‘reproduced’ a conversation, in which Hitler goes into more detail about his long term plans. Thereby he mentioned how the fascists could learn from—and outlast—the 2,000 year long ‘stamina’ of Christianity. Hitler said:

Es ist nicht so einfach, eine Tradition aufzubauen. Dazu gehört nicht nur Ideal, sondern Autorität, Opferbereitschaft, Disziplin—und das alles über Hunderte von Jahren. ... [U]nsere Kultbauten in Berlin und Nürnberg werden die Dome in den Dimensionen lächerlich machen. Lassen Sie nur so einen kleinen Bauer in unsere große Kuppelhalle in Berlin treten. Da bleibt ihm nicht nur der Atem weg. Der Mann weiß von da an, wohin er gehört. ... Das sag ich Ihnen Speer, diese Bauten sind das Wichtigste! Sie müssen alles daransetzen, sie noch zu meinen Lebzeiten fertigzustellen. Nur wenn ich selber noch in ihnen gesprochen und regiert habe, bekommen sie die Weihe, die sie für meine Nachfolger brauchen. (31)

It is not that easy to build up a tradition. That requires not only ideals, but authority, willingness to sacrifice, discipline—and all of that over hundreds of years. ... [O]ur cultic buildings in Berlin and Nuremberg will make the domes look pathetic in scale. Just let a small peasant step in our great cupola hall in Berlin. He will not only catch his breath. The man knows from then on, where he belongs to. ... I say this to you, Speer, these

buildings are most important! You have to spare no effort to complete them during my lifetime. Only when I myself have spoken and ruled in them before, they will get the ordination, which they need for my successors.

This passage repeated the theory about the ‘impregnation’ of *Stein* with *Geist* via the physical presence of Hitler that I looked at earlier. It also explained that a large building scale created an identity-establishing moment to the spectator through its sheer physical sensation, as Hitler believed. “Wer einmal den Raum der Großen Halle betritt, der zum Zerschmettern der Masse gedacht ist, ist tatsächlich gefangen” (Who once enters the space of the Great Hall, which is designed to crush the masses, is indeed trapped) (Heinrich: 192). Thus, size was an efficient tool to take away the identity-establishing momentum that currently lay with the churches. The scale of a building was a demonstration of the power of the regime that built it, and its weight embodied the pressure it put upon its people. The sheer physical presence of Hitler’s hall would demand the authority, self-sacrifice, and discipline required to create a tradition that solidified fascist power and prolonged its reign. Additionally, the mass spectacle enabled by these massive backdrops, was a major pillar of the indoctrination of the population. The stones of Germania were supposed to be ‘charged’ with the fascist spirit summoned by the bodies of the dead soldiers and Hitler—forming the *superstructure* dedicated to the *Volkskörper*. Erased would be the voices of those who had sweated, bled, and suffered for its construction—the *substructure* that physically, and symbolically, carried the weight of history. Speer delegated Berlin’s transformation from a high horse—he was up there in the clouds overlooking everything. But, if we want to get to the bottom of Speer’s logic of ‘impregnation’, we have to descend and do our groundwork. It was the laborers, who were cutting the stones, mixing and pouring the concrete,

laying the bricks, and putting their hands on the project. Their hands would ‘imprint’ all of these materials that absorbed their spirits. Thus, their touch would persist in the superstructure they had put together—for eternity.

After scanning the Germania project topographically and locating its heaviest parts and most pressured bearing elements, let us switch from the horizontal to the vertical scale, and bring soil (mechanics) into the equation, in order to start thinking more about weight (distribution) in the next chapter.

3 Substructure



Figure 57. Inmates of KZ Flössenburg working in the quarry for Speer's monumental buildings at the North-South Axis. *Die Akte Speer: Spuren eines Kriegsverbrechers*, by Heinrich Breloer and Rainer Zimmer, Propyläen, 2006, p. 83.

Consider if this is a man

Who works in the mud

Who does not know peace

Who fights for a scrap of bread

Who dies because a yes or a no (Levi: 11)

From a structural engineering perspective, foundations are the interface between the weight of the *superstructure* and its bearing element, the soils. Both foundations and soils are considered part of the *substructure*. The task of a foundation is to transfer a building's ground pressure in a way that doesn't endanger the stability of a building, such as excessively sinking or

tilting (horizontally, vertically, axially). For Speer, an unstable building must have equaled an unstable world-history. According to fascist ideology, the eternal German *Blut* (blood) had the power to subdue any *Boden* (soil). In order to prove that point, the architect invested heavily in the development of soil modification technologies that increased the loadability of the ground. The materiality of the substructure had to be analyzed, homogenized , and ideologically aligned (through condensation, mixing, relocation, removal, etc.). As a result, the ground was prepared to ‘serve’ as a load-bearing element that secured the structural stability of the heaviness of German fascist modernity that was designed as tension between *super- vs. substructure* and *blood vs. soil*.

Substruktionen

In his critique of fascist architecture, Heinrich presented another take on the concept of *substructures*: “Mit Substruktion meine ich das räumliche Sichtbarwerden der gattungsgeschichtlichen¹³² Fundamente einer gleichsam archäologisierenden Architektur ..., die die Funktion hat, Zeit und Raum zu vergegenwärtigen” (With substructure I mean the spatial manifestation of the genealogical foundations of a so to speak archaeologizing architecture..., which has the function to bring to mind time and space) (7). So, these substructures were a building's complex historical, spatial, and anthropological origins/layers. Heinrich saw it as the task of architecture to stylistically represent its various substructures, so that the spectator could be made aware of a building's various spatio-temporal contexts (people, geographies, geologies, ecologies, histories, topographies, etc.), which interacted with it in any way or in any place and time.¹³³ When a building ‘revealed’ its semantic diversity/complexity, it could become an embodiment of the call for the acceptance of diversity and complexity among human societies. This ‘empathic’ architecture he envisioned would create an ideal city that engages and listens to the world surrounding it and is therefore consciously built with an awareness for its various underlying “Substruktionen” (substructures): “Die Utopie einer Stadt nämlich, in der man versucht, möglichst friedliche Lösungen zu finden und mit Widersprüchen umzugehen” (The

¹³² “Gattungsgeschichte” would usually be translated as “history of the genre”. Nevertheless, Heinrich uses it to refer to the “history of the human species”, as his overall argument is that the “history of architecture” is a reflection of the “history of humanity”, a point that he makes over and over again. For example, “Architektur ist für mich sozusagen die leibhaftige Verkörperung der Gattungsgeschichte. Gattungsgeschichtlich sind wir den Höhlen entstieg, einmal draußen bauen wir uns Höhlen ins Licht” (Architecture is, so to say, the bodily incarnation of the history of our species for me. In terms of the history of our species, we alighted from caves, once outside we built caves into the light) (4). Or, when he described his readings as a “Selbstverständigungsunternehmen der menschlichen Gattung” (project of self-understanding of the human species) (2). Therefore, I use *genealogical* here, even if it does not capture its exact meaning.

¹³³ He also highlighted a spirit of unity that fostered interdisciplinary work. He states that “die Aufgabe einer Universität müsse es sein, ‘der Gesellschaft ein Bewusstsein ihrer selbst zu geben.’ Daran müssen alle Fächer arbeiten” (it has to be the task of a university to ‘give society a consciousness of itself.’ All disciplines have to work on that) (5).

utopia of a city, namely, in which one tries to find as peaceful solutions as possible and to deal with contradictions) (7). As such, it would speak to the needs of what he referred to as the ‘aesthetic subject’.

Aesthetic vs. Transcendental

Before we dive deeper into Berlin, let us briefly cover Heinrich's major argument, as it will help us understand his interpretations of architectural history and theory. In his series of lectures named “Dahlemer Vorlesungen. Zum Verhältnis von ästhetischem und transzendentalen Subjekt” (Dahlem lectures. About the relationship of the aesthetic and the transcendental subject), he interpreted modern European history as a battle between the aesthetic and transcendental legitimization of reality. He rooted this question back to the Kantian opposition of the ‘transcendental subject’—that perceives the world according to prescribed, *a priori* laws, and the ‘aesthetic subject’—that responds ‘spontaneously’ through sensual, bodily reactions. The latter interfere with the pre-programmed protocol of our reason, which therefore tries to suppress our bodily, sensual reactions. He based his critique of architecture on the analysis of this tension between *mind vs. body* and *reason vs. senses*. Accordingly, there is an architecture that operates in the service of the ‘transcendental subject’—and strives for an overarching clarity and “Gleichförmigkeit” (conformity) and ignores the complex historical, social, and spatial contexts it emerged from. The task of an architecture in the service of the ‘aesthetic’ object would be to break apart the order its transcendental counterpart tries to impose—and reinscribe all of what has been erased by it (2-3).

Berlin

Heinrich elaborated on his theory of substructures through the history of Berlin (6-7). Due to Berlin's manifold and highly fluctuating cultural identities, which had brought forth

several signature architectural styles that all had their ‘master-builders’, the cosmopolis was indeed the ideal example to develop his theory. We all know of the ornamental neoclassicism of the Wilhelmine period—represented by Schinkel, the minimalistic/futuristic Bauhaus style of the Weimar period—represented by van der Rohe, and the reduced neoclassicism of the Third Reich, which merged the two previous styles—represented by Albert Speer.¹³⁴

Schinkel vs. Speer

In order to illustrate his theory of substructures, Heinrich compared the fundamental difference between Schinkel’s and Speer’s approach to neoclassicism. He argued that Schinkel’s urban design aimed to awaken a consciousness for the various substructures of (his) architecture in the spectator—the diverse origins, manifold meanings, and simultaneous purposes. “Wenn Schinkel baute, baute er immer schon gegen Bestehendes an. Er verschob die vorhandenen Perspektiven; veränderte das Licht der Umgebung; veränderte die Disposition von Bauten, die restlos auf *eine* Funktion zugeschnitten waren (When Schinkel built, he always built against already existing things. He shifted existing perspectives; changed the light of the surroundings; changed the disposition of buildings, which were exclusively designed for *one* purpose) (6-7). His goal was the “Humanisierung” of the classical style, e.g. by extending its application to modern materials, such as iron (194). Quite opposite to that, Speer’s buildings were designed to align the spectator to their *singular* purpose, which was the imposition of a linear history striving towards “Gleichförmigkeit” (uniformity). Heinrich saw the latter as a fundamentally destructive drive within humanity that needed to be constantly encountered, as it kept producing “immer

¹³⁴ Obviously, not too much of Speer’s work was ever built; also it is arguable if the fascists even had enough time to come up with a coherent style. Nevertheless, his work still takes up a lot of space in the collective imaginary of Berlin. Sigel described the architectural language of fascism as a “Synthese zahlreicher Gestaltungselemente aus dem Repertoire der Monumentalarchitektur der mesopotamischen und griechisch-römischen Antike” (synthesis of numerous design elements from the repertoire of the monumental architecture of Mesopotamian and Greco Roman antiquity) that “knüpft abstrahierend an die Klassizismen des 19. Und des frühen 20. Jahrhunderts an” (ties in with the classicism of the 19th and early 20th century in an abstracting manner) (34). Jaskot called it simply “stripped-down neoclassicism” (51).

wieder Großreiche, die alles Individuelle zu zerstören trachten, gleichzumachen versuchen” (great empires again and again, which strive to destroy individuality, trying to conform everything) (6). Therefore, he saw Speer’s architecture as an epitome of “Substruktionslosigkeit” (substructurelessness)—as it tried to suppress the spectator’s awareness of the manifold origins of the neoclassical style the architect had adopted in order to declare it an exclusively German style (217). Speer’s architecture was all about creating the image of a total order through “Symmetrie, Axialität, Großmaßstäblichkeit und Reduktion der ornamentalen Mittel auf emblematische Zeichen wie Hakenkreuz oder Reichsadler” (symmetry, axiality, monumentality and reduction of the ornamental elements to the emblematic signs such as the swastika or the Reichsadler) (Sigel: 34). Germania didn’t seek to solve, but to maintain and intensify, the tensions among its inhabitants. Everyone had to be mobilized for the endless battle between *Germans vs. non-Germans*, which was seen as the grand motor driving world history relentlessly forward, and that constantly had to be fueled with hatred and destructive lust. Speer envisioned a city that was an absolutely homogenized monument to the ‘greatest’ race in history—everything had to be sacrificed to maintain its purity.

Local vs. Global

In reference to Schinkel’s architecture, Heinrich defined substructures further as the attempt to represent both the *local* and *cosmopolitan* roots of his interpretation of the neoclassical style. Schinkel believed that architecture is a local product, and therefore classicism, as an ancient mediterranean style, had no substructural roots in Germany. Therefore, Schinkel commented on his relocation/rerooting of the classical style into Germany from ancient Greece, e.g. by simulating the ‘southern’ light of ancient temples in his buildings (7):

Schinkel konnte Geschichte nicht in die Substruktion legen, ... weil er mit seinen kubischen Bauten, die Licht widerspiegeln, südliches Licht, eigentlich solche Sehnsüchte nach dem Süden in die Landschaft und dann in die Städte transportiert hat. Seine Bauten haben nicht mehr die Substruktion, die in die Tiefe geht und sie verwurzelt. (7)

Schinkel couldn't put history into the substructure, ... because with his cubic buildings, which reflect light, southern light, he actually transported suchlike yearnings for the south into the landscape and then into the cities. His buildings don't have the substructure, which goes into depth and roots them, anymore.

With his lightplay, Schinkel paid his dues to the cultural and geographical origins of the classical style. But, despite the fact that he reflected upon the 'import' of a 'foreign' style, he also aimed to highlight that the practice of building—no matter which style or regional variety—is shared among all humans, as we are a 'building species'. To make this 'glocal' claim, he consciously enriched his buildings by showcasing artistic reproductions of the history of architecture and humanity (see fig. 58):

Dass Schinkel seine Architektur trotz fehlender Substruktion ... dennoch geschichtlich rückbindet, zeigt er im Beispiel dadurch, dass er in seinem Treppenhaus für das ... Alte Museum, die ganze Gattungsgeschichte in riesigen Fresken ausbreitet. Auch die wunderbaren Türen, die ursprünglich in der Bauakademie standen, zeigen im Grunde die Architekturgeschichte als eine Art Gattungsgeschichte. (6-7)

The fact that Schinkel still ties his architecture back historically ... despite a missing substructure, he shows, for example, in his staircase for the ... Old Museum where he spreads the entire history of humanity on giant frescos. Also, the wonderful doors, which were originally at the building academy, show basically the history of architecture as a history of the species.

As a consequence, Schinkel's style combined the global and the local. His architecture carried the utopian vision of a united humanity. Schinkel expressed that with his attempts to restore, simulate, or at least comment on the various substructures of the classical form out of which *his* neoclassical architecture had emerged. In that sense, Schinkel's architecture was both dislocated and rooted. The message of his buildings was (and is): despite our different architectural styles we are connected through the shared practice of building.

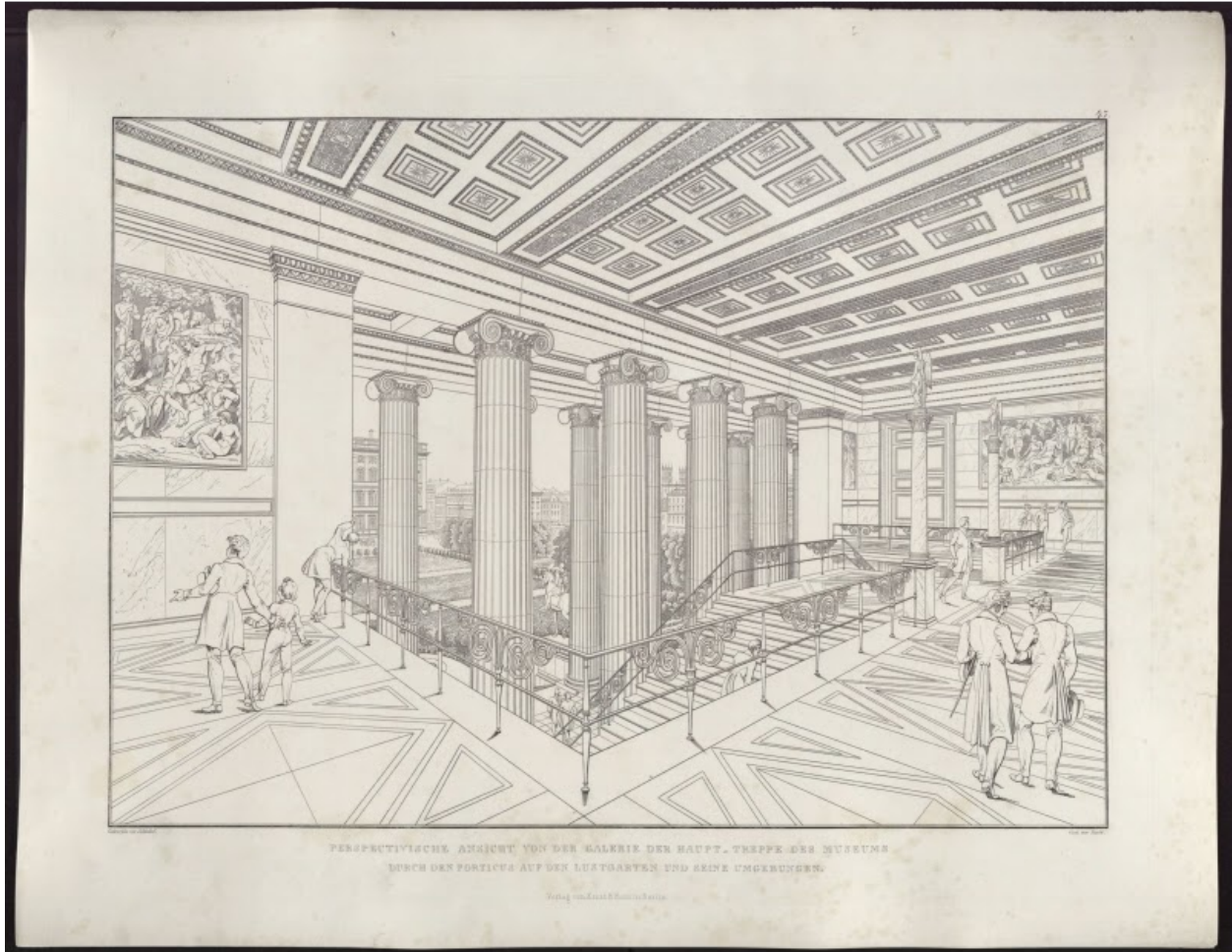


Fig. 58. Schinkel, Karl Friedrich. *Altes Museum am Lustgarten. Innere Ansicht der Haupttreppe.* 1831. Kupferstichkabinett, Staatliche Museen zu Berlin. *Museum-digital*, nat.museum-digital.de. Accessed 28 Aug 2021.

Cosmpolitanism

Altogether, Schinkel's urban vision pointed towards creating and housing a future society that carried a spirit of unification and cultivated the understanding and acceptance of, and curiosity for, 'imported', 'foreign', and 'hybrid' styles and perspectives:

Das heißt, sein Bildprogramm ist sozusagen, *seine* ins Licht gehobene Substruktion ... , [so] dass etwas sichtbar wird, was vorher nicht sichtbar war. Etwas, das zu gleicher Zeit mit der Vergangenheit *und* mit seinen ... Zukunftsutopien verbunden ist. Die Utopie einer Stadt nämlich, in der man von Perspektive zu Perspektive wandelt und sich bei der Betrachtung von Bauten, die teils alt sind, teils unerhört neu dastehen und das flimmernde Licht von ganz woanders her transportieren, auch ein bisschen klar wird über die Geschichte der Gattung. Die Utopie einer Stadt nämlich, in der man versucht, möglichst friedliche Lösungen zu finden und mit Widersprüchen umzugehen. (7)

This means that his iconographic program is, so to say, *his* illuminated substructure ... , [so] that something becomes visible that was not visible before. Something, which is simultaneously tied to the past *and* to its ... utopias of the future. Namely the utopia of a city, in which one shifts from perspective to perspective, and, while observing buildings, which are partly old, and partly stand there outrageously new and transport the shimmering light from somewhere entirely else, gains a little bit clarity about the history of the genre. The utopia of a city, namely, in which one tries to find as peaceful solutions as possible and to deal with contradictions.

Schinkel's visualization of complexity, connectedness, mobility, and multiperspectivity emphasized our shared practices, histories, and genealogies as members of the human species. By exploring and appreciating local and historical varieties, while simultaneously highlighting an overarching unity, Schinkel proposed ways to overcome tensions that might arise if we assigned a specific style to a specific nation, time, ethnicity, and so on. In contrast to that approach of

clearly assigning ownership and defining meaning unambiguously, he wanted his architecture to become a connecting point of our diverse shared pasts *and* the united future that he envisioned. He conceptualized the practice of architecture as a method to overcome tensions, no matter if they are canonical, social, national, racial, gender, and so on. He did so by forging a dialogue among all the complex substructural layers of the built space. Ultimately, he believed that empathy was really the way to build cities and relationships alike.

As we know, Schinkel's utopian hopes were not fulfilled, and history took a leap into another deeply violent episode. Thereby, *his* neoclassicism became the inspiration for a style that intended to enforce the exact *opposite* of Schinkel's cosmopolitan spirit. Fascism, and thus racism, uniformity, and division, was on the rise—again.



Fig. 59. “Die Neue Reichskanzlei.” Sep 1940. BArch 146-1987-003-09A / n.a.

Individual(s) vs. Mass

Schinkel's architecture was built for the—individual—flâneur, the curious explorer, the aimless wanderer. His conscious play with forms and closed and open spaces made sure that there was something new to discover behind every corner. For example, an unexpected glimpse through the façade, a surprising view over the city, a vista through an arrangement of columns that allowed you to reread a room you had already visited from another angle. Speer, on the other hand, built to align the masses into the direction of the NS-movement. There was nothing to discover or reconsider: it was all out there on the table in all its monumentality (see fig. 59). The goal of his architecture was to forcefully flatten any possibility for the spectator to become aware of the heterogeneous roots of (any) architecture that Schinkel's multiperspectival approach highlighted (Heinrich: 192-193):

Das alles ist in der Speer'schen Architektur nicht mehr vorhanden, die Mehrdeutigkeit ist ausgelöscht. Das Wandeln von Perspektive zu Perspektive wird durch das Marschieren ersetzt. Was zählt, ist nur noch die Erinnerung an den Ursprung 'der Bewegung', die ständig *in Bewegung* gehalten werden soll. 'Die Bewegung' erinnert sich ständig ihrer in allen Ausmaßen, ob in Form von Totentempeln in den Städten oder als Totenburgen rings um das Großdeutsche Reich. (7)

All of this is not contained in Speer's architecture anymore, the ambivalence is erased. The shift from perspective to perspective is replaced by the marching. What counts is solely the memory of the origin of 'the movement', which shall be kept constantly *in movement*. 'The movement' constantly reminds itself of itself on all scales, be it in the

form of death temples in the cities or as death castles surrounding the Great German Empire.

Speer's "Attrappenarchitektur" (mock architecture) set the stage for this eternal death march of destruction (192)—with the ultimate goal to "das Räumliche gleichgültig zu machen und das Zeitliche in einen einzigen Zustand zu verwandeln" (to make space indifferent and transform time into a single shape) (7). Time did not have layers anymore, the masses were marching through a static space and time continuum that was progressively emptied of ambiguities and meaning(fulness). Accordingly, Speer designed his architecture as a vehicle of "Einschüchterung" (intimidation) and "Zerschmetterung" (shattering)—a colossal "Drohgebärde" (threatening gesture) (193). Speer's architecture was not only "Opferbühne" (stage of sacrifice), it was a product of this "Opferszenarie" (setting of sacralization) that was at the core of German fascism (16). This was the *substructure* of his work, even if Speer denied this after the war, and highlighted his humanistic vision.

In that context Heinrich addressed the question: "Keine deutsche Architektur nach Auschwitz?" (No German architecture after Auschwitz?). Had Speer sacrificed and annihilated the legitimacy of German architecture as well?

Nein, ganz sicher nicht. Nur für diese gewaltige Kulissen- und Attrappenarchitektur der totalisierenden Großveranstaltungen, die es überall gab ist es natürlich der Endpunkt, der Höhepunkt. ... Aber zunächst war für mich als Kind das Bedrohliche der frühen NS-Zeit nicht die Architektur, sondern die Märsche durch die Stadt. Es ging ja schon vor 1933 los, dass Trupps durch die Stadt marschierten. ... Es war mir sehr unheimlich, weil die

Trupps nicht sangen, sondern grölten. Ein unheimlicher Grölgesang. Und die Leute auf den Straßen wurden gezwungen, die Hacken zusammenzuschlagen, 'Heil Hitler' zu rufen und die Fahne zu grüßen. Diese Aufmärsche hinterließen bei mir einen solchen Eindruck, dass es mir sehr einleuchtete, dass dafür ganze Straßenzüge abgerissen wurden. Ich erinnere mich noch, dass ich eines Tages die Potsdamer Straße hochfuhr und sah, dass viele Häuser verschwunden waren. Auf meine Frage, warum, erklärte mir mein Vater, dass sie Aufmarschstraßen weichen mussten. (4)

No, very certainly not. Only for this vast stage- and mockup architecture for the totalizing massive events, which were everywhere, it is of course the end point, the culminating point. ... But what was initially threatening for me as a child during the early NS-era was not the architecture, but the marches through the city. It started before 1933 already that squads marched through the city. ... It was very uncanny to me, because the squads did not sing, they roared. An uncanny roaring singing. And the people on the streets were forced to click their heels together, scream 'Heil Hitler', and greet the flag. These marches left such an impression on me that it became very clear to me that entire streets were demolished for them. I still remember that one day I drove up the Potsdamer Straße and saw that many houses had disappeared. To my question why my dad explained to me that they had to give way for parade streets.



Fig. 60. Wehrmacht marching through the Triumphal Arch in Paris. 1940/1941. BArch
146-1978-052-03 / n.a.

The *only* task of Speer's city was to constantly remind the spectator of the grand origins of the fascist movement that were contained in the superiority of their blood. Above all, his buildings echoed a call to arms. The fascist concept of history that was hammered into the population by the stomping of the soldier's boots formulated an urgency to protect the purity of the German race at all times—and for eternity (see. fig. 60). Only purity could guarantee the historical survival of Germanness, which expressed itself in a collective body. Paradoxically, this *collective* 'survival' required the unconditional willingness to sacrifice one's *individual* body for the sake of the 'higher' cause, at any moment. The fascist greeting *Sieg Heil* consisting of *Sieg*

(victory) and *Heil* (salvation) captured this contradiction: only through battle salvation could be achieved. To protect the holy unity of blood, required for the individual to be willing to be sacrificed, and, as a reward, this sacrifice would be monumentally sacralized by Speer's buildings. To uphold this racial concept of identity, necessitated an eternal campaign leading either into absolute assimilation or (self-)annihilation—and to a massive bloodshed in any case. Within the fascist worldview, it was not that much of a contradiction as the proclamation of a religion of death.

Now that we have looked at Heinrich's theory of the substructure, let us ask ourselves, how can we engage with Speer's architecture today in a meaningful way—or should we rather not? Generally, Heinrich saw it as the duty of humanity to practice self-enlightenment, and therefore work through our violent drives and how they went to work throughout history. He saw this practice of 'self-deconstruction' as a crucial self-protective mechanism that determined the survival of humanity—as we would otherwise inevitably practice self-destruction: “die Selbstaufklärung ist das, was ich als Geschichtsutopie ansehen würde. ... Denn nur eine selbstaufgeklärte Menschengesellschaft hat die Chance, weiterzuleben” (Self-enlightenment is what I consider as utopia of history. ... As only a self-enlightened human society has the chance to survive) (6). It was the only way to prevent the outbreak of our inherent “Vernichtungsphantasien” (fantasies of annihilation) (15). In the spirit of Heinrich, let us ask ourselves the question, how could we 'translate' Speer's architecture into a text that is conscious of its substructure? As I interpret this, we would have to create a text in which we feed information that undermines Speer's attempts of unification—thus we could reinscribe the 'covered-up' or 'suppressed' substructural layers narratively and 'reopen' its complexity. For example, we could consider the geological/soil mechanical scale of Speer's urban transformation

that reveals a deep structural fragility; or the fate of the construction workers whose spirits were ‘squeezed out’ of the bodies of heavy load-bearing modernity. They speak to the violent origins of Speer’s work that is constituted by its will to suppress diversity for the sake of enforcing uniformity. As a result, we could, ideally, gain critical insights into the mechanics of society, history, and psychology. Or, in Blumenberg’s words, by exploring and undermining the static metaphors of fascist time, we can try “an die Substruktur des Denkens heranzukommen, an den Untergrund, die Nährlösung der systematischen Kristallisationen” (to reach the substructure of thought, the underground, the nutrient solution of systematic crystallizations) and show “mit welchem ‘Mut’ sich der Geist in seinen Bildern selbst voraus ist und wie sich im Mut zur Vermutung seine Geschichte entwirft” (with which “courage” the mind is ahead of itself in its images and with how its history shapes by its courage to guess) (1960: 11).

Boden und Blut vs. Blut und Boden

Speer’s architecture of annihilation operated on the scale of the ‘transcendental subject’ that tried to impose a clear binary hierarchical order of the world, in which *Blut* rules over *Boden*. Figures such as Levi provide the insights of the ‘aesthetic subject’ that thicken Speer’s flattened accounts of *Blut und Boden*. His accounts of the materiality of soil and blood allows us to transform the meaning of *Blut und Boden* from an *abstract* to a *physical* formula. As architecture is a process (that involves gathering labor, building materials, and other resources), and not a static, timeless construction that can be looked at as a purely aesthetic phenomenon, we have to ‘root’ Speer’s architecture back into the space of the concentration camps, which provided the resources for its violent materialization (*Blut*). This manifested in ‘pressing’ humans bodies down from an erect state into horizontality through an inhumane work-load, and/or the machinery of annihilation, thus making them *sink* and *drown*, which created a

‘geological intimacy’ between the worker’s bodies and the German soils (*Boden*). In that way, German *Boden* was infused with the victim’s *Blut* and the narrative of their suffering. The latter lay the foundations for a cultural geology that tells the story of their physical and historical erasure, as an act of narrative resistance to the German fascist superstructure that built on a homogenization of *Blut und Boden*. Overall, this narrative strategy could be seen as a *substructuralization* of Speer’s work.

Therefore, to turn Speer’s hierarchy of *Blut>Boden* around, let us start with *Boden*, as the very first substructure of (his) architecture.

Boden

Opening up the history of soil mechanics allows us to reveal the fascist awareness of their own structural ephemerality and heterogeneity. They encountered it during their deep analysis of the ‘shaky’ and ‘fluid’ soils into which they placed their foundations into and built upon. From that moment on, their buildings were at the mercy of the earth. Through a reading of the material history and composition of the ground (*Boden*), we can ‘deconstruct’ the abstract concept of eternity and homogeneity fascist monuments *enacted* rather than *embodied*.

***Geist* (spirit), *Stein* (stone), *Erde* (soil)**

Now, let us think vertically about fascist ‘eternity’ in terms of the dynamic between the layers of “Geist” (spirit), “Stein” (stone), and “Erde” (soil)—and weight distribution. In the last chapter, I mentioned that the massive congregation hall, from where Hitler was to send his message to the people, was to be a building whose significance could not be fully grasped until in a few centuries (according to Hitler). So foundations for ‘eternity’ were supposed to be laid with it. From a technological perspective, the project would certainly have been outstanding within the entire history of human building activities. Therefore, before we look into Speer’s individual projects, let us go back to the beginnings of mankind, and trace the evolution of the techniques of foundation engineering that accelerated under fascism. Afterwards, we will be able to better understand the scale and significance of Speer’s projects for cultural, intellectual, and technological history—so several substructural layers. Along the way, we will touch upon related projects from the old Sumerians, Babylonians, Egyptians, Aztecs, French, and other cultural spheres that are part of the same history. As Heinrich said, we humans are a building species, and over time, we have often made the same accomplishments *and* mistakes in many different locations and under various labels. As I am reading through this larger history, I am interested in

a particular constellation: when did humans successfully erect large structures on hostile soils, as Speer intended?

Excavation: Foundation Engineering and Soil Mechanics

The particular location of Berlin is famously *not* ideal for construction due to its geological profile. The (upper) layers, which are relevant as building ground, were mainly shaped during the last ice age. The glaciers that ravaged mercilessly through the landscapes brought forth the layer of glacial till, which contained anything the ice masses picked up on their way, from boulders to fine sands. As such, it was a quite unpredictable soil layer in terms of its reaction to loads during the early 20th century. This circumstance made the *Germania* project part of the history of ‘large scale constructions planned on hostile soils’. According to Kerisel, this building category had two major historical moments of innovation: the ancient Sumerians and the (late) 19th century (7-8). Therefore, even if he did not mention him, these moments provided the technological foundation of Speer’s own megalomania in the 20th century.

Unsurprisingly, innovation in the realm of foundation engineering historically occurred when builders went beyond known limits and built on unprecedented scales. This was often the case when praising the ‘higher realm’, so the realm of gods (or the *superstructure*). In order to improve their ‘standing’ in the afterlife, emperors and kings built colossal monuments and shrines for their gods, often without regard to the ‘economic’ treatment of human and other resources. In order for these edifices to stand for a long time, they obviously needed to have firm foundations. The first masters of this craft were the ancient Sumerians, who built large and heavy structures for religious purposes, so called ziggurats, (a ‘precursor’ of the pyramids), in Mesopotamia. These giants were erected on a soil with a “weak bearing capacity”, namely “soft Alluvium borne down towards the Persian Gulf by the two great rivers, the Tigris and the

Euphrates”, as early as about 4,000 B.C.. “Nevertheless, it was on this discouraging terrain that the Sumerians wanted to express their religious faith by building ziggurats, high massive terraces on top of which they erected a temple. ... [F]or more than three millennia, ziggurats were built in Mesopotamia, in most cases on hostile soil”, which made it necessary for the builders to be innovative (7). “Construction on this scale made it necessary to halt, wait and resume the building process many times.” Every time a construction step had been finished, the builders waited for the soil to get used to the new weight on top of them. This approach started with the foundations of these temples, which consisted of many layers of sun dried bricks. After the first layer had been placed on top of the soil, it slowly started sinking into the ground, while also spreading horizontally. Once it had stopped moving, another layer was added on top of it, which also started moving down horizontally and vertically, but less than the previous one. This was repeated again and again with each new layer moving a little less than the one before. Once the movement halted entirely, so after enough layers of bricks had been added, a sufficient foundation had been created. At this point, the building process of the ziggurat could begin on top of it. After establishing that method, later on a “layer of sand containing mats of woven reeds and powerful cables of plant tissue which together absorbed the horizontal thrust that tended to split the mass of the ziggurat” were added between every 8th or 9th layer of bricks. This increased the overall bearing capacity of this type of foundation significantly. “Evenly spaced from bottom to top these reinforcements permitted a graceful form with nearly sheer edges since the layer of sand acted as a drain, sucking water from the bricks and thus increasing their density.” This allowed for additional layers of bricks and accordingly more solid foundations. Without this step, the lower layers of bricks would have taken damage from the weight and the resulting forces on top of it. It was “[a] remarkable invention: indeed, no other period, with the

exception of the 19th century, engendered as many technical innovations as the civilization of Mesopotamia” (8). It is very likely that the city of Babylon, including the famous Tower of Babel (that was most likely a zikkurat), was built “using Sumerian techniques”. Kerisel goes as far as crediting the Sumerians with anticipating the modern method of composite materials: “At a time when ... industrial research in the technologically advanced countries is to develop composite materials, it is interesting to note how this technique is anticipated by the Sumerian invention of reinforced courses of sun-baked bricks” (11-12). As innovative as this technique was, “[t]his original idea of combining complementary materials was soon lost: for centuries no more heavy buildings would be constructed on soft soils except by mistake and it was not until near the end of the Aztec civilization that something similar was attempted once again” in the early 14th century. “In 1329, the Aztecs decided to build their capital Tenochtitlan on a shallow lake with a dangerous subsoil of aeolian clay containing ten times more water than solid matter.” Therefore, they created “an artificial island, known as Dog’s Island” that was designated to bear their city’s weight. Nevertheless, “[t]he Aztecs were unaware of the Sumerian techniques of the second millenium B.C. yet”, but also built their pyramids in several layers, each one executed after the settlement of the previous one was finished (12). Nevertheless, “the Temple Mayor has settled, along with the central part of Mexico City ... about 12 meters” since their erection “nearly four thousand years ago”. “These foundations have had a curious destiny. They existed during the heroic age of ancient Tenochtitlan and supported one of the masterpieces of Aztec art. Floating on loose soil ... they are now supporting parts of the modern capital” Mexico City, which is still sinking into the soft soil. The next attempts to build on soft soil on such a large scale were not until the 19th century (13). The most prominent one is probably the Eiffel Tower that was built in the late 1800s on an extremely difficult soil profile. This project required its builders to come up

with entirely new techniques to read the soil precisely enough to anticipate its movement. Thus, they were able to design appropriate, deep foundations. Needless to say, it would have been a national disaster if the foundations had not been able to bear the tower's weight during the Universal Exhibition in 1889—and had collapsed. In this particular case, the soil profile was so unpredictable that the ground underneath each pillar had a significantly different bearing capacity. Therefore, each pillar had to get custom designed foundations (69-72). In each of these cases, the Sumerians, the Aztecs, the French, the achievement of their builders was to successfully conquer new territory, by developing foundation techniques hitherto largely unavailable. This was an effort that was *not* taken for many other contemporary projects, which, as a result, suffered structural damages, often leading to catastrophes, especially in the early 20th century. The resulting 'soil crisis' stimulated the emergence of soil mechanics in the early 20th century to finally approach the problem systematically, as we learned in chapter 1 (esp. pp. 149-172).

The vast empirical knowledge about art of foundations that was collected over the millenia via trial and error was sufficient up into the late 19th century. Even New York City was initially built on existing 'thumb rules'. It was around the same time, when everything changed. New building materials were introduced allowing for a larger scale of construction, mainly through steel and ferroconcrete techniques (Coduto et al.: 5).

These empirical rules, combined with good judgement, usually produced acceptable results However, the results were sometimes disastrous when builders extrapolated the rules to new conditions. This problem became especially troublesome when new building materials and methods of construction began to appear during the last quarter of

the nineteenth century. The introduction of steel and reinforced concrete led to a gradual transition away from rigid masonry structures supported primarily on bearing walls to more flexible frame structures that used columns. These new materials also permitted structures to be taller and heavier than before. ... Thus, the old rules for foundation design no longer applied. (Coduto et al.: 5).¹³⁵

The types of buildings that made use of the new construction scale, which resulted in buildings being “taller and heavier than before”, were mainly from the civil engineering sector; so. These are the structures that carry and streamline civilization: bridges, dams, highrises, shiplocks, train stations, and other heavy and large structures that handle the vertical and horizontal expansion of human infrastructural systems and require especially stable foundations to provide safety and longevity. As “the old rules for foundation design no longer applied” to this new scale of construction, modern foundation engineering emerged. Nowadays, it is an established field that explores and manages the relationship between structures and soil. Thereby soil is conceptualized as a dynamic space that requires detailed analysis.

To give an example, the *The Foundation Engineering Handbook* (2014) stated that

The cumulative floor loads of a building, a bridge, or a retaining wall are supported by the foundation substructure in direct contact with soil. The soil underneath the substructure becomes compressed and deformed during its interaction with the substructure. This deformation is the settlement that may be permanent because of dead loads or may be partly elastic because of transitional live loads. The magnitude of the

¹³⁵ For a brief and accessible overview of the field of foundation engineering, see the section “Foundations” (pp. 3-12) in the introductory work *Foundation Design. Principles and Practices* (2016) by Coduto, Kitch, and Yeung.

settlement depends on many factors, such as the type of soil, the load intensity, the ground water conditions, and the depth of substructure below the ground level.

(Guaratne: 221)

While all of this knowledge is widely available now, its urgency was just being discovered in the early 20th century. To dive deeper into this, let us compare heavinesses. How heavy was *too* heavy at that time? The Cheops pyramid is not only the largest of its kind, but probably the heaviest building *ever* built by humankind—until Speer surpassed it. Naturally, this posed an enormous challenge for the foundations and respectively the foundation engineers. Let us look at the available data. As Kerisel laid out, the Cheops pyramid distinguished itself among other existing constructions through a

great load concentration within a relatively narrow perimeter: a pyramid like that of Cheops weighs 5 000 000 tons and presses down on the soil within a square measuring 231 m (ca. 760 feet) along each side; in other words it weighs 6 500 tons per square metre (ca. 650 tons per foot) of this perimeter, far more than the heaviest structures of modern civilization—300 to 900 tons/metre (ca. 30 to 90 tons/square feet) for a nuclear power station, 400-500 tons/metre (40-50 tons/square feet) for a building of 50 storeys; ... illustrating the fact that present day engineers are not nearly as bold as Imhotep and his successors were. (Kerisel: 17)

While Kerisel is obviously right about the fact that modern constructions tend to be less heavier, there is *one* modern edifice he overlooked that was specifically designed to trump the

ancient world. Speer's heavy load-bearing cylinder is a material witness to the fact that Speer outweighed the rest of human construction history (in terms of soil pressure and ambition). The cylinder's overall weight is 'only' 12,650 tons, which, of course, is by far less than the approximately five million tons of the Cheops pyramid.¹³⁶ Nevertheless, the weight of the cylinder is distributed on a surface of only 100 square meters (ca. 1,000 square feet), whereas the weight of the Cheops pyramid pressures on 53,361 square meters (231x231) (ca. 500,000 square feet). This leads to the fact that Speer's cylinder accumulates to 126.5 tons/square meter (ca. 12.65 tons/square feet), and thus 'outweighs' the 'only' around 93.7 tons/square meter (ca. 9.37 tons/square feet) of the Cheops Pyramid—in terms of soil pressure.¹³⁷ Current engineers do not dare to reach the dimension of the old Egyptians (for a number of ethical and economic reasons presumably), while the fascist foundation engineers not only reached their scale, they *surpassed* them—on the order of Speer.

But, the technical properties are just numbers in the end. If the heaviest building or not, what are the larger ramifications of buildings of such scale, which have no (practical) function, other than mythologizing the nation (or the pharaoh), in general and historically? Does this question allow us to measure a different kind of weight? Foundations, as I looked at them, are more than just material objects placed into the soil. They required a certain 'spiritual breeding ground' that not only enabled, but justified, or even required their design. Helpful in that regard is Kerisel's breakdown of the geological, technological, political, and cultural 'foundations' the

¹³⁶ Other estimates state that the pyramid weighs as much as 5.9 million tons (Agaiby et al.: 43). This would result in a ground pressure that is still (slightly) lower than the cylinder. But the point here really is that Speer was the only one to build on such a scale *since* the ancient world.

¹³⁷ According to the *Guinness Book of World Records*, the largest and heaviest building in the world is the parliament in Bucharest, built by the Communist regime between 1984-97. This once more demonstrated the relationship between autocratic regimes and building megalomania. The neoclassical palace distributed a weight of 4.1 million tons on 66,150 square meters, which created a soil pressure of ca. 61.98 tons/square meter, so about half of the 126.5 tons/square meter of the cylinder. It seems that facism 'outweighed' communism 2:1 in this case ("Wallachia: The Heaviest Building in the World Testifies to Megalomania"). Presumably, Kerisel did not touch upon this, as he published his book during the construction of the building and was not aware of it.

Cheops pyramid was built upon. He offered the following requirements for an edifice of such scale to occur in history: *geologically*: “a site with a good bearing capacity”; *technologically*: “the discovery ... of how to smelt copper ... used for cutting the stones”; *politically*: “an autocratic regime in the service of a religion enabled the first Pharaoh to impose the extremely hard work” on a massive workforce, arguably slave labor; *culturally*: “the birth of an architect of genius, Imothesep, who found effective solutions to the construction problems of the first great pyramid” (15).¹³⁸

If we translate this list into the fascist period and ask about the conditions required for a structure such as the cylinder to emerge, a possibility would be: *geo-technologically*: the emergence of soil mechanics and modern foundation engineering as means to overcome the geological deficiency of Berlin’s soil, in terms of its low bearing capacity that was unfit for the Speer’s heavy buildings;¹³⁹ *technologically*: the uprise of ferroconcrete and steel in late 19th and early 20th century, as they allowed for constructions on an unprecedented scale (size, weight); *politically*: the uprising of the National Socialist regime that put a large focus on the architectural expression of their ideology in the form of gigantic monuments, which were designed to trump

¹³⁸ What constituted a “Baugenie” (construction genius), according to Nietzsche, was their skill to build “auf beweglichen Fundamenten” (on shifting foundations) (314-315). Generally, the status of a genius is probably hard to measure, even if there are some relevant quantifiable cultural parameters. Not only does a construction like the pyramid require an artistic genius (so an individual). In order for this individual to effectively arise and be able to develop their skill, there needs to be a cultural sensitivity for the problem the genius can solve. Galileo, arguably a genius, had great problems with his knowledge not being culturally acceptable. Medieval culture, dominated by the church, rejected his scientific claims, and generally the Middle Ages count as a time when a lot of ancient knowledge got lost for religious reasons. This is as true for the art of foundation. There were many periods where knowledge was lost or ignored over centuries. Kerisel discussed this in ch. 6, “A few hidden errors in medieval architecture”, where he described how an overemphasis on the appearance of buildings led to an ignorance towards foundation engineering. This led to the fact that budgets allocated for foundations were spent for aesthetic reasons, which resulted in poor foundations, leaning towers, and collapsing domes (41-45). And today, we find ourselves in an age where universities see their main mission in accumulating money, rather than producing knowledge, leading to the fact that the producers of knowledge, faculty, is chronically underpaid, while the administrators, who are in charge of fundraising and make sure the university keeps making money through various channels, are preferred. Arguably, this led to a collapse of intellectual life.

¹³⁹ As Jaskot pointed out, the monumental elements of concentration camps such as the watchtowers of KZ Flössenburg “[w]ith its deep and rocky forest ground, ... required deep foundations”. The effort that was put into these buildings indicated their status as ideological architecture that was directly related to representative architecture (130).

the entire building history of mankind. This enabled Speer to exploit forced labor and to operate on an unlimited budget, financed by the appropriation of the belongings German citizens, especially Jews, and international warfare/plundering; *culturally*: the birth of Speer, probably not an architectural genius,¹⁴⁰ but certainly a building master with almost unchallenged authority and great management skills. He was ruthless enough to overlook the ‘progress’ in morality that humans may have made since ancient times (and that shone through the cracks of the fragile Weimar Republic), in favor of working on his historical legacy, driven by the ambition to be remembered as the greatest builder of all times.

This historical excavation opened many semantic possibilities in terms of metaphorical readings of weight, such as collective guilt and/or the toil of the workers. But let us stick with the material weight for now. What we have to keep in mind here, is that the stability of any superstructure relies on a strong substructure, which is carefully planned out, with no shortage in resources, based on a deep knowledge of the subterranean, and maintained with great care. Otherwise, historically speaking, a grand collapse is inevitable.

Gründungsfrage (the question of foundation)

Halle (hall)

The construction of Speer’s Great Hall, in terms of its *superstructure*, was planned as a modern ferroconcrete skeleton (for the cupola) and traditional masonry (for the walls). “Für die Außenfassade waren bereits Millionen für Granitankäufe ausgegeben worden, und zwar nicht nur

¹⁴⁰ While most would probably disagree, there are prominent defendants of Speer such as Léon Krier. He tried to reintegrate Speer into the narrative of great architects/urban planners after the war, which led to the controversial publication of *Albert Speer: Architecture 1932-1942* (1985). In an attempt to ‘reveal’ the mastery of Speer on a purely aesthetic level, Krier invited the spectator to judge fascist architecture without their political context. In a recent interview with the German magazine *Welt* from 2016, Krier reminisces about the controversy. He praised Speer and his architecture as “fantastische Touristenattraktionen, Weltwunder. Speer hatte architektonisches und städtebauliches Genie” (fantastic tourist attractions, miracles. Speer was an architectural and urban planning genius). Krier’s career suffered severely under his public comments. Nevertheless, he asked an important question that nobody dared to ask: “Kann ein Krimineller ein großer Künstler sein?” (Can a criminal be a great artist?) (Haubrich/Krier).

in Deutschland, sondern ... auch in Südschweden und Finnland” (For the exterior façade millions had already been spent for granite acquisition, and not only in Germany, but ... also in South Sweden and Finland). The use of natural stones came at the cost of an enormous weight (Speer, 1969: 169):

Die Mauern ... waren ... in massiver Bauweise vorgesehen; zusammen mit der Kuppel erzeugten sie gewaltige Druckkräfte, die durch ein ungewöhnliches starkes Fundament aufgenommen werden mussten. Die Ingenieure entschieden sich für einen Betonklotz, der einen Inhalt von über drei Millionen Kubikmeter gehabt hätte. (169)

The walls ... were ... supposed to be massive constructions; in combination with the cupola, they created enormous pressure forces, which had to be absorbed by an unusually strong foundation. The engineers decided for a concrete block, which would have had a volume of over three million cubic meters (ca. 800 million gallons).

To no surprise, this extremely heavy design required extensive soil mechanical precautions. Therefore, the engineers designed an accordingly monumental substructure. In order to distribute the enormous load of the Great Hall, which was to be history’s greatest (and thus ‘truest’), they planned for a massive concrete panel of 320 x 320 meters (ca. 1050 x 1050 feet) size that would reach 30 meters (ca. 100 feet) underground. Beforehand, test-loads were conducted to check if the settlement calculations were correct (Speer, 1969: 169n4 & 537n7). Speer did not expect a sinkage of more than 5 centimeters (ca. 2 inches) (169). What sounded like a minor problem of a few inches, was actually critical: any excessive settlement could be

enough to cause tensions in the stone façade, which can lead to cracks, or even a collapse. While Speer mentioned this only in passing (in a single sentence), the documents available at the Degebo archives (and some in the Landesarchiv), show how much effort has been put into scanning the soil profile in regards to the “Gründungsfrage” (the question of foundation). This opens up the soil mechanical dimension of the project and gives us insights into the fragility of this fabricated narrative of ‘eternity’.

While Speer mentioned a 320 x 320 metre (ca. 1050 x 1050 feet) foundation, the following graph showed a 90 metre (ca. 295 feet) wide section of the substructure (see fig. 61). It visualized how the pressure created by the weight of the Great Hall was supposed to be distributed into the soil underneath via the “Gründungssohle” (footing), abbreviated as “G.S.”, which is the very lowest part of a foundation that transmits loads directly to the ground. The y-axis projected the “Tiefe unter G.S.” (depth under the footing) from the ground level 0-100 metres deep (ca. 330 feet); while the x-axis projected the expansion of the footing in sections of 15 metres (ca. 50 feet) on the ground.

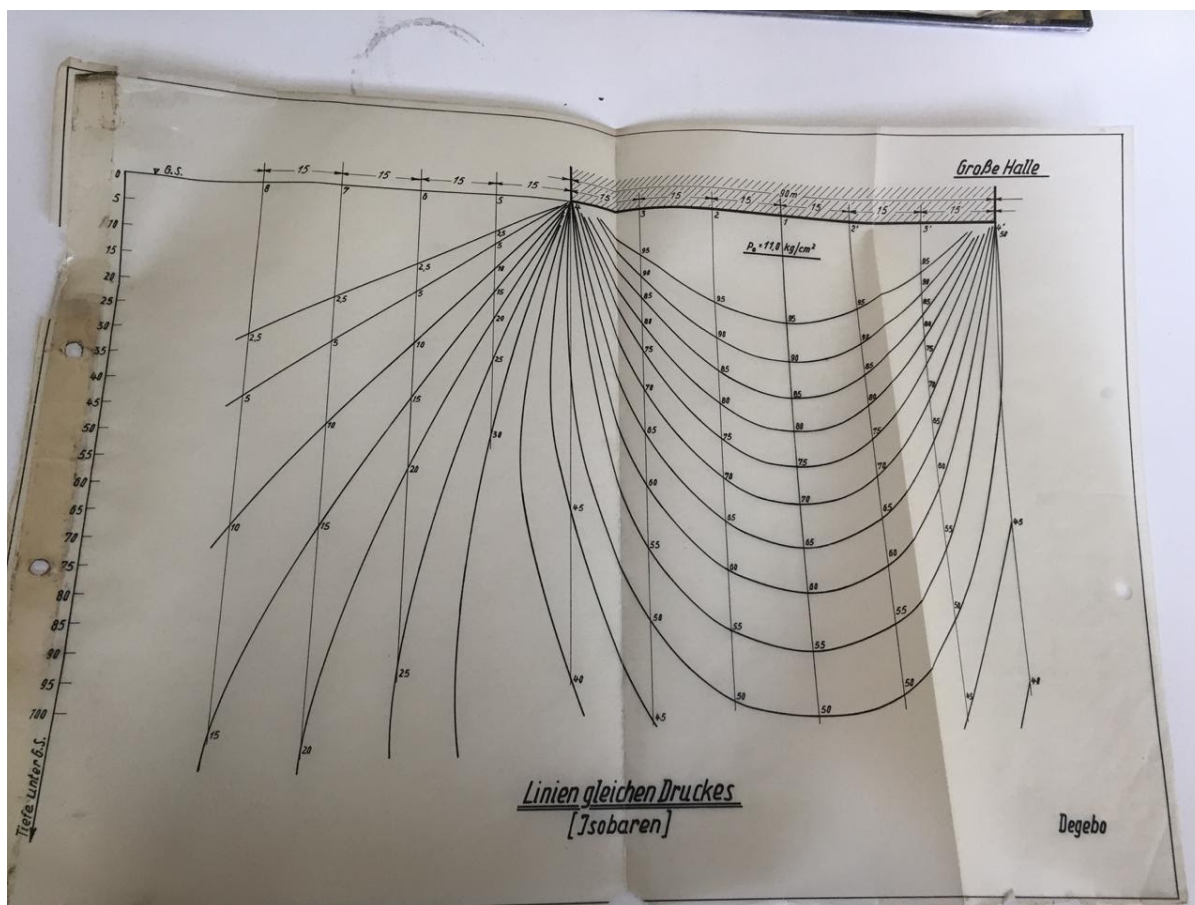


Fig. 61. Degebo. Visualization of the pressure distribution underneath the Great Hall. 1938.

Projektarchiv Degebo, 361 BKB O Große Halle, Post-stadion, Stromrüttelverfahren.

This graph was attached to a document sent to the Degebo by the GBI branch “Bauleitung Grosse Halle” (construction management Great Hall), on September 4th, 1940. It detailed the soil mechanical concerns of GBI in reaction to Degebo’s prior reports, in particular the question of settlement. As the graph showed, the foundation was supposed to distribute a pressure of 11 kilograms per square centimeter (ca. 1.1 tons/square feet)¹⁴¹ into the surrounding areas. This could potentially have a negative impact on the buildings in close proximity to the

¹⁴¹ As a reminder/point of reference, the heavy load-bearing cylinder resulted in a ground pressure of 12,65 kg per square cm, so slightly higher, but the Great Hall was second on the list of heaviest structures.

hall, especially the many monumental edifices planned nearby. Would they be in danger through the forces/settlement unleashed by the weight of the hall? In order to avoid any damages, the GBI ordered the Degebo to conduct extremely precise tests that would predict the exact sinkage of the hall. This was just the most recent document available in a vast correspondence regarding the hall and other related projects (available in the folder Projektarchiv Degebo, 361 BKB O Grosse Halle, Post-Stadion, Strom Rüttelverfahren).

Earlier, a series of soil mechanical tests had already been conducted and several meetings had taken place, in which the foundation design of the project was widely discussed. For example, on May 5th, 1939, representatives of the Degebo, the “Arbeitsgemeinschaft” (project team) of the Great Hall, and the GBI had a meeting. It took place at the GBI office “zur Klärung der weiteren Gründungsfragen der ‘Grossen Halle’” (for the clarification of further questions regarding the foundation of the ‘Great Hall’). At that point, Speer had decided to place the foundation into a depth of 35 meters (ca. 115 feet). One idea to improve its design was to artificially condense the soil in order to increase its load-bearing capacity. Against this idea spoke several soil mechanical concerns. For example, such a “künstlichen Eingriff in den Boden” (artificial intrusion into the ground) could disturb the natural cohesiveness of the soil. In that case, the method would have the opposite effect and diminish its load-bearing capacity. While no consensus could be found between the different voices, the decision was made to ‘play it safe’. As a result, extensive soil mechanical tests would be conducted by the Degebo. These included the collection of samples, drillings, seismic measurements, test loads, and more. A major concern of the construction company in charge of the massive foundation was the heterogeneous nature of the soils beneath the construction. It would inevitably lead to a large settlement differential among all the sections within the expansive area underneath the

foundation. This could lead to major stability issues. They emphasized that in order to design the foundations properly, they needed all the information they could get, so that they would be able to predict the settlement of each individual section. Thus, they could come up with a reliable base for their static calculations and make well informed decisions regarding foundation design, including the size of the foundation, and especially the foundation slab. The foundation slab was planned as a “durchgehend” (continuous) and “biegungssteif” (flexurally rigid) structure that would carry the sub- and superstructures. In their response to the concerns of the construction company, the Degebo emphasized that all of the predictions regarding settlement will remain vague. This was due to the challenging geological profile of the area, which had been shaped by diluvial (ice age) formations resulting in a high water table and a very irregular distribution of the soil layers. But, they reassured that they would proceed to divide the subgrade into sections, and analyze each individual local settlement, to provide the necessary data to calculate as precisely as possible (see ch. 1, fig. 21).

While I have given you a general insight into the general concerns of a project of megascale now, let us transition to a discussion of the foundation design of the Triumphal Arch, which had quite similar stability issues. It will help us to flesh out the insecurities behind fascist building size.

Bogen (arch)

Speer’s Great Hall was designed as an embodiment of the superhistorical greatness *of the collective* body. The Triumphal Arch was designed to glorify the *individual’s* self-sacrificial death *for* the collective body. Let us take a look back here to understand the metanarrative it wove.

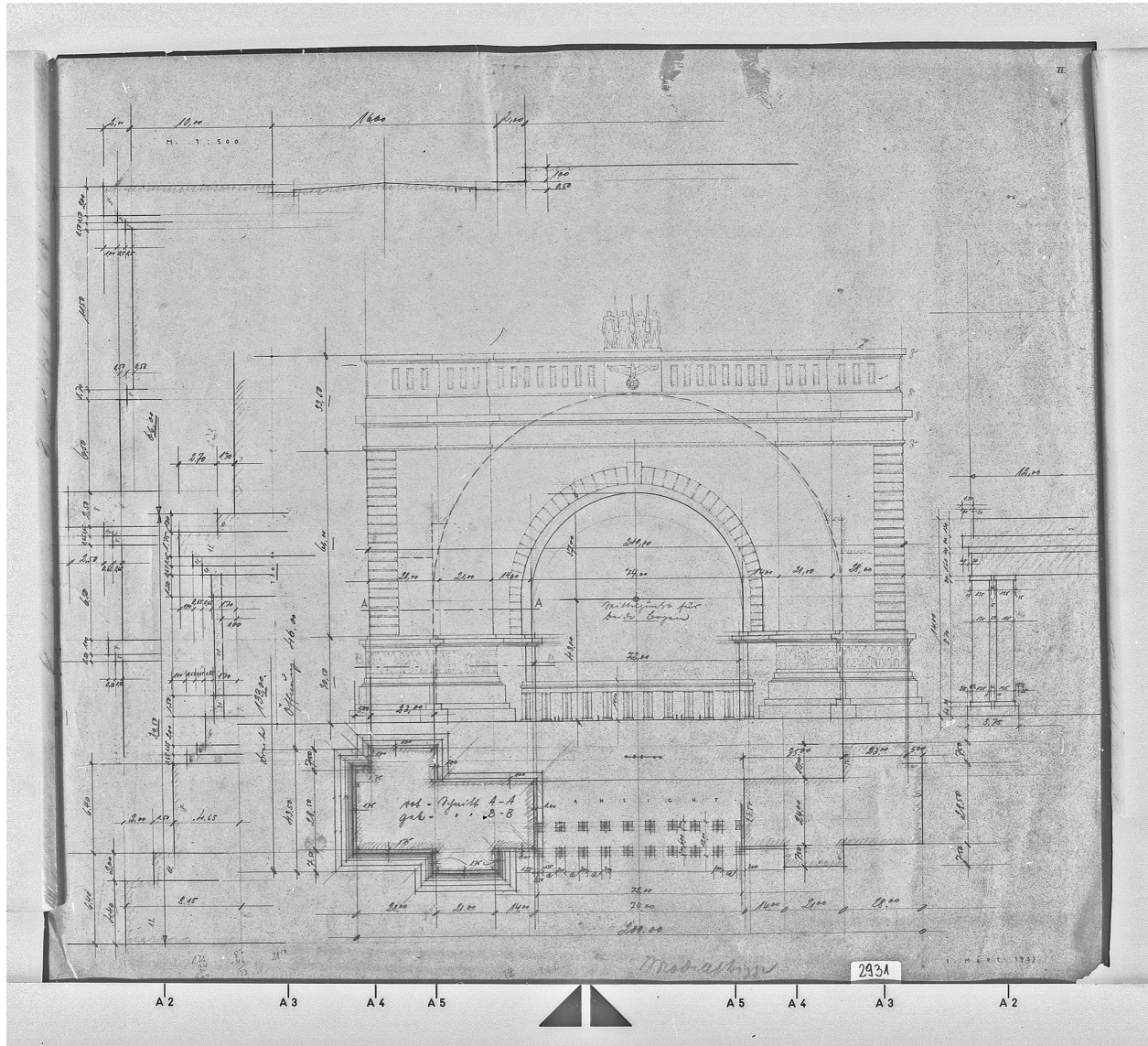


Fig. 62: Büro Speer. Concept of the arch. 1 Mar 1937. Bayerisches Hauptstaatsarchiv München, Büro Speer Pläne, 1931.

Unlike his detailed descriptions of the hall, Speer did not elaborate that much about the second triumphal edifice, the arch. It was basically a tetrapylon with four entrances, so quite an ordinary design in an unforeseen scale. Its purpose was also not entirely extraordinary.

The Romans famously erected arches to capture and glorify the moment of a victorious battle. They were used as a gate through which triumphal parades marched, while following a meticulously choreographed route. For these occasions, the city's *porta triumphalis* was opened (Favro: 153). Speer's arch had the same function and also picked up the tradition of exhibiting loot taken home from the battlefield, along this way (as discussed in the last chapter). Nevertheless, what differentiated Speer's arch was that it glorified a *lost* battle, WWI. But, in doing so, it prolonged the legend of the *Novemberverbrecher* (November Criminals), which proclaimed that German troops remained *im Felde unbesiegt* (undefeated in the battlefield), but were back-stabbed by the democrats who had signed Germany's capitulation. It was an early case of 'alternative facts', so to say. By building an arch that was multiple times the size of the arch in Paris, the eventual triumph of German troops over France (and the treaty of Versailles) was 'proven'—history rewritten. The monumental size of the object was supposed to tower over the actual facts of the military defeat. From that angle, we can synthesize the fascist approach to fabricate truth and (re-)write history quite well: 'Size equals truth'. The soils of history were to be realigned. Similar to that the ground underneath the arch had to be modified quite significantly as well.

Compared to the extremely expansive Great Hall that gave the engineers the chance to distribute the weight over a large plane quite evenly, the load of the Triumphal Arch would have been far more concentrated, primarily on the pillars. This required a different foundation design that was informed by the data gathered at the cylinder. Eventually, the engineers decided for a shallow foundation on top of the sand, instead of the deep foundation proposed by Speer, based on this data. Planned, was a "Kreisfundament" (circular foundation) (Muhs, 1948: 110). But let us take a closer look.

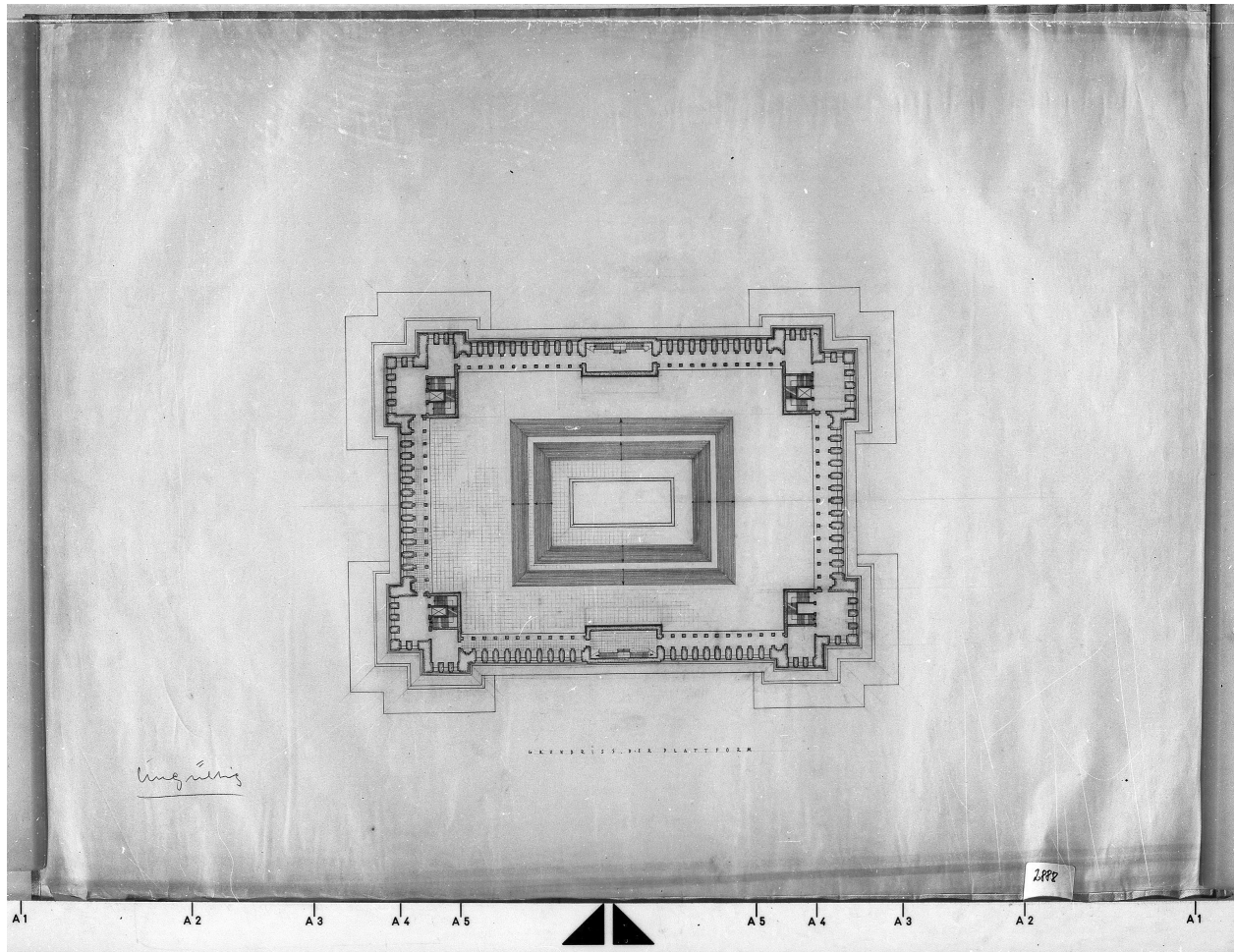


Fig. 63: Büro Speer. “Grundriss der Plattform.” Büro Speer Pläne, 2931, Büro Speer Pläne, 2888.

The above architectural concept shows the footing of the arch (see fig. 63). On a level of representation, the drawing placed the structure into a presumably empty, white space, allowing a focus on the ‘pure’ design element of the building. If ever built, nevertheless, it would probably have been occupied by people most of the time, as the platform was to be an access point for several types of transit (tourists, military parades, subway, etc.).¹⁴² Underneath the artificial

¹⁴² Speer thought about the potential inclusion of the subway into the foundations (see fig. 1; LAB, A Pr. Br. Rep 107, 350/3: Bl. 141).

eternal homogeneity the arch was to represent, the fluid, heterogeneous, and moving reality of the soils would have lurked. From below, it posed a threat to the rigidity of any construction and often manifested itself through cracks, settlements, and slides on the surface. To grapple with this problem, the Degebo translated the architectural concepts of Speer into soil mechanical pendants. Therefore, they intermixed the ‘flat’ architectural concepts with additional layers of information that they extracted from the soils, so that it could be processed by the foundation designers accordingly.

The document “Lageplan der Bohrungen im Bauvorhaben ‘T’” (Layout of the drillings for the construction project ‘T’) offers us an insight into the soil mechanical dimension of the arch (see fig. 64):

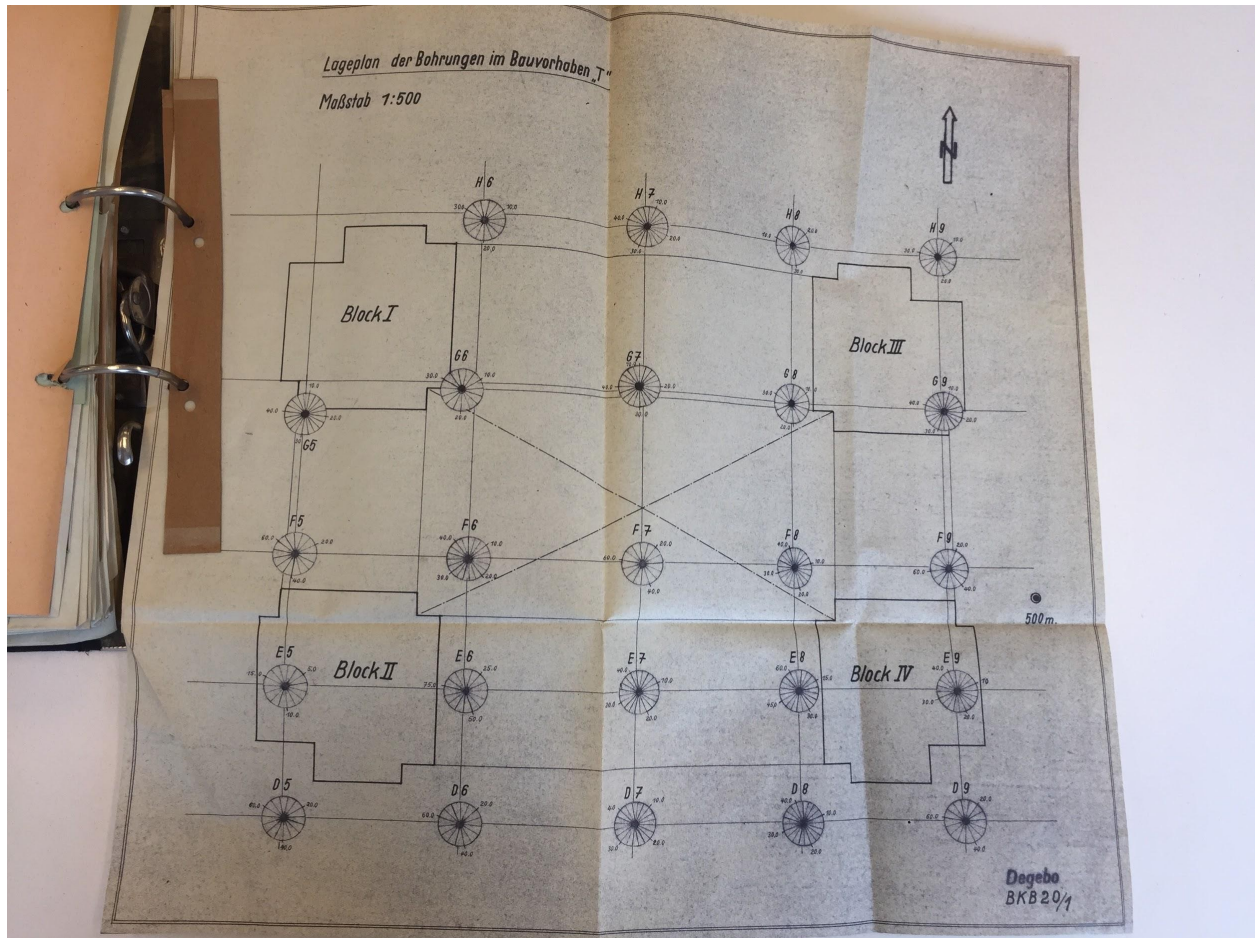


Fig. 64. Degebo. "Lageplan der Bohrungen im Bauvorhaben 'T'." 1941. BKB 20/1, Projektarchiv Degebo, 361 BKB 15, 17, 18, 19, 20.

The Degebo conducted drillings that systematically covered the designated construction site of the arch carefully. The corner pieces named "Block I-IV" marked the location of the four main pillars of the structure, where, consequently, the most weight would be applied to the ground. The drilling holes covered the entire area evenly, so that the geostratigraphy could be mapped out precisely. On the far right side, next to the outline of the arch, just a tiny little bit south of the middle line, another, additional drilling hole was added. It was particularly deep, namely 500 meters (ca. 1600 feet), and thus branched out into 'deep' space and time.

Once the different soil layers underneath the structure had been mapped out, the Degebe juxtaposed this information with the soil pressure applied to the ground by each pillar. This was immensely insightful, as every soil type reacted to pressure differently. Since the soil layers fluctuated so heavily (both in their horizontal and vertical expansion), the differential between the bearing capacities of the ground underneath each pillar was quite significant. Therefore, for every pillar, the engineers had to expect a different amount of settlement (even if the pillars weighed the same). For example, here you can see the visualization of the two data sets (stratigraphy/pressure) for the “Bohrungen im Bereich des Pfeilers IV” (drillings at pillar IV) (see fig. 65):

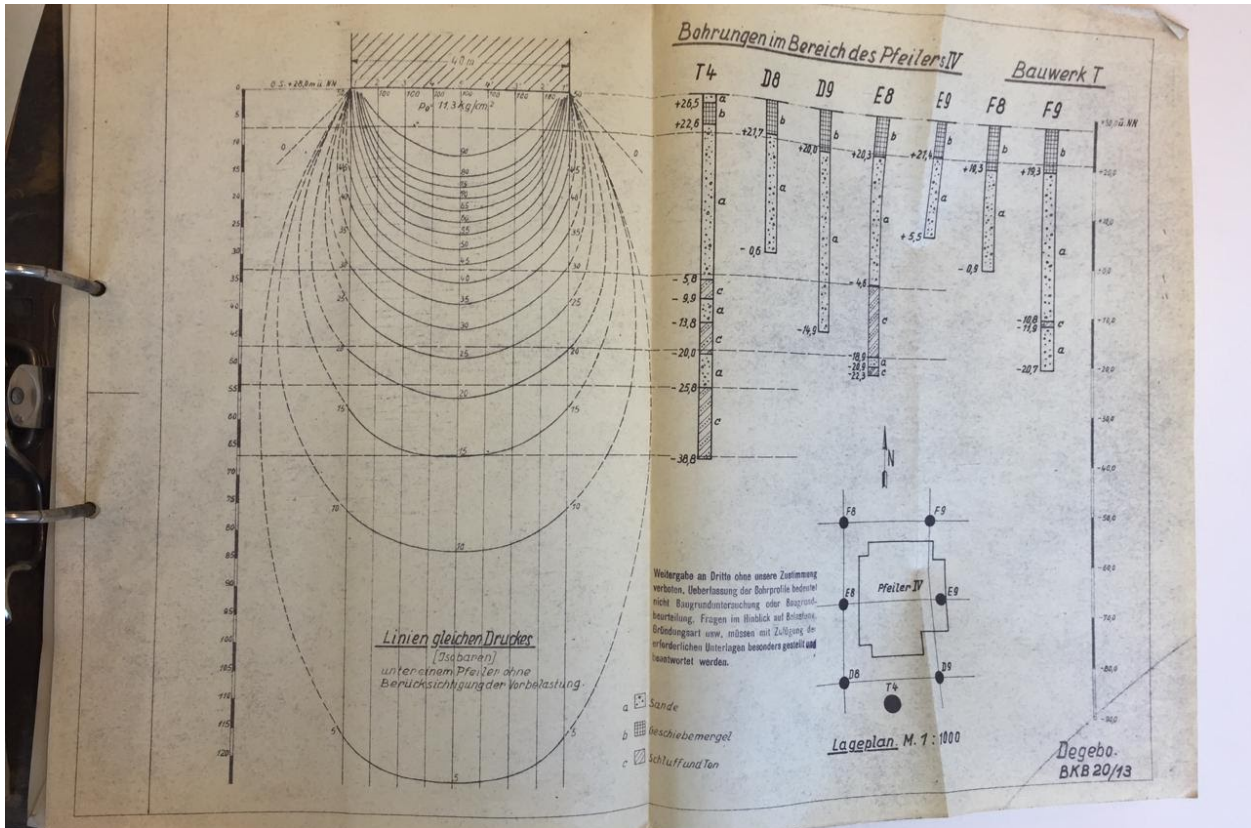


Fig. 65. Degebo. "Bohrungen im Bereich des Pfeilers IV." 1941. Projektarchiv Degebo, BKB 20/13, 361 BKB 15, 17, 18, 19, 20.

On the left hand side of the graph, we can see a cross-section of the soil pressure distribution under pillar IV, represented by a 40 meters (ca. 130 feet) wide rectangle. On the right hand side, we can see the individual soil layers under the individual drilling holes. Obviously, the soil layers were not evenly distributed, and given that each soil type, so a=sand, b=glacial till, c=silt and clay had different compressibility factors, the overall settlement of the pillar was a complicated value to calculate. This again was visualized on the following graph called "Darstellung der Setzungsgrößen unter den Pfeilern I bis IV" (depiction of the subsidence values under pillars I to IV) (see fig 66):

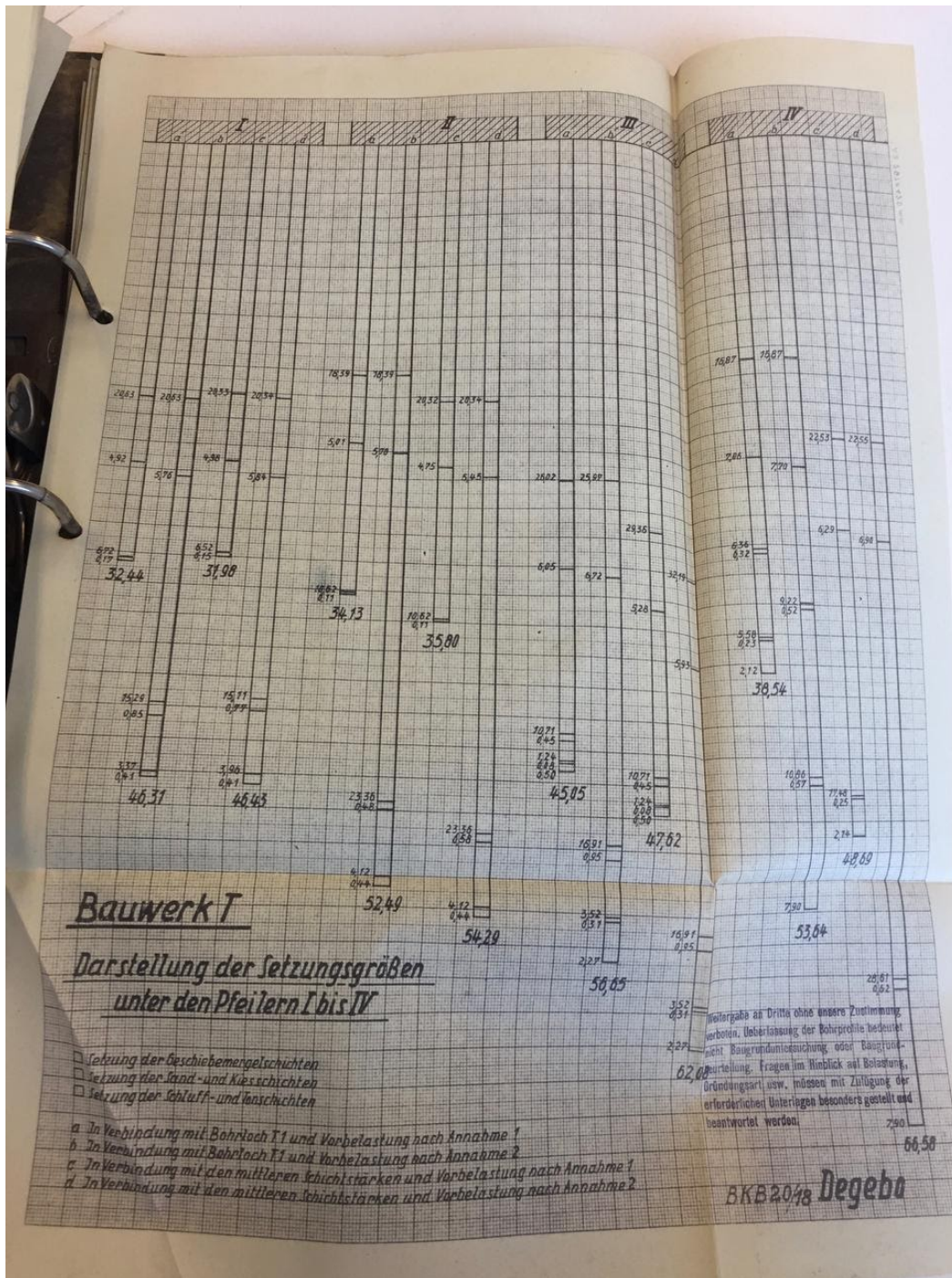


Fig. 66. Degebo. "Darstellung der Setzungsgrößen unter den Pfeilern I bis IV." 1941. BKB 20/18, Projektarchiv Degebo, 361 BKB 15, 17, 18, 19, 20.

On the bottom left corner of the graph, the different soil types were supposed to be specified (glacial marl, sand/pebbles, silt/clay), e.g. “Setzung Geschiebemergelschichten” (subsidence glacial marl). But, the little boxes next to each soil type, which should have provided a certain visual pattern that represented the respective soil layers, stayed empty, and the graph remains unfinished. Nevertheless, the overall idea is easy to grasp: as represented by the different overall length and internal composition of the bars, the expected settlement varied greatly underneath each pillar. A detailed discussion of this project is missing, or non-existent, in contrast to the case of the Great Hall, which was an earlier project.

Nevertheless, in 1948, Degebo member Muhs brought the project to a conclusion in his publication of the cylinder report. Ironically, despite the potency of the cylinder’s data to this day, it turned out to be kind of useless for Speer’s arch. Speer’s original idea had been to place the foundation onto a layer of glacial till in 18 metres (ca. 60 feet) depth. His hope was that the till would lead to a lesser amount of settlement than the layer of sand above. Nevertheless, as the results showed, this was not the case, and the engineers went back to the plan originally proposed by the soil mechanics (Muhs, 1948: 110):

Eine Herabführung der Fundamente des geplanten Bauwerks durch den Sand hindurch bis auf den Geschiebemergel hätte ... nicht zu einer Verminderung der Setzungen führen können. Die Größe der Sandsetzungen läßt aber erkennen, daß auch bei einer Gründung in möglichst geringer Tiefe die in Frage kommende Bodenbelastung ... wohl zu hoch gewesen wäre. Um diese Setzung so weit wie möglich herabzusetzen, war von bodenmechanischer Seite aus von vornherein vorgeschlagen worden, die Sandschichten nach einem der für derartige Zwecke entwickelten Verfahren zur mechanischen

Verbesserung des Untergrundes (Erdpfahl-Verfahren der Firma Franki und Rütteldruck-Verfahren der Firma Keller) zu verfestigen. Untersuchungen über die Eignung dieser Verfahren wurden vom Generalbauinspektor durchgeführt und führten zu einem vollauf befriedigenden Ergebnis). Nach Vorliegen des Ergebnisses der vorstehend beschriebenen Probelastung kann gesagt werden, daß eine Gründung in dem nach einem der beiden Verfahren verfestigten Sand möglichst hoch über dem Geschiebemergel am zweckmäßigsten, aber wohl auch notwendig gewesen wäre und zu der gewünschten minimalen Setzung geführt hätte. (110)

An insertion of the foundations of the planned building through the sand onto the glacial till would ... not have been able to diminish the settlements. The scale of the sand settlements yet show that even in the case of a placement of the foundation in the smallest depth possible the ground pressure ... would probably have been too much. In order to diminish the settlement as far as possible, the recommendation had been made from the side of the soil mechanics to firm up the soil layers with a procedure that had been developed for the mechanical enhancement of the ground for such purposes (Earth Pole-Procedure by the company Franki and Vibration Pressure-Procedure by the company Keller). Examinations of the applicability of these procedures had been conducted by the General Building Inspector and led to a fully satisfactory result. Following the availability of the results of the foregoing described test-load, it can be said that a foundation in sand condensed by one of these two procedures, placed as high as possible above the glacial till, would have been the most appropriate, but probably also necessary, and would have led to the desired minimal settlement.

It is likely that the soil mechanics were about to start working on the foundations of the arch, when the project was abandoned due to the turn of the war 1941. What can definitely be said, nevertheless, is that the vision of 'eternal' Germania was built upon a moving, multilayered, and heterogeneous soils, which posed an enormous pressure on the soil mechanics themselves—they were in charge of 'eternity' now. Nevertheless, they used the space that Speer had provided them with to foster the technological innovation necessary to realize fascist megalomania. Given the scale of these buildings, in terms of heaviness, the tension between the desired rigidity of the structures and the natural fluidity of the building ground, reached an intensity that is without precedent in history. These efforts reflected the fascist desire to construct the narrative of a stable empire, built by a clearly defined race, which violently worked against the parameters of nature. It was the desire to gain absolute control in a world that seemed more and more out of control.

NS-Axis

As we have just looked at two very specific locations in Berlin's soil, an analytical urban acupuncture, so to say, let us zoom out and take a look at the bigger picture now.

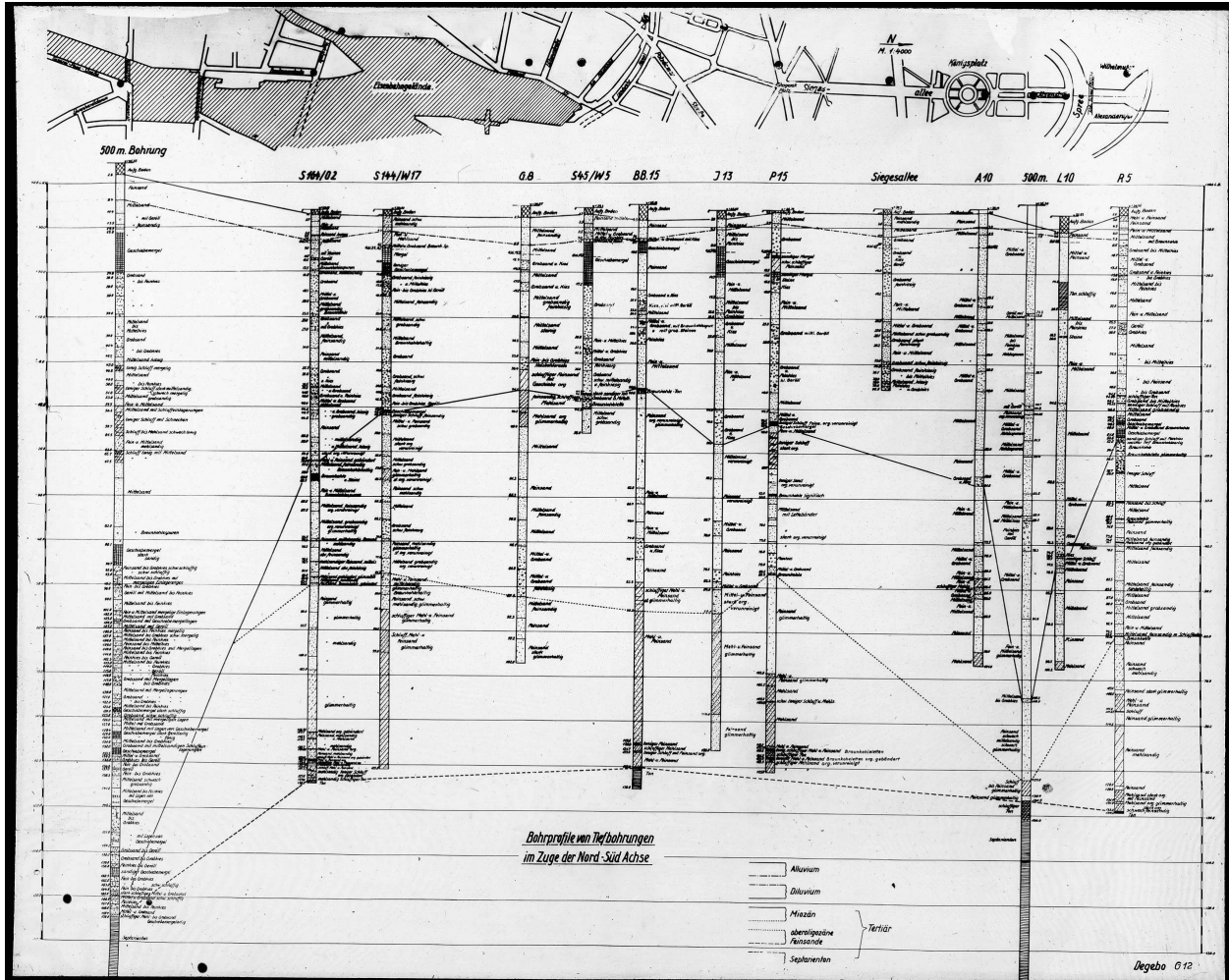


Fig. 67. Degebo. “Bohrprofile von Tiefbohrungen im Zuge der Nord-Süd Achse.” 1938.

Diaarchiv Degebo.

This overview of the macro-data of the North-South Axis from the Great Hall to the Great Arch shows us quite clearly how artificial the idea of the homogeneity of the *Vaterland* (fatherland) or *Mutter Erde* (mother soil) was (and is) (see fig. 67). The graph laid out Berlin's

geodesign by reconstructing the horizontal progression of the individual soil layers based on the vertical datasets measured by the Degebo. As usual, the data was collected through drillings and soil samples. The deepest of these incisions were 500 meters (ca. 1650 feet). They were made at the projected locations of the arch and the hall, so at the (almost) very left (=south) and right (=north) of the graph representing the axis. This data was foundational for the ‘taming’ and transforming the moving and overlapping soils into a rigid foundation for fascist eternity according to the mythos of *Blut und Boden* (conceptually and physically). What strikes the eye immediately when looking at this graph, is the heterogeneity of the soil layers (in terms of material composition), and also their highly irregular, overlapping course, marked by the dotted lines between the individual vertical drilling lines (which outline different geological eras such as Alluvium, Diluvium, etc.).

In the report “Tiefbohrungen als wichtige Hilfsmittel bei der Neugestaltung Berlins” (Deep drillings as important tools for the transformation of Berlin) from 1939, Mauz, Degebo’s geologist, raved about the promising nature of their drilling/mapping project for science and the construction world (BArch, R 4606/639: Bl. 10-11). Thereby, he provided an insightful observation based on one specific drilling profile conducted as part of the series “Bohrprofile im Zuge der Nord-Süd Achse” (drilling profiles in the context of the North-South axis) (10). In an initial distant reading, Mauz broke down the drilling profile by unpacking the larger spatio-temporal frame it was structured by, the geological soil layers (Alluvium, Diluvium, Tertiary, and Oligocene) that reached millions and millions of years deep. From there, he broke down each of these four larger frames in closer readings. I want to pick out his reading of the Diluvium, as it was the layer relevant for the construction of the cylinder (and for constructions

in Berlin in general). I quote a passage, which I find quite insightful, almost poetic, in the way it unpacked the dynamic structure of soil:

Wie aus den Profilen eindeutig hervorgeht, schwanken Schichtaufbau und Mächtigkeiten der diluvialen Ablagerungen außerordentlich stark. Mergel, Geröllhorizonte, Kiese, Sande, Schluffe, und Tone wechseln in bunter Mannigfaltigkeit miteinander ab oder verzahnen sich, und es ist auch für den Geologen oft schwer, die altersgleiche Beiordnung zu finden. Am eindrucksvollsten kommt in den Profilen die starke Schwankung der Grenze zwischen Diluvium und Tertiär zum Ausdruck. Oft muß man der Laienmeinung entgegentreten, daß diese Grenze zum Teritär waagrecht verlaufe und etwas “Ebenflächiges” sei, das man in einer “gewissen” Tiefe immer erhoffen könne. ... Wie ungewiß jedoch der Grenzverlauf ... ist, geht eindeutig schon aus den wenigen, hier wiedergegebenen Profilen hervor, und diese Tatsache könnte durch viele andere Beispiele erhärtet werden. (BArch, R 4606/639: Bl. 10-11)

What comes clearly out of the profiles is that the layer composition and thickness of the diluvial sediments fluctuate heavily. Till, slip rock horizons, gravel, sand, silt, and clay alternate in colorful diversity or intermesh, and even for the geologist it is hard to figure out the chronological order. The drilling profile demonstrates, in the most impressive way, the extreme fluctuation of the border between the Diluvium and the Tertiary. Often one has to oppose the layman’s belief that the border proceeds vertical and is “planar”, which one could hope for in a “certain” depth. ... How uncertain the course of the border

... yet is, becomes clear only through the few profiles presented here, and this fact can be borne out with many more examples.

What immediately became apparent in the geologists' narrative is his awareness of the limitation of his knowledge. His analytical gaze was overwhelmed with, but also fascinated by, the lack of a clear internal and external structural order of the ground. As he put it, internally, the soil layers fluctuated in terms of their material composition, as each of them consisted of various types of soil, making them all highly heterogeneous constructs by themselves. Externally, the vertical and horizontal expansion of each soil layer varied greatly as well, while the different layers also mixed with each other. Altogether, the lack of a clear order made it almost impossible to determine a finite spatio-temporal, stratigraphical, or chronological order of the soil. Or, as literary scholar Mark McGurl puts it, "what we call the 'ground' is no ground at all but the result of a process whose own ground is another, antecedent process extending backward in time" (384). It appeared that soil, in the way it is programmed, transcended categorical thinking in terms of rigid soil identities (or spatial and temporal borders). It opened up an inherent conceptual fluidity, providing a counter narrative to what Speer's monuments wanted to tell us. Nevertheless, the fascist fear of this type of natural hybridity, fluidity, and heterogeneity, which must have—subconsciously—reminded them of their own structural fragility, triggered their desire to control nature through a mechanical homogenization, so that they would be able to erect giants into the skies that made them trump over history, spatiality, and identity.

This discussion of the intertwining geological *Einlagerungen* (interstratification) brings us to the logic of the *Lager* and the last section of this chapter. In the camps, the same will to model history according to the idea of a monolithic race was applied through a system of

purification/annihilation. Thus, let us transition from our analysis of *Boden* (soil) to *Blut*(*vergiessen*) (blood(shed)).

Blut



Fig. 68: Hubmann, Hanns. Albert Speer and camp inmates from Mauthausen. June 1944.
Museen.nuernberg.de, 2017,
museen.nuernberg.de/dokuzentrum/kalender-details/gentleman-nazi-1330. Accessed 11 Feb
2021.

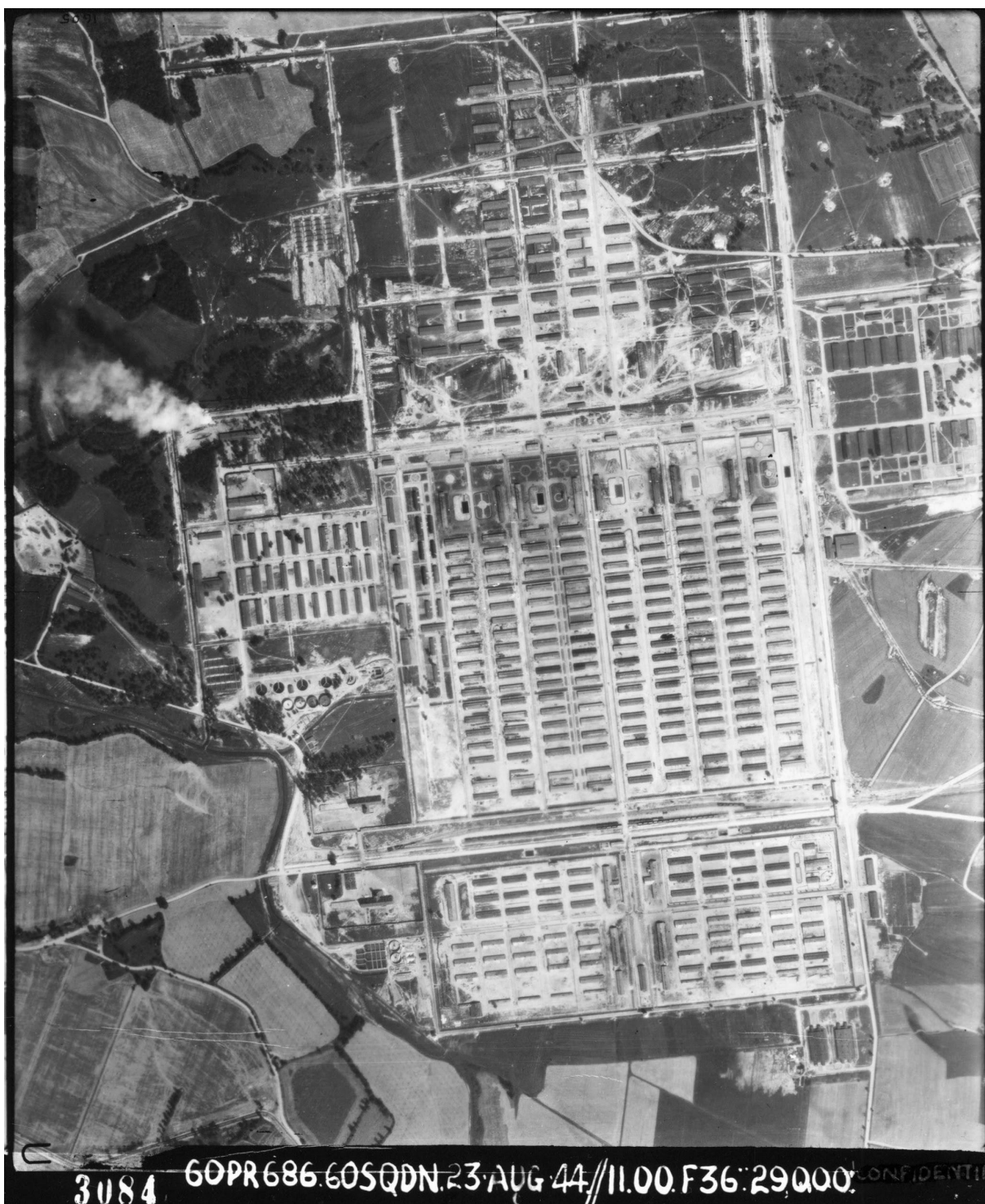


Fig. 69. Royal Airforce. Auschwitz Birkenau II. *NCAP*, National Collection of Aerial Photography, 23 Aug 1944, ncap.org.uk/frame/6-1-8-5-388?pos=2. Accessed 8 Mar 2021.

Lager

The fabrication of the historical figure of the eternal Aryan relied on the fabrication of the eternal Jew—and thus the fabrication of corpses in the camps. The end-product of this assembly line leading towards purity was a world divided into a clearly defined upper and lower strata: *Übermenschen vs. Untermenschen* (superhumans vs. subhumans). The camps, no matter if concentration camps or military camps, executed the same *us vs. them* logic. Levi cut right to the core of the problem in the preface of his powerful memoirs. There, he dismantled the lingering logic of division that bears the dangerous possibility of the emergence of the space of the *Lager*, as a ‘virus’ rooted deeply in our minds and spiritual landscapes:

Many people—many nations—can find themselves holding ... that ‘every stranger is an enemy’. For the most part this conviction lies deep down like some latent infection ... and does not lie at the base of a system of reason. But, when this comes about, when the unspoken dogma becomes the major premiss in a syllogism, then ... there is the Lager.

(9)

Here, Levi described the ‘spirit of division’ as something like a disease that is rooted deeply in the nation state—and in people in general. Fascism was the most extreme configuration of this binary logic. Once the ‘disease’ fully broke out and turned into a global pandemic, it produced the non-space of the *Lager*. Within the *Lager*, history was to rest upon the backs of the Jewish people, who were to suffer in silence, while gradually being crushed into nothingness. Therefore, the “Gründungsfrage” (the question of foundation) that I discussed in the last section, was, on a metahistorical scale, related to the “Judenfrage” (the Jewish question). Ultimately, the

fact that the inmates' labor was foundational for constructing the racially engineered fascist architecture, was to be erased from history books together with their physical existence—*End(auf)lösung*.

When we conceptualize Germanness as a closed-off, separate, static entity, rather than an inclusive, fluid, hybrid construct (like the soil layers carrying it), we pave the way for *Germania*—a cold, archaic, hypermasculin, and racist state. It is probably not a coincidence that this illusion of permanence that promised unity emerged in times of spiritual, political, cultural, and economic fragmentation—when the world had been shaken to its core in all dimensions. A time when people 'needed' a new world order. By offering an overarching organizing principle, an easily locatable root, a solid, unshakeable foundation for existence, fascism managed to capture the support of millions. Even of those who we deem to be the most sensitive beings, poets. One of them, Benn, translated the allure of the new logic that fascism offered into the contemporary cultural current of poetic prose, which demonstrated the danger, and the seductivity, of a 'firm' ideology such as fascism.

In the aforementioned essay "Dorische Welt" (1934), Benn mapped out the structure of fascist urban society through the lens of antiquity in terms of its power structures that reached vertically and horizontally. He started with a 'vertical reading' of its geo-ontological roots that he described as driven by the desire to control and organize the earth in its depth:

... es ist immer eine Ordnung da, durch die wir in die Tiefe sehen, eine, die das Leben einfängt in gegliedertem Raum, es erhämmert, meißelnd ergreift, es als Stierzug auf eine Vase brennt—, eine Ordnung, in der der Stoff der Erde und der Geist der Menschen noch

verschlungen und gepaart, ja wie in höchstem Maße einander fordernd, das erarbeiteten, was unsere heute so zerstörten Blicke suchen ... (124)

... there is always an order, through which we look into the depths, one, that captures life in divided spaces, hammers it in, seizes it by engraving, burns it on a vase as a herd of bulls—, an order, in which the fabric of the earth and the mind of men are still entwined and paired, yes as if claiming each other in the highest measures, working on that, what our nowadays so destroyed gazes are still looking for ...

While this passage quite literally expanded on the biblical phrase *macht euch die Erde untertan* (subdue the earth), it specified the violence implicated in establishing this order by the vertical gaze “through which we look into the depths”. Benn formulated the imperative that nature *had* to be conquered forcefully, by hammering, chiseling, burning, and reorganizing it, according to an analytical grid—until the soil ‘subdued’ to the will of its conqueror.

This order that people were looking for, according to Benn, had to be constituted in a state that had to protect its racial purity. Accordingly, it was *internally* designed as a racial unity and *externally* as a protective shield for the preservation of this unity:

Es gab nur eine einzige Moral, die hieß nach innen gerichtet: der Staat, und nach außen: der Sieg. Staat ist Stadt, bleibt Stadt, weiter wird nie gedacht. ... Nach innen: das Bürgerrecht wird allen entnommen, die nichtathenische Eltern haben ... Eigentum

konfisziert ... radikaler Rassismus Nach außen: der ... Bund ist geschlossen ...
Athen hat die Macht! (134)

There was only one moral, which was called inwardly: the state, and outwardly: victory.
State is city, remains city, we do not think further. ... Inwards: the right for citizenship is
taken from everyone, who has non-Athenian parents. ... property confiscated ... radical
racism... . Outwards: the ... union is closed ... Athens has the power!

Now, according to this poetology, or poetologic, of the *Lager*, order was based on the
unified entities of state, city, and ethni-city. Its unity had to be protected, inwardly, by legally
separating out, or at least marking, all of those people that do not 'fit' the ethnic screen.
Outwardly, by defeating all of those powers attacking this overarching unity (from the outside).
Overall, this society that Benn described is structured around the goal of an 'ethnic survival', and
thus suggested the *Lager* as an appropriate way of designing society, as it organized people by
the scale of their ethnic (im-)purity (in concentration camps) and mobilized people to protect this
purity (in military camps).

Benn synthesized his thoughts on the 'ideal' societal design under the concept of the
"anthropologische[s] Prinzip" (anthropological principle) that drives humanity to transform the
natural world into an artificial, man-made construct. He looked at

[d]ie Antike [als] der Beginn dieses Prinzips, Gegenbewegung zu werden,
'unnatürlich' zu werden, Gegenbewegung gegen reine Geologie und Vegetation,

grundsätzlich Stil zu werden, Kunst, Kampf, Einarbeitung ideellen Seins in das Material, tiefes Studium und dann Auflösung des Materials, Vereinsamung der Form als Aufstufung und Erhöhung der Erde. (150)

antiquity ... [as] the beginning of this principle, to become [a] countermovement, to become “unnatural”, [a] countermovement against pure geology and vegetation, to become fundamentally style, art, battle, the incorporation of the ideal being into materiality, the deep study and then dissolution of materiality, the isolation of the form as upgrading and elevation of the earth.

Benn's realm of thought was clearly echoing the ongoing restructuring of society after 1933. With the help of the Degebo, one could say, Speer translated Benn's anthropological principle into an architecture designed to battle ephemerality and establish order. Accordingly, they approached soil as an element to be conquered vertically—it was a fight against the reality of “reine Geologie” (pure geology) and its complexity. Horizontally, Speer translated Benn's principle into an urban design that envisioned a society with a clear order and *one* goal—the protection of its racial ‘purity’ towards internal and external threats. This society was organized around a network of camps that were systematically conditioning the *Volkskörper*. By training the Germans and annihilating/subduing the non-Germans—a never ending process of ‘purification’ was initiated:

Und es sind nicht nur die vielen, vielen Lager außerhalb der Städte—‘Erntelager’, ‘Wehrrertüchtigungslager’, ‘Arbeitsdienstlager’, ‘Übungslager’, ‘Jugendlager’ oder

‘Landverschickungslager’—sondern es ist jetzt diese Figur des Lagers als das wüste Draußen, von der aus sich alles ableitet. Das Marschieren in das Innere der Städte ist das, was Speer mit den monumentalen Bauten an der Nord-Südachse beabsichtigt. Wir haben es also mit einem paradoxen Vorgang zu tun, nämlich der Monumentalisierung des Lagers, bei der Verewigung und Lager keine Gegensätze mehr bilden, sondern in eins fallen: Verewigung des Lagers. ... Am Ende dieser Lagerrealität stehen natürlich die Konzentrationslager und die Verbrennungsöfen von Auschwitz. (Heinrich: 204)

And it is not only the many, many camps outside of the cities—‘harvest camps’, ‘military training camps’, ‘labor camps’, ‘training camps’, ‘youth camps’ or ‘evacuation camps’—but now it is the figure of the camp as the wild outdoors, of which everything deduces itself. The marching through the inner cities is what Speer intended with his monumental buildings on the North-South-Axis. We therefore are dealing with a paradoxical process, namely the monumentalization of the camp, in which eternalization and camp do not build a contrast anymore, but fall in one: eternalization of the camp. ... At the end of this camp reality obviously stand the concentration camps and the crematoria of Auschwitz.

As Heinrich described it, Germania was the conceptual and spatial ‘inversion’ of Berlin that was being transformed from a *city* to a *camp*. A *city* is designed as a ‘permanent’ shelter for human populations with the goal to connect them internally and externally, through cultural, infrastructural, and geopolitical ties and networks. A *camp* is designed as a ‘temporary’ shelter with a clearly defined order and end-goal. A military camp, for instance, is built in anticipation

of enemy contact, and thus defined by a permanent ‘expansive’ tension towards new territories that are to be crushed and conquered. The camp as spatial design is always on the brink of mobilizing its population, never letting them rest. Germania was conceptualized as an eternal camp-city, which controlled other camps as *the* major-subordinating principle and absolute power-centre. Together, this network of camps orchestrated the conditioning of the collective body through different kinds of labor and training (“‘Erntelager’, ‘Wehrtüchtigungslager’, ‘Arbeitsdienstlager’, ‘Übungslager’, ‘Jugendlager’ oder ‘Landverschickungslager’”), one might add the *Sterbearbeit* (dying work) of the *Konzentrationslager*). As “Welthauptstadt” (capital of the world), Germania would have been the headquarter of a global installation of this logic of racial purification, with the ultimate goal to turn the whole planet (or even the universe) into a giant camp. Eternalizing the figure of the Aryan meant eternalizing the camp as an overarching structuralization principle of history. The ‘end products’ of this system of camps were the Aryan *Muskelmann* and the non-Aryan *Muselman* as an inversion of humanness: *Übermensch* vs. *Untermensch*. This resulted in a classification of people into either downgraded *or* upgraded ‘beings’ who were either above *or* below humanity, so always *divided* by hierarchy and oppositionality—which annihilated the possibility of (a *united*) humanity altogether.

Muselman vs. Muskelmann

In his memoirs, Levi described the biological reality of a society structured by the anthropological principle in chapters such as “This Side of Good and Evil” and “The Drowned and the Saved” (77-100). Thereby, he analyzed the societal mechanics of the camp from a ‘transcendental’ *and* ‘aesthetic’ perspective (to borrow Heinrich’s terminology once more). He thereby witnessed that the ‘governing’ principles, such as *victim vs. perpetrator*, *good vs. evil*, *dead vs. alive*, etc. were blurred in the space of the camp. Overall, the tension between

automated death and survival instinct, led to the ultimate, absolute, and totalizing *Schwerbelastungsprobe* (extreme stress test) for the body, soul, and the mind of the inmates. This tension instilled the binary structure of *Muselmann vs. Muskelmann* into the inmate population as well, rather than just between *SS-guard vs. inmate*. Thus, it ripped apart those who were physically and mentally resilient and managed to survive (like the muscular Elias), from those, whose names have been lost, as they began to ‘sink’ (and drown) under the pressure (94-95). Furthermore, he described ambiguous figures, such as the *Kapos/Blockälteste*, who, paradoxically, despite being members of the inmate community, collaborated with the machinery of death in the twilight of the camps, in order to survive. Thus, they were forced to walk over the graves of their fellows, over ethically shaky grounds, in a space, where “[t]o sink, is the easiest of matters”. Those who sank became “the *Muselmänner*, the drowned, [who] form the backbone of the camp, an anonymous mass, continually renewed and always identical, of non-men who march and labor in silence, ... already too empty to really suffer” (90). They are the *totgeschwiegen* (hushed up) foundation of Germania, sunken into the soils and oblivion, but who were designated to carry this history (of eternal suffering) on their shoulders, and this weight was inscribed in their bloodlines that trickled into the grounds of the camps.

Blut vs. Boden

In *Das Bauen im Deutschen Reich* (Building in the German Empire) from 1942, Gerdy Troost wrote: “Menschen deutschen Blutes haben aus Steppe und Urwald fruchtbare Felder geschaffen und haben immer und überall in der Welt ihrer inneren Veranlagung gemäß die Urlandschaft gestaltet ... und sind fest im Boden verwurzelt” (5) (People of German blood have transformed steppe and primeval forest into fertile fields and have always and everywhere in the world shaped the primeval landscape according to their inner predisposition ... and are firmly

rooted in the soil). According to fascist ideology, soil had to be aligned to the mythological concept of *Blut und Boden* fascism was built upon. In order to transform soil into a bearing ground that could carry the material ‘proof’ for the purity of the German blood in the form of massive monuments, the soil mechanics had to approach soil from a cold, abstract, analytical distance. In order to homogenize the soil to a mass that could carry fascist eternity, it had to be conquered, divided, organized, dug out, relocated, condensed, mixed, *aufgelöst* (dissolved), and so on. This allowed Speer to build, *völlig losgelöst von der Erde* (entirely detached from earth), into architectural heights.

Levi’s memoirs (among many others) added texture to the fascist’s universalizing and spatio-temporally remote geologies and geographies. He described many interactions between the human body and the ground’s materiality within a very concrete and confined spatio-temporal frame—his years in Auschwitz. In his subjective and intimate accounts, he read and filtered the soil carefully, which helped me lay out the foundational layer of my cultural geology. I built upon Levi’s accounts to intervene into the fascist mapping of the soils. By spinning a new network of associations around it, I pursued the ultimate goal to transform the semantic field of soils in the context of Germanness, where it is still largely occupied by the networks of associations established by fascism. But, in Levi’s recollections of the camp, the formula *Blut und Boden* received a very different meaning. By highlighting Levi’s narrative symbiosis of *Blut und Erde* (blood and earth), I wanted to shift the focus of the collective imaginary away from the fascist coinage of the term, where it is still associated with the will to establish a territorial control of the ground for the sake of racial engineering to justify linear bloodlines. Instead, I wanted to look at the soil as a receiver of complex storylines. I saw this as a path to reclaiming the soils beyond Germanness through the lost voices deposited in it.

Blut und Erde

In order to ‘transform’ the meaning of *Blut und Boden*, I replaced *Boden* (ground) with *Erde* (earth/soil), as the latter refers to the *ground* as well, but, on top of that, it includes the meanings *soil* and *earth* (as in *planet*). Thus, *Erde* is semantically more open towards a ‘unifying’ interpretation, in a sense of both referring to a piece of *soil* and simultaneously the *planet* we all inhabit together. In the *Lager*, *blood* engaged with *soils* on many different occasions: Whenever a guard hit an inmate in the face and the victim spit blood on the ground. During mass shootings. When the dead, battered, shot, bodies were dug in mass graves. When accidents occurred on the many construction sites. When the blood of the inmates’ feet that had been rubbed sore poured out of the boots that did not have the appropriate size, or simply due to wear and tear. In the evenings, when the workers took their shoes off, and cleaned their bodies in the latrines, and so on. In all of these instances, the blood of the victims mixed with ‘German’ soil (in the case of Auschwitz the formerly Polish soil that was being ‘transformed’ into German soil according to fascist ideology). Or, the blood was fed into the water system through the sewage, ‘replacing’, or enriching, a piece of ‘German’ soil, with their own stories, fluids, suffering, memories, toil. Shattering are the stories about the gas chambers, in which the bodies of the victims, suffocating, released all their bodily fluids that mixed with their blood on the floor. It came pouring from their limbs with which they tried to break the doors open. The ashes of their bodies, eventually, poured down on German landscapes as well. From there, they seeped into the soil with the next rainfall, if they had not been carried into a riverbed by the winds before, continuing their vertical journey into the soils that were carrying the German empire. Their physical remains inscribed their stories into the German soil—leaving them to be unearthed by the cultural geologist. Levi described the horizontal journey to Auschwitz via train

as a vertical psychogeographic “journey towards nothingness, a journey down there, towards the bottom ... in the void of bottomless despair”. Initially, as he said, “[w]e learnt of our destination with relief. Auschwitz: a name without significance ... but ... at least ... some place on this earth”, as the place did not trigger the horrible network of associations it does today (17).

Even if Auschwitz was not within the geographic boundaries of the city of Germania, it was under its influence, and a logical extension of its metahistorical mechanics. Furthermore, it was a logistic, economic, and material prerequisite of Germania’s granite and marble giants, which burned through a vast amount of resources that were prepared in the concentration camps.

After getting off the train, going through the selections, being stripped off their families, friends, belongings, clothing, hair, names, dignity, and humanity, they realized: Auschwitz is *not* a place *on* this earth, as they lacked words to describe it, “our language lacks words to express this offence, the demolition of a man”, and they knew “we had reached the bottom. It is not possible to sink lower than this”. The man formerly known as *Primo Levi* was transformed into “*Häftling 174517*” and left behind as a shell of himself, a “hollow man” (26-27).

We are the hollow men

We are the stuffed men

Leaning together

Headpiece filled with straw. Alas! (Eliot: 123)

For the first time, Levi addressed the “double sense of the term ‘extermination camp’” during the initiation rituals of the camp. “[D]ouble”, because what occurred first was the initial *conceptual* extermination executed by the ‘hollowing out’ of the human. This procedure set them

‘free’ for the second, *physical* annihilation, which disposed of the ‘emptied’ bodies (27). Correspondingly, the body, as the only vehicle of biological survival, became the constant object of inquiry, next to the topography and the societal mechanics of the camp, through which the body was navigating through. Only the proper maintenance of the human apparatus could ensure one manages to stay on the side of the *saved* and not join the *drowned*. These two ‘beings’ co-existed but were split via an invisible border that divided the inmates of the camps into two groups that lived in the same space, but in different worlds. As Levi described it, with the annihilation of humanness, the systematic demolition of the body began, acting out the logic ingrained in the superstructure of the camp. Topographically, this space was clearly confined (see fig. 69): “[O]ur Lager is a square of about six hundred yards in length, surrounded by two fences or barbed wire, the inner one carrying a high tension current” (31). Within these confines, there were accommodations, kitchens, showers, a hospital, administrative offices, a brothel, and other buildings, again with limited access for the inmates, constituted by their rank in the camp hierarchy. The navigation through this space was organized via a strict routine, beginning with the roll calls in the early morning, the work shift, the eating breaks, etc. (31-32). The largest systemic imbalance in terms of maintaining one’s well-being was the work-overload that was amplified by the insufficient opportunities to recharge the physical batteries through nourishment and sleep. Same applied to the spiritual batteries: the camp was not offering an endpoint to the current miserable situation, and leaving one to the unknown, “devoid of any foundation”. The hammering rhythm of life was defined by “*Ausrücken*” and “*Einrücken*”, words that Levi borrowed from the military jargon of the camp guards. He compared the camp to a garrison of soldiers, with the exception that the inmates were fighting for their lives in a concentrated space, and not with an expansionist agenda (like soldiers). But, they all shared the same restlessness and

an uncertainty about the future (36). It was exactly this structural organization of the camp, which was designed to strategically maintain a tension of existential uncertainty and physical hunger, which defined its nature. It was a space not designed for living, but for leaving, for fading away, into an anonymous death by hunger, disease, labor, and murder for the inmate; and, into a heroic death, chiseled into the granite of Triumphal Arches, for the soldier. Both were dying on soils that knew nothing about the *Blut und Boden* ideology that mobilized all these bodies to rush towards their deaths. Death is a transition from verticality into horizontality in terms of posture, and from there, the remains of the body travel downwards, sooner or later, while the spirits, if they exist, might go upwards. The toil of keeping an erect posture, to put one step after the other, was especially heavy within the confines of the camps. The Aryans were transformed into *Kriegsmaschinen* (war machines), the non-Aryans into *Sterbemaschinen* (death machines): “the Lager was a great machine to reduce us to beasts We must walk erect, without dragging our feet, not in homage to Prussian discipline but to remain alive, not to begin to die” (41). Meanwhile, the *Kriegsmaschinen*, whose bodies were doing *Tötungsarbeit* (murder work), were fighting against the enemy’s bodies, and they “are ten thousands and they are a single grey machine; they are exactly determined; they do not think and they do not desire, they walk” (51). The *Sterbemaschinen*, who did *Sterbearbeit* (dying work), were fighting with their own bodies: due to the “prescribed . . . chronic hunger unknown to free men, which makes one dream at night, and settles in all the limbs of the body” until “my body is not longer mine: my belly is swollen, my limbs emaciated, my face is thick in the morning, hollow in the evening; some of us have yellow skin, others grey. When we do not meet for a few days we hardly recognize each other” (37).

It was in this exhausted state of mind that Levi developed a relationship to the substructure, which he described in much detail. He felt that “[t]he entire hut shakes to its foundations”, when the early morning activity in the barrack roughly awakes him from his restless dreams, when everybody rushed to get bread. He faced it in the dirty latrines, with “the floor covered by a layer of mud” (38-39). He sank into the ground during work, “bending underneath the load ... [,] arms hanging down one’s sides, not speaking” (42). When the weight of stones, iron casts, and sandbags was bearing on his whole, heavy load-bearing body, from the shoulders, as pressure points, distributing the weight downwards. The critical element for the human apparatus to survive these endless workshifts, was the body’s connecting point to the soils, so the part it is walking upon: the shoes wrapped around the human foot, as a protective shield, and where signs of wear and tear occur most frequently. It was there, where the overarching exhaustion of the overall apparatus surfaced first. Levi described one instance, in which a piece of metal fell down and “cut[s] across the back of my foot”. The accident forced him to enter the “Krankenbau” (hospital), short “*Ka-Be*”, a space for ‘regeneration’—that many never left again. When he took off his shoe, he saw his foot “is full of blood, by now congealed and kneaded into the mud and rags of the cloth I found a month ago, and which I use as a foot pad”. Here, he described one of the moments, in which his blood was absorbed by soil—and offers a new semantic complexity of the formula *Blut und Boden* (44-45).

The soil mixing with his blood forged a new type of *Blut und Boden*, *Blut und Erde*, and offers us a different narrative to occupy/re-map these terms, to claim them back, and re-map German soils more concretely and intimately. When we look at the soils as soaked with the blood of the victims, we are dismantling the abstract camp of Germania, and thus are narratively ‘nourishing’ the empty ideological shells of *blood* and *soil*. It was the blood of the marching

soldiers and camp inmates, which colored the clean, well-lit, symmetrical Germania maps and models of Speer in a deep red and brown tone—just like in Jocken’s collages (see fig. 46).

Apart from that moment, Levi described the swampy mud, in which one’s feet got stuck during the rainy seasons (131), the hard, frozen soil during winter (158), the digging of earth pits (74), the feces that had to be carried from the barracks to the earth holes (111), the trembling grounds during air raids (118), and probably more that I forgot. All of these moments summoned a spectrum of different consistencies of the soils, and the experiences people had with them, which are adding to the complex texture of a Germanness that is rooted in flowing bloods and moving soils. They allowed us to look at the fascist ‘impregnation’-logic of “Geist” (spirit), “Körper” (body), “Stein” (stone), and “Erde” (stone), within a different network of associations that goes beyond, and/or beneath, Speer’s realm of ideas. The latter was to manifest itself in *Germania*—as an attempt to ban the static idea of blood and soil into stone, and freeze the natural mobility of narratives of spaces, times, and identities. The heavy load-bearing cylinder, as the interface between the fascist super- and substructure, offers the ideal site of intervention to the static fascist meta-narrative, by re-inscribing the foundation of suffering it was built upon, in a cultural geological narrative that layers architectural philosophy, history of science and technology, and holocaust memory—and is open to more layers.

Levi was one of the many existing voices I chose to illustrate my approach with. But it would be worthwhile, and necessary, to gather a more representative spectrum of accounts of the victims to show the full potential of a cultural geological approach in the future. This was hardly the groundwork, maybe the first shovel digging into the *soils beyond Germanness*.

**Epilogue: *Ge-schiebe* ('that which is pushed'), *Ge-schichte* ('that which is layered'),
Ge-wichte ('that which is weighing')**

In my epilogue, I want to meditate on what I see as the major critical concepts and questions that have emerged during my analysis of heavy load-bearing modernity. I will approach this task, as if I intended to systematize the idea of a cultural geology further: as an intersectional field between material and intellectual history.

While synthesizing my findings, I was also interested in exploring what might be applicable beyond my case study, German fascism, in other fields of study. I wanted to come up with a broader framework (in its early stages), so to speak. I have also included some more experimental 'outtakes' that did not make their way into the chapters, which might be 'signposts' for future work. As a result, much of this epilogue, which consists of a 'roadmap' of ideas, or better a 'geological map' of intertwining layers, was an attempt to 'zoom out' (and in), 'scale larger', and allow a 'bigger picture' to emerge, even if it remained a tentative one. This allowed me to create a speculative space for myself, in which I could let my thoughts flow more freely, be associative, and 'spin off' into different directions. In terms of the larger tectonics, I approached the idea of a cultural geology through an interlocking conceptual analysis that expands upon the concept of *Ge-schichte*—by approaching it 'geologically'.

Geological Approach

To express the layered complexity of historical accounts, I built upon the German concept *Geschichte*, which can be translated as *history* and *story*. But, when explored as a linguistic complex consisting of the prefix *Ge-* and the noun *Schicht* (layer) (plus the suffix *-e*), it also contains the semantic possibility of being translated as *that which is layered* (similar to *das*

Geschichtete, even if this ‘disrupts’ its etymological lineage)¹⁴³. While exploring this semantic potential, in order to add layers to my analytical apparatus, my cultural geology breaks down into the concepts of *Ge-schiebe* (‘that which is pushing or being pushed’), *Ge-schichte*, (‘that which is layered or layering’), and *Ge-wichte*, (‘that which is weighing or being weighed upon’)—as my major metahistorical principles of structuralization.

In terms of directionality, *Ge-schiebe* addresses the horizontal (or ‘geographical’) movements of times, whereas *Ge-schichte* speaks to its vertical (or ‘geological’) layering. Under the category of *Ge-wichte*, the historian meditates upon *weight* (and the pressure it applies) to consider the ethical and ecological implications of their historiographic writing, but without the judgmental authority of *Ge-richte* (‘who is judging or being judged’). The agency of the *Ge-schiebe* that is *pushing* (*schieben*) speaks to the driving and (potentially) destructive forces of history that are relentlessly *pushing* through and forward, while the historian is digging, picking, and *layering* pieces of the remaining debris of history together (into a *Ge-schichte*). In order to represent the complexity of history, the historian poetically reconstructs her in images that capture the *weighing* (*wiegen*) of the *weights* (*Ge-wichte*), which are applied by power structures on the human (and non-human) body.

While the historian cannot measure *right* and *wrong* on a pregiven moral scale, as these concepts develop over time, the ‘weight’ of suffering remains measurable, to a certain extent, as the capacity of the body to suffer has not changed. We can analyze structures of power in how far they diminish, or increase, the amount of suffering brought over governed biological, ecological, and other bodies/populations. *Pain* is a measurable physiological reaction, but, as a literary scholar, I have to rely on narratives of pain, which interweave accounts of physiological,

¹⁴³ Jacob and Wilhelm Grimm’s *Deutsches Wörterbuch* spoke of the etymological history of *das Geschichtete* (work-shift, or something that is layered) as separate from *die Geschichte* (an event, history, etc.)—I decided to merge these two different semantic layers in an act of ‘poetic freedom’.

psychological, emotional, spiritual, and other pains throughout the performative act of writing (as laid out in the memoirs of Levi, for example).

Obviously, these three analytical ‘modes’ go hand in hand and cannot be fully separated from each other: like geological layers, they allow a *fließender Übergang* (fluid passage) into each other. Together, these categories constitute the theory of a cultural geology that ‘illustrates’ the material and conceptual consequences of a heavy load-bearing modernity. This was my attempt to lay out the parameters of a critical analysis that aims to ‘measure’ the complexity of the world around and underneath us.

Now, let us follow this analytical trajectory into the history of Berlin’s soils, in particular the layer the cylinder rests upon: glacial till. On the way, we will witness that it contains the fluid, mobile, and diversifying counter-narrative to Speer’s monumental metahistorical redesigning project. Therefore, let us depart from the city’s substructure that has been shaped through the migration of glaciers and the import of foreign soils, just like Berlin’s cultural breeding ground has been shaped through the migration of peoples of different origin. On the way, I will pick out a few objects out of the neverending streams of history to dig deeper.

Ge-schiebe ('that which is pushed or pushing')



Fig. 70: Sonntag, Andreas. "Geological-morphological structure of Brandenburg and Berlin."

Berlin.de, berlin.de/umweltatlas/_assets/boden/geologische-skizze/en-abbildungen/ea117_01.gif

Accessed 25 Feb 2021.

When the brutal grinding of the glaciers that made their way from the Scandinavian mountains into the Warsaw-Berlin *Urstromtal* (glacial valley) had come to a halt and the ice had melted, they left behind a ravaged, but fertile, landscape (see fig. 70). This was during the Weichselian glaciation period that ended around 11,700 years ago (Litt: 45-47), so around 11,000 years before Berlin was founded in 1237 (“Die Mittelalterliche Handelsstadt”). The forceful pushing forward of the vast masses of ice that were shredding mercilessly through the landscapes, breaking through anything that was in their way, constituted the geological foundations of today’s Berlin. They breached through pre-geographical and geological borders, trees, mountains, hills, and rivers. On Feb 10th, 1940, Degebo member Muhs described the ‘violent’ creation of the glacial soils in the document “Struktur der eiszeitlichen Böden” (structure of glacial soils). He illustrated it as “mechanische[] Zertrümmerung durch Spaltenfrost und gegenseitiger Zerschmirgelung beim Transport in den Schmelzwässern” (mechanical disintegration through crevasse frost and reciprocal abrasion during the transport in the meltwater), underlining the aspect of shattering. The brief overview of the process of glaciation was part of a correspondence with Speer’s “Durchführungsstelle” (Implementation Agency) regarding the super heavy “Grosse[] Halle” (Great Hall) that would have been located in Berlin’s glacial valley and thus exposed to its ground forces. Muhs’ geological breakdown was centered around its soil mechanical implications for the project. Therefore, he looked at a soil particle contained in the hall’s ‘foundational sole’ (“Gründungssohle”), in this case diluvial sand, under the microscope (see fig. 71). Thereby he diagnosed that the individual grains were lying quite loose together and therefore showed a vast potential for being mechanically condensed, which would increase the bearing capacity of the soils significantly. As Muhs emphasized, the respective soil condensation techniques had been successfully applied for other grand projects,

such as the Poststadion, suggesting that they would work here too (Projektarchiv Degebo, 361 BKB O Große Halle, Post-stadion, Stromrüttelverfahren, “Struktur der eiszeitlichen Böden”).

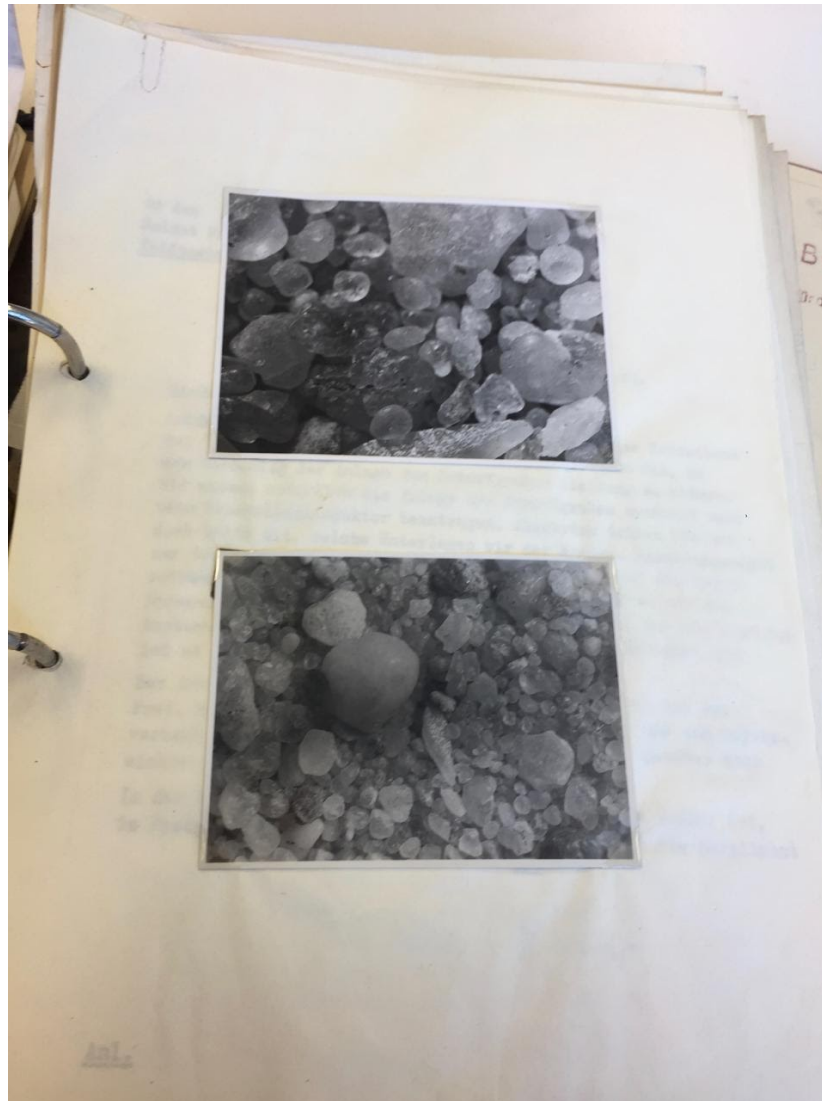


Fig. 71: Muhs, Heinz. Diluvial sand particles under the microscope. 10 Feb 1940. “Struktur der eiszeitlichen Böden,” by Muhs, Projektarchiv Degebo, 361 BKB O Große Halle, Post-stadion, Stromrüttelverfahren.

Apart from diluvial sands, so-called “Geschiebemergel” (glacial till) was among the geological layers left behind by the last Ice Age. As we know, the heavy load-bearing cylinder would be built on top of it, in order to examine the soil’s reaction to unforeseen pressure. Unlike the diluvial sand located in the “glacial spillway” , glacial till was part of the “ground moraine” and was thus formed *under* the body of the glacier, which led to an entirely different consistency and composition (see fig. 70).

As one of the many notorious German compounds, *Geschiebe-Mergel* speaks to the history of its materialization. *Ge-schiebe*, consisting of the verb *schieben* (push), which is transformed into a noun with the prefix *Ge-*, captures the motion of the ice masses. The latter used to run through the landscapes, pushing anything that crossed its path out of the way. Thereby they were dragging stones, soils, skeletons, trees, and anything else with them. Thus, they formed a mobile ‘mass grave’ of organic and inorganic matter, which it kept depositing into the glacier mass through its ‘run’ through Europe, accumulating a plethora of ‘ingredients’.

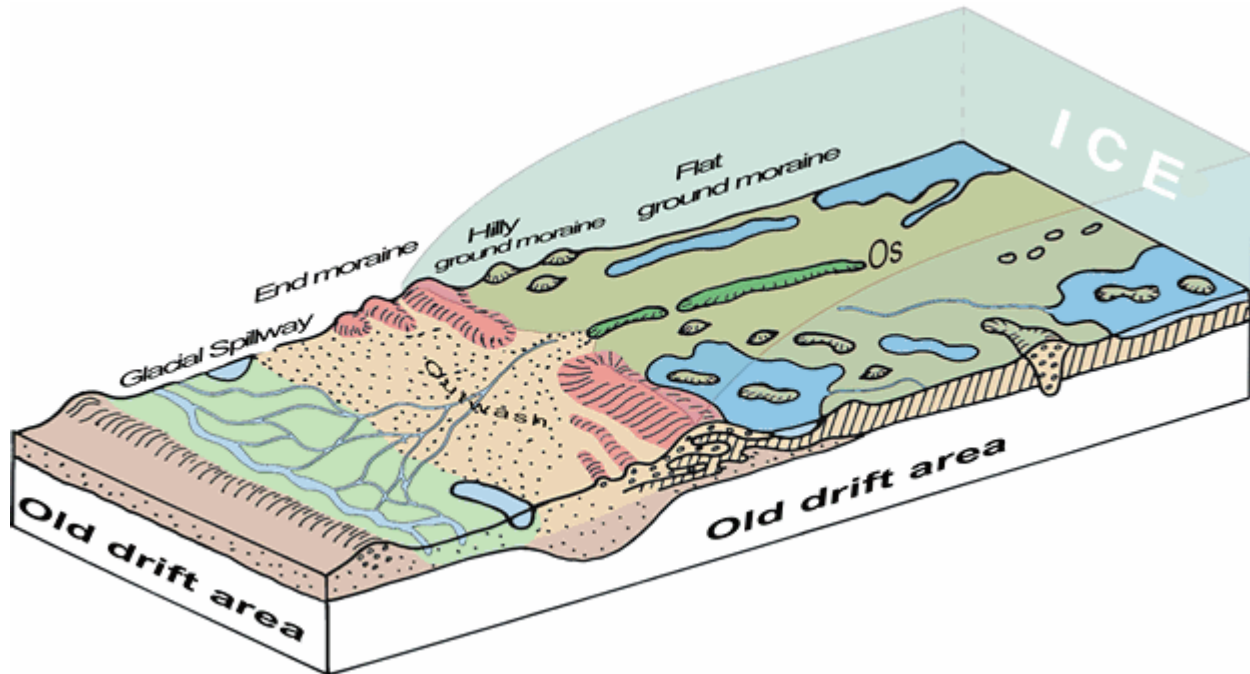


Fig. 72: Sonntag, Andreas, et al. “The Glacial Series – a schematic image compiled into a block representation.” 2007. *Berlin.de*, berlin.de/umweltatlas/en/soil/geological-outline/2007/introduction/. Accessed 25 Feb 2021.

When the ice melted with the rise in temperature, the glaciers left behind a completely changed, destroyed, scared, fragmented, ruptured, ‘migrated’ topography, the so-called *Grundmoräne* (ground moraine). *Topographically*, ground moraines were defined by ‘flat waves’, so quite homogenous, with little change in altitude (even if it fluctuated) (see fig. 72). *Geologically*, the type of soil that glaciers left behind, was an ‘enriched’ type of *Mergel* (marl). According to Spektrum’s *Lexikon der Geowissenschaften* (Lexicon of Geoscience), *Mergel* is a type of soil that contains mainly clay and chalk (“Mergel”); and due to its linguistic resemblance to *ausgemergelt* (emaciated), it is culturally associated with a soil that lacks longevity in terms of fertility. In contrast to that, “Geschiebemergel” (glacial till), consisted of all thinkable types of

grain sizes, from fine particles up to giant boulders (“Geologische Skizze”: 8). As such, it was seen as highly fertile and ideal for growing crops, in the 1930s (Blanck: 315).

If we decide to model history after the image of a glacier, which is what I—figuratively—attempted to do here, this type of historiographic writing would have to contain a vast colorful range of small and big pieces. They would be randomly thrown together from geographically and geologically different origins, all convoluted into one giant mass, where they come into close contact, rub, grind, collapse, merge, and reemerge completely out of context—almost arbitrarily—in new, hybrid constellations and consistencies. Thereby former enemies would be paired up, friends separated, and pushers pushed under those who were formerly being pushed by the pushers. Unlike the glacier, which is uninterested in history, borders, morals, pain, and human drama, and just pushes forward, the historian has to curate the voices they choose to let emerge in their narratives. If we decide to write from a cultural geological perspective, and ‘break down’ history’s ‘soil’ profile in an informative and engaging way, we would have to cover all the big and the small voices. To demonstrate our cultural sensitivity, we would have to summon a spectrum of tongues that is somewhat representative of the history that we tell, and let the story be diverse and colorful enough to somehow reflect the actual complexities of life and the earth. This call for representing complexity could be the ethical imperative underneath an informed historiography. But, back to the glacier.

Besides the *ground moraine*, which describes the geological profile left behind underneath the former glacier, there is the *end moraine*, which marked the endpoint of the glacialization (see fig. 70). *Topographically*, the end moraine was significantly different to the flattened ground moraine, as the end moraine consisted of soils, and other matters, folding and piling up in front of the moving forces of the traveling ice masses. This mass accumulated in

wall-like formations, against which the ice still pushed. But, since it had lost its ‘forward pressure’, it did not have enough force left to push it further. Nevertheless, the pressure still managed to break through the wall in some parts. Thus, gaps opened through which the melting water poured through. So while the glacier was the force that was pushing (and thereby depositing things into its ‘body’), the end moraine consisted of what was being pushed, and left outside of the larger glacier ‘body’. *Geologically*, the soils left behind by an end moraine were a reduced version of glacial till, as all the finer particles (sands) were washed out by the water pouring through the end moraine (when the glacier melted), leaving only the bigger pieces (let’s say pebbles, stones, boulders, etc.) behind (“Endmoräne”). The water flow reaching from the melting glacial till over the end moraine, brings us to the last component of the glacial sequence I wanted to highlight, the *glacial valley*.

The glacial valley is located ‘behind’ the end moraine, meaning the area that the glacier never reached in its frozen consistency, as it halted and melted (see fig. 70). Therefore, it is right in front of it, and left uncrunched, as the glacier had to stop its march through history. It is called *glacial valley*, as it refers to the basin, in which the water pouring down from the towering glacier masses, over the end moraine, accumulated. This resulted in bodies of water on the surface, and/or underground (“Urstromtal”). Berlin lies in such a glacial valley (see fig. 70).

So, as you can see, throughout my heavily simplified/stylized summary, I divided the glacial sequence into the components that are pushing and being pushed. These parts engaged in a tension that led to a lot of exchange, destruction, movement, fluidity, and fertility. Let us ask ourselves, who were the forces in history that were pushing, who were those being pushed, and where to locate productive and destructive tensions among them? There are numerous examples throughout intellectual history that come to mind as potential answers, maybe you have some

ideas yourself, and I certainly want to offer my limited list of examples. There is of course a great limit to this analogy, landscapes don't feel the same way as humans, even if empathy can include non-human beings. But, before my thought gets lost in translation, I want to ride the metaphorical glacier of my historiography further on.

schieben (push)

Maybe let us ask first, who was 'pushing' history on an epistemological scale, so shaped our understanding of history as a concept throughout modernity in a dominant fashion? The Western canon, mostly European white males, comes to mind: a canon that has been scrutinized, criticized, and expanded significantly through the last decades, as it presented a too homogenous, tunnel-visioned, and reduced account of history and histories, tarnished by a 'superiority complex'. I myself certainly stand in its radius of action—too tempting are the monumental domes full of spirit they erected for me not to explore them. My deeply ingrained "Höhentrieb"¹⁴⁴ (drive to height) resonates strongly with this *Tower of Thought*.¹⁴⁵ But, it is inevitable for anyone, who enters these complexes with open eyes: behind the radiating sublimity of their walls you will encounter the beast that lives within us humans, nesting at our most inner core. A beast, which, if it is not tamed, will self-destruct. Heinrich described these mechanisms inherent in civilization as "die selbstzerstörerischen Elemente ... des transzendentalen Subjekts" (the self-destructive elements of the transcendental subject). He looked at them as the merciless drive in us to transcend the material foundations of our existence in order to overcome the

¹⁴⁴ The "Mole Antonelliana" (great building of Antonelli; 1863-1889), is a monumental, hard to classify, pavillonesque building in Turin, which inspired Nietzsche to come up with the formula "Höhentrieb" (drive to height). It was originally planned as a synagogue. Nietzsche was so impressed by the architect that he described him as equal to Wagner. The eclectic/historicist tower structure stylistically absorbed, and rearranged, various architectural tropes into an almost random composition and was also very unique from an engineering perspective (Gleiter: 48-53). On the one hand, its monumentality must have resonated with Speer, on the other hand, the clear disruption of an illusion of unity contradicted the fascist idea of a monolithic style.

¹⁴⁵ Hegel argued that this 'upwards drive' of humanity became apparent in architecture for the first time (Burda: 141-42).

sensual apparatus that guides us through the world—which leads to the will to violently impose grand, homogenizing, imperial orders onto the world (6). We want to understand what moves the earth at its inner core, to grasp the laws of space and time, to enter the realm of pure ideas, to understand what truly we are, or, even a step further: to (re)create ourselves in a better, purified form. All of this is inscribed in my spiritual architecture. Whenever we detach ourselves from our biology and do not accept its limitations, we are in danger of awakening this beast. All it takes is one man who claims he found the absolute truth—and enough people to believe him. What I certainly learned, most of intellectual labour was the dismantling of your own (childhood) heroes. In that regard, it is *Selbsterfleischung* (self-deprecation)—but with a positive outcome. Among these white oil painted men were many who claimed to have understood history and humanity in its totality, often resulting in vast, multi-volume, thousand-pages-long books, under which weight our bookshelves, turned into heavy load-bearing bodies, crumbled. Many of these men managed to master a vast amount of material, by breaking it down into sharp, straight arguments, through a violent, impressive synthesis, providing a world view through the lens of a conqueror of “universal” knowledge, an epistemological *tour de force*, so to say.¹⁴⁶ I am not intending to take anything away from these men, these men have changed

¹⁴⁶ This genre of universal histories, shaped by ‘white European males explaining a world measured through a colonial gaze’, is represented for example by Herder’s massive, towering *Ideas for the Philosophy of the History of Humanity* (1784-1791), Hegel’s all-encompassing *The Phenomenology of Spirit* (1807), Humboldt’s gigantic *Kosmos* (1845-1862), Marx’s sweeping *Manifesto of the Communist Party* (1848), and probably ended with the oppositional pair of Spengler’s (1880-1936) colossal *Decline of the Occident* (1918-1922) and Sedlmayr’s (1896-1984) compact *Loss of the Centre* (1948). (Sloterdijk’s *Sphären* (1998-2004) might be a revival of the grand narrative, nevertheless). What would we be today without these men, who transformed Europe from a “miserable backwater” in the 14th century, into huge colonial empires in the 19th century, is a question that Niall Ferguson pursues in his controversial analysis *Civilization: The West and the Rest* (2011) (4). Much more sensitive approaches to this topic were offered by Richard Tarnas’ *The Passion of the Western Mind: Understanding the Ideas That Have Shaped Our World View* (1991). His goal was to go beyond “the tendency . . . to conceive of the human species in predominantly masculine terms” as otherwise we would “fail to understand the intellectual and cultural foundations of our own thought” (1). It is a book which, according to my interpretation, highlighted the moments in Western thought, in which the rational and spiritual faculties were in a balance, which allowed for the emergence of rigid ethical foundations, on which basis we can criticize the violence inflicted both by ‘out of touch’ rationalism and the occult (‘out of touch irrationalism’). In my opinion, the book opened important passages to a more inclusive approach to the Western canon. In works alike, which promote plurality, we learn to understand the need for diversification and the strength of considering, and listening to, as many perspectives as possible, to find the most

the world, and they conquered their spot in history, for better—and often for worse. Their works, as manifestos about our human nature, have not diminished in value. By studying them we can learn a lot (about us, the beast, the transcendental, and our limitations). Just now, we are beginning to understand the narrow walls through which we have been looking at the canvas of histories so far. This understanding articulated the need for adding many more layers to it. To thicken their (and our) histories, to draw out the nuances of their flattened and inflated heroic characters, we need to pay particular attention to those that were trampled over (by these men), so that these men could march triumphantly through history, and be placed upon these high pedestals, on which we see them today.¹⁴⁷ Many of these men came over the world like glaciers, forceful, violent, merciless, driven, hard, breaching through whatever had been before or in front of them. But eventually, the hardened ice has to melt, and the water will come like tears washing through the ravished landscapes, leaving behind a new world in shambles.

My project was nevertheless not dedicated to this *Towering History*, which is also a history that remains to be written, as another *Lustmarsch durchs Theoriegelände* (passionate march through the realm of theory), so to say. As a matter of fact, my project started as that same project. But, over the course of several years, the gentle forces of empathy started to slowly crack down the shell of my former project, until it sank into the ground—and fell apart. Its fragments were warmly received by the soils bearing the imposing load of all these towering histories. At some point, I realized I had to shift my focus on the *weight* pressing down on the backs of the neglected, overlooked, invisible, substructures, lying crushed at the feet of these soaring superstructures of hypermasculinity that always had impressed me so much. I knew I had

representative, and creative, solutions. This is just a highly limited list that would require much more unpacking. But, as the glacier is moving forward, I decided just to pick out a few smaller and bigger pieces I am familiar with.
¹⁴⁷ This project of the ‘decolonization’ of space is currently being undertaken in the context of protests erupting throughout the world. They literally and figuratively work on the removal of current and past figures of oppression from their elevated spaces in cities and histories, showing once more the entanglement of spaces, times, and identities in the collective imaginary. Should we erase the memory of our violent pasts?

to pay particular attention to the foundations upon which all this monumentality had been built, and the soils it was placed into, the collapsing bodies who had to carry the heavy stones, the shiny marble, and the gold. I knew I had to pay attention to the tired, crumbling bodies, the shed blood and tears, the suffering, the crushed, the drowned, the not-saved, the broken, the fragmented, the nameless, backbones of history, deposited and decomposing in the soils underneath the surface, into which we need to drill down, to reach out to them. Now I stand here, at the broken foundations upon which these impressive, rising up, pulsating superstructures were able to erect themselves, and the pools of blood that they were able to draw from. Where do I go from here, having dismantled all I ever looked up to? I know they will always be part of me. Maybe, it's not about looking up anymore, but looking down and exploring the inside. The material historian walks through the debris of history trying to figure out what happened, picking out some of the shiny pieces that stand out immediately, and then digs for the pieces that might have been hidden, and are even more precious.

Throughout my journey, I learned to recognize that the diversification of the established ontological and epistemological perspectives by Feminist, LGBTQ, Indigenous, Disability, Non-Western, etc., voices added the much needed color to the fading oil paintings of history. The inclusion of these voices gave us an overall thicker account of historical perspectives and enlarged our capacity to cultivate empathy. They exposed the binary logic perpetuated by the Western canon that has been so mighty for centuries, and continued to order the world into the frontiers of the *Western vs. non-Western, male vs. female, conqueror vs. conquered, ruler vs. servant*, and so on. By showing who was historically speaking able to *push* and be a *pusher*, and who was designated to *be pushed*, demonstrated the necessity of the oppressed voices to *push back*—and (re-)write histories.

(zurück-)geschoben (pushed (back))

There are, of course, various voices that have captured the violent logic of binary and transcendental worldviews. Often they emerged from the ones who were being pushed—or who refused to dance with the rhythm of their age. As a son of Slovak refugees, I am a ‘product’ of resistance in some regard—if I want it or not. My mother, who was a passionate dancer and anthropologist, stood up to the patriarchal order to attend university against the will of her parents. She also decided to marry a broken man, whose life had been shattered by a tragic car accident, and whom her family did not approve of, in order to build him up again. One after the other, while putting their lives in danger, they crossed the border to Germany, in order to escape another the oppressive superstructure of the communist regime. Thus, they migrated into an unknown future, while defying the logic of the binary *East vs. West*. My father’s dream was to become an artist, but he went to study physics instead (climatology actually), as he came from a working-class family that could not ‘afford’ an artist. Later on, he nevertheless used his artistic talent to resist the capitalist structures of power that were demolishing his existence. As part of the union *IG Metall*, he became a caricaturist, whose work was featured on the signs of protestors during factory shutdowns and other union related events. He demonstrated the power of art as a political tool. For about ten years, he was afraid of losing his job and with it the foundation to support his immigrant family of three children. The resulting anxiety put a toil on us all, even if I was too young to understand the problem. I noticed the constant nervousness and irascibility of my father, who I know cared deeply about us. It was the weight of history bearing upon our family. All of this became part of my DNA. Reflecting upon it helped me to locate, and partially deconstruct, the hypermasculine socialization that has shaped not only many parts of my

life—the social circles of my youth, martial arts training, military service, etc.—but, more importantly, shaped the discipline of history as it is standing today.

Foundational to the drawing of a bigger/deeper/more nuanced picture of history, is certainly Hannah Arendt. She analyzed the operative mechanism of fascism on a legal and geopolitical basis, by showing how being bereft of national citizenship opened a space of vulnerability. In the context of 20th century nationalism, and its radicalization into National Socialism, stripping people of their citizenship paved the way for the systematic annihilation of them (594). Sylvia Plath, in my opinion, illustrated the landscape of suffering like no one else. She described the pressure of the patriarchal superstructures famously as a “boot in the face”, and mixed her psychogeographic imagery with uncanny, not unproblematic, holocaust analogies. Thus, she opened up a dark passage for powerful poetic hybrids, places of traumatic encounter, and follow-up deconstructions (Plath). Another, more recent voice is Yoko Tawada, who, I find, described the hybridity of her Japanese-German identity formation in a very beautiful and uniquely poetic way, while also illustrating the racism she experienced by German people towards her, e.g. by spitting in her face for the way it is shaped in the middle of the street in Hamburg (22). Another important voice of the genre of counter-history that intersected with my effort of counter-mapping is Saidiya Hartman. Her attempt to fill a gap within the archives of slavery, namely all the forgotten females, which she summoned under the poetic cipher of the Black Venus. She represents everyone who “no one remembered ... or recorded the things she said”. Through her imaginative writing and poetic voice, I believe, Hartman provided a model of writing history that navigates us into the borderland between academic and poetic writing (8). Speaking of borderlands, a voice that has influenced and positively haunted my imaginative landscapes is certainly Gloria Anzaldúa. She was actually one of the first figures that invited me

to explore my own, inner and outer, borderlands, as part of my journey as an urban humanist. Very deeply deposited in my writing is certainly Walter Benjamin, who was pushed out of Berlin by the German fascist government, and thereby left a gap behind that I am somewhat trying to fill. He never got the chance to write about Germania. All of these writers are somehow sedimented into my own work and might surface from time to time. These are just some of the voices I came across in my journey—some only fleetingly and respectively this list is incomplete and not representative for history as a totality, but that is not the goal here. Rather, I wanted to carve out one of the paths to navigate through the complexity of histories. These voices were pushed, but they pushed back, sometimes more subtle and gentle, and thus more efficient, than we might expect. Efficient enough to intervene in my own, often stuck, spiritual tectonics. But the volcanoes are worth it. The goal of a cultural geology is to design more inclusive, diverse, and empathic futures on the basis of a more colorful source code that represents, and is informed by, the full spectrum of human potential. Thus, we can activate more of our inherent creative capacities. Because, in the end, if we want to build a world for all, we have to build it all together.

***gerieben* (rubbed)**

Earlier, I mentioned earlier that the fertility of glacial till is due to the friction between the pushing ice masses and the ground (and its topographic cadences). This made me think about the Kantian assumption that the natural “Zwietracht” (quarrelsomeness) among peoples led to ‘productivity’ (217), as it made them disburse over the planet and ‘travel and conquer’ the world (218-220). He stated this, somewhat paradoxically, in his famous treatise *Zum Ewigen Frieden: Ein Philosophischer Entwurf* (Perpetual Peace: A Philosophical Sketch) from 1795. Thereby he presented a teleological history of a world under a nation-state model, seemingly presenting a

concept of cosmopolitanism in agreement with the authority (he was under), Frederick the Great, the Prussian monarch. This tension between reformation and servitude is arguably what defined Kant's life. This tension is also reflected in his conceptualization of national soil as a territory that grants the right to visit (temporarily), but not the right of being a permanent guest (212-213).¹⁴⁸ He believed that to reroot people permanently would damage the healthy roots of the tree trunk that constituted a nation. Through the choice of his 'organic' metaphorical clothing, he revealed that his conceptualization of the world relied ultimately on distinct national entities that 'shall not mix' (196).

Glaciers, of course, did not care about arbitrary lines such as national or geographic borders—climate change was their 'motivating' factor. So, let us think about history as a glacier, history as an uninterested *Geschiebe* that just carries on, rolling over everything in its way, and taking with itself whatever 'sticks'. The image of history as a glacier of course reminisces Benjamin's angel of history from his theses. It was a figure that observed the world, while being pushed through time by the storm of history. Thereby the angel witnessed the debris of a world falling apart, while piling up rubble on rubble, "Trümmer auf Trümmer", in front of her eyes, while she anxiously tried to 'fix' it (697). In my history, this storm could easily be reinterpreted as a glacier that is mercilessly pushing through space and time until its standstill, while being witnessed by the *Angelus Mergel*, who is standing in the glacial valley, screaming into the growling shores of history:

Keep ancient lands, your storied pomp! cries she
With silent lips. "Give me your tired, your poor,
Your huddled masses yearning to breathe free,

¹⁴⁸ In that context, he also sharply criticized the colonial violence that overstepped these rights.

the wretched refuse of your teeming shore.
Send these, the homeless, tempest-tost to me,
I lift my lamp beside the golden door! (“Lazarus”)

She is trying to stand her ground, while it moves away underneath her feet and the melt water is reaching higher and higher, reaching up to her neck, threatening to drown her, or wash her away in the current, that is growing stronger and stronger, exhausting her strengths. This figure resonates with the reoccurring *Flüchtlingswellen* (waves of refugees) that drive too many human bodies, who are forced to leave their home due to the unbearable circumstances of war, poverty, and persecution, to embark on a risky journey over the oceans. Often these trips are organized by ruthless smugglers, who do not provide for a dignified journey, but just cram people onto small boats or other vehicles, with scarce resources, in order to maximize their own monetary profit. They exploit the travelers who are afraid to remain on their native soil, and navigate them into the depth of the ocean where they often perish. There, their exhausted, malnourished, anxious, and *ausgemergelt* (cadaverous) bodies, finally come to rest, if they are not washed ashore by the water streams. And the glacier of history moves on.

Berlin’s topography was defined by a glacial valley that was formed in between the frontiers of two ground moraines, one in the north east and the other in the south west. The city’s substructure was formed by soils that have been pushed from several geographical directions and thus carry the violence of the natural forces (see Fig. 70). They invite us to think about those who have been pushed around by human history as well. Berlin’s geological formation is reflected in the expansion of the river bed of the Spree as a product of the ice ages. It leads us through the glacial valley of history and shall be our narrative current that absorbs the tears of those who

have suffered. Let us allow for these thoughts to sink into the riverbed through which our stream of consciousness makes its way, while we arrive at our second metahistorical category:

Ge-schichte. It invites us to look at history in its layeredness.

Ge-schichte ('that which is layered or layering')

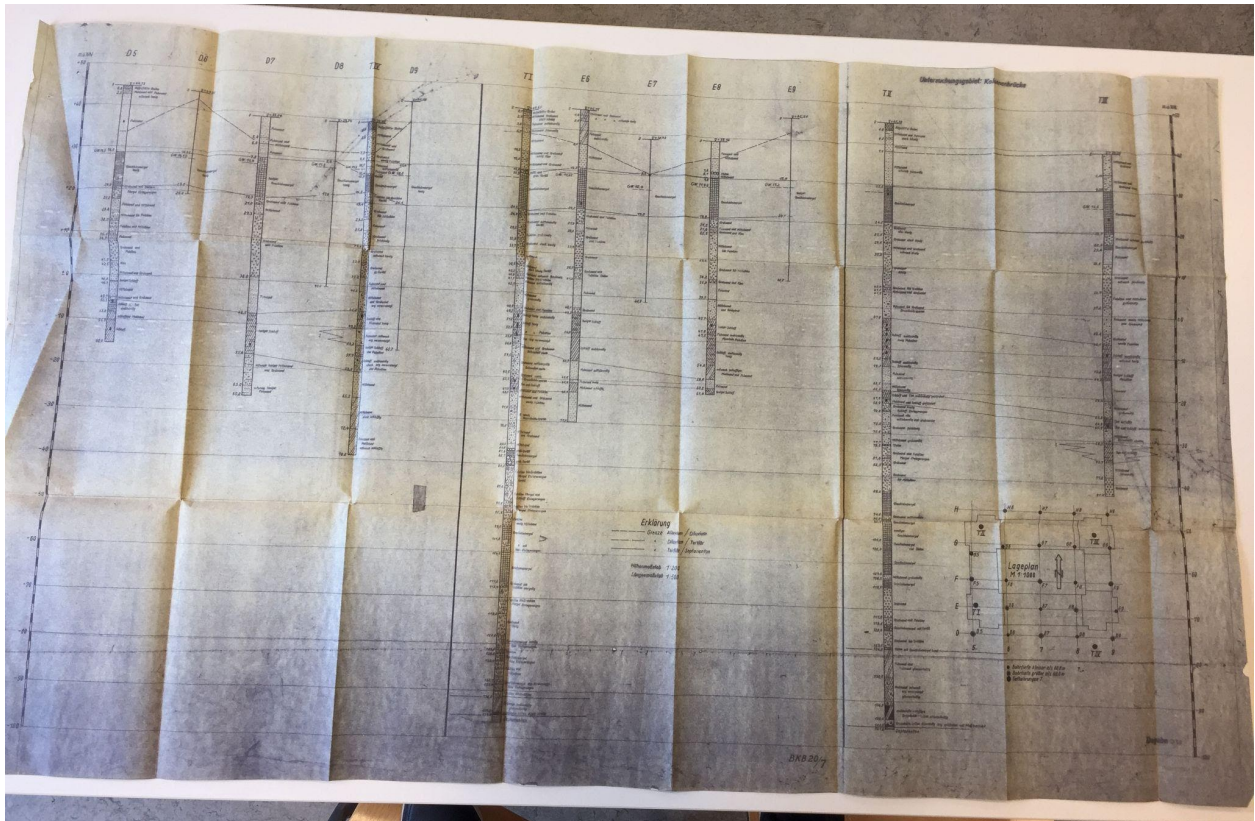


Fig. 73: Degebo. Drilling map of the area Kolonnenbrücke at the cylinder. 1941. Projektarchiv Degebo, 361 BKB 15, 17, 18, 19, 20.

The leap from *Ge-schiebe* ('that which is pushing') to *Ge-schichte* ('that which is layered') is not far. The former refers to the horizontal, geographic, expansion of soils, the latter describes the vertical, geological, layeredness of soils. To illustrate that, the soil mechanical map above projected the results of a series of drillings conducted around the cylinder, with the goal to scan the soil profile for the foundations of the Triumphal Arch (see fig. 73). While the drillings penetrated quite deep into space-time, only the upper layers were of interest, as they are responsible for the loading-capacity of the soils.

Of particular interest was the glacial till, as the foundations would have (potentially) been placed on top of it:

Geologisch gehört der betreffende Geschiebemergelhorizont dem oberen (jüngeren) Geschiebemergel an. Unter ihm liegen diluviale Sand- und Kiesschichten von stark wechselnder, vorwiegend grober Korngröße. In etwa 50 m Tiefe unter Gelände folgt eine interglaziale Schluffschicht. Jedoch liegt diese so tief, daß sie für die Probelastung ohne Bedeutung ist. Für die Setzung des Probekörpers sind lediglich der Geschiebemergel und die unter ihm liegenden, meist grobkörnigen Sande und Kiese wichtig. Das Grundwasser wurde in etwa 2 m Höhe über der Geschiebemergelfläche angetroffen. (Muhs, 1969: 98)

Geologically the relevant glacial till horizon belongs to the upper (younger) till. Located under it are diluvial sand- and gravel layers with a strongly alternating, mostly rough grain size. In about 50m (ca. 165 feet) depth under the terrain, an interglacial silt layer follows. Nevertheless, it lies so deep that it is irrelevant for the test-load. For the settlement of the test-cylinder, only the till and the mostly rough-grained sands and gravels are important. The groundwater is to be found at a height of about 2m (ca. 6.5 feet) above the glacial till surface.

These results showed the following geo-chronology (from the bottom-up): The oldest/deepest layer was an “interglacial silt layer” (ca. 165 feet deep)—*interglacial* referring to a period between two glacial periods (so ice ages). Then, came the glacial till, which is dated

back to the Diluvium. On top of it, were sands and gravels, which count to the Alluvium, which covers the underlying layers. Once more, we can see how ‘deep’ the natural diversity of space-time is ingrained into the soils at the foundation of German fascism.

More broadly speaking, as the “Geological Outline (2013 Edition)” provided by the official website of Berlin laid out, a geological map can only tell what is on the surface. It has to be contextualized with datasets that go beyond it, and which are usually won by ‘drilling’ into existing layers of knowledge, and/or by layering new information on top of it: “Since geological maps can generally depict only those geological units which are present at the surface, they must be supplemented by information on the sequence of layers, the three-dimensional structure of a profile section, and an explanatory text such as the present one.” Thus, geological maps always remain under construction. Without much modification, this applied to the text I am providing hereby as well. Even if I am not writing about geology, but history, I nevertheless conceptualize it as cultural geology in its vertical layeredness (and horizontal expansion). This conceptual possibility is certainly encoded in the semantic potential of the word *Ge-schichte*, which can be read as ‘that which is layered’. Or, as *Geschichte*, in the sense of a fictional story which one tells their children, and that references other fictional stories, which it is based, or layered upon. All of these preexisting narratives are still ‘deposited’ in the story, and can be traced in its depth, like sediments. *History* is never written in a vacuum. She emerges from the multitude of existing narratives, especially the ones that continue to stimulate, or dominate, the public imagination. But, also the hidden histories, erased, sunken, hidden, hold-back, and cut-off, speak to us through haunting tales and ghostly appearances. They often emerge from the ruptures of different semantic layers, where/when the tension becomes too unbearable to *not* be told in the form of a *new* history that responds to a current problem. Thus, history grows out of its older versions, to

dismantle, correct, update, enrich its predecessors. For example, one of the intentions behind, or underneath my (hi-)story, is the call to accept that any history is fictional, can neither be ever objective nor true, in a factual sense, as data is always accumulated around an argument, a hidden or explicit theory, which is always a subjective, ideological, or even mythological formation. Therefore, historians have to engage with their own fictionality, their status of being fictional writers, the confines of this circumstance—but also its opportunities. Accepting the limitations of our subjectivity makes us open up towards learning from the rich history of storytelling. This can make historical (and academic) writing, which is often dry and inaccessible, thicker, more layered, and fertile, and overall more accessible, inspiring, and stimulating. Historians need to learn how to write in an engaging way, otherwise, their goal, and the whole project of history, fails with them. Our task is not only to educate the people but to stimulate their curiosity and invite them actively to work on imagining a better world. History knows many histories, and every history carries histories, and the other way around, in one form or the other, as they are deposited in its layers and depths that are ready to be drilled into.

Cultural geology aims to apply this ‘layered’ gaze to *language* (including the stories it tells) itself—and to (re-)connect the abstract nature of language to its origin in the *body*—the body of the victim, perpetrator, flaneur, and so on. Therefore, to efficiently describe the category of *weight* that I tried to develop out of the heavy load-bearing *body*, I have to speculate about a theory of the body. In the context of the body politics of Germania, I did this via the re-inscription of the erased bodies (onto the map of Germania). This *embodied mapping* (or *embodying*) is one possible application of my methodological framework to (urban) spaces.

Embodied Mapping

Heinrich described his project of reading architecture as a ‘rediscovery’ of its anthropological, bodily origins.¹⁴⁹ Naively, when 15 years old, he put his body in danger by resisting the fascist regime in an act of *Wehrkraftzersetzung* (subversion of the military apparatus), while serving in the *Luftwaffe* that aimed to integrate him into the larger architecture of the *wehrhafter Volkskörper* (defensive body of the volk).¹⁵⁰ He practiced what he preached—from an early age on. “Architektur hat mich schon von Kindesbeinen an fasziniert—ihrer Körperlichkeit, ihrer Leibhaftigkeit wegen. Es sind ja in der Tat Baukörper. Architektur ist für mich sozusagen die leibhaftige Verkörperung der Gattungsgeschichte...” (Architecture has fascinated me from childhood on—because of its physicality, its corporeality. They are indeed built *bodies*. Architecture is, so to say, the bodily incarnation of the history of our species for me).¹⁵¹ Drawing a line from the womb, to caves, to houses, he looked at buildings as reconstructions of the mother’s womb, and all buildings as reproduction of the tension

¹⁴⁹ This also brings forth what Benjamin wrote about childhood in his *Passagen*. He described it as the task of childhood (“Aufgabe der Kindheit”), to interpret the world on a symbolic level, which includes the embedding of technology (we can add architecture here), into the “Bilderschatz der Menschheit” (human archive of images) (493).

¹⁵⁰ Unlike Heinrich, I was an exemplary soldier during my 9 months of military service after high school and more than willing to become an efficient part of the defensive muscle of Germany.

¹⁵¹ As aforementioned, Heinrich saw his work as part of the larger effort of the “Selbstverständigungsunternehmen der menschlichen Gattung” (project of self-understanding of the human species), which spoke to me very powerfully (2). It opened up my eyes, almost in the Benjaminian sense of an awakening out of a nightmare that has oppressed you subconsciously, which finally gives you the chance to recognize the oppressive structures of power that have been giving you all these nightmares. Only then, you can start changing things in your life that allow you to break out of these chains of the past, or at least plant a seed of messianic hope for your, and others’, futures to do so. Writing is about discovering and opening yourself up, in order to loosen up the rigid walls we have erected within and outside ourselves, which are ‘skeletons’ of old ideologies that shooed around our parents and our grandparents—and are still haunting us. As children, dreaming a dream of liberation, we need to work through the traumas of our ancestors, which reappear as specters. It’s in moments of collapse, when we break down completely, that we can break out of our chains, and tear down the walls within and between us, when truth crystallizes, and we can ban history into an image that carries all of our pain and hopes. It is in these moments, when our hand finally manages to reach out of the pile of debris of histories we are working through and let’s in a tiny ray of light that warms our face and nurtures us, that the angel speaks to us for a split second that we can hold on to for just a moment. This moment is short and will not feel like forever, but hopefully feels forever. Our strength as humans lies *begraben* (buried) in the fragility of these moments. It is our duty to work through our traumas, to crack, or at least soften, the hardened shell of narcissism in which depression veils us, so that we can free ourselves and help to liberate the world.

between the female and male (4). But apart from this Freudian paradigm that he literally taps into here, I see the value of his readings in the reactivation of the bodily sensors (so the aesthetic apparatus) that guide his analysis of the built space and its relationship with the human body.¹⁵² In his writings, he considered bodily sensations, smells, sounds, shatterings, as an integrative part of his memories. He underlined their overlooked, but central, status within the historiography, e.g. when describing the military camps during fascism:

Dieses Lager—dieses Männerlager¹⁵³—ist eine männerbündische Angelegenheit. ... Zu diesem Klima gehört auch der männerbündische Geruch. Was ich schildere, ist tatsächlich der Eindruck, den die Ämter in dieser Zeit vermittelt haben. Und ich füge hinzu: Man darf nicht einfach von diesen Erfahrungen abstrahieren—und das mache ich manchen Autoren zum Vorwurf, wenn sie Erfahrungen der Zeit haben und es für eine historisch einwandfreie Methode halten, von diesen zu abstrahieren. Diese Erfahrungen muss man aber mit berücksichtigen. Soviel also zur Lageratmosphäre. (186)

This camp—this male camp—is a male bonding affair. ... To this climate belongs also the masculine smell. What I describe is the actual impression these administrative bodies made during these days. And I add to this: One may not easily abstract from these experiences—and this is what I blame some authors for, when they have memories from that time and deem it a historically unobjectionable method to abstract from them. Yet

¹⁵² Nevertheless, there is a lot to discover in Freud regarding the idea of a cultural geology, which I intend to do in the future—a lot of it is already lingering in the substructure of my language.

¹⁵³ Regarding *Männerbund* (male society): “Hans Blüher, one of the founders and theoreticians of the German Youth Movement, ... first articulated the relationship between male-bonding (Männerbünde) and state formation in his book, *The Role of the Erotic in the Male Society: A Theory of State Formation Based on Essence and Value*”. “[S]ocieties for male-bonding” are “sporting and hiking organizations, fighting clubs, and military units” with the goal to “cultivate a specifically male Eros constitutive of state formation. The state ... comes into existence by the way of the erotic, masculinist bonds created between men” (Presner, *Muscular Judaism*: xxii).

you have to take these experiences into consideration. That much about the atmosphere of the camp.

Despite the uniqueness of Heinrich's philosophical insights regarding Speer's Germania project, into which he interspersed his 'bodily' memories, he never synthesized them into a (coherent) theory of the body, or memory, or body-memory. This motivated me to pick out some of the fragments of his 'fleeting theory', put them together, and add more layers to it. I see great potential in his approach of building theoretical insights on bodily sensations, which could result in a theory driven by bodily awareness to map out empathy. Looking at the fear unleashed by Speer's transformation of Berlin/Germania onto the child Heinrich, can help us think about other individuals and their experience of fear, but also the overall oppressive structure of the fascist hypermasculine concept of the body.

For the application of embodied mapping to my own project, the initial point of departure was the available linguistic material, as first place of my encounter: *Schwerbelastungskörper* (heavy load-bearing body). So, let us briefly look at the origin of the term *in situ*—at the structure itself. The panel underneath, which framed a historical photograph of Speer's model of the North-South Axis of Berlin/Germania, is located at the entrance to the fenced-off memorial site of the cylinder, where it was applied to a larger concrete slab (see fig. 74).



Fig. 74. Kurek, Paul. Information panel next to the heavy load-bearing cylinder. 2018. Jpeg.

Echoing the colors of the fascist regime¹⁵⁴, the information panel described the grand plans of Speer in German, and beneath it, in English:

The “Heavy Load-Bearing Body” bears witness to the most megalomaniac construction project Berlin has ever seen. Under the direction of the General Inspector for Buildings Albert Speer, Adolf Hitler's architect, planning for a gigantic project commenced in 1937 that was intended to completely redesign Berlin. According to Hitler's vision, two main highways, the so-called “East-West Axis” and the “North-South Axis” would have transected the new “World Capital” in the form of a cross. During the planning, most attention was given to the North-South Axis with its 7 km (ca. 4 miles) long and 120 metre (ca. 390 feet) wide boulevard, at the end of which a gigantic Triumphal Arch was planned, whose dimensions would have massively exceeded those of any existing structure in Berlin. The Second World War put an end to the National Socialists’ inhumane planning.

Here, the “Heavy Load-Bearing Body” was contextualized within Speer’s urban redevelopment project. First of all: the word *Schwerbelastungskörper* is a neologism, and was never used during the war. It was coined by Berlin based architect Richter, with the publication of the brochure *Der Schwerbelastungskörper: Mysteriöses Erbe Der Reichshauptstadt* in 2005, and ever since has ‘naturalized’ itself. For some reason, it captured the cultural imaginary of our times, and therefore I ‘trust’ it as a subconscious formation that emerged from the collective

¹⁵⁴ The color pattern, black, white, red, is (unintentionally) reminiscent of the *Reichsflagge* which prevailed in the diachronic history of German nationalism from the *Norddeutscher Bund* (1866-1871), to the *Kaiserreich* (1871-1919), to the *Drittes Reich* (1933-1945). But, this could also be looked at as a deconstructive act to ‘reclaim’ these colors for a critical use.

consciousness—and is metahistorically potent. Richter is also the one who came up with the design of the memorial space, and overall was (and is) *the* driving force in maintaining the site for public memory. The actual technological terms used for structures of that genre (test-loads) was *Belastungskörper* (load-bearing body) or *Großbelastungskörper* (great load-bearing-body). For the cylinder, also *Betonpilz* (concrete mushroom) was used (due to its aesthetic). But as the distinctive feature of this particular test-load was its weight, not its size, the word “Schwerbelastungskörper”, *schwer-* standing for *heavy*, is quite fitting.

A short thought regarding translation: apart from the translation of the German word *Schwerbelastungskörper* as *heavy load-bearing body*, *heavy load-bearing cylinder* is quite common. Both make sense. The translation of *-körper* as *-body* is not only the most literal, but also responds to the specific engineering context of the structure. The common variety *-cylinder* captures the cylindrical shape of the edifice, so makes sense on a visual basis, in favor of a direct, technical translation. This particular use of *-körper* is still common in technical and administrative contexts, e.g. *Gleiskörper* refers to the railbed including the tracks, *Baukörper* refers to the built (non-human) body (unlike *Körperbau*). Both sound slightly archaic to the contemporary ear, in terms of everyday use. As you see, the concept of *body* implied in these examples here, is rather abstract/geometrical than concrete. This type of usage *can* include human bodies though, as for the example of the *Lehrkörper* (body of teaching staff) of a school. Even if *Lehrkörper* implicates the human bodies, it does so under the umbrella of the function of these bodies as entities carrying out educational labor. It conceptualizes *-körper* as the executive organ of the larger *Lehr-*(educational)apparatus, and conceptually empties it of its biological entities (the actual bodies of the teacher). This suggests an underlying concept of the ‘empty body’ (empty of humanness), *Leerkörper* (empty body). Again, you would probably not hear that

type of language that much on the street, but certainly within the context of the notorious *Beamtendeutsch* (official German). Also, many Germans have a quite bureaucratic and technical mind and language, even in private, from my experience.

Why I am pointing all of this out is to demonstrate the binary that *can* be put in between *human* and *abstract* bodies by official language, which was common practice especially during fascism. It leads us to the conclusion, that the concrete bodies of forced laborers that built the cylinder, are *not* included in the word heavy load-bearing *body*, as *-körper* refers exclusively to the geometrical shape of the edifice—unless we decide to change its meaning. Language is an important instrument, as it deposits, transports, anticipates, articulates, and enforces ideas that are at work and help structuring society and its governing *super-* and lingering *substructures*. Thus, language offers a site of a potential poetic intervention, disruption, and transformation. Within the framework of technical language, *Baukörper*, refers to the body that is built, not the bodies that are building, sweating, breathing, dying, suffering, decomposing, which are the *bauende Körper* (building bodies). I see it as one of my major tasks to bring the bodily awareness back onto the ‘map’ of the heavy load-bearing *body*. Therefore I wanted to use *body* and *cylinder* somewhat interchangeably, to remind the reader of its *bodiness*, and to deconstruct the rift between laborer and building that has established itself within the historical narrative surrounding the structure. The *cylinder*, as abstract, mathematic, ideal, Platonic form, represents the idea of the *a priori* that we can trace in the highly constructed body image enforced by the Nazis: the white-skinned, blond-haired, blue eyed, tall-bodied, muscular-muscled Aryan—detached from the biodiversity of reality’s ‘biomass’. Against the *a priori* ideal image of the Aryan, I looked at the crumbling *body* that represents the human condition, described by the shared activities such as living, breathing, seeing, hearing, feeling, smelling, tasting, believing,

thinking, working, suffering, sweating, defecating, dying, decomposing, etc.; all aspects of humanity that are shared by us all.

After mapping out a few layers of meaning deposited in the word *heavy load-bearing body*, there remain plenty of other paths to explore, but let us shift focus and explore another semantic potential of the word *Ge-schichte*. Therefore, let us return to the overarching metaphor of the soil.

Schicht

Zeitlicher Verlauf der Baugrundbelastung.

Datum <small>Tag u. Jhd.</small>	V <small>m³</small>	γ <small>t/m³</small>	ΔQ <small>t</small>	Q <small>t</small>	p ₀ <small>kg/cm²</small>	
<i>Die Grundfläche = 11,30² · $\frac{7}{4}$ = <u>100,887 m²</u></i>						
	<i>Unterbeton</i>	<i>0,70</i>	<i>2,00</i>		<i>20,00</i>	<i>0,02</i>
<i>27.8. 18^h</i>	<i>80,22</i>	<i>2,22</i>	<i>178,10</i>	<i>198,10</i>	<i>0,30</i>	
<i>28.8. 6^h</i>	<i>90,26</i>	<i>2,13</i>	<i>192,20</i>	<i>390,30</i>	<i>0,39</i>	
<i>28.8. 18^h</i>	<i>71,94</i>	<i>2,13</i>	<i>153,20</i>	<i>543,50</i>	<i>0,54</i>	
<i>29.8. 6^h</i>	<i>89,92</i>	<i>2,13</i>	<i>191,50</i>	<i>735,00</i>	<i>0,73</i>	
<i>30.8. 6^h</i>	<i>98,91</i>	<i>2,14</i>	<i>211,70</i>	<i>946,70</i>	<i>0,94</i>	
<i>30.8. 22^h</i>	<i>64,50</i>	<i>2,14</i>	<i>138,00</i>	<i>1084,70</i>	<i>1,08</i>	
<i>1.9. 18^h</i>	<i>60,48</i>	<i>2,19</i>	<i>132,45</i>	<i>1217,20</i>	<i>1,21</i>	
<i>2.9. 18^h</i>	<i>12,63</i>	<i>2,15</i>				
	<i>davon $\frac{1}{4}$ auf Grundfl.</i>			<i>13,60</i>	<i>1230,80</i>	<i>1,23</i>
<i>3.-11.9</i>	<i>Vom 3.-11.9 wurden die Deckenbalken angestemmt u. gleichzeitig bis -0,10 betoniert</i>					
	<i>Füllbeton Mittelachse</i>		<i>(Rest von vor.)</i>	<i>13,60</i>		
	<i>Eisenbetondecke</i>		<i>39,66</i>			
	<i>" balken</i>		<i>43,32</i>			
			<i>82,98</i>	<i>2,37</i>	<i>196,64</i>	
	<i>Deckenfüllung u. Set. bis -0,10</i>					
	<i>Abzug</i>		<i>991,25</i>			
			<i>151,43</i>			
			<i>839,82</i>	<i>2,16</i>	<i>1874,00</i>	
	<i>Eisenbetonzwischendecken</i>	<i>5,63</i>	<i>2,37</i>	<i>13,36</i>		
				<i>2037,60</i>	<i>3,25</i>	
<i>12.-16.9.</i>	<i>Schicht bis +2,00</i>					
	<i>Abzug</i>		<i>188,83</i>			
			<i>58,90</i>			
			<i>129,93</i>	<i>2,18</i>	<i>3.557,70</i>	
<i>17.9.-10.11.</i>	<i>Kragplatte</i>					
	<i>Aufbeton bis +10,23</i>		<i>1905,-</i>	<i>2,37</i>	<i>4.514,90</i>	
			<i>945,56</i>	<i>2,13</i>	<i>2.014,00</i>	
	<i>(Am 10.11.41 war die Kragplatte vollkommen angeschalt.)</i>					
				<i>10.080,60</i>	<i>10,06</i>	
			<i>Übertrag:</i>	<i>10.080,60</i>	<i>10,06</i>	

Fig. 75. Dywidag. "Zeitlicher Verlauf der Baugrundbelastung." 27 Nov 1941. ALLVIA

Ingenieurgesellschaft mbH 4112-03.¹⁵⁵

¹⁵⁵ Temporal progression of the load on the building ground.

At the beginning of this section examining *Ge-schicht-e*, I departed from the semantic potential of *schicht* (layer), in order to explore ways to conceptualize history in a ‘geological’ manner. Now, let us think about another possibility that takes us in a different direction: the organization of labor. Thereby I am not (only) referring to architectural structures, which literally consist of layers of soil, bricks, stones, concrete, and/-or other materials, which are piled up (*auf-ge-schichtet*) by the laborers. I am primarily referring to the *Arbeits-schicht*, meaning *work-shift*, so the amount of time the worker dedicates to one or several tasks during the day—or night, in the case of a *Nacht-schicht*. The above document detailed the dates of the building steps finished at the cylinder, including the gradual pouring of the concrete (see fig. 75). While the increasing load of the structure on the ground was documented (in the very right column), this document (or any other one) does not comment on the conditions of the laborers, who were layering the concrete into the giant mass. Not represented on the available documents as well is the hierarchy at work on the construction sites. As the experiment started with the application of the weight, so immediately with the beginning of the construction, there had to be someone present to oversee the procedures.



Fig. 76. Degebo. Pit of the heavy load-bearing cylinder in the early stages of construction. 1941.

Diaarchiv Degebo.

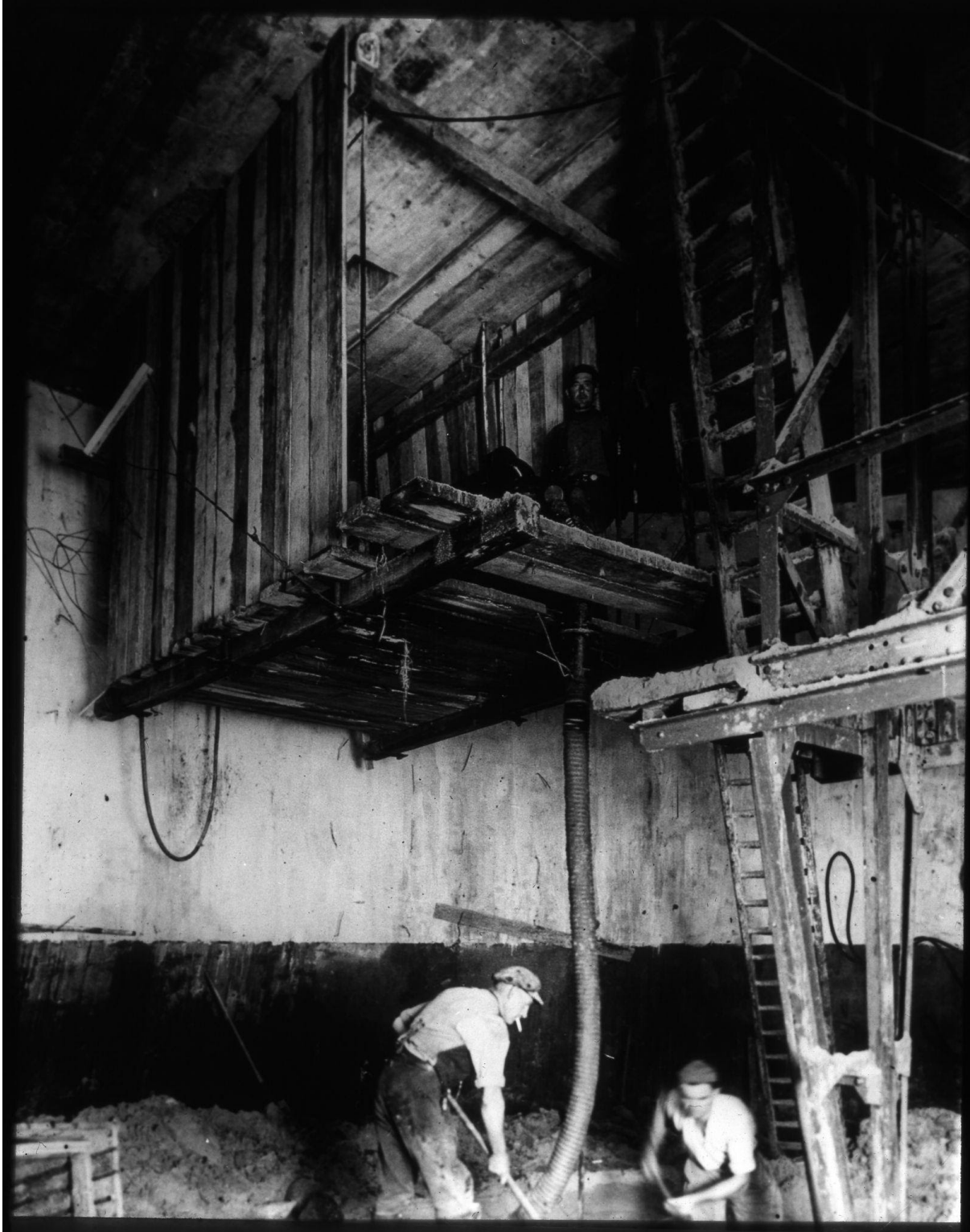


Fig. 77. Degebo. Application of the concrete for the foot of the cylinder in 18 feet depth. 1941.

Diaarchiv Degebo.

Respectively, there was a strict hierarchy enforced on the construction site, the Degebo members forming the *Oberschicht* (upper strata), the workers the *Unterschicht* (lower strata), potentially there were guards on duty as well, to check upon the forced laborers. In the image above, we might see a visualization of this stratification (see fig. 77). There are two workers on the bottom, who applied concrete to the ground, next to a pump that was used to avoid the pit filling up with water. On the cladding that was hanging above the two men, and which was used as a manlift, we see a dark figure (presumably dressed in Black) that is hard to see, as he was sitting in the shadows. While the workers in their white shirts were using shovels to dig and were obviously physically active, the other figure was just sitting there, above them, and staring into the camera. The man's clothes resemble the Black uniforms of SS guards that we know from all the concentration camp footage. He sat upright and had a stern gaze, as if he was aware that he is on top of the food chain, under him were the Kapos, and then the lowest of the low, the manual laborers. He was guarding the ladder, which was the only way out to the pit, making sure the workers did not disrupt the hierarchy enforced by German fascism. Coincidentally, he was sitting exactly above the pump, evoking the image as if he sat on a toilet that flushed right to the feet of the workers, who then had to deal with his 'shit' and clean up the mess. Allegorically, the act of 'shitting on them' expresses the humiliation of the inmates by the guards who had been given the chance to act out their 'superiority complex' within the space of the camp or Speer's construction sites.¹⁵⁶ Let us take a look at another type of layering bodies, stones, and memories.

¹⁵⁶ As Florian Werner wrote in *Dunkle Materie: Die Geschichte der Scheisse* (2011) (*Dark Matter: The History of Shit*): "While there were mass latrines in the concentration camps, their size was too small for the amount of prisoners, and the times when they could be visited were strictly regulated: 'there was one latrine for thirty to thirty-two thousand women', reports one female survivor of Bergen-Belsen, 'and we were permitted to use it only at certain hours of the day. We stood in line to get into this tiny building, knee-deep in human excrement. As we all suffered from dysentery, we could rarely wait until our turn came, and soiled our ragged clothes, which never came off our bodies, thus adding to the horror of our existence by the terrible smell which surrounded us like a cloud'. ... In Birkenau, the guards used to throw the crockery of the prisoners into the latrines, only to let them fish for it before the food was served. Even during the so-called death marches, the survivors of the concentration camps were forced to take part in, the excremental humiliations continued—those who stopped in order to relieve themselves



Fig. 78: “Todesstiege” in the quarry of KZ Mauthausen. 1939/1944. BArch, B 192-269 / n.a.

During my time at the Gymnasium in Bavaria close to Augsburg, we made an excursion to the concentration camp Mauthausen in 6th grade (as far as I remember). This is a common practice of *Vergangenheitsbewältigung*, a term that captures the German project of ‘coming to terms with their past’, and is still part of education curricula. As our tour guide told us, Mauthausen was both an *Arbeitslager* (working camp) and a *Vernichtungslager* (extermination camp), so it both had a *Steinbruch* (stone quarry) and a *Gaskammer* (gas chamber). Mauthausen,

risked being shot. ‘Urine and excreta poured down the prisoner’s legs’, reports one survivor, ‘and by nightfall the excrement, which had frozen to our limbs, gave off its stench. We were really no longer human beings in the accepted sense. Not even animals, but putrefying corpses moving on two legs’” (75-76).

as a quarry, was especially relevant for Speer and his building activities, who visited the camp for inspections, as historical documents revealed (Breloer: 197-198). In that sense, unknowingly at that time, we followed the footsteps and gaze of Speer during our visit. When we entered the remains of the quarry, our tour guide pointed out a staircase broken into the stone formations, leading from the plateau, where the stones were broken out by the prisoners, up to where they were stored (see fig. 78). The prisoners had to carry the blocks that they broke out of the pit and weighed around fifty kilograms (ca. 110 pounds) up these stairs. Sometimes, as our tour guide described, an SS guard would wait for the moment until the whole staircase was filled up by prisoners carrying stones, just to kick the *one* prisoner who had just reached the top of the stairs out of nowhere. As a consequence, he fell and took all the prisoners lined up behind him with him, causing a ‘Domino effect’. This violent play reduced the prisoners carrying the stones to (domino) stones themselves, and transformed the game of domino into a violent gesture of domination. While I do not remember the exact words of our tour guide, I want to quote the following words from a Spanish Mauthausen survivor, Sebastian Mena, in that regard:

Our work consisted, as for all the Spanish, in carrying the stones from the quarry to the camp in order to pave the intervals between the blocks and construct the surrounding wall and buildings. We were in a special company, with the worst Kapo who, with no matter or pretext, could kill us - what to them merited the felicitation of the SS. Thus we were continually suspended between life and death, from the quarry to the camp. The distance was approximately one kilometer; one performed it daily from ten to twelve times, and as it was necessary each time to ascend or descend the stairs of the quarry ... one is able to

say that our cavalry required twenty-four times 186 steps. For the Nazis, a block of granite had more value than a human life. (qtd. in Jaskot: 137)¹⁵⁷

Quite possibly, some of the stones that Mena carried up the stairs would have ended up being part of the stone facing of the Triumphal Arch. To remind you, the names of all the German soldiers fallen in WWI would be chiseled into it. In that case, this would be ‘covering up’ the death of the inmate, who (potentially) died carrying the stone that would then have carried the name of a soldier, instead of her or his own, as memorizing inscription. In my imagination, the cracking of the stones, while being broken out of the quarry, was amplified by the cracking of the bones of the prisoners falling on top of each other while crumbling under the heavy weight of the stones. This again was echoed in the cracking of the gold teeth that were being broken out of their corpses, in the little room next to the gas chamber, which the guard showed us later. Another echo of this crack through history and bodies I heard, or better *vernahm*, a word that stands both for *perceiving*, *wahrnehmen*, and *vernehmen* in the sense of *interrogating* (*vernehmen*), was at the Jewish cemetery in Binswangen, which we also visited during my time at the Gymnasium. The cemetery was closed due to repeated occurrences of vandalism, so our history teacher had to get a key from the city to enter it with us. It was my first time in a Jewish cemetery, so the David stars on grave stones were quite unfamiliar to my eye. I was used to the Catholic crosses that dominated the graveyards these days in Bavaria. Unfamiliar to me, were also the gravestones that had been sprayed with swastikas and kicked down by Neo-Nazis—another crack that went through my memory. Another image I won’t forget is that our history teacher, a stereotypical German ‘serious’ man with a beard and circular glasses,

¹⁵⁷ Originally from Constante, Mariano, and Manuel Razola, editors. *Triangle Bleu. Les républicains espagnols à Mauthausen 1940-1945*, Editions Gallimard, 1969, p. 76.

broke out in tears, when our tour guide in Mauthausen told us that prisoners had to strip off their clothes and line up in the courtyard in the winter, while they were being sprayed with water hoses. While listening to him, we ourselves stood there freezing, despite being covered in our thick winter coats. It was a cold rainy day in November or December, and we were all shaking and shaken to our foundations. These are the moments/memories, in which the weight of history feels like crushing on one's own body.

Following these moments of shattering, let us transition from *Ge-schichte* to *Ge-wichte*, two concepts that are intertwined in manifold ways, including being connected by a poetic link: they rhyme.¹⁵⁸

¹⁵⁸ History is unpredictable and creates uncanny analogies sometimes . The moment I finished writing this section, my German friend Marco asked me to run the stairs at UCLA's Drake Stadium for the purpose of exercising, at 10 am. While running up and down, I could not stop thinking about Mauthausen.

Ge-wichte ('that which is weighing or being weighed upon')

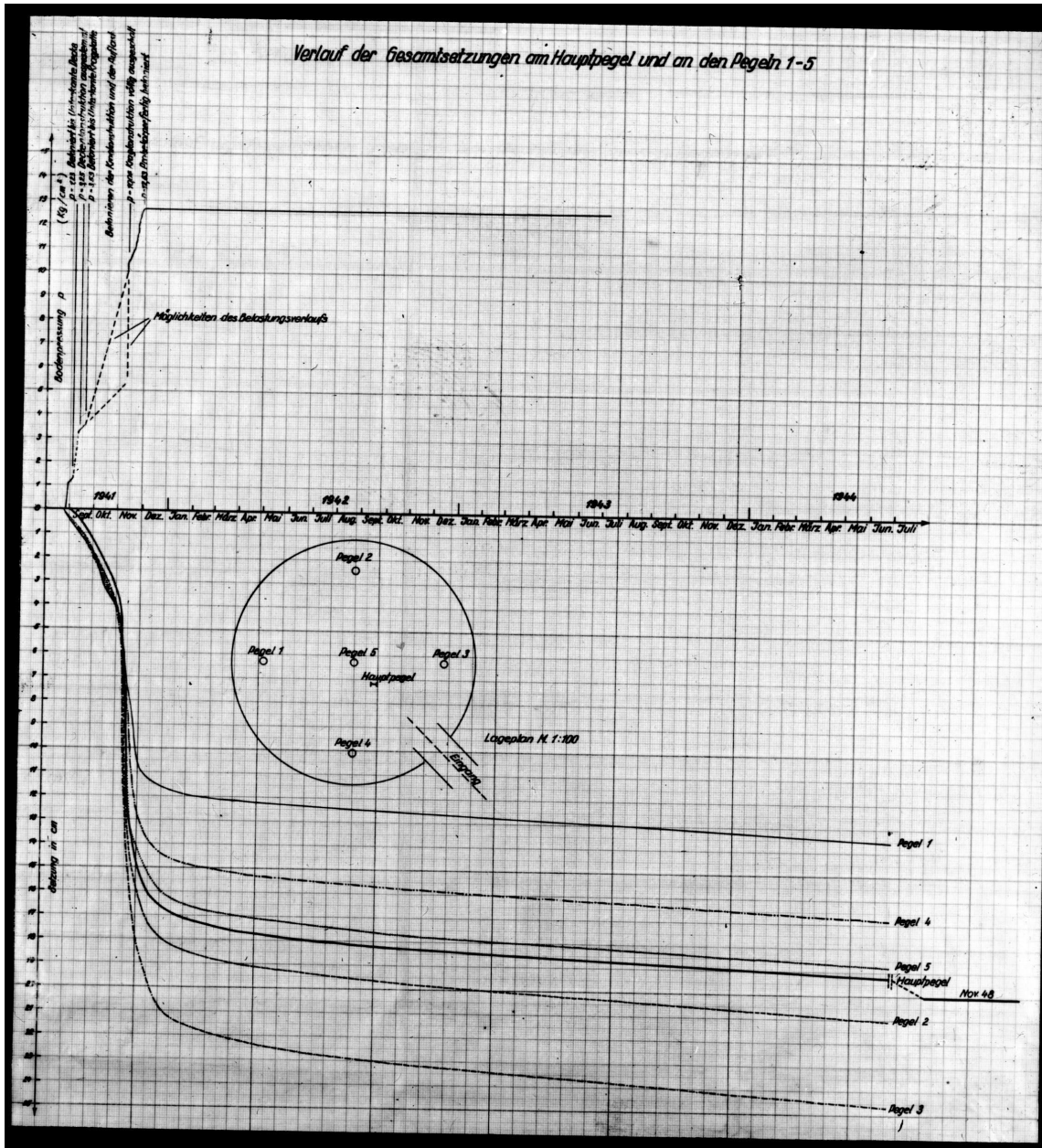


Fig. 79: Degebo. "Verlauf der Gesamtsetzungen am Hauptpegel und an den Pegeln 1-5." 1948.

Diaarchiv Degebo.¹⁵⁹

¹⁵⁹ Progression of the main settlements at the main gauge and gauges 1-5.

I conceptualized the metahistorical category of *Ge-wichte*, ‘that which is weighing or weighing upon (someone)’, as a narrative account that captures the ‘pressure’ that *Ge-schiebe* and *Ge-schichte* bring upon each other and the actors of history. This pressure can be psychological, physical, emotional, spiritual, and of other nature. As a semantic container, *Ge-wichte* targets the narrativization of the complexity of pain. Who was actually bearing the weight of heavy load-bearing modernity? Physically speaking, glacial till carried the cylinder. Above, we see a graph that visualized the progression of the settlement of the heavy load-bearing cylinder through several gauges (see fig. 79). The measurements began in late July 1941 and surprisingly continued after 1945 (which we will address in a second). While the x-axis *above* nil projected the amount of pressure applied on the ground, the x-axis *below* nil projected the settlement of the edifice. The y-axis projected the progression of time. There were six gauges to make sure that all the horizontal, vertical, and axial movements could be captured. But, for the sake of simplicity, let us take a look at the “Hauptpegel” (main gauge). Not only did it address the overall settlement and is thus most significant. Also, it appears as if someone extended the curve by adding the results from 1948 (in dotted lines), so three years after the end of the war—which was seemingly *not* the end of the project. This aberration is a great point to think about the fact that historical eras, or stratas, don’t just end. This ‘spillover’ demonstrates that periodical models are not always the most helpful to capture the nature of time. Therefore, I looked at it from a ‘geological’ point of view. In this case, we could interpret the data in the following way: the history of German facism progressed after 1945, but it had sunken deeper and was not as visible anymore on the surface, but was still lingering somewhere down there, while erupting from time to time. Concretely, the reason why we see postwar results was due to the fact that 1948 was the first year anyone ever looked at the data comprehensively (as aforementioned).

The turmoil of the war had made the project less urgent. But, quickly after the war, the uniqueness of the cylinder became a site of vast scientific interest again and it experienced a ‘renaissance’ in the soil mechanical community, leading to a series of new experiments that were conducted on site. As mentioned in the first chapter (see pp. x), the archive of the Degebo is full of inquiries from all over the world that stated interest in the data of this obscure cylinder sinking into Berlin’s glacial till. But, nobody ever asked who the people who actually built the cylinder actually were, even if the photographs strongly suggested the use of forced labour. How could it have been for them to dig into Germania? Let us look at another intersection of the narrative of the forced laborers and the German soils.

In 1941, Speer was gathering resources for the construction of the axis between the Landwehrkanal and the arch in Berlin: laborers, plans, materials, and so on. A big topic was the use and handling of the masses of soil that would be accumulated due to the extensive digging work required. The folder “N-S-Achse-Mitte Landwehrkanal (auschlie.)-Triumphbogen” contains the documents regarding the communication between the Magistrat der Stadt Berlin, Städtische Tiefbaudeputation (Municipal Authorities, Underground Construction Deputation) and the GBI (LAB, A Rep. 010-01-02, A5657: Bl. 0476ff). Addressing the ongoing issues regarding the latter, Berlin’s mayor wrote a letter to the GBI, addressed to “Herrn Bohr”, regarding the “Bauzeitenplan Südachse” (construction timetable of the South Axis), in April 1941. (Bl. 527):

Die Schürf- und Bohrarbeit an der Südachse wurden nach dem bereits vom Generalbauinspektor Prof. Speer genehmigten Südachsenplan im Herbst ... in Angriff genommen. Die Bohrungen ergeben überwiegend den Abfall von Geschiebemergel, der

nur bei trockener Witterung gelöst und eingebaut werden kann. Die anfallenden Bodenmassen ... können für den Bau des Straßenkörpers keine Verwendung finden¹⁶⁰, da die Schüttungsarbeiten in flüssigem Baubetrieb und bei jedem Wetter durchgeführt werden müssen. (Bl. 527)

The prospecting and drilling at the South Axis were already ... undertaken according to the South Axis plan approved by General Building Inspector Prof. Speer during Fall. The drillings result[ed] primarily in the disposal of glacial till, which can only be loosened and built in during dry weather. The arising soil masses ... cannot be put to use for the construction of the street body, as the filling work has to be carried without interruption and during all weather conditions.

Besides explaining that the glacial till will be useless for construction, the mayor also emphasized that not only was the overall situation of the construction market challenging, also, for the “Inangriffnahme der Bauarbeiten ... ein endgültiger Plan des Generalbauinspektors” (execution of the construction work ... a final plan of the General Building Inspector) was absolutely necessary (Bl. 527). Another big question was the necessary “Zuteilung von Kriegsgefangenen” (distribution of prisoners of war) that was managed by Speer, which was discussed among the administration and the underground construction management (528). Everybody was waiting for Speer to finalize his plans regarding the specifics of the axis: altitude, route planning, labour distribution, finalization of buildings, drillings, and so on. They nevertheless expected that “in nächster Zeit ein größeres Kontingent von Kriegsgefangenen für

¹⁶⁰ In the letter the words “keine Verwendung finden” were crossed out and replaced by a handwritten note that was impossible to decipher.

die Südachse zum Einsatz kommen wird” (soon a rather large contingent of prisoners of war will be used at the South Axis). This would help to extend the already ongoing “Mutterbodenabtrag und die Rodungsarbeiten” (top soil removal and clearing work) throughout the city (532). *Peu a peu*, the plans were finalized. On November 11th, 1940, the GBI (represented by architects Wolters and Wollenhauer) met up with the “Haupttiefbauamt” (Underground Construction Main Authority). Among other things, they city presented their “nach den Wünschen des G.B.I. abgeänderten Höhenplan der NS-Achse am Südbahnhof vor. Die Gradiente sieht nördlich des Triumphbogens ein Längsgefälle von 1:68 vor” (modified altitude plan of the NS-Axis at the Southern Station according to the wishes of the GBI. The gradient north of the Triumphal Arch is planned with a longitudinal slope of 1:68) (794). While all of this was unfolding, prisoners of war were digging and removing Berlin’s soils, in particular “Geschiebemergel”, as we learned.

In the context of thinking about an inhumane, unbearable work-load, the linguistic complex *Geschiebemergel* (glacial till) offers another productive semantic possibility. We can choose to associate it with the *ausgemergelten* (worn out) bodies of the forced laborers, who were being *geschoben* (pushed) to dig into the soils and/or carry stones, metal, bricks, and other types of materials, through the camps and on construction sites all over Germana. *Soil* and *body* are once more related here. According to the Gesellschaft für deutsche Sprache e.V. (Society for the German Language), the geological reference of *ausgemergelt* (to the soil type *Mergel*) emerged after its *labor*-related (human *body*-related) meaning of being *worn-out*. In their entry “Herkunft und Bedeutung von *ausgemergelt*” (origin and meaning of *ausgemergelt*), they reconstructed the word’s roots based on *Grimm’s Wörterbuch* from 1854. The verb *ausmergeln* goes back to the 16th century and originates in the mhd. (middle-high-German) noun *marc/marges*. It stands for *Innengewebe* (internal tissue), *Mark* (marrow), and allowed for the

meaning of *ausmergeln* as *das Mark aussaugen, entziehen* (to suck out, extract marrow). Later on, this meaning was transferred to the geological realm as the name of the soil type *Mergel*. As a reminder, geologically *Mergel* is a sediment that consists largely of chalk and clay and therefore does not bear a lot of fertilizer. As a result, the soil's capacity to grow crops exhausts quickly. This opens up a conceptual relatability of the soil to the human body. Both lose their vital forces, when not treated accordingly, so watered, nourished, and being cared for. A common agricultural wisdom therefore is, *Mergel machen reiche Väter und arme Söhne* (Marl makes for rich fathers and poor sons). It comments on the fact that once the soil is turned to wealth through agricultural work and a rich harvest, it loses its agricultural capacity, and makes the sons lose their (father's) wealth, as the harvest does not keep coming, and their work becomes useless. Once the soil is emptied out of its fertilizers, the yield of the land starts rapidly decreasing. This brings me to the consequences of excessive harvesting and pressuring from above: *sinking*.

The type of sinking that occurred at the cylinder was determined by its excessive weight. Speer was very concerned with his monuments sinking and eventually falling apart, crumbling under their own weight, and the inability of the soils to carry them. What he was not concerned with at all, was the pressure that his project applied on the workers who were actually building, thereby slowly sinking and eventually falling apart, crumbling under their own weight, unable to carry themselves under the unbearable work-load of Germania. They were physically sinking into the mud, e.g. when they had to dig pits outside in the camps during rainy weather, with their "feet sinking ever deeper in the selfsame holes in the glutinous soil". During these days, the "world today is this hole of mud" out of which they transported the brown matter. Spiritually, they were sinking too. The ruthless speed prescribed by the camp machinery disqualified anyone who could not learn the "underground art of economizing on everything, on breath, movements,

even thoughts. ... [S]ometimes it is better to be beaten, because one does not normally die of blows, but one does of exhaustion ... and when one grows aware of it, it is already too late” (Levi: 132). Their names and stories have been lost for the most part, but nonetheless, their backs and backstories, as sunken as they might be, are bearing the weight of heavy load-bearing modernity.

belastet (bearing)



Fig. 80. Degebo. Forced laborers carrying parts of the cylinder's shell construction. 1941.

Diaarchiv Degebo.

In the above photograph, we can see four men carrying what looks like a wooden piece on their shoulders (see fig. 80). It could be a part of the cladding of the cylinder, into which later

on concrete would be poured. It is unknown who they are and if they were forced laborers, but their uniforms suggest they were French, as the official website of the memorial site proclaimed (“Der Schwerbelastungskörper”). Given the fact that war prisoners were largely used for the construction of the South Axis, as I just discussed, it is very likely they were forced laborers. But, before we think further about the work-load of German fascism, let us go even further back in time and return to our overarching metaphor of the glacier.

Let us think about the ‘labor’ done by the glaciers that shaped the upper geologies and landscapes of Berlin. To move masses of ice and soil has to be defined as labor, according to the rules of physics. So, did the glaciers actually do any work? No, one might say, as in order to do work, you need a (human) body, which glaciers obviously do not. But a physicist would disagree with that, as the definition of the *body* in physics is based on geometry, I suppose. Within the geometrical framework, you can grasp the glacier as a body, with some effort. As far as I remember from my high school days (and the few physics classes I took as an Aerospace Computer Science student), in physics, the definition of *W[ork]* is defined by the energy applied to a body over a certain horizontal or vertical distance. So for example, lifting up a stone from the ground is considered ‘lifting work’ (*Hubarbeit*). Nevertheless, if you carried this stone at the same height (and same speed) from the south to the north of the Auschwitz encampment, this would not count as work, according to physics. You would be ‘simply’ bearing weight, so balancing out the *Gewichtskraft* (weight force) of a body (or object), which does not fall under the definition of work. In contrast to that, the dragging of corpses out the gas chamber counted as *Zugarbeit* (traction work). Also, there was the *Beschleunigungsarbeit* (acceleration work) of the trains accelerating in speed from their point of departure towards their destination, Auschwitz. We see, as per definition according to physics, *work* can be looked at as a humanless effort. So,

neither ‘simply’ bearing the weight of a stone does count as work in physics, nor does the bearing of the heavy load-bearing cylinder’s immense weight by the soils count as work per se. This changed, nevertheless, when it started moving and sinking into the ground. From that moment on, the soils ‘did’ *Reibungsarbeit* (friction work). A phrase I will never forget from my physics classes is: “An dem Körper wird Arbeit verrichtet” (the body is being worked). *Körper* hereby does not refer to the human body, but a geometrical entity bereft of humanness, so a sphere, a rectangle, or any other geometrical *body* on which work is being done. So the body is always *passive*. This analogy between the *geometrical* and *human* body reminds me of the conceptual and physical dehumanization of the Jewish and other bodies that were considered a threat to the German *Volkskörper*. Altogether, it seems that an ethically informed history can hardly function, or operate, upon the definition of labor as provided by physics.

If we want to rethink the concept of labor from the perspective of the human body, we have to turn it into an active agent. Accordingly, we need to correct the aforementioned physical *Grundsatz* (convention) that implies the body’s passivity (“An dem Körper wird Arbeit verrichtet” (the body is being worked)), into: “Der Körper verrichtet Arbeit” (The body works). This distinction between active and passive reminds us of the binary of *pushing vs. being pushed (to work)* from earlier: obviously *pushing back* is ‘work’ too.

When we think about the relationship of *body* and *labor*, we also need to think about *verticality* and *horizontality*. Labor, as for the species of the *homo sapiens sapiens*, is often (of course not exclusively) done in an erect position. Hereby, the body is being instrumentalized as a physical source of labor force, e.g. during tasks required by construction work, like digging holes. Nowadays, when many people work in offices and sit on their chairs all day, it is, of course, a different kind of labor. But no matter what kind of labor we do, be it emotional,

physical, or intellectual labor: we rely on the *regeneration* of the body. Partly, this is a *vertical* process; such as when it is initiated through water and nourishment that is fed into the body through the mouth, and then ‘travels’ down through the esophagus, gut, and intestines, until its ‘life force’ is absorbed, and the rest is exuded through the anus and bladder. In order to fully recharge, we also need to sleep, whereby the vertically erected body is in need to lie down into a horizontally spread position, the usual sleeping position of humans. Thus, the physical and mental batteries can be recharged the most efficiently. In an ‘ideal’ working cycle, in which life force is exuded through muscle movement, brain power, emotional labor, and sweat, sometimes blood (if accidents occur), this process should generally be driven by the ethos of maximal productivity *and* longevity of the body that is providing the workforce. If this ideal working cycle is not being followed, an increasing level of exhaustion occurs. We all have experience with overworking ourselves and taking too much of a workload upon ourselves. But as privileged academics, it is usually up to us to change that and find a balance, so that we can stay productive, which our employer very much expects from us as well (hopefully).

In the concentration camps, nevertheless, the search for an ideal work cycle did not apply. The ‘ethos’ of maximal *productivity* might have prevailed in one way or the other. But, *longevity* was out of the picture and replaced by the ultimate will to destroy the body that is bearing itself, while carrying out the workforce (rather sooner than later). That was obviously the point of an *extermination* camp: *Vernichtung durch Arbeit* (extermination through labor). Nevertheless, the exact point of time for the targeted annihilation remained undetermined. This existential uncertainty created an unbearable atmosphere of unpredictability. The *life-preserving* measures structured around the working cycle and its rigid schedule (work, rest, cleaning, food, etc.) were constantly being undermined by systematic operative processes of *weakening* the body (minimal

nourishment and maximal punishment). The goal was to ‘wash out’ the weak, while the strong could still be used for labour. Added to that, were arbitrary acts of violence, like randomly shooting into the nameless crowd. Altogether, this must have created the atmosphere of a ‘twilight balance’ between the will to exhaust the body’s labor capacities and its planned destruction. The project of annihilation had no rigid timeline or clear parameters, but happened both systematically and arbitrarily, thus opening up a space of *Willkür* (despotism) of those in power. Where to draw the line between *lebenswertes* und *lebensunwertes Leben* (life-worthy and life-unworthy life) was mostly arbitrary, and determined by the eyes of the doctors. They became *Wall-küren der Will-kür* (valkyries of despotism), e.g. in the selection lines during the arrival to the camp. But, also throughout the camp ‘stay’, especially in the lazarets, as Primo Levi and all the others, who have given these bodies a name, an identity, physical and emotional depth and thickness, have told us. They provided information that helped us to illustrate and revisit these sites, which used to be impossible without overcoming “the barbed wire which segregates us from human society” (Levi: 80).

Ending?



Fig. 81. Kurek, Paul. One of the remaining barracks of the Außenlager in Landsberg. 2017. Jpeg.

After all of this, I want to come to an end with a totally coincidental finding of mine (see fig. 81). It once more showed me that the encounter with the past is not always linear, meaning as in the case of planning an excursion, boarding the bus, booking a tour, or visiting an archive. In the winter of 2017, I visited my parents in Bavaria over Christmas. We drove to Landsberg, where my parents like to go for walks and have coffee. Its ties to the fascist past are mostly determined by the well-known fact that Hitler was in prison there and wrote *Mein Kampf* in the 1920s. As I was unsatisfied with just leisure time, I departed from my parents and visited an exhibition about the city's history in the *Rathaus* (Town House). It had just opened recently and was only scarcely equipped. Thereby, the fascist past was covered only tangentially. But, I

learned about how there were plans to redesign the city into a Gauzentrum, so a ‘micro-version’ of Germania, with a Gauforum and ‘miniature’ axes, so to say. As this left me unsatisfied as well, I googled further and found out that there was an *Außenlager* (satellite camp) of the concentration camp Dachau, located just at the outskirts of the little town of Landsberg. The memorial’s website, *Landsberger Zeitgeschichte. Erinnern - Forschen - Dokumentieren* (Landsberg’s recent history. Remember - Research - Document) published by the Europäische Holocaustgedenkstätte Stiftung e.V., provides quite a lot of information. That day was the first time that I became really physically aware of the vast network of these additional camps that existed in the thousands all over Germany, complementing the major, more well-known camps. I had previously heard rumours of a camp site near Gablingen, close to where I used to go swimming (in a lake) as a teenager. I heard it was hidden by the city during the postwar period—simply by covering it with soil. These additional camps were located in nearly every town and village in Germany, and were closely tied into the village's social and economic fabric. Finding out about this, made it even harder for me to believe that the ordinary Germans did not know what was going on in the camps. I walked from the city center to the outskirts of the town, a forest area, and found the campsite hidden and surrounded by trees. Apparently, according to the newly erected memorial plate, the complimentary camp near the city was the biggest of its kind within the Dachau network. Previously, it had been partly covered up as well, only to be reopened in 2009, when it was turned into an official memorial. The site also featured a crematorium for the corpses (no gas chamber). It was fenced off, so I made my way through the snow and the trees to find an entrance, while circling the camp. I did find a spot, where the fence was low enough, and apparently had been torn down for me to enter. But, for some reason, I hesitated; and it was already getting dark—so I better keep going, I thought. As I had not

anticipated a trip into nature and was not dressed accordingly, by that time, my feet were wet and the cold wind was starting to bother me. My parents, who were supposed to pick me up by car, had trouble finding me, and as their phone had died, they had started asking around in the village where the camp was, stating that their son was located there. It was a pitch Black night by then, and my parents later on described the confused looks that the locals gave these strangers, my parents. To this day, they speak with a heavy Eastern European accent, which automatically marks them as strangers, especially in the close-knit communities of the Bavarian countryside. Here, the locals still live in quite homogenous communities, and have been rooted in the same place for generations, at least from my experience. Obviously, they are genealogically interwoven with the fascist era. Before my parents finally found me, I had discovered something else in the meantime. There were abandoned train tracks leading into the forest—where they just broke off (see fig. 82). Without knowing, I had entered the center of Germania, namely its foundations, which consisted of nothing else than an endless number of these camps that were ‘attached’ to German society under- and overground, while it was being turned into a vast racialized camp.



Fig. 82. Kurek, Paul. Train tracks leading into the forest from the Außenlager in Landsberg.

2017. Jpeg

These cold broken-off train tracks shall lead my narrative into a crack that goes deep into my own genealogy. There is a story about my grandfather, whom I never met, as he died long before my birth, which my mother keeps telling. He was an officer in the Slovak army and ended up in German imprisonment during the attack on Slovakia. My grandmother, who lived through both world wars, still remembered the massive shatterings caused by German air raids on Bratislava that she felt in the suburb of Vajnory, where my mother is from. Due to the cold, my grandfather got so sick during imprisonment that he was about to die. As he spoke a little German, a doctor felt mercy for him. Due to this moment of linguistic bonding, he was transferred to a hospital and survived, met my grandmother, who gave birth to my mother, who eventually gave birth to me. It was all a circumstance of cold contingency (with a lot of passion

on the way, I hope). Myself, it seems, like my grandfather, am still holding onto the German language as a vehicle of survival. As a student of Germanistik, I am still working through the fact that my own coming into existence relied on the fact that my grandfather happened to speak a few words of German and was thus able to negotiate his survival with a doctor. Memories like this went through my head about fifteen years later, when I was staying in Berlin Mitte, close to the Alexanderplatz, and took the heated bus down south to Tempelhof, to the heavy load-bearing cylinder, for the first time, on February 25th, 2018. It was in the late afternoon, at sunset, so around 5pm.

Right after I got off the bus, I could see the structure lurking behind a parking lot, some leafless trees, and a high metal fence. It was quite a cold winter day (again). Who has ever been in Berlin around this time of the year knows how the freezing winds tear unhindered through the flat terrain in a brutal manner and easily penetrate the protective layers of your winter jacket, sweater, T-shirt, and so on. On that day, the wind kept biting deeply under the skin of the flaneuring urban humanist body. One could only imagine how much worth this would be, had the axis been built, which would have opened up more space for the cold winter winds to unfold. From the bus stop, it is just a short, one minute walk to the structure, which is hidden behind a large metal fence and trees that were empty, due to the winter season.

This is the first picture I took of the cylinder. I juxtaposed it with the speculative future of the same site, the view through the Triumphal Arch, to show the contrast:

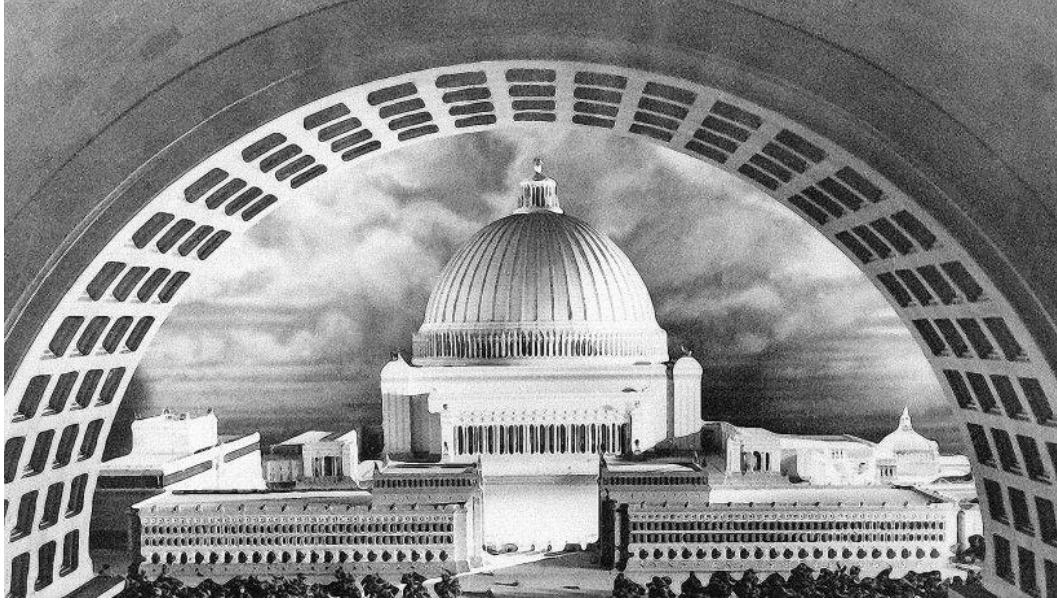


Fig. 83. GBI. View on the Great Hall through the Triumphal Arch. 1939/1944. BArch, B 146-1983-018-03A / n.a.



Fig. 84. Kurek, Paul. Heavy load-bearing cylinder from the northern intersection of Dudenstraße/General-Pape-Straße. 2018. Jpeg.

At that time, I was not fully aware of the (his-)stories that were lurking in the cylinder and the years-long journey I would embark on to explore it, which led me from Los Angeles to Berlin to locating the cylinder's plans close to my hometown Munich. A full circle? These were just a couple of my observations, and I have much more material that is still waiting to be considered. Taking a look back at growing up in Germany from the spatial and temporal distance in Los Angeles, has shown me how interwoven my life was (and is) with the fascist past—encountering it is unavoidable. It is still bearing over the present. There is my former neighbor, the nice old lady, Frau Reiser, who always gave us cookies—her husband had been a member of the SS and used to beat her children. They themselves are all childless today and scattered around the world, one got lost in Africa. There are the many linguistic residues of fascism still part of the language. One of my childhood friends always referred to spare change as *Judengeld* (Jewish money)—he had picked this up from his grandfather. Wherever I escaped, Germanness was always up in the air somewhere: It was contained in the colorful grayness of summers I spent in post-Soviet Slovakia as a child visiting my relatives, where I discovered Nazi paraphernalia in local flea-markets; in the suffocating corset of discipline during my military service in the Luftwaffe; in the monotonous, mechanic routine of German warehouse workers that I experienced during my work-study; in the red vastness of Australia through which I traveled for seven months like a nomad through no-man's-land, running into 'fellow' Germans everywhere. The question of (my) identity was always present. History is like the disrupted train tracks I found covered under snow in the frozen soils of Germany, leading into nowhere: there is *no ending*—just endless layers.

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