REPAIR

CAN A TRANSFORMATIVE CITY MODEL RE-CONTEXTUALIZE

FORMER WORKERS' HOUSING IN BERLIN ?

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Can a transformative city model re-contextualize former workers‘ housing in Berlin?

Title page: Kollwitz, *Die Mütter*, 1921/22.

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Introduction

Sustainability is not a trend. Ever since the Club of Rome published their studies in 1972, the awareness about the human contribution to the ecological emergency amplified. Nowadays, a set of legislative policies aims to control the human misdeed. However, it appears that these political ambitions will not make the cut, wherefore responsibility is partially handed off to the individual. The behavior of the consumers began to diverge from the industry's offer of fast, cheap and disposable items. This development found its manifestation for instance in a series of international lawsuits against Apple's business strategy: planned obsolescence. Apple's case revealed the hidden economic behavior of various industries and sparked distrust in their sense of ecological responsibility among consumers. Counter-movements emerged and with them a renaissance of the practice of repairing. By definition, repairing means "to restore (a composite thing, structure, etc.) to a good condition by renewal or replacement of decayed or damaged parts […]"[1] and "to heal or cure"[2]. The practice of repairing begins with an object in a critical state, restores its functionality and extends its lifecycle. This process became popular in manifold ways. Today, people enjoy to collectively repair broken devices in one of the numerous repair cafés that keep emerging internationally. Several books provide technical guidance and examples that encourage people to repair.[3] In order to support this movement, governments founded organizations and programs. Cities like London and Berlin even provide online cartography of repair-related institutions. And the EU launched the "right to repair"[4] program in September 2019, calling for the expansion and equal accessibility of the repairing practice and gathering information about EU-wide successes. Moreover, the concept of repair also transcended its technocratic connotation and has been adopted by scholars. Above all, pioneer works like Stephen J. Jackson's "Rethinking Repair"[5] or Stephen Graham and Nigel Thrift's "Out of Order"[6] explored the mechanisms of repair and their cultural implications. The universities of Paris and Zurich established courses and chairs, like Silke Langenberg's comprehensive research and lecture series "Repair: Keep in

[1] William Little, H. W. Fowler, and J. Coulson, *The Shorter Oxford English Dictionary*, 3rd eds. (Oxford: Clarendon Press, 1944), 628.

[2] Ibid.

[3] See:
Andrea Baier, *Die Welt reparieren*, 2016.
Stefan Krebs and Gabriele Schabacher, *Kulturen des Reparierens*, 2018.
Wolfgang M. Heckl, *Die Kultur der Reparatur*, 2013.

[4] See: *https://repair.eu/*

[5] Stephen J. Jackson, "Rethinking Repair," in *Media Technologies: Essays on Communication, Materiality, and Society*, eds. Gillespie, Tarleton, Pablo J. Boczkowsky, and Kirstin A. Foot (Cambridge: MIT Press, 2014), 221-239.

Place" at ETH. On the 16th Venice Architecture Biennale, Louise Write and Marco Baracco pointed to the reparative element in landscape architecture, that allows to heal environmental issues.[7] Eventually, the concept of repair also entered the realm of sociological and political theory through essays such as "The politics of repair"[8] by Ali Aslam, who interprets repair as abolitionist strategy of "making ready". Whether adopted by activists, economists, designers or politicians, repair developed into a vigorous movement. To repair now means to resist against the established forces and care for those neglected along the way.

Symposiums such as Charlotte Malterre-Barthes' "A Global Moratorium on New Construction"[9] indicate that the architectural response to environmental issues seems to be a return to existing structures. Although these discourses provide a comprehensive background, it seems that reparation in architecture still implies primarily structural restoration. For the realm of architecture, the concept remains stuck in its technocratic roots. The following work therefore aims to explore further potentials of repair for architecture.

The laboratories for this exploration are the workers' housing settlements in Berlin from the 1920s. The city of Berlin holds prosperous grounds for such an experiment. Here, the so-called "Fixfest", a festival with lectures and workshops around the topic of repair took place in 2019. Numerous repair cafés opened and the city council aims to expand the emerging infrastructure. Moreover, the Berliners look back on a long-standing history of alternative and counter-cultures proving the population awareness and activism.
The 1920s in Europe, however, were characterized by a hitherto unprecedented building activity. A collective enthusiasm emerged after the end of World War I. Inspired by the new technological possibilities brought about by industrialization, architects and planners sought for a new form for the reborn society. A crucial focus of this exploration was the newly formed working class. A century of capitalist exploitation, followed by war, led them into miserable living conditions. The socially engaged architects proposed numerous variations of workers' housing such as the Garden Cities in England, the Superblocks in Vienna and the Existence Minimum in Frankfurt. At that time, the city of Berlin became one of the largest projects, as it was amongst the biggest cities of the world with a high proportion of the population belonging to the working class and a particularly miserable condition after the war. Therefore, many renown architects and planners all across Germany contributed visions and theories about workers' housing, resulting in great quantity of new construction. Still today, most of the workers' housing is still in use and forms a large proportion of Berlin's housing stock. However, some of the great aspirations of the modernist architects have never been realized or faded over course of the last century. Those remaining became obsolete due to the constant evolution of domesticity. Although the domestic life does not fit into the floorplan anymore, the buildings were prevented from any transformation as they became listed monuments. In the context of this work, repair will trace the housing's history from drawing until today carefully seeking appropriate tools that will stimulate their recovery.

[6] Stephen Graham and Nigel Thrift, "Out of Order: Understanding Repair and Maintenance," *Theory, Culture and Society* vol. 24, no. 3 (May 2007): 1-25. DOI: 10.1177/0263276407075954.

[7] Louise Wright and Mauro Barocco, "Designing for Repair," *Landscape Architecture Australia* no. 159 (August 2018): 59-74. https://www.jstor.org/stable/10.2307/48513667.

[8] Ali Aslam, "The politics of repair," *Contemporary Political Theory* (January 2022): 1-21. https://doi.org/10.1057/s41296-022-00547-8.

[9] See: *https://www.charlottemalterrebarthes.com/practice/research-practice/a-global-moratorium-on-new-construction/*

Historical Context

The Historical Preconditions of Workers' Housing in Berlin

The 1920s in Berlin were distinct in the city's history and can be understood as a time of emergency following nearly a century of intensive restructuring. The industrial revolution during the 1830s to 70s transformed Berlin's, and more generally Germany's, economy and society as did World War One from 1914 to 1918. But the development of Germany's first socialist-oriented democracy in the 1920s marks a turning point in the city and country's histories. The multiplicity of new political, cultural, and economic movements of the 1920s can be understood as reactionary developments, emerging from these periods of fundamental restructuring. Thus, a chronological contextualization will grant important insights into the development of social relations and the evolution of urbanity in Berlin.

The Development of Berlin during Industrialization

While the point of departure in other European countries can be determined earlier, the actual industrial revolution in Germany began in mid-1830s.[10] As was common at that time, industrialization started for many economic branches with the development of crucial technological inventions and scientific discoveries. In the case of Germany, this process was accelerated due to the influences of further developed countries such as the England or the Netherlands. Characteristic of this period is that the locational conditions of the industrial production highly determine its success. Thus, factories gathered around areas with good preconditions, regarding natural resources, infrastructure and population, to benefit from.

Compared to other regions, the territory Berlin was scarce in natural resources. Thus, Berlin was unattractive for extractive industries, such as coal or iron mining. However, agricultural production was conducted within the urban limits although receded as industrial production promised higher revenues.

[10] Lothar Baar, *Die Berliner Industrie in der industriellen Revolution* (Westberlin: Das europäische Buch Literaturbetrieb GmbH, 1966), 211.

Figure 1.
A worker on the streets.
Zille, *Auf einer Kreuzung*, 92.

At the beginning of the 19th century, the transportation network was in mediocre condition. But as first economies started expanding their production and searching for markets on a national scale, planners focused on improving transportation network. Thus, in the early periods, Berlin improved shipping possibilities through expansion of canals and construction of new urban harbors. But the big leap that sealed Berlin's fate as an industrial metropolis was the expansion of the railway network.[11] Berlin initiated the construction of the so-called Ring, a circular train line connecting the pluricentric agglomerations of the periphery. It allowed fast transportation in-between the peripherical sites, and complemented this, much later, with vertical traffic from the periphery to the center. On a national scale, Berlin developed into the infrastructural center of Prussia and later Germany. On the one hand side, such well-conditioned transportation network allowed consistent provision with materials and reliable distribution of goods. On the other

[11] Ingrid Thienel, *Städtewachstum im Industrialisierungsprozess des 19. Jahrhunderts* (Berlin: Walter de Gruyter GmbH, 1973), 50.

side, it would also allow efficient commuting traffic for employees and rural migration possibilities. The development of the transportation system was the prerequisite for the exponential economic growth of the later years.

By the end of the 18th century, Berlin was already established as an important hub for manufacturing. These traditions stimulated densified and patterns of urbanized demography with a large part of the population being technically educated. This turned out to be a crucial factor for the growth of labor-intensive industries. Moreover, the established manufactures already created their own markets.[12] Thus, the industrialization process originated from these local manufactures rather than from international involvement. Three major industries were dominating during the industrialization in Berlin.
Mechanical engineering was one of the fastest growing industries in Germany with Berlin as its capital. In the 1870s mechanical engineering superseded the textile industry as the largest economy of Berlin[13] and even today, companies such as Siemens or AEG are internationally recognized. The practice of mechanical engineering is in many regards different to other industries. First, whereas regular businesses needed to discover and enclose stable markets, the clients of mechanical engineering were other industrialized factories. Their success was depended on innovative and reliable machinery. Thus, the continuous mechanization of productions lines created an ever-expanding market for machine construction. Secondly, the work demanded a lot of knowledge about the technical aspects. Thus, the employment of uneducated or temporary workers was unreasonable, especially during the early years. Yet, due to the region's history of manufacturing, there were many workers well qualified for such jobs.
This development resulted in one of the most progressive mechanical engineering industries in Europe which provided many opportunities for national purposes such as the extension of the national railway network[14] facilitating growth of other local economies. Later, some factories specialized on the fabrication of military goods.[15]
Prior to industrialization, the textile industry was the largest economy in Berlin.[16] But over the course of the 19th century, the locational conditions of Berlin restricted textile production. Land prices increased, energy had to been generated through the expensive steam engine and with the abolishment of the continental system, international products flooded the national market.[17]

[12] Thienel, *Städtewachstum im Industrialisierungsprozess*, 51.

[13] Alfred Zimm, *Die Entwicklung des Industriestandortes Berlin* (Berlin: VEB Deutscher Verlag der Wissenschaften, 1959), 28.

[14] Baar, *Die Berliner Industrie*, 119.

[15] Ibid. 121.

[16] Zimm, *Industriestandort Berlin*, 26.

The local businesses could not remain competitive and, consequently, textile production moved little by little towards more favorable locations. Yet, the capitalist temper of industrialization advocates for the creation of new markets in persistent economic niches. Thus, as industrialization marched on, companies began to specialize on specific tasks or decompose processes. And as did the textile industry. While textile production migrated, first towards the smaller villages in Brandenburg and finally to Prussia,[18] the clothing industry emerged and would develop to a major economy of Berlin.[19] The reason for this were different locational requirements. Unlike the textile industry, the clothing production was not reliant on complex machinery, but rather on consistent transportation and human labor. Especially with the development of the railway network, both factors were sufficiently provided by the city of Berlin. It is noteworthy that this economic branch obtained labor mostly from exploitation of the cheap labor of women and children.[19] Furthermore, the publication of the first women's fashion magazines accelerated the emergence of new fashion trends and created a regional market.[20] These locational conditions elevated Berlin to the capital of the clothing industry within Germany.
The third dominant industry in Berlin was the electronics industry. Even before the industrial breakthrough, the electronics industry was a notable economic market. But similar to other industries, crucial scientific achievements multiplied this development exponentially. The new technologies were first utilized by telecommunication. Improvements in communication technology allowed faster information transmission, especially for train services. Afterwards, electronical industry was, for example, dedicated to the production of measuring devices, lighting technology or military devices. Berlin offered a stable market for these technologies as it was the administrative center and supply hub for the military.[21]
For the majority of the 19th century, the areas of industrial and residential functions were nested in the periphery of Berlin. These districts occurred in the North and South-East of Berlin, namely Oranienburger Vorstadt, Stralauer Viertel, Luisenstadt, Moabit and Wedding. One reason for this was the rather poorly developed transportation system in Berlin even up until the 1870s. This meant a lack of commuting possibilities for the employees and, thus, factories were forced to locate within residential neighborhoods of the working class. Additionally, rental costs were crucial parameters for the price

[17] Baar, *Die Berliner Industrie*, 41.

[18] Zimm, *Industriestandort Berlin*, 26-28.

[18] Ibid. 38.

[19] Baar, *Die Berliner Industrie*, 73.

[20] Thienel, Städtewachstum im Industrialisierungsprozess, 54.

[21] Thienel, *Städtewachstum im Industrialisierungsprozess*, 54.

Figure 2.
Workers returning home.
Zille, *Arbeiter*, 90.

Figure 8.
Two women bringing wood back home.
Zille, *Zwei Frauen*, 133.

calculations of products. Therefore, factories preferred peripherical areas as land prices were 25-30% lower compared to the city center.[22] These two factors led to an overlap of productive and residential areas in the outskirts of Berlin. Such proximity of housing and factories was commonly considered as harmful for both parties. But as the railway network expanded producers were able to situate in separate districts. Approaching the end of the 19th century, factories moved further towards the outskirts of Berlin and began to form large industrial districts.[23] The population, now able to commute, formed residential neighborhoods, within which early forms of social segregation can be identified. Therefore, the expansion of the transportation network fundamentally re-structured the relation of workplace and home allowed the establishment of the first real division of urban functions.[24] Thus, in the beginning of the 20th century, 55-60% of the Berlin population was employed in the industrial sector and 50% were living in the suburbs.[25]

[22] Thienel, *Städtewachstum im Industrialisierungsprozess*, 80.

[23] Zimm, *Industriestandort Berlin*, 121.

[24] Ibid.

[25] Jay Winter and Jean-Louis Robert, *Capital cities at war: Paris, London, Berlin 1914-1919* (Cambridge: Cambridge University Press, 1997), 34-37.

The Class Struggle in Berlin

The industrial revolution brought forward not only technological progression but also a re-structuring of societal relationships. While some people took the opportunity to establish themselves as international capitalists, others were forced to work as blue-collar workers under miserable conditions. As the work of Karl Marx and Friedrich Engels emphasizes, the industrial revolution is a phase of separation brought out the separation of social classes with an exploitative inter-relation. The work of Lothar Baar "Die Berliner Industrie in der industriellen Revolution" argues that this process took place in Germany as well. As the point of departure for this discussion, Baar starts with a detailed analysis of the social composition of the two classes.

On the one side, the class of the modern bourgeoisie emerged. According to Baar, the modern bourgeoise were people with high ranks in industrial enterprises. In the context of Berlin, this class arose mostly from two origins of an already wealthier milieu.

First, Baar points out the already established craftsmen that dared to transition from local manufacturing to industrialized production. These craftsmen would continue their business and stay in line with their original education. This was mainly the case for industries that demanded more technical knowledge, such as machine construction. And so, one of the largest machine construction companies, F. A. Engells, was founded by a locksmith. According to Baar, these companies transitioned slowly since the financial means of these craftsmen were too little for large investments.[26]

[26] Baar, *Die Berliner Industrie*, 140-148.

Secondly, Lothar Baar claims that wealthier citizens invested into the formation of industrial companies as well. According to Baar, this group of people were already situated in the urban context and accumulated their wealth over generations through trade. In contrast to the craftsmen, this milieu had the advantage of possessing more initial capital and the possibility of acquiring loans. Instead, they faced a lack of technical knowledge. Baar states that they visited schools and inspected factories, for example, in England. However, he argues that trade capitalists were specifically interested in the textile industry as it was dependent rather on acquisition of new distributors and markets, than on a high technical knowledge. Just like the craftsmen, the trade capitalists were already involved in this profession before the start of the industrialization.[27]

[27] Ibid. 148-154.

To conclude, Lothar Baar argues that the new class of the modern bourgeoisie was composed of established manufacturers and trade capitalists. They founded their business already before the industrial revolution and when it arrived, they took the opportunity to turn into an industrial enterprise and created their individual market.

Although historians put forward different theories about the origin of the working class in Berlin, they agree in the point that by the emergence of the industrial revolution the separation of bourgeoisie and workers class intensified enormously. Lothar Baar's study about the composition of migration and employees allows a deeper understanding of the constitution of the working class in Berlin.

Similar to other industrial cities, Berlin attracted many people moving from the countryside to the city. The reason for this large-scale migration movement was a decreasing number of jobs and poor working conditions in the villages. At that time, the urban industry of Berlin promised relief from the lacking economic situation in the countryside. Thus, the number of immigrants increased over the years.[28] In 1851, two thirds of the immigrants were men in the age of 15-30 years.[29] However, it is worth mentioning that the migration movement also incorporated women and children.[30] Baar points out that most immigrants arrived from the immediate vicinity of Berlin. Nevertheless, a significant number also came from more distant regions, such as the eastern parts of Prussia.[31] The attraction that Berlin exerted at this time was

[28] Ibid. 169.

[29] Ibid. 171-173.

[30] Ibid. 170-171.

Figure 4.
Courtyard with lavatory.
Zille, *Hof*, 133.

Figure 8.
Zille, *Krögelhof*, 55.

unprecedented in Germany and caused both, an enormous shift in territorial demographics and a reconditioning of the life in the city. According to Baar, immigrants constituted the largest share in the formation of the working class in Berlin.[32] Lothar Baar concludes that the two industrial classes, workers and modern bourgeoisie, existed in Berlin as well and that they originated from different social backgrounds.

In order to understand the relation of these classes, Baar studied the organization of labor in industrial production. As previously explained, some industries such a machine construction demanded a lot of knowledge while other industries were more dependent on the quantity of human labor. Furthermore, the ongoing division of labor and the resulting emergence of piecework allowed the employment of specialized workers or day-laborers for different tasks. Therefore, Baar argues that the working class itself was separated mainly between educated workers and industrial day-laborers. While educated workers could immediately start working in their profession, the industrial day-laborers had to be familiarized with the processes. In the beginning of the industrialization, this education process was relatively unprofitable. However, in parallel to the ongoing mechanization the work became simpler and, additionally, the number of unskilled immigrants rose steadily. Thus, day-laborers became more interesting for the industrial production and in 1850 almost 82% of all workers in Berlin were uneducated.[33] Lothar Baar argues that most industrial day-laborers were used to the poor living conditions in the countryside, and they would, due to a lack of alternatives, accept lowest income in the urban industry. It was not an exception if a Berlin weaver earned 6-7 Silbergroschen per day, while the daily costs for food of a four-person family was calculated with at least 6 Silbergroschen and 11 Pfennige.[34] Furthermore, Baar argues that the general working hours consistently increased. A police report of 1852 is written as follows:

> […] The weaver must work continuously from 5:30 in the morning until 11 at night, or even 11:30 at night; only during the midday meal is he free from work for a quarter of an hour. A piece of dry bread for breakfast and, if available, for dinner is eaten while working at the loom.[35]

On the other hand, the extensive urbanization process strained the unadapted urban services. Rental prices increased up to 180%[36] from 1840 to 1872 and

[31] Baar, *Die Berliner Industrie*, 170.

[32] Ibid. 167.

[33] Ibid. 171-178.

[34] Ibid. 194.

[35] Ibid. 195. Author's translation.

[36] Ibid. 181.

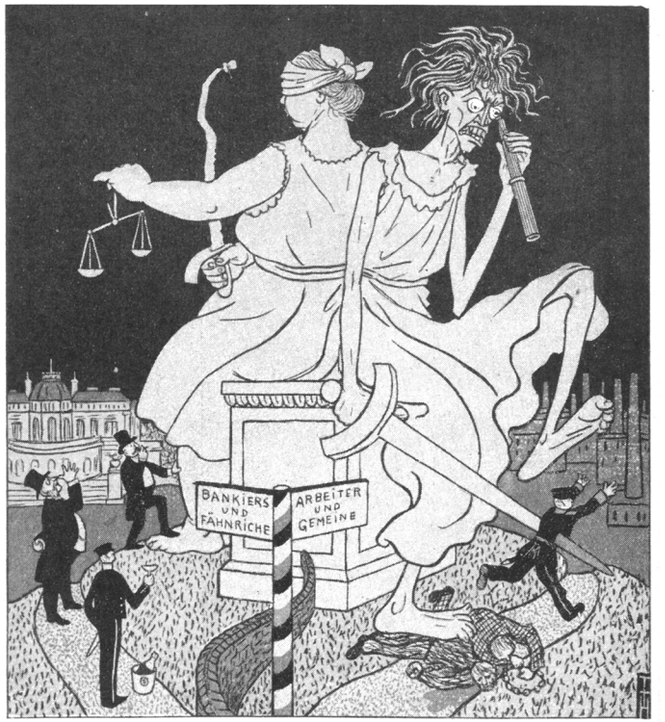

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Figure 6.
Heine, *Die Doppel-Justitia*, 56.

the prices for potatoes increased up to 209%[37] during the so-called hunger-years 1838 to 1847. As such salary was uncapable of affording rent or clothing for the family, women and kids were forced to offer their labor too. This had a particularly aggravating effect on the female population, since at that time all the domestic and reproductive labor rested exclusively on their shoulders as well. In addition, their labor in industrial processes was not considered equal to that of men. Thus, the gender gap in the textile industry was 50% and remuneration of children in clothing factory equaled 1,50 to 2,00 Mark per week.[38] Baar argues that the exploitation of new potential labor increases the pressure on the remaining ones.

Lothar Baar concludes that the class struggle existed in Berlin as well.[39] The two industrial classes emerged from two different societal groups and were in antagonistic relation to each other. The intensified economic competition forced the class of the industrial capitalists to exploit every opportunity to lower production costs. This included to a large extent the workers' labor. In the beginning they had no basis for a discussion with their employers and thus

[37] Ibid. 193.

[38] Ibid. 192.

[39] Ibid. 139.

dependent on their job at all costs.

Baar mentions that due to the ever-worsening working conditions and the ever-increasing living expenses in Berlin, the workers class began to organize labor strikes. The first relevant protest in Germany was the well-known uprise of the weavers (Weberaufstand) of 1844 in Silesia and soon the workers in Berlin would follow. Analyzing the primary demands of protesters during the revolution year 1848 allows insights in their primary complains:

1. wage supplement of 1/2 Rt per week per man
2. reduction of the daily working hours by 1 hour.
3. increased wages for overtime work
4. increased wages for Sundays and holidays
5. higher piece rates according to the decision of a commission chosen by us from the workers.
6. abolition of all penalties
7. transfer of those journeymen's jobs for which laborers were used to real journeymen [...][40]

Apart from number 7, in which the journeymen clearly pointed out their disquiet about the challenge to the status of their profession by unskilled wage workers, most demands concerned shortening of working hours and raising of income.[41] The first strikes were unsuccessful and violently suppressed. But Baar argues that the pressure on the employers increased as more protests arose. Most notably, amongst the strikes of this time, on August 1st 1869, 40 children stopped working in the dispensary and protested for higher wages.[42] Baar points out that in the 1860s, workers organizations and protesters increasingly cooperated. Later, trade unions would also assist in organizing strikes. And eventually, in 1863, the General German Workers Association (Allgemeiner Deutscher Arbeiterverband) was formed, from which the Social Democratic Party developed.

The strikes started as individual events with specific demands. But Baar points out that they soon develop into institutionalized movements. Workers formed organizations with which other workers could identify. This empowered the once very exploitable individual to negotiate with the bourgeoise class about the working conditions.

[40] Ibid. 199-200. Author's translation.

[41] Ibid. 199.

[42] Ibid. 205.

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Figure 7.
Uprise of the weavers.
Kollwitz, *Weberzug*.

The Working Class in Berlin during World War I

World War I was a rupture in scale of destruction and violence unprecedented at that time. The mentioned industrialization brought technological modernization not solely for social demands, but also fostered improvement of warfare industry. The steam engine, symbol of industrialization, runs cars as well as tanks. Considering that at this point mechanical engineering was the dominating economic branch in Germany, a portfolio of new military vehicles, such as aircrafts or tanks, and new weapons, such as bombs, turrets and lethal gases were introduced to warfare.

The months before the start of war have been characterized by a nervous mood across all European citizens. The German Empire attempted to reverse this social anxiety into an enthusiasm of war through a wave of political propaganda. But this general belligerence didn't reach the broad society. Instead, general anxiety increased as an involvement in war did not appear improbable, and people started protesting, hoarding groceries and

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Figure 8.
Kollwitz, *Hunger*.

withdrawing savings from their bank accounts.[43]
When in August 1914, the government called the population to mobilize, 5000 people were impatiently waiting in front of the Palace of Berlin listening to the news.[44] In this moment an enormous war apparatus, the so-called total war emerged. This term, coined by Paul von Hindenburg, describes the dedication of all national resources to warfare purposes and was supposed to compensate the numerical disadvantage of German troops by an enormous amount of weaponry.[45] Hindenburg's aspiration was to double the quantity of explosives and triple the quantity of firearms.[46] Consequently, mechanical engineering companies in Berlin grew by 42% and state-owned production increased by 130% during the period from 1914 to 1918.[47] The intention behind Hindeburg's total war strategy was meant for surprise attacks and quick victories. But as the war period persisted, national resources became increasingly exhausted.[48]
Therefore, the degradation of living conditions in the cities, which already intensified during industrialization, exponentially increased during the war period. Amongst all people spared of the military service, the recently formed workers' class in particular suffered. For this is because, among other factors, the workers' class was providing the means of the massive labor mobilization. Since the male population was increasingly occupied with the participation in military operations and the living expenses surpassed the limits of a single-earner household, women had to enter the industrial production. In winter 1917, female labor equaled 50% in military-related industries.[49] This could hardly been in favor of the women of Berlin as, simultaneously, the general effort in order to feed the family increased just as well. The expenses for food rose by 178%[50] and the lines at food rationing stations, which the Berliner ironically named "Polonaise"[51], expanded. It is noteworthy that the scarcity of food for the family caused a leap in sexwork and the formation of criminal gangs of children.[52] As a consequence, the common nutritional values decreased nationwide by 25% in calories and by 30% in proteins.[53] Consequently, the working class in Berlin experienced a period of unprecedented emergence of malnourishment, diseases and child mortality despite their constant concerns about the soldiers.[54]
The industrial character of Berlin prevented a military mobilization to the extent found in other cities. As mentioned earlier, mechanical engineering and metal working were the dominant economical branches of Berlin. The industrial production of military goods played a decisive role in Hindenburg's plan. Thus, the working class in Berlin was involved in industrial labor mobilization rather than military mobilization.[55]
However, influenced by the ubiquitous propaganda, young men, sent to the battlefield, were under the impression of defending their country for a relatively short period of time.[56] But after initial victories and the emergence of temporary euphoria,[57] strategies began to fail, the dynamics stagnated, and the soldiers found themselves stuck in a trench warfare without any signs of improvement. Considering the numerous improvements in military technology and the enormous warfare apparatus feeding it, one can image the mere extents of physical experiences witnessed by these soldiers. The war period stretched from a few months to a total of 4 years in which a total of 53'406 Berliners[58] fell.

[43] Arnulf Scriba, "Berlin in the 1914-1918 War," *Cahier Bruxellois – Brusselse Cahiers* vol. 46, no. 1E (2014): 174-177.

[44] Ibid. 173.

[45] Jay Winter and Jean-Louis Robert, *Capital cities at war: Paris, London, Berlin 1914-1919* (Cambridge: Cambridge University Press, 1997), 174.

[46] Ibid.

[47] Ibid. 167.

[48] Scriba, "Berlin in the 1914-1918 War," 179.

[49] Winter and Robert, *Capital cities at war*, 188.

[50] Ibid. 321.

[51] Scriba, "Berlin in the 1914-1918 War," 179.

[52] Ibid. 181.

[53] Winter and Robert, *Capital cities at war*, 210.

[54] Scriba, "Berlin in the 1914-1918 War," 180.

[55] Winter and Robert, *Capital cities at war*, 71-72.

[56] Scriba, "Berlin in the 1914-1918 War," 177.

[57] Ibid.

[58] Winter and Robert, *Capital cities at war*, 64.

Conclusion

As Lothar Baar elaborated, the emergence of the working class during industrialization also took place in Berlin. Similar to other countries, class struggle occurred simultaneously as the relationship of working class to the modern bourgeoisie was of an exploitative nature.

Right before the beginning of WWI, Berlin developed to one of the largest industrial metropoles worldwide. The spiral effect of the insatiable labor demand of industrial production in the city and the resulting elimination of the job market on the countryside caused the population of Berlin to grow up to 1,9 million. And Berlin was expecting further growth as the core industry was mechanical engineering, a field that grew symmetrically to global industrialization processes.

Driven by economic forces, the city grew horizontally into the peripherical territory. The decentralization allowed further optimization of production processes and, thus, facilitated the spatial agglomeration of industrial factories. Similarly, economic pressure was forcing the working class into designated districts in the outskirts of Berlin under miserable living conditions. Their primary transportation system was the recently established Ring. It allowed commuting traffic in-between the workers' residential areas and their workplaces, but with little possibilities of travelling in or out the city center. The emerging suburbs were established as the cosmos of industry and its workers.

As the capitalist market expanded to an international scale, the pressure imposed on regional production increased. The main source of price reductions derived from exploitation of human labor. Therefore, it is not surprising that, simultaneously, workers organizations, such as trade unions or socialist parties emerged. At the morning of WWI, the socialist party claimed "Berlin is ours" with a local support of 75%.[59]

If the living conditions of the working class had already tightened, Hindenburg's military strategy in the first world war caused them to tip over. In his total war strategy, Berlin was doomed to be the gunshop. This meant especially labor mobilization of the working class in order to maximize productivity in all war-related industries. Simultaneously, essential live functions, such as food provisioning or housing, became instable. The overexploitation of the working class resulted in a large wave of illness and mortality. Not to mention the situation of soldiers:

[59] Winter and Robert, *Capital cities at war*, 42.

Couldn't one make the observation at that time: the people came out of the field dumb? Not richer, poorer in communicable experience. What then poured out ten years later in the flood of war books was anything but experience flowing from mouth to ear. No, it was not strange. For never have experiences been more thoroughly belied than the strategic ones by the war of stalemate, the economic ones by inflation, the physical ones by hunger, the moral ones by those in power. A generation that had still traveled to school by horse-drawn streetcar stood in the open air in a landscape in which nothing had remained unchanged except the clouds, and in the middle, in a field of force.[60]

[60] Brill, "Walter Benjamins 'Erfahrung und Armut': Drei Lektüren," *Benjamin-Studien* Vol. 3 (2014): 261-267. Stable URL: https://www.jstor.org/stable/45294556. Author's translation.

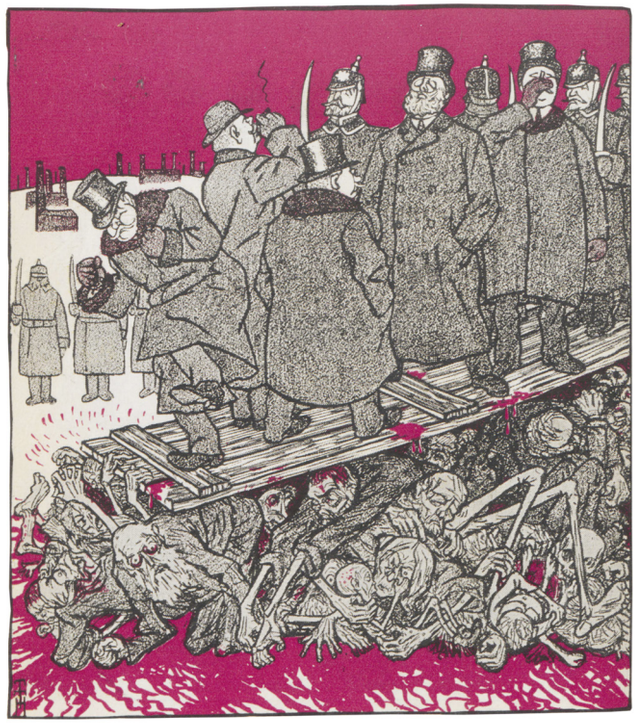

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Figure 9.
Heine, *Crimmitschau*, 58.

The Housing Crisis in Berlin as a Pivot Point for Socialism

Summarizing the historical discourse, the city of Berlin was shaped by the forces of industrialization. In order to compete in the international market, the industrial sector of Berlin was obligated to exploit all possible reserves. This resulted in an enormous suburbanization movement with separated agglomerations of housing and industry. Moreover, the city's working-class population grew as the flourishing economy facilitated further migration. After World War I, almost half the population of the city was living in workers' housing districts with dark, poorly ventilated flats shared by large groups. Furthermore, calculations suggest that Berlin was short one million apartments in 1920.[61] Therefore, it is not surprising that , simultaneously, socialist movements were gaining local support. And by the emergence of the first German democracy, the Weimarer Republik, the social democrats were elected to govern the country. The young democracy was now facing the task of solving the social crisis after industrialization and WWI.

Throughout the entire decade, many well-known architects passionately debated about how to process history and deal with the problems of their present. One of the main actors in this debate was Martin Wagner. He proposed some progressive arguments and he evolved to become the most influential planner of Berlin in the 1920s. He studied architecture, urbanism and national economy until 1910. Thereby, he gained crucial knowledge about architecture as a part of the building industry, and its intricate relationship with economic landscapes. Therefore, he overcame formal aspects of architecture and concentrated on its legislative framework. Wagner worked as the head of the urban planning office of the city of Rüstringen from 1910-1914, where he got to know the landscape architect Leberecht Migge, with whom he collaborated on future projects. In 1915, he was awarded his doctorate for work on the sanitary urban green . Right after the first world war, he transferred to the urban planning office of Schöneberg in Berlin, where he would later conduct some of his most influential projects, such as the Siedlung

[61] Ludovica Scarpa, *Martin Wagner und Berlin: Architektur und Städtebau in der Weimarer Republik*, ed. H. Klotz, trans. H. D. Held (Braunschweig/Wiesbaden: Friedr. Vieweg & Sohn, 1986), 16.

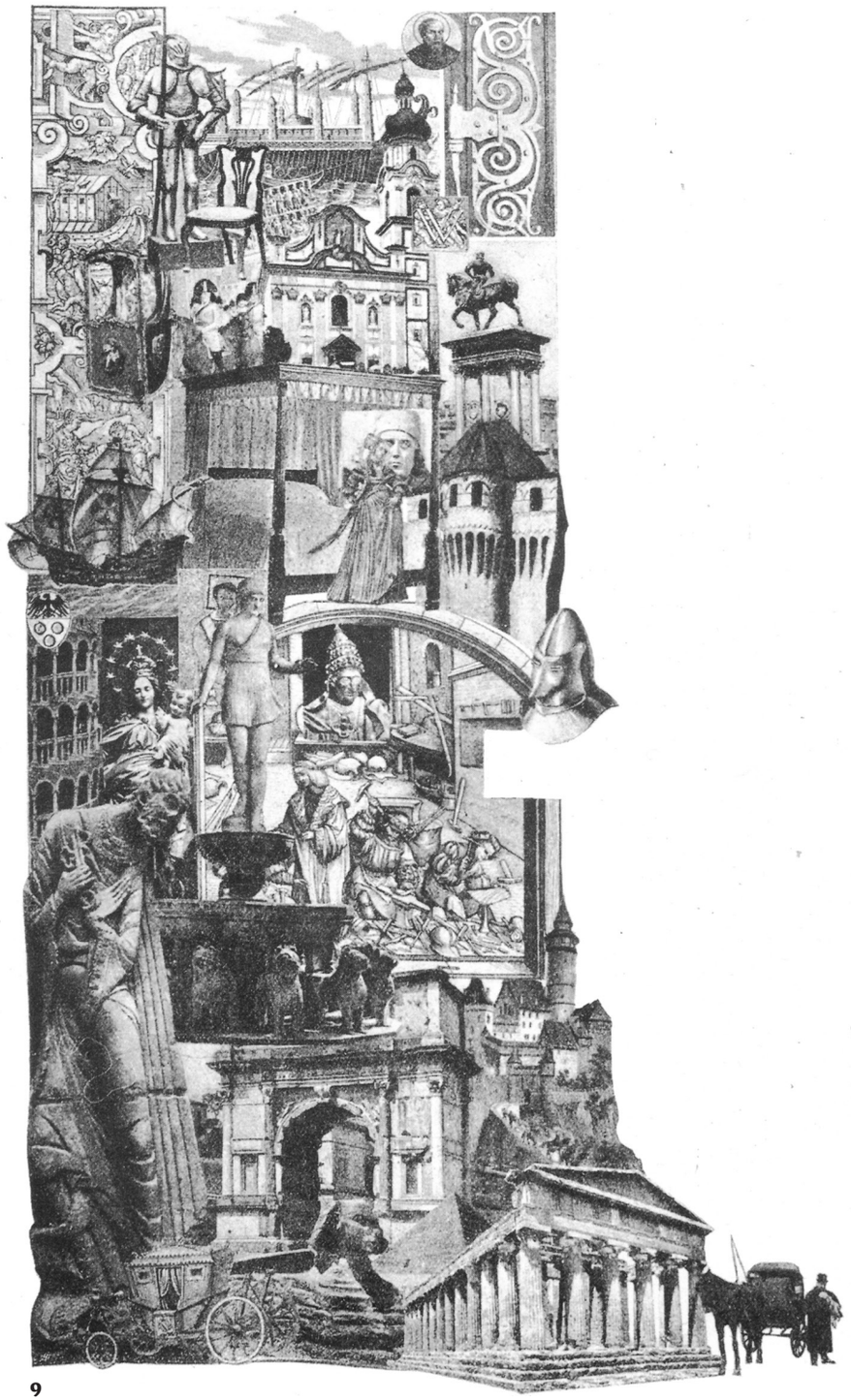

Figure 9.
Wagner, 1926.

Lindenhof. However, his general goal was the transformation of Berlin from a city to a metropolis (Weltstadt). Therefore, Wagner's objective included planning of infrastructure and urban nature as well as an approach to the housing crisis. In fact, the housing situation offered a decisive opportunity and, thus, would be the point of departure of Wagner's theory.

Martin Wagner saw the origin of the housing crisis in the liberal market, which recently enclosed land speculation as one of its most profitable parts. But given that building costs and lending rates increased, the new construction of affordable housing seemed unprofitable to private companies.[62] Therefore, Wagner concluded that liberalism was not capable of solving the immediate housing issues. On the other hand, Wagner knew that the building companies had to deal with many fluctuating parameters such as seasonal working, temporary workers and dependence on deliveries.[63] Such fluctuations demand responsive management and could not be handled in a system of bureaucracy.

In the magazine "Das Neue Berlin" (The New Berlin), curated by Martin

[62] Ludovica Scarpa, *Martin Wagner und Berlin: Architektur und Städtebau in der Weimarer Republik*, ed. H. Klotz, trans. H. D. Held (Braunschweig/Wiesbaden: Friedr. Vieweg & Sohn, 1986), 16.

[63] Martin Wagner, *Die Sozialisierung der Baubetriebe* (Berlin: Carl Heymanns Verlag, 1919), 19.

10

Figure 10.
Bricklaying - The mason's workplace before the introduction of the storage of bricks on frames
Verband Sozialer Baubetriebe GmbH, *Das Mauern*, 52.

11

Figure 11.
Bricklaying - The mason's workplace after the introduction of the storage of bricks on frames
Verband Sozialer Baubetriebe GmbH, *Das Mauern*, 53.

Wagner and Adolf Behne, Wagner wrote:

> Today, the metropolis of Berlin is governed not by a democracy, but by an entire system of democracies that lacks a powerful and unified leadership.[64]

Here, Wagner refers to all the administrative processes that planners must undergo to officially register a project. Wagner was even indignant enough to calculate how many footsteps planners must walk before groundbreaking . In his opinion, both the state and the commune are trapped in a self-impeding system of bureaucracy and, thus, neither was capable of managing an operating building department.[65]

According to Wagner, the best institution to solve the immediate housing crisis was a socialized individual company. He developed potential operation and implementation models of such institutions. And on April 26th, 1919, Martin Wagner gave a presentation to the so-called socialization commission in Berlin about his proposal.

The essential goal was the emancipation of the working class. In the journal "Soziale Bauwirtschaft" he wrote:

> Men of construction, recruit and work for this organ [this magazine], help it to build ways and bridges to the goal of a common economy! The supporting beams of the capitalist economy are rotten, what slave hands built up is collapsing today. In your hands will lie the reconstruction of our economy, prepare yourselves for this national work![66]

As a result of the division of labor in industrial processes, the worker was dissociated from the purpose of his work. The recollection of the working class on the purpose of their profession was an attempt to increase their productivity.[67] Hereby, Wagner did not invent a new corporate structure, but instead tried to revitalize a medieval institution, namely the Bauhütte (building lodge). A building lodge united every practice involved with the construction of large monuments, such as cathedrals. As a matter of solidarity and a sense of responsibility, the craftsmen demonstrated their finest skill.[68] Wagner planned multiple mechanisms for such resensitization. First, the interest of the workers would always be represented. A set of superior institutions, such as the works council, the management boards, and the trade unions,[69] ensure that the workers' interests are respected at an internal and general

[64] Martin Wagner, "Das Neue Berlin: Die Weltstadt Berlin," *Das Neue Berlin*, no. 1 (1929): 5. Author's translation.

[65] Wagner, *Die Sozialisierung der Baubetriebe*, 19.

[66] Martin Wagner, *Weg und Ziel*, in *Martin Wagner 1885-1957: Wohnungsbau und Weltstadtplanung: Die Rationalisierung des Glücks*, eds. Barbara Volkmann et al. (Berlin: Akademie der Künste, 1985), 102, Exhibition catalogue. Author's translation.

[67] Wagner, *Die Sozialisierung der Baubetriebe*, 47.

[68] *Scarpa, Martin Wagner und Berlin, 21-22.*

[69] Wagner, *Die Sozialisierung der Baubetriebe*, 20.

level. This would minimalize the alienation of employer and employee and, thus, reinforce trust in the company's management. Secondly, the workers retain the means to control their productivity themselves. While in a capitalist company rationalization turns into an exploitation spiral,[70] Wagner considered it the ideal system for labor control in a socialist company. The workers would discuss collectively the amount and execution of piecework, thus, managing their work efficiency. Lastly, the success of the company is linked to individual remuneration.[71] By intelligently managing their company, the workers have the possibility to control their personal profit. Wagner sought to develop a business model that would ignite a new wave of identification and passion for the construction industry through the integration of all actors.

[70] Wagner, *Die Sozialisierung der Baubetriebe*, 3.

[71] Ibid. 46-47.

Wagner was aware that, in the present condition, the national economy could not bear a socialist revolution. In times of inflation and instability, a full transformation of the market order would overburden the young democracy. This and the above-mentioned fluctuating market relations led Wagner to the conclusion that neither nationalization nor municipalization of the building industry would hold any promise of persistent success. Instead, he believed in the maintenance of the liberal economy with free competition in an open market.[72] In fact, he would even try to take advantage of these principles. Meaning, Wagner was convinced that the empowerment of the working class would result in increased productivity. And in a liberal market with private companies uninterested in affordable housing, the socialist companies would outrun them. After a transition phase, the socialist businesses would dominate the market. Most importantly, the profit of socialist companies would serve public welfare.[73] Through the absence of the private owner, all business expenses would be fairly shared in-between the workers and the building project. Thus, with the socialist building company the working class had an instrument to work its way out of the housing crisis.

[72] Ibid. 31.

[73] Ibid. 32.

Martin Wagner entertained doubts about the functionality of the liberal economy to address social issues.[74] Instead, he believed in a sort of self-healing effect of the socialist housing industry: the deprived class possessed a tool that would allow the individual to profit from the construction of affordable housing. But Wagner was aware that an economic revolution would not give rise to an enduring socialism. Instead, he preferred an infiltration of

[74] Scarpa, *Martin Wagner und Berlin*, 15.

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Figure 12. Reducing the costs of extraction of gravel using conveyors. Verband Sozialer Baubetriebe GmbH, *Verbilligung der Kiesgewinnung*, 60.

the liberal market. The private companies being uninteresting in the urgent housing shortage meant a rupture in the market equilibrium in which demand and offer are self-regulating. But paradoxically, the enormous demand was disregarded by the offer. This was the gap Wagner wanted to take advantage of. In this market, the socialist building company, boasting of competitiveness, would not only outrun the private businesses. Following the principles of the liberal economy, innovation in one business encourages competitors to adapt. Therefore, as soon as one socialist cell is successfully implemented in the liberal network, it would grow. Inspired by the socialist companies, other businesses would convert and, before long, the entire building industry would be socialized.[75] In other words, Martin Wagner was planning the socialization of the liberal economy from the inside, starting from the housing shortage. The urgent crisis appeared to him as an opportunity to overcome the general issues of liberalism.

[75] Scarpa, *Martin Wagner und Berlin*, 15.

Returning to the Spirituality of Urbanism

The history of workers' housing can not leave the theories around the garden city untouched. The garden city emerged as a reaction to the miserable housing situation caused by industrialization in England. This urban model promised lower density, a reconnection to nature and a reinforcement of local communities. But the theoretical work around the garden city developed much more radically, while it found its practical application in a rather diluted fashion.

In Berlin, the most influential architect in favor of the garden city movement was Bruno Taut. Already during his adolescence, Taut was often portrayed as an idealist.[76] By the age of 17, he began to study during the Winter months and worked in an architectural firm in Summer. After a few reluctant first projects, he founded his own office in 1909. As he generated increasingly more projects, he also started his extensive series of writings about fundamental architectural and social subjects. Over the course of his career, he continued to deepen his socio-political knowledge in which his architectural practice was rooted.

Taut based his urban model on criticism towards the development of the industrial city. In comparison to Wagner, who sought to justify his theory on the abstract world of numbers, Taut grounds his argument on a historical urbanist foundation. He clarified his criticism of the industrial influence on the city in the early chapter of his book "The City Crown" (Die Stadtkrone). For Taut, the old town reflected the societal conditions of the inhabitants undistorted.[77] For example, he regarded the art and architecture of cathedrals, to be of the most delicate sort because of its community's genuine faith in religion. Therefore, Taut believed in a mutual link between the purpose of architecture and the condition of the community, thus, rendering a natural organization of the city. With the emergence of industrialization, the intentions of urban dynamics shifted from spiritual and emotional to merely economic. Taut states:

‚The paradise, the home of art' disappeared and there had come 'hell, the home of the lust for power' (Scheerbart).[78]

[76] *Bruno Taut: 1880 – 1938*, Edited by Barbara Volkmann (Berlin: Akademie der Künste, 1980), 7, Exhibition catalogue.

[77] *Bruno Taut, Die Stadtkrone (Jena: Diederichs Verlag, 1919), 52.*

[78] *Ibid. 54. Author's translation.*

Figure 13. The envisioned composition of the territory. Taut, *Gemeinschaften und Eigenbrödler*, 1920.

For Taut, the traditional town became dissociated from new developments. In fact, he emphasizes the oppressive character of industrial buildings, such as factories or the previously mentioned rental barracks.[79] In Taut's opinion, traditional urban planning had no response to such rupture in the urban

dynamics resulting in a hopeless situation for the inhabitants.[80]
This criticism towards the industrial city is important for understanding Taut's proposal. He was aiming to overcome the urbanism driven by economic power and wanted to reinforce collective identification including emotional and religious motivation. Taut points out two key principles in the journal "Sozialistische Monatshefte":

> Each epoch brings forth its typical building tasks, which correspond to the contemporary sprouting ideas and create the new in architecture. As a typical idea of our days, as the idea that is felt by everyone today, one will have to consider the social idea. It is not the royal operas that can give us the new architecture, but the people's theaters, the new garden cities and all the buildings arising from social idealism.[81]

Hereby, Taut stated both his dedication to social issues and his trust in the garden city model. In his opinion, the model of the garden city provided a new tool for urbanism to address social inequality. Similar to Wagner, Taut recognized the fundamental role of the working class in these social issues and, specifically, aimed towards an improvement of their living conditions. But in contrast to Wagner's economic approach, Taut was primarily focusing on the question of property and ownership. In his text "The Dissolution of the Cities" (Die Auflösung der Städte) from 1920, he presented 30 drawings of a visionary decentralized urbanism as well as a collection of passages from well-known texts around this topic. While the images depict the constitution and organization of the implemented urban model, the texts grant insights into potential transition processes, thus, addressing the question of property. One of the featured passages was written by Lew Tolstoi in 1911:

> But why does the land belong not to the one who works on it, but to the one who does not work on it? [...] If the land, but not the water, the air and the rays of the sun, has become private property, it is not because the land is not an equally necessary and therefore inalienable necessity of life for every person, but because it was impossible to take away the water, the air and the sun from other people, whereas one could deprive them of the land.[82]

If one can assume that Taut published this passage, because it reflects his personal conceptions, he agreed that land is a primary human need. Similar to fundamental human demands, for example, for light or water, every person would need a certain amount of land for his own purposes. Therefore, Taut envisioned a re-distribution of land property amongst the working people. The passage of Franz Oppenheimer who referred to Karl Marx's "Capital" later in the same book clarified how the right for land supports the emancipation of the working class:

> The essence of a free colony consists in the fact that the bulk of the soil is still public property, and every settler on it therefore can turn part of it into his private property and individual means of production, without hindering the later settlers in the same operation.[83]

According to Marx, access to land allows every individual to establish their means of production. Economically, the possibility to apply their individual means of production would liberate the working class from the dependency on superior rule, such as industrial capitalists. Instead, every worker can utilize the land for independent production either for the accumulation of economic surplus for the market or for private purposes, according to their own needs. It would therefore not be unreasonable to assume that for Taut, the right to access land became the precondition for improving the living conditions of the working class. However, he has never been particularly politically engaged in this regard as he refused to join a party.[84] Instead, his activism was focused on his journalistic practice.

As previously mentioned, Bruno Taut presented his urban model through his 30 drawings in his book "The Dissolution of the Cities". The images represent human settlements in fictitious territories. Stylistically, they appear quite idealistic and lack precision in detail. Martin Wagner anticipated the critique that Taut would stay merely utopian without delivering a constructive proposal. But for him, Taut's objective was not the proposal of architectural solutions, but to suggest an alternative social system.[85] Into the gaps and fringes of the drawings, Taut interwove text elements with rational details about the organization of the settlements. The juxtaposition of text and drawing generates an authentic representation of Taut's conception.
The basic units of Taut's vision are two different types of settlements: the working community and the agricultural community. The working community forms a radio-concentric model of housing clusters (and duck ponds) surrounding a central core of manufacturing facilities. All the 500-600 inhabitants would participate in a collective production process. The agricultural community is based on the same principle as the working

[79] Bruno Taut, *Die Stadtkrone* (Jena: Diederichs Verlag, 1919), 54.

[80] Ibid.

[81] Iain Boyd Whyte, B*runo Taut: Baumeister einer neuen Welt* (Stuttgart: Verlag Gerd Hatje, 1981), 31. Author's translation.

[82] Bruno Taut. *Die Auflösung der Städte*. ed. (Berlin: Gebrüder Mann Verlag, 2020), 25. Author's translation.

[83] Ibid. 30. Author's translation.

[84] *Bruno Taut: 1880 – 1938*, Edited by Barbara Volkmann (Berlin: Akademie der Künste, 1980), 19, Exhibition catalogue.

[85] Bruno Taut. *Die Auflösung der Städte*. ed. (Berlin: Gebrüder Mann Verlag, 2020), 25-26.

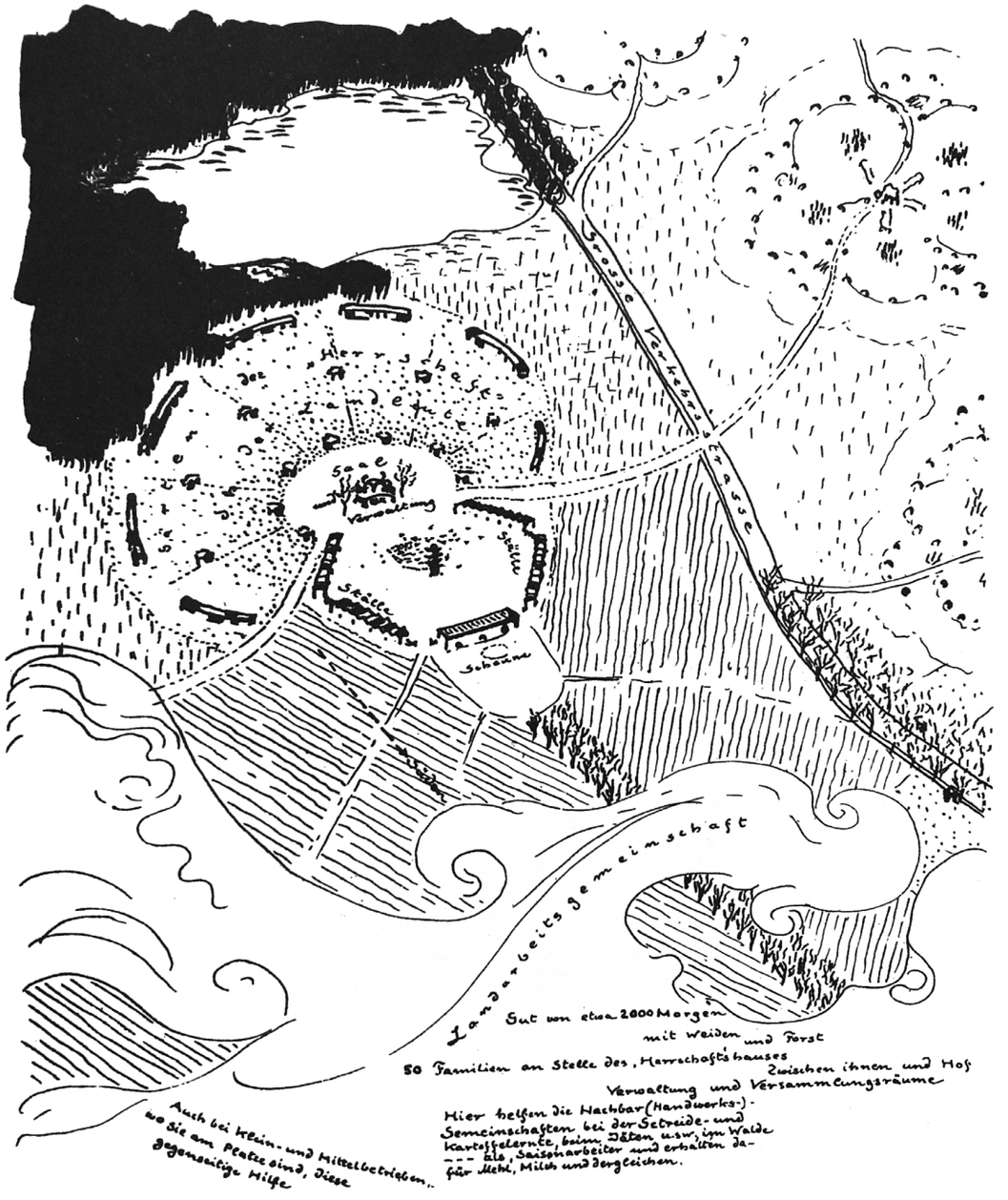

Figure 14.
The agricultural community.
Taut, *Landarbeitsgemeinschaft*, 1920.

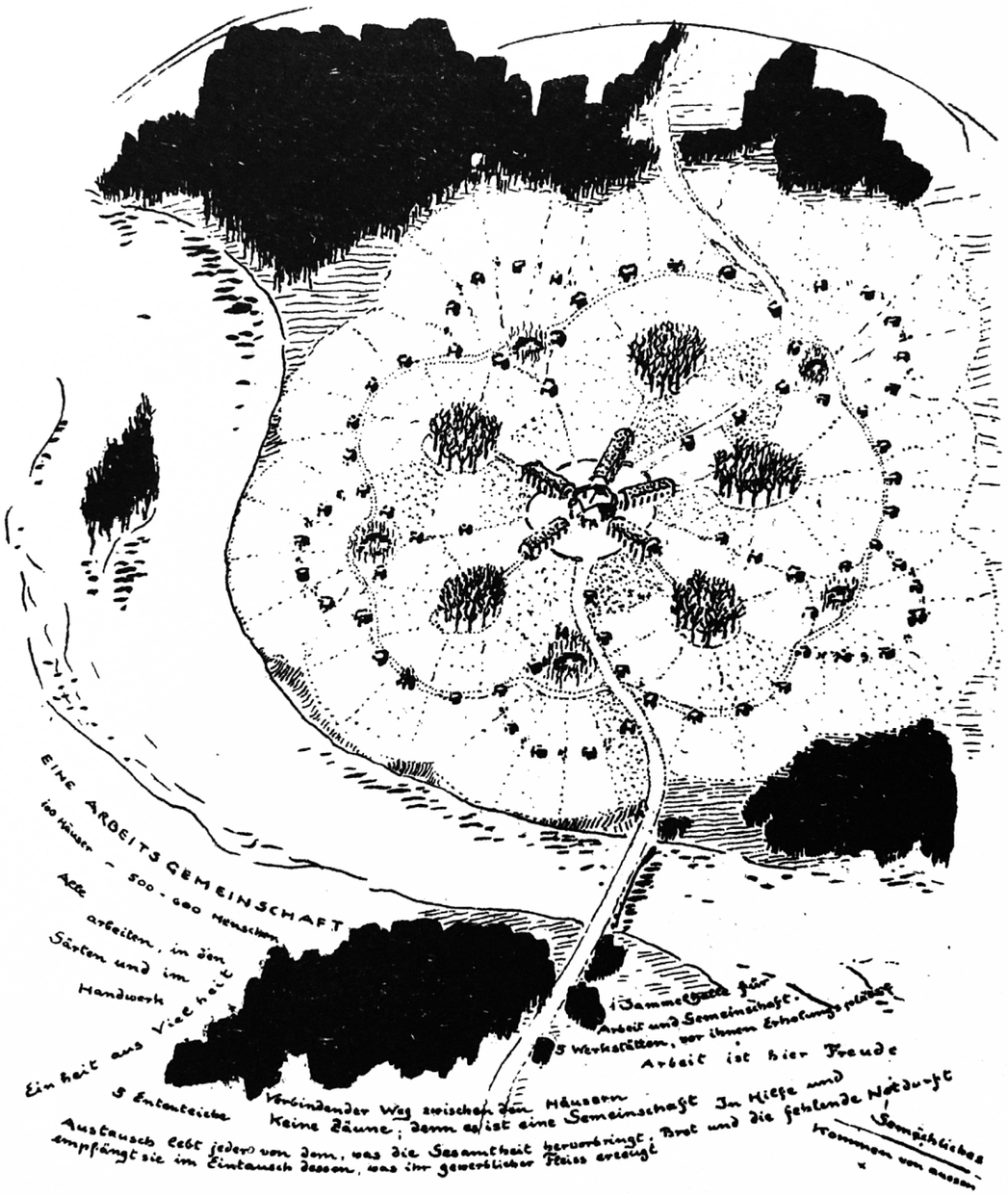

Figure 15.
The working community.
Taut, *Eine Arbeitsgemeinschaft*, 1920.

community. Instead of a manufacturing core, the farmers' houses circle around an assembly and administration nucleus. The 50 families would work in agricultural tasks and cultivate the surrounding fields and forests.
Both settlement types are in symbiotic relation. The production is primarily intended for the satisfaction of the internal demand and for provision for nearby colonies of the complementary type. The manufacturing community provides tools for itself and the agricultural colonies. The agricultural communities produce food and timber for internal needs and for the manufacturing colonies. This symbiotic relationship is not only limited to economic trade as Taut planned the exchange of labor as well. Thereby, external settlers support the agricultural colonies during harvest season. Consequently, the combination of both settlement types results in a self-sustaining couple. In this regard, Taut also emphasizes the value of the community, mentioning, for example, the resulting absence of fences.[86]

[86] Bruno Taut. *Die Auflösung der Städte*. ed. (Berlin: Gebrüder Mann Verlag, 2020), Plate 1-2.

Moreover, Taut acknowledged in his system the appearance of larger productive agglomeration. These industrial centers are functionally divided and situated in economically strategic locations in the natural territory. Meaning, Taut located a shipyard at the sea and the metallurgical plant in the countryside. These centers are connected through an extensive network of automotive highways and shipping routes. The housing districts densify around the industrial center and develop along the infrastructural stem into the countryside.[87] Taut mentions these industrial agglomerations with a reluctant undertone. He understands the importance of central industry for the functioning of the self-sustaining colonies, but he emphasizes that they solely undertake heavy processes and transfer the raw materials to the smaller communities. Furthermore, Taut plans housing for permanent workers around the industrial hubs but underlines their free access to nature and participation in the smaller manufacturing colonies on a part-time basis. He seemed to identify an ambiguity of such industrial agglomerations. Meaning, a modern society could not exist without industrial processing of raw materials. But on the contrary, these industrial plants tended to expand their production to an international market and exploit human labor and natural resources.

[87] Ibid. Plate 3.

Bruno Taut's proposal for an alternative social order is based on a critique towards the dissociation of the spiritual interrelation of city and inhabitants resulting from the capitalist urbanism driven by industrialism. The point of departure for Bruno Taut's proposal is the property issue. One can assume that he understood the land as public property and access to it as a primary human right. His urbanist vision could be interpreted as a form of the cultural criticism that has recently flourished. It is mainly based on the minimalist principle that superfluous work leads only to abundance[88]. Thus, Taut envisioned a decentralized economy that produces only the necessary goods for local demand. In Taut's vision, the people live closely linked to nature, celebrate the community, and enjoy work. It seems that Taut sought to re-enchant the rationalized world in an alternative social order in the countryside.
Although Bruno Taut's model might be interpreted as a contribution to cultural criticism, it does not refuse the modern idea of progress. Taut was aware of the possibilities of industrialization as he included it in his vision. For Martin Wagner, the modern idea of progress was a central part of his approach. Although Taut wanted to develop a decentralized society with a spiritual sense of urbanism and Wagner, on the other hand, wanted to develop a metropolis, their positions on the idea of progress were similar. The interest in rational production mechanisms was probably the basis for the close collaboration between Wagner and Taut.

[88] Ibid. Plate 6.

Optimizing Domestic Behavior

The debate held by politicians and planners about possible solutions to the housing urgency immediately spread to the realm of architecture. Although Martin Wagner sought to tackle the crisis from a legislative perspective, his plan incorporated a transformation of the architectural profession as well. Complementary to his goal of rationalizing urban planning, he advocated the rationalization of architectural design. His opinion in this debate reflected that of many others. The reasons for the rationalization were the same as in urban planning. Meaning that the rationalization was expected to be the only way of quickly generating sufficient housing supply. Design was supposed to cast off all unnecessary intricacy or factors of randomness handed down by tradition. Instead, every detail had to be reconsidered under the premises of economic efficiency. The goal was a minimalization of the number of lines on the paper, bricks and steps walked until the building permit. If this was achieved, so the common believe, the building industry could increase their productivity and effectively mitigate the impacts of the housing shortage.

One of the common consents in this debate was the recognition of standardization. Friedrich Paulsen, an architect born in 1874, argued that the standardization would be the natural cause of the division of labor.[89] According to Paulsen, minimized product variations would reduce the number of machines und, thus, the fixed capital. Therefore, the standardized products could be produced in larger quantities to a lower price. Paulsen emphasized that particularly the building industry would benefit from standardization as individual products could be studied thoroughly.[90] What Paulsen describes is the specialization of producers on specific construction elements. A producer that specializes on windows for example, could optimize the product to its highest efficiency in which a minimal number of resources, processes, machines and on-site labor is needed. Such process would allow the emergence of so-called basic types in all details of construction, ranging from standardized building materials to standardized building elements. For

[89] Friedrich Paulsen, "Normen und Typen," in *Grundlagen zur praktischen Siedlungstätigkeit*, ed. Erwin A. Gutkind (Berlin: Verlag der Bauwelt, 1919), 187.

[90] Ibid.

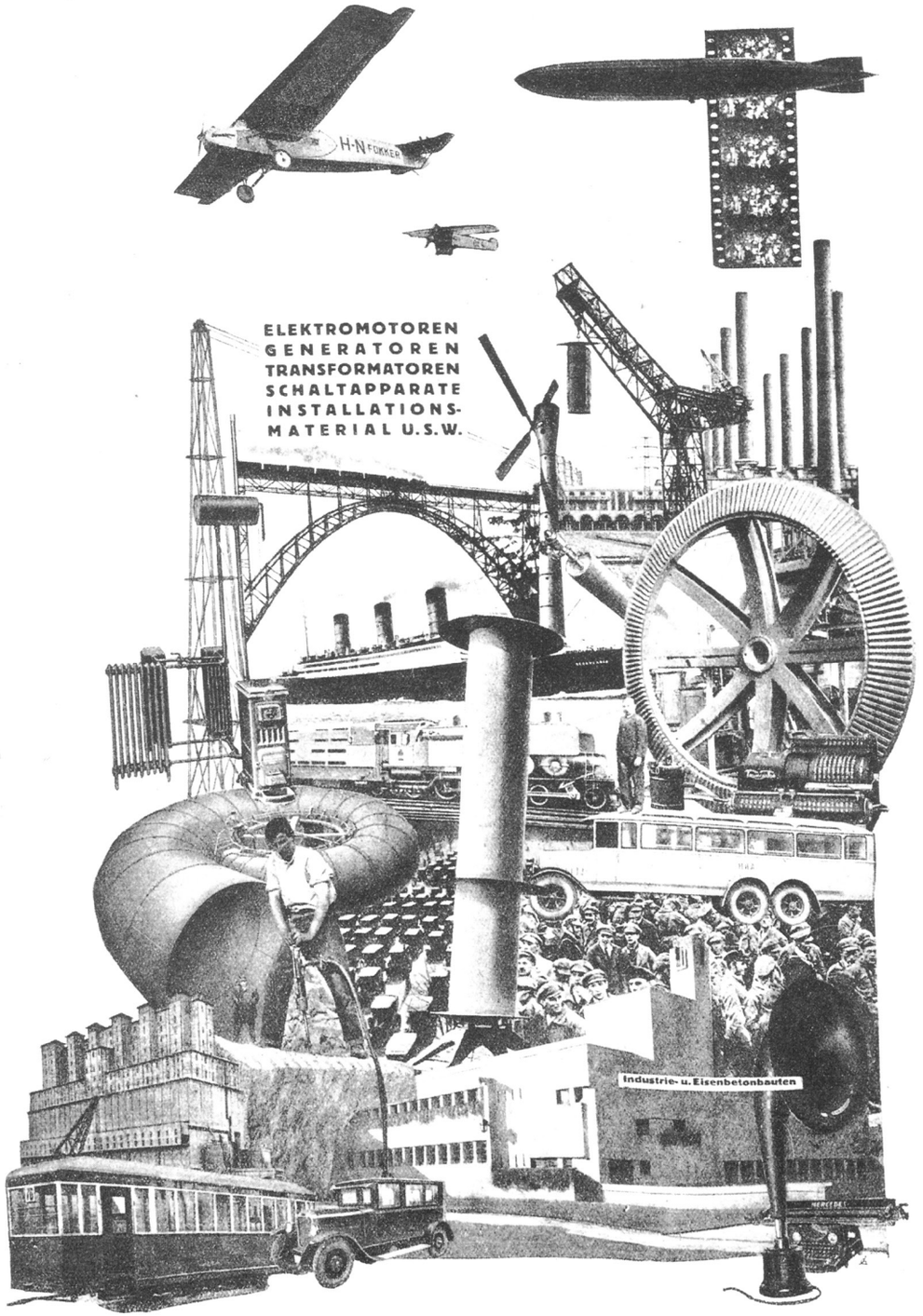

Figure 16.
Wagner, 1926.

architects the design process would be accelerated as well. Instead of planning all elements individually, they could utilize a catalogue of sorts in which the most economical products are listed. The architect's task was to efficiently combine such products into a design that guarantees sufficient ventilation and sunlight for all inhabitants.

Friedrich Paulsen also argued that the rationalization would foster individual manufactures. At this time, a common believe was that the rationalization of production would inevitably result in immense factories alike the taylorist ideal. To prove the contrary, Paulsen referred to the local wood industry. He stated that the local wood workshops were already specialized according to the division of labor for there were workshop focusing for example on doors or chairs.[91] This production took place in local manufactures. Therefore, a specialized production of construction elements could foster small scale manufacturers instead of displacing them. This would be of significance for a city like Berlin. As previously analyzed, Berlin has an historical background as a manufacturing city. In the transition towards a rationalization of construction industry, these manufacturers could take up a leading role. Facilities and workers could persist as their field of work specialized on the production of specific construction elements.

In the debate about rationalization, architects searched for the most practical building material. Arguments circled around topics such as extraction cost, local availability and on-site processing. Emil Friedrich, government building officer of Berlin, discussed a variety of building materials in his essays. He primarily advocates the utilization of brick. This conclusion is the result of the national-wide availability of clay and its long tradition in construction.[92] Friedrich also promotes the unification of brick formats. Besides advantages in economic terms, he emphasizes the constant technical performance.[93] A reliable and homogenous compressive strength simplifies statical calculations and accelerates the design process. However, he evaluates benefits of different formats rather than propagating one specific type. This evaluation process aims for the most efficient format as it considers handiness of the size, quantity of clay or mortar, and technical performance. It is remarkable how wide-ranging this debate about the most efficient building material was. Emil Friedrich is not the only contributor who genuinely considered clay or straw. Nevertheless, the consensus across most studies pointed towards an application of brick in the so-called standard format.

[91] Paulsen, "Normen und Typen," 190.

[92] Emil Friedrich, "Neue Bauarten," in *Grundlagen zur praktischen Siedlungstätigkeit*, ed. Erwin A. Gutkind (Berlin: Verlag der Bauwelt, 1919), 162.

[93] Ibid. 163.

Another field of discussion were building elements such as windows or doors. Friedrich Paulsen, who was already mentioned earlier, contributed such evaluations of these elements. Paulsen criticizes the traditional practice of interior fittings for its lack of efficiency. He points out the unnecessary number of variations in dimensions, and the subsequent adaptations resulting from inevitable discrepancies in the masonry work.[94] According to Paulsen, this would cause an immense waste of economic means.

[94] Paulsen, "Normen und Typen," 188.

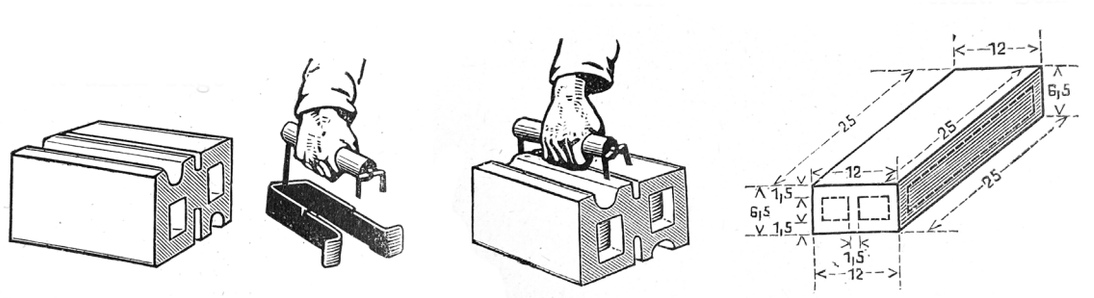

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Figure 17.
Study of on-site handling of different types of brick.
Friedrich, *Sparsame Baustoffe*, 1919.

Instead, he proposes the agreement on fewer standard types that derive from a pragmatic study. First, the minimal size of windows would be determined by decrees enacted by building inspection authorities that are supposed to guarantee sufficient lighting of every room. Thus, these decrees request windows with a size of at least one-twelfth of the floor area of the corresponding room.[95] The size of doors is to be reduced to the minimum of functionality. The ultimate measurement of both windows and doors results from the dimensions of the previously mentioned standard format brick.[96] Height and width, therefore, equals a multiple of 12 cm (+1 cm Mortar) or 6,5 (+1 cm Mortar), respectively. In the case of a regular parlor, a door would measure 72 centimeters.[97]

The rationalization of building materials and elements determines the properties of walls as well. Friedrich Paulsen states that it would be unreasonable to plan pillars that could not be evenly divided by the standardized brick format in the case of a row-house.[98] Such a pillar would cause much unnecessary work because bricks had to be cut or joints adjusted. The necessity of these considerations applies to brick walls as well as to any

[95] Paulsen, "Normen und Typen," 189.

[96] Ibid.

[97] Friedrich Paulsen, "Die Innenausstattung," in *Grundlagen zur praktischen Siedlungstätigkeit*, ed. Erwin A. Gutkind (Berlin: Verlag der Bauwelt, 1919), 228.

[98] Paulsen, "Normen und Typen," 189.

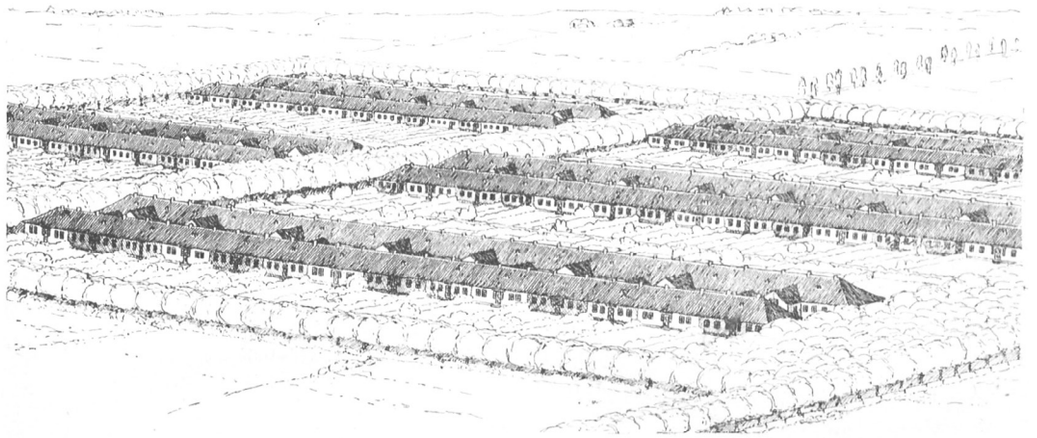

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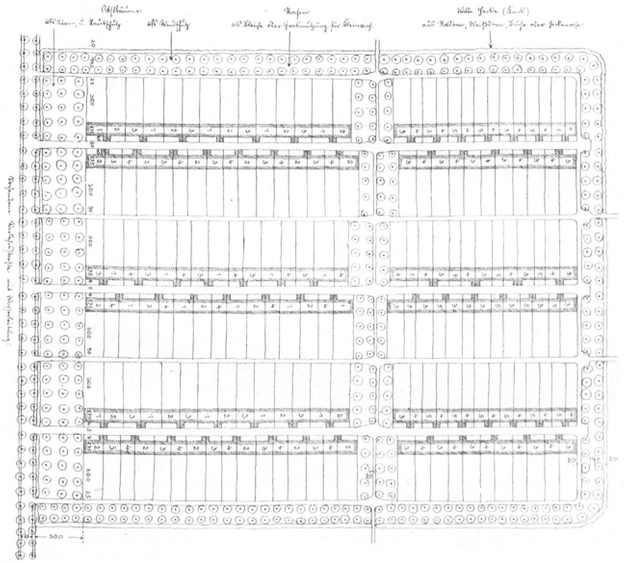
Figure 18.
Perspective and site map of settlement type.
Neidl, *Mensch, Typ, Norm*, 1919.

other materiality.
Brick, window and wall are just examples of a debate that fascinated architects and planners for years. This debate included every part of the building. Ideally, every actor involved in construction would agree on standard types for every building element. The architect would accumulate a catalogue of sorts in which all the standardized elements are listed. These would be prefabricated and consistent in size and technical performance. A window would fit because it's aligned with the brick format. The construction process would be controllable from the groundbreaking to topping out. Every phase, every day, every move of the worker would be planned efficiently. Designing meant combining products. The architects drawing became a manual for assembling the house.

The standardization would not leave architecture out of consideration. Emil Friedrich criticizes that the individual taste of both clients and architects would complicate the construction process.[99] Instead, the standardization of building elements allowed the development of types of entire apartments, houses and even settlements. In this context, an architectural type described a fixed spatial order based on standardized products that can be infinitely repeated. The architects' task was to propose types that improve quality of life through an efficient organization of standardized products.

[99] Friedrich, "Neue Bauarten," 171.

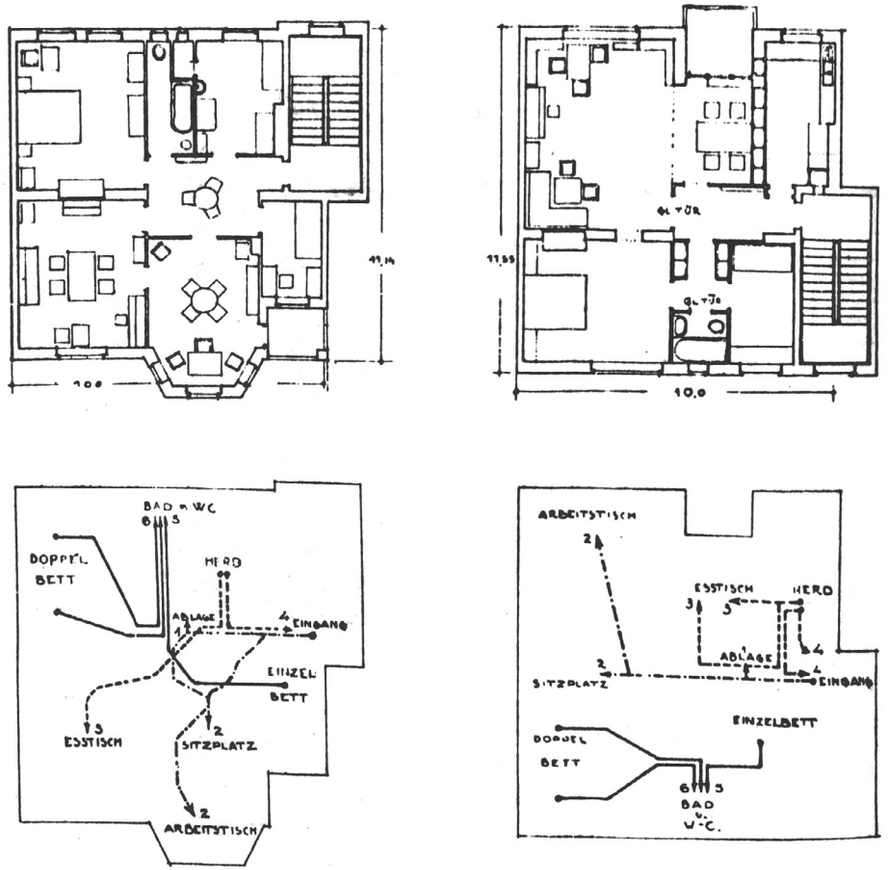


Many architects enthusiastically contributed to the debate about dwelling types. Ronald Victor Wiedenhoeft classified different phases and tendencies of this debate in his book "Workers Housing in Berlin in the 1920's" from 1971. Wiedenhoeft argues that the first phase of the new movement could be described as the exploration of the dwelling of the common man.[100] According to Wiedenhoeft, this exploration was led by architects and planners that were aiming to agree on the qualitative properties of such a dwelling type and examined the most efficient construction techniques to materialize it.[101] Wiedenhoeft mentions the periodical named "The Dwelling of the Common Man" (Die Volkswohnung) as the most influential platform for this debate. Editor Walter Curt Behrendt said the the main goal of his journal would be the stimulation of building industry.[102] In order to tackle the enormous housing deficit, architects and planners contributed their expertise on specific issues. Martin Wagner, Bruno Taut, Paul Mebes and other renown characters published essays in "The Dwelling of the Common Man". Articles addressed topics such as practicality of building materials, efficient garden planning or efficiency in the urban planning office.
Besides the dwelling of the common man, Wiedenhoeft mentions another term that occurred during the 1920's, the practical dwelling (Die Gebrauchswohnung). Rather than the circumstances of building activity, the debate about the practical dwelling focused on the layout of workers'

[100] Ronald V. Wiedenhoeft, "Workers' Housing in Berlin in the 1920s: A Contribution to the History of Modern Architecture," PhD diss., (Columbia University, 1973), 49.

[101] Ibid. 50

[102] Ibid.



19

Figure 19.
Klein, Comparison of conventional floorplan (left) and Klein's proposition (right) and their movement patterns.
Klein, *Grundrißvergleich*, 132.

dwellings. Wiedenhoeft argues that housing deficiency was still vast and, therefore, the limited public financial means had to be used to erect a maximum of dwellings.[103] Wiedenhoeft states that a common believe was that superfluous floor area would cause unnecessary costs. Thus, architecture would need to be deprived of esthetical claims. Instead, the dwelling unit should only be planned on the principles of economy and practicality.[104] In studying of the layout of the practical dwellings, architect Alexander Klein took over a key role. In his numerous essays that he published during the 1920's, he proposed multiple principles for designing the ideal dwelling type. In his first principle he advocated to organize the location of rooms according to their function.[105] He differentiated mainly in two groups, one group for living room, kitchen and loggia, and one for bedroom and bathroom. Klein was

[103] Wiedenhoeft, "Workers' Housing in Berlin in the 1920s," 90.

[104] Ibid.

[105] Ibid. 96.

aiming to entangle the domestic routes walked in a dwelling unit. He believed that it would be practical to have the bathroom close to the bed during the night or to have short routes in-between kitchen and table when cooking. Wiedenhoeft stated that another premise Klein was striving for was the ideal utilization of unbroken floor area.[106] Some objects such as tables or kitchens occupy much of their surrounding space. Since the total floor area was to be reduced, the free space in a dwelling should be maximized. For this reason, Wiedenhoeft states that Klein was criticizing the concept of the living kitchen. Klein's last relevant principle in this context addresses the issue of effectively furnishing the interior.[107] Wiedenhoeft found that Klein was aiming to bring clarity into the interior by suggesting positioning objects against the walls and to keep the centers empty.

[106] Ibid. 97.

[107] Ibid. 98.

The debate about the practical dwelling incorporated studies of the efficiency of domestic activities and their reflection in the architectural layout.
This discussion laid the foundation for Wiedenhoeft's final notion, the dwelling for "minimum existence" (Die Wohnung für das Existenzminimum). For Wiedenhoeft, the discussion around the existence minimum did not aim to reduce the quality of the inhabitant's live to the lowest. Instead, he understands it as an attempt to arrange a pleasant life for workers with lowest income. Therefore, existence minimum functions as a term that conveys the architects' and planners' new awareness for social engagement and, consequently, the provisioning of dwellings with affordable rents.[108]

[108] Ibid. 107.

The main purpose of the rationalization movement during the 1920's was to minimize the construction costs of workers' housing complexes in order to utilize the financial resources for the erection of as many dwelling units as possible. In early 1920's, architects and planners were aiming to stimulate the building industry by providing technical advice. They studied every element related to building activity. The goal was to develop standard types for these elements which could be prefabricated and reliable in size and performance. The architect just needed to arrange how all parts come together and the worker on the construction site assembled the building.
Later in the 1920's, the architecture itself came into focus of rationalization. The standardization of building elements allowed the standardization of entire dwelling units and even settlements. The task was to design the ideal layout of a single dwelling that could be repeated as often as necessary. In other

words, architects and planners were developing an architectural type. As seen in Alexander Klein's graphic analysis, this debate sought to explore the ideal location, size, division and furnishing of rooms. The intention was to guarantee a certain living standard in minimal dwellings.
Throughout the 1920's, the tendency of this movement was to explore further realms to be rationalized. What once started with the standardization of brick formats soon became the optimization of domestic activities. Meaning, the last bit that carried potential for efficiency was the life of the worker itself. Their domestic behavior was planned through to achieve a healthy life in minimal square meters.

The tendency of rationalization was already questioned by contemporary architects and planners. A brick can be studied thoroughly and the results generalized into a standard type. But it appears that there were discrepancies whether this also applies to the domestic life of workers.
An opposing opinion to consider came from the municipal building officer Johannes Grobler. He criticized the tendency to over-rationalize the dwelling size. Instead, he underlined that one should only reduce dwelling sizes as long as they remain practical and healthy living conditions can be guaranteed.[109] He argues that would be just as wasteful to use public funds for the construction of uninhabitable dwelling units. According to Grobler, a four-person household cannot live in a 1½ room unit, and a family cannot re-arrange the apartment when their children grow up. This criticism proposed to take variations in the family constitution into consideration when designing of practical dwelling types. He argues that this would only concern the type's layout and but not its size.[110] His graphical study of different layout alterations can be understood as a demonstration.
Another planner that came to the same realization was Martin Wagner. In the late phase of the 'golden' twenties Wagner's developed proposals for houses that allow variations of the inhabitants' lives. In 1932 he organized an exhibition about the growing house (Das wachsende Haus). The growing house was meant to provide a new living format[111] for the quickly evolving life of the modern people. While this approach still carries the symptoms of rationalization, the growing house was an admission that the domestic life can only be standardized to a limited extent.
Both Grobler's and Wagner's approaches resisted the general tendency

[109] Johannes Grobler, "Die Rationierung der Wohnungsgröße," *Das Neue Berlin* vol. 1, no. 3 (1929): 63.

[110] Ibid.

[111] Martin Wagner, "Das wachsende Haus," in *Das wachsende Haus*, eds. Christian Hiller et al. (Leipzig: Spector Books, 2015), 1.

of the rationalist' movement. Many contemporary voices doubted the standardization of human behavior. They questioned who the standardized worker was. In the debate of the early 1920's diversity, whether this was about family conception, gender, physical ability or cultural preference, was barely mentioned. All inhabitants were generalized into a few standard workers. Moreover, the persistence of the dwelling type attracted criticism. Planners argued that the standard dwelling unit would not leave space for the inevitable changes in domestic demands. In other words, they questioned whether life as an uncertain state could be sustainably summarized in a few standard dwelling types. In this context, Ludovica Scarpa reminds of Camillo Sitte's writings:

> The rigid form and the dynamics of life are in opposition to each other; the form demands fixed boundaries, the boundaries of the drawing on paper, the boundary-forming elements of the building, while life as an adaptive movement, must constantly shatter these boundaries. The dynamization of everyday life is the general experience of metropolitan life in the 1920s. One only has to imagine how this process of acceleration monopolized the life of the individual at that time.[112]

[112] Georg Simmel, *Die Großstadt und das Geistesleben* (Berlin: Philosophische Kultur, 1984), quoted in Ludovica Scarpa, "Die Rationalisierung des Glücks," in *Martin Wagner 1885-1957: Wohnungsbau und Weltstadtplanung: Die Rationalisierung des Glücks*, eds. Barbara Volkmann et al. (Berlin: Akademie der Künste, 1985), 8, Exhibition catalogue. Author's translation.

Figure 20.
Höch, Schnitt mit dem Küchenmesser.

Gathering in Nature

From the beginning of the 19th century until the end of World War I, the working class housed in narrow apartments with unhealthy living conditions. Poor ventilation, darkness and the absence of any sign of nature caused many illnesses among the inhabitants. Moreover, World War I strained the national economy and, especially, the workers experienced phases of severe food shortages resulting in malnourishment, nutritional deficiencies and diseases. The architects and planners of the 1920s focused on the improvement of these circumstances. As seen above, a common approach was the general decentralization. To escape the metropolis and find shelter in the countryside. One outstanding person of this movement was Leberecht Migge. Migge was born in Danzig on March 20, 1881. He grew up in a well-situated middle-class family living in a pleasant row house in the city center.[113] After the early decease of the father, the children were forced to earn money. Leberecht Migge chose to work at a nursery for seed production during his childhood years. By the age of 18, he decided to join the technically oriented Gardeners School of Oranienburg near Berlin. Here, the head of school was the gardener Theodor Lange whose essays would influence Migge throughout his entire career.[114] Later, Leberecht Migge will cooperate with influential characters such as Martin Wagner and Bruno Taut for the development of workers' housing in Berlin.

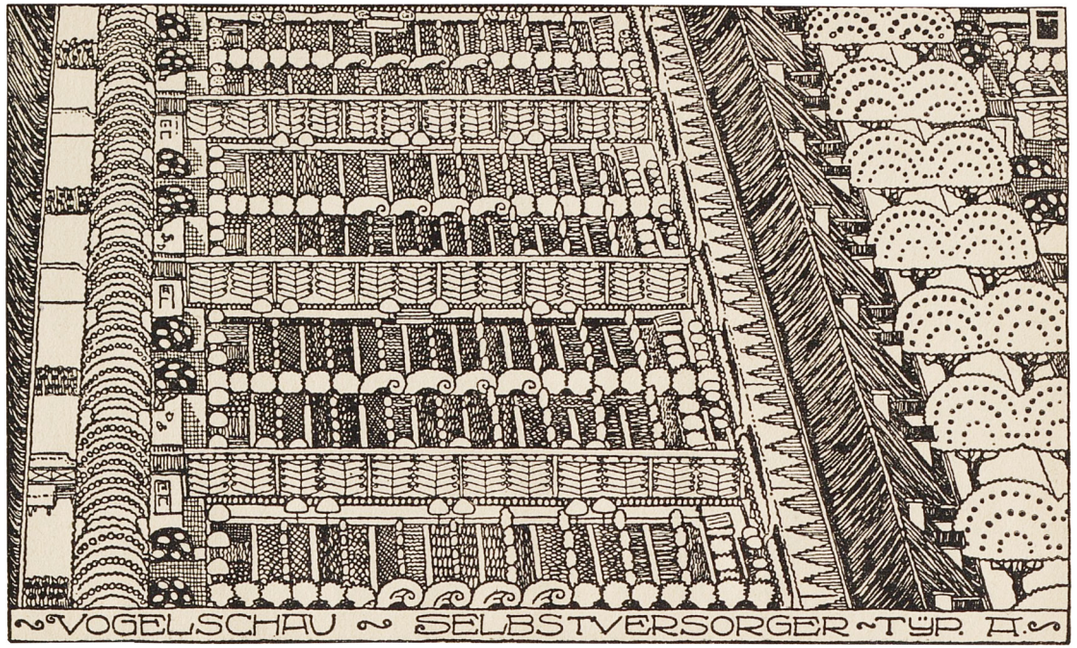
In his work "Green Manifesto" (Das grüne Manifest), Migge describes his vision in great detail. Migge's primary conviction was that the countryside is the solution to the crisis of the metropolis.[115] His manifesto aims to raise awareness of the city's population about the grievances of urbanization. After criticizing working and living conditions, Migge concludes that the city would be dead[116]. For him, the idea of urbanization failed and he, instead, envisioned a general decentralization. He, therefore, came to the same conclusion as Taut and many other architects. It was therefore quite logical that Migge would agree with the idea of the Siedlung. Whether the practice of landscape architecture that is based on natural cycles could be rationalized to a similar degree as

[113] David H. Haney, *When modern was green: Life and work of landscape architect Leberecht Migge* (Abingdon: Routledge, 2010), 11.

[114] Ibid. 13.

[115] Leberecht Migge, *Der soziale Garten:Das grüne Manifest* (1926; reis., Berlin: Gebrüder Mann Verlag, 1999), 7-15.

[116] Ibid. 7.



21

Figure 21.
Migge, *Vogelschau: Selbstversorger Typ A*, 1.

architecture, Migge was unconcerned about. He says in this regard that the peculiarity of each plant per se does not follow any rational logic, but that their arrangement in a garden has always been based on control mechanisms. Therefore, it is not wild nature that enters the Siedlung, but the garden.[117]

For Migge, the garden was a fundamentally social concept. In contrast to today's perception, Migge believed that the garden was primarily intended for the cultivation of vegetables.[118] Partially, this was for health reasons, but above all for economic reasons. The gardener was to save money through his gardening labor or, ideally, would become completely self-sufficient. Self-sufficiency was Migge's approach to addressing the grievances of the working class. The idea of self-sufficiency would allow the worker to escape from his capitalist dependencies in industry. In this fundamentally social understanding, the Siedlungsarchitektur and the garden once again overlapped. A resulting question in bringing together the settlement and the garden was to what extent the typification could be applied to the garden. Since the Siedlung is based on the reduction to a few basic types, the garden should be developed similarly. In forming these types, Migge returned to the control mechanisms of gardening already mentioned, such as preservation of soil fertility or waste

[117] Ibid. 65.

[118] Leberecht Migge, *Jedermann Selbstversorger! Eine Lösung der Siedlungsfrage durch neuen Gartenbau* (Jena: Eugen Diederichs, 1919), 5-6.

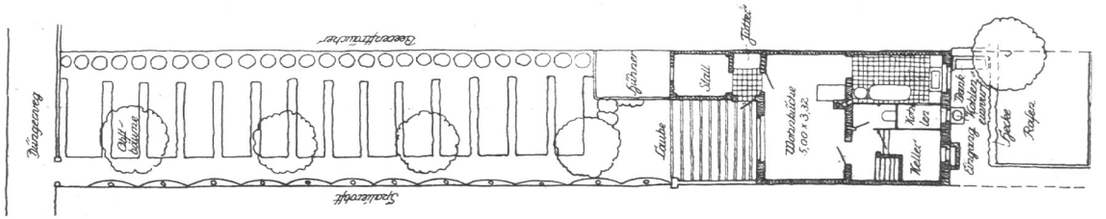


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Figure 22.
Ground floor plan of a row house
Salvisberg, *Erdgeschoss Einfamilienreihenhaus*, 1919.

management. However, he takes these rules even further. Migge carries out detailed calculations to guarantee self-sufficiency. In doing so, he calculated the ideal size of the garden, the types of vegetables, and ultimately the amount of possible savings.[119] In other words, Migge rationalized private cultivation and self-sufficiency practices. It is important to note that an essential component of this rationalization was collaboration and collective division of labor.

These calculations also resulted in certain spatial patterns. These were adjusted together with the architectural types. In the numerous graphic studies, one recognizes a direct connection of the ground plan structure and the composition of the gardens. Gardening was understood as an integral part of life in the Siedlung. However, here the garden was not reduced to its mere productive capabilities and economic potential. In this regard, Migge writes:

> [...] First to secure the elementary existence itself, in order to build on this the civilizational and cultural forms of existence.[120]

Accordingly, self-sufficiency was the necessary starting point to establish thereupon a collective and cultural nature. Such plans were proposed under the city garden director of Berlin Erwin Barth. For him, the communal potentials of nature are decisive.[121] Nature would bring balance to the dynamic life in the metropolis. Barth, therefore, advocates the establishment of the so-called people's meadows (Volkswiese)[122]. These are enormously spacious meadows surrounded by trees and forests. There are also some collective amenities, such as theaters or sports facilities.[123]

On the people's meadows all classes of the population gathered together to recreate collectively. For this reason, they also became an important part of contemporary urban planning.

The role of nature in the 1920s was determined by the human being and therefore of a utilitarian kind. The gardens formed the foundation which, through their productive use, was supposed to liberate the working class collectively from the dependency relationships of industrial labor and established them as self-sustaining. The recreational use of nature is based upon this foundation. Numerous parks and people's meadows serve recreational purposes and are intended to strengthen the inter-class sense of community.

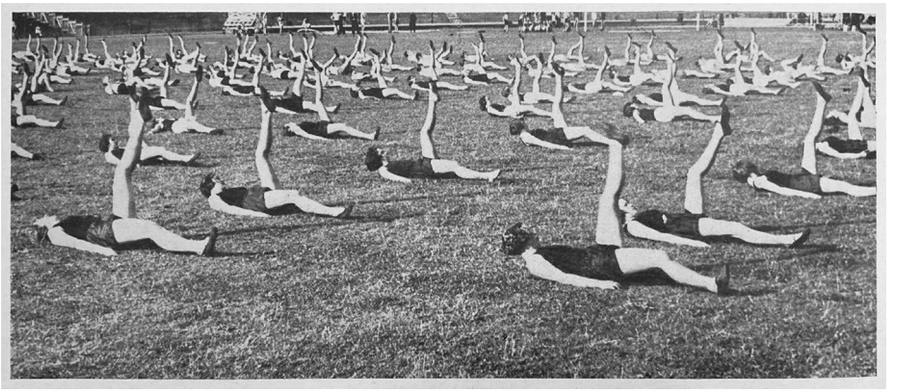

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Figure 23.
People exercising in a park
Horlemann, 120

[119] Migge, *Jedermann Selbstversorger*, 21.

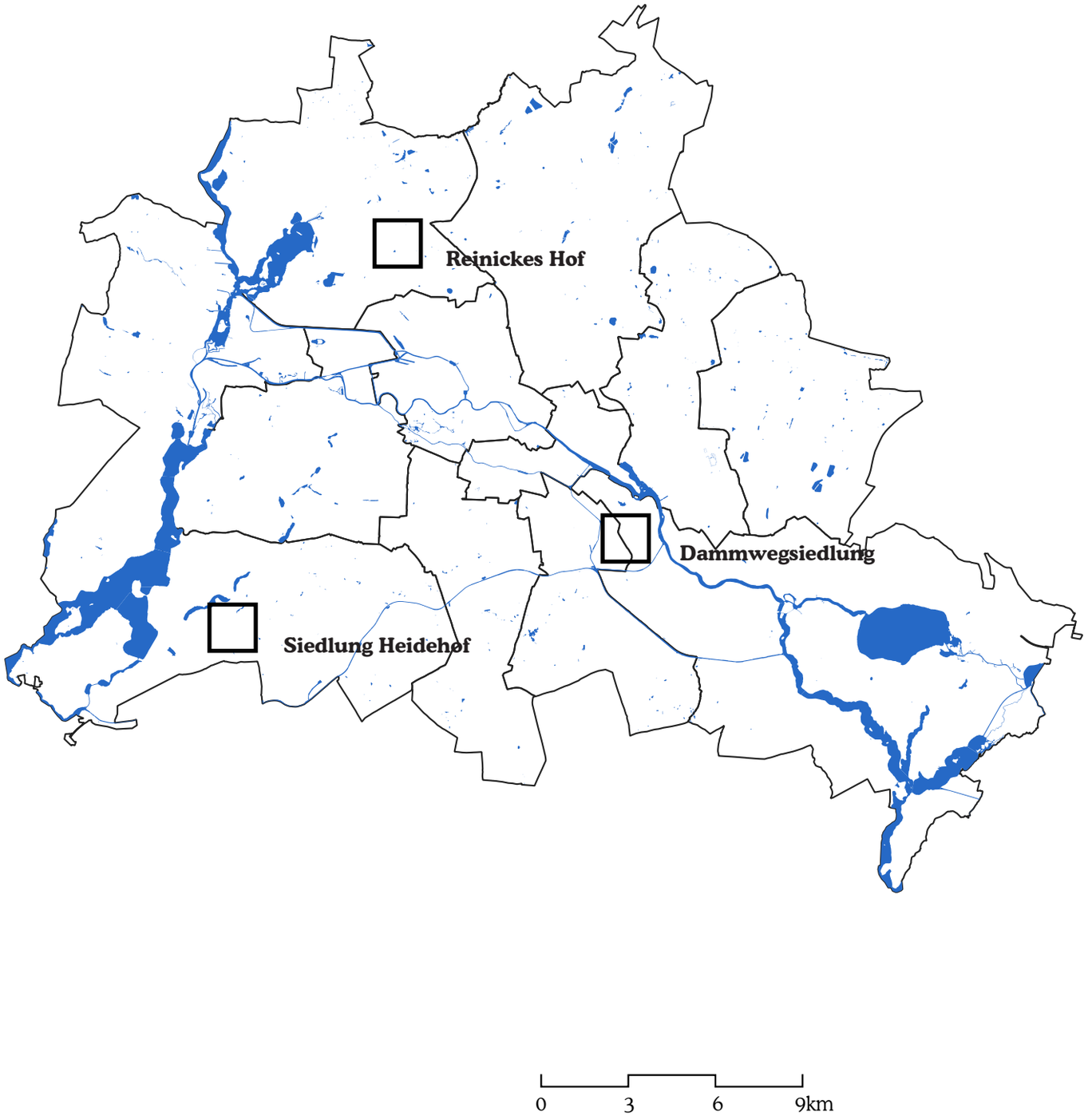
[120] Migge, *Der soziale Garten*, 99.

[121] Erwin Barth, "Berlins Park- und Gartenanlagen: I. Volkspark Rehberge," *Das Neue Berlin* vol. 1, no. 6 (1929): 117.

[122] Ibid.

[123] Ibid. 117-118.

Case Study



Approach

The selection of the 3 case studies seeks to reflect this diversity as representatively as possible. The three projects are the Reinickes Hof, the Heidehof and the Dammwegsiedlung. The Reinickes Hof represents the typology of the courtyard dwellings, which are essentially characterized by a shared courtyard and a somewhat enclosed perimeter building consisting of multi-story apartment buildings. The Heidesiedlung stands representative for the Siedlung typology. Here, a mixture of row houses and multi-story apartment buildings form a semi-permeable composition including gardens. The Dammwegsiedlung is representative of the settlements that came closest to the Gardenstadt model. Here, row houses and semi-detached houses were designed in an open arrangement with gardens situated in between. The three settlements also cover three typical working-class neighborhoods of the 1920s, namely Zehlendorf, Neukölln and Reinickendorf. An essential consideration for the selection of the case studies was the preservation status of the buildings. Today, many of the original workers‘ housing Ware protected as historical monuments. Therefore, all three examples are listed monuments in the responsible monument protection offices.

left: Location of the three case studies; author‘s illustration.

1 Reinickes Hof, 1927

The construction of Reinickes Hof began in 1927 and was completed in 1931. Therefore, the building belongs to the later projects of the 1920s. In general, many examples of the courtyard typology were built in the later years. Furthermore, the architects Bleier and Clement realized a number of other workers‘ housing of this typology in Berlin. Historically, this project is therefore not an exception, but represents a typical phase of 1920s architecture.

Two perimeter block developments are located on the 41,500 sqm site, each surrounding one courtyard. A street runs in between the two blocks and develops into a central public square with representative vegetation. Only three larger gates provide access to the inner part of the block. The courtyards are intersected by an orthogonal network of paths. Between the paths extend public open spaces, which are arranged with decorative nature. However, the total of 467 apartments can be accessed from the street side, the outside of the block. Central cores of staircases connect the four levels.

Some parts of the original building were destroyed as a consequence of the World War II. However, the destruction remained relatively contained. All damaged parts of the building were reconstructed true to the original. Moreover, the facades were energetically renovated and the former brown plaster is now shining in yolk color.

The ownership of Reinickes Hof is particularly intriguing. This is because the building is still managed by the same cooperative that initiated its construction in 1929. Today, every new tenant must pay a certain fee to ‘buy in‘ to the cooperative. Hence, the rent is rather low, according to the tenants. The cooperative board takes care of all building-related concerns.

Apart from the energetic renovation and the conversion of the top floor of the central building into the cooperative office, transformations are quite rare. This is because the entire complex is protected as a so-called arrangement (Ensemble). The arrangement includes streets, green spaces and squares as well as the buildings‘ interiors and exteriors.

left: Site plan of the Reinickeshof; Author‘s illustration.

Photo 1.
In-between the blocks,
author's photograph.

Photo 2.
Stairs in the courtyard,
author's photograph.

Photo 3.
Pavillion in the courtyard,
author's photograph.

Photo 4.
Entering the courtyard,
author's photograph.

Photo 5.
Window inside the staircase,
author‘s photograph.

Photo 6.
Entrance,
author‘s photograph.

Photo 7.
Hedges and road,
author‘s photograph.

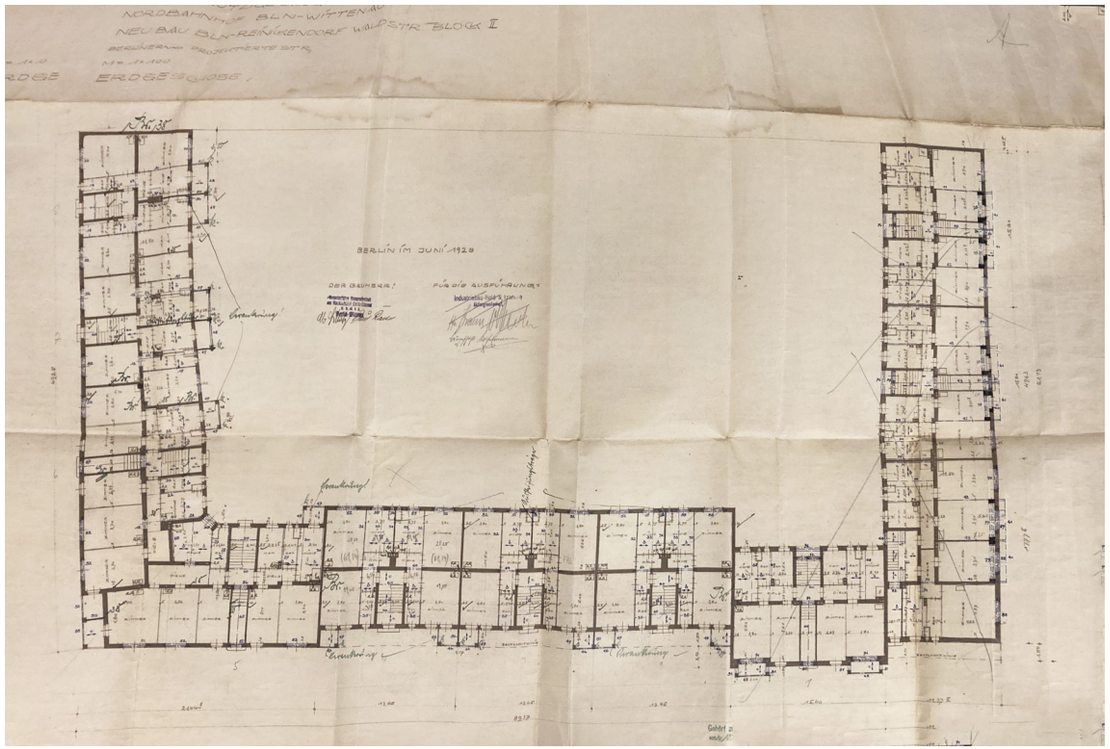
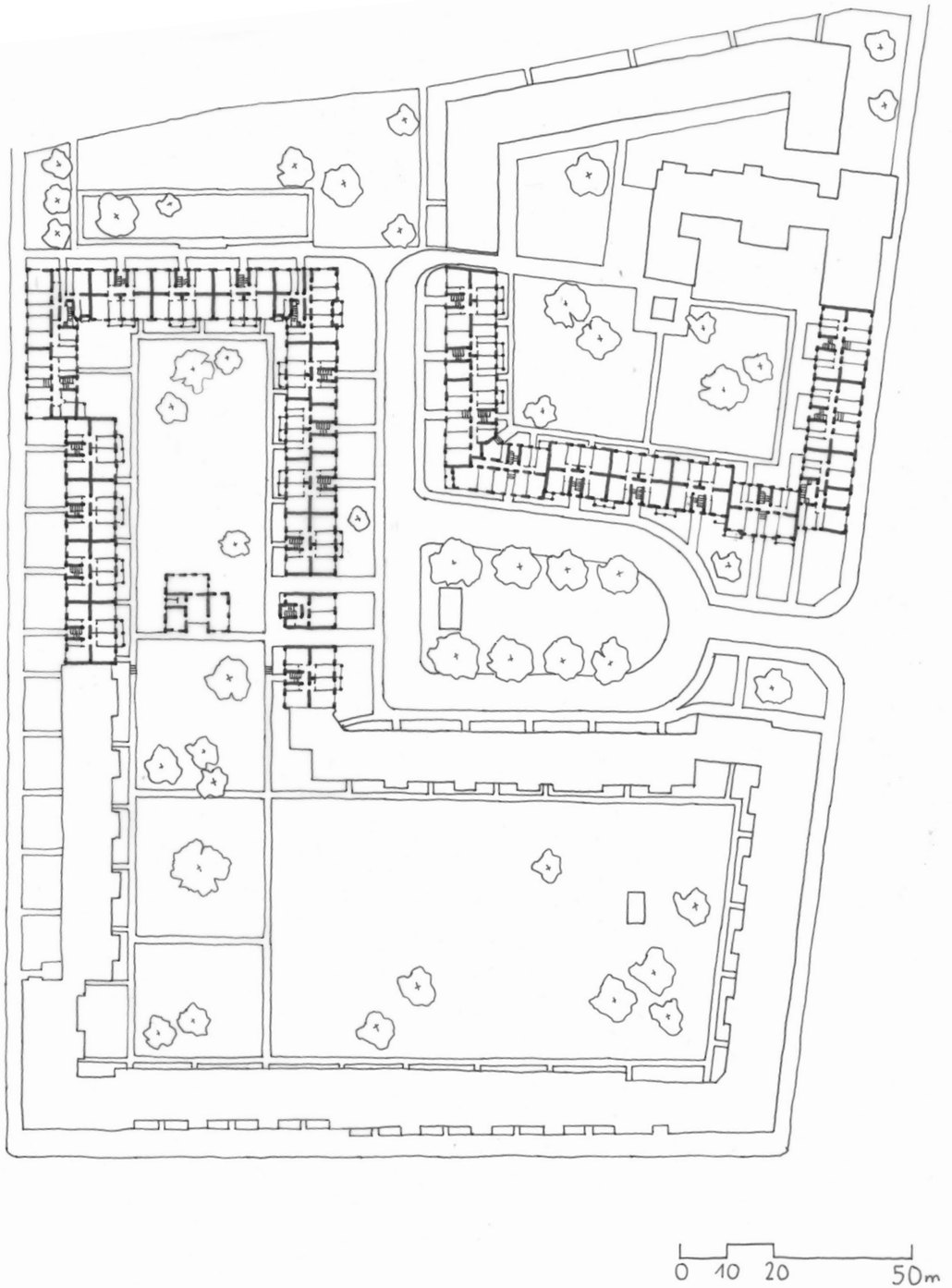


Figure 24.
Floorplan, Bauaktenarchiv Reinickendorf, Berlin.

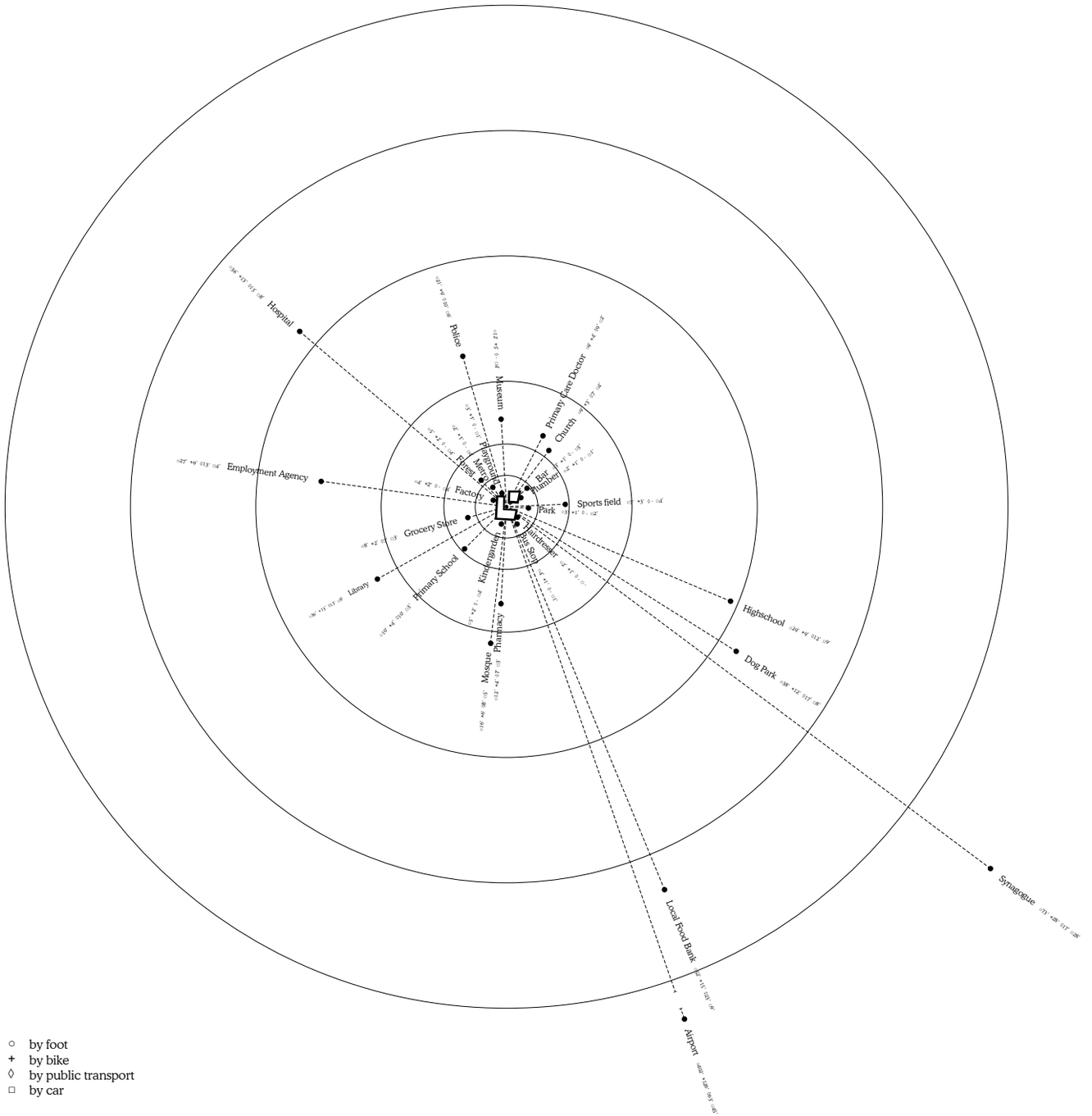
Figure 25.
Section, Bauaktenarchiv Reinickendorf, Berlin.



Site Map

With 467 dwelling units on a site area of approximately 41,500 sqm, the Reinickeshof has by far the highest density in terms of occupants. The dwelling units are stereotypically repeated along the long edges of the perimeter development. Such resident density does not allow for collective areas within the floor plan. However, it is striking that the density of the Reinickeshof does not at all translate into the footprint of the building. Instead, the courtyard takes on a dominant role. The courtyard's structure is dominated by wide-open and accessible green areas. It is therefore not implausible to assume that the collective functions were intended for the exterior space. Yet, the relationship of interior to exterior space is unexpected. The connection to the courtyard is largely based on visual nature. Residents can observe the outdoor space through the small windows or balconies. Direct access to the outdoor space is rare, even in the ground floor apartments. Instead, all the inhabitants have to pass through the staircase or perhaps even cross the street to reach the courtyard. It seems that this is a mechanism to give no privilege to the special location of ground floor or attic apartments. All residents have equal rights to access the courtyard, the common land.

left: *Ground level plan of the Reinickeshof; Author's illustration*.

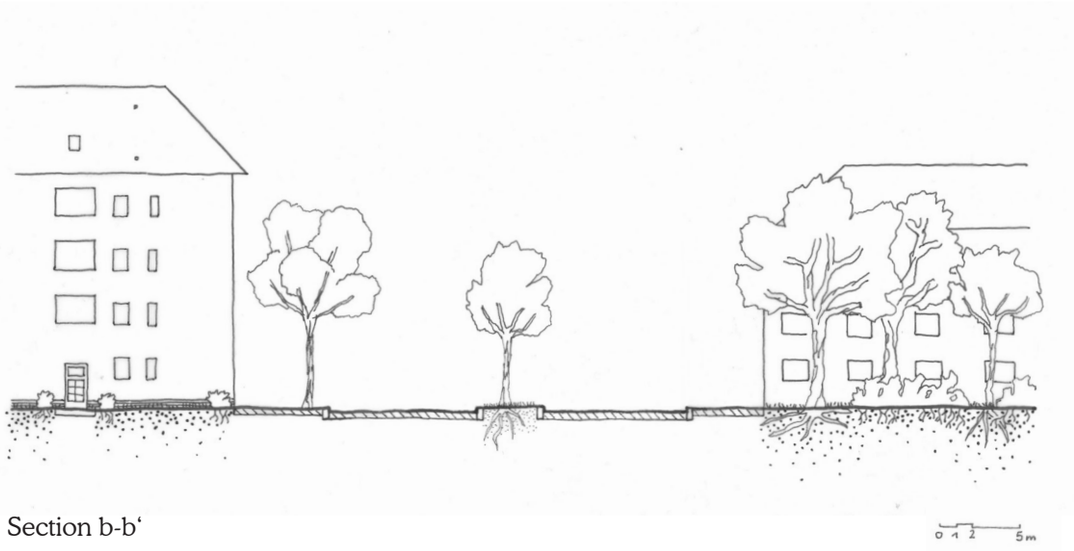


Amenities

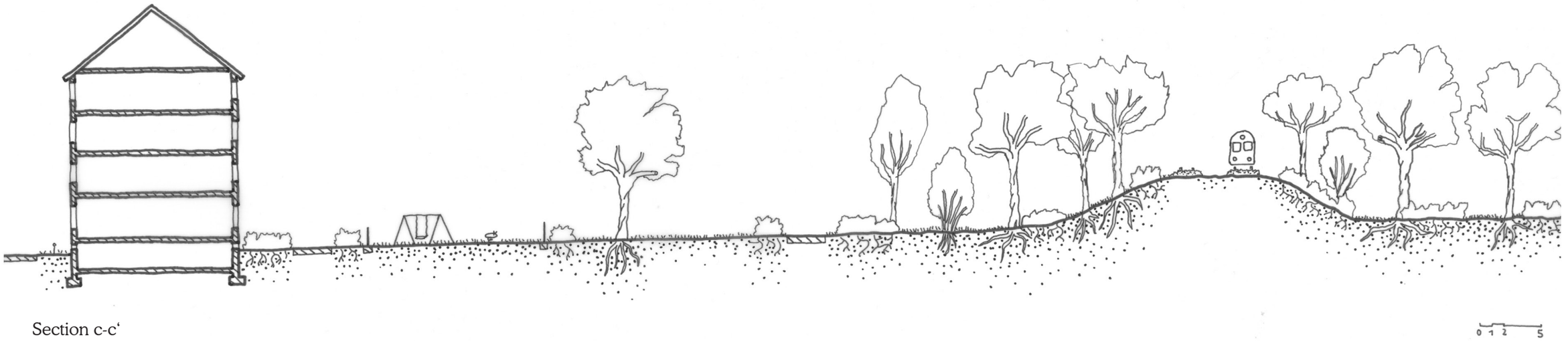
The Reinickeshof is located in the periphery of Berlin. Although the suburban location often necessitates buying a car, many amenities are within walking or biking distance. In particular, fundamental services such as grocery stores, doctors, or schools are no more than a 10-minute walk away. However, many overlooked amenities, such as a mosque or dog park, are also within a 10-minute bike ride. For any further distance, residents can use the metro station, which is adjacent to the settlement. Surprisingly far away are only the high school, the synagogue and the hospital. The reason for such regional infrastructure could be, on the one hand, the increasingly urbanized context. The historically suburban situation has now been integrated into the city. On the other hand, this could also be a remnant of history, since workers in the 1920s mainly traveled on foot or by metro.

left: Cartography of amenities around the Dammwegsiedlung; Author's illustration.

Section a-a‘



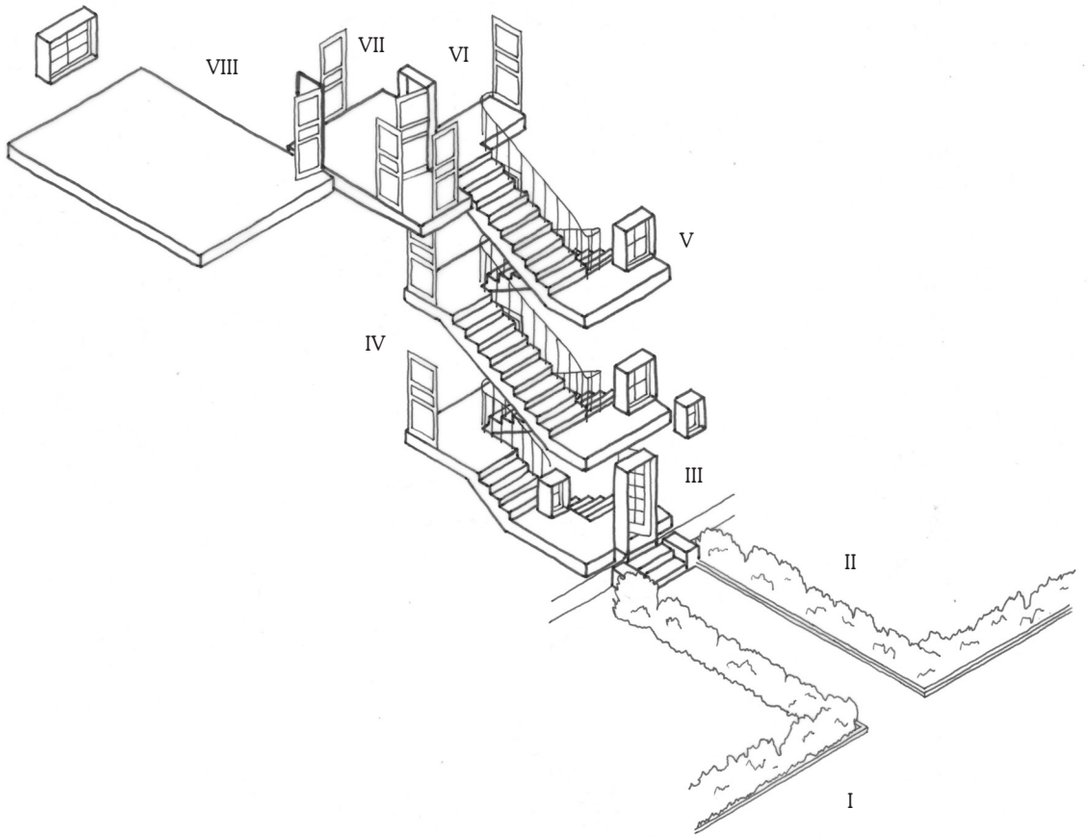
Section b-b‘



Section c-c‘

Mapping ecological continuities

above: Sections through the surrounding territory. Author‘s illustrations.

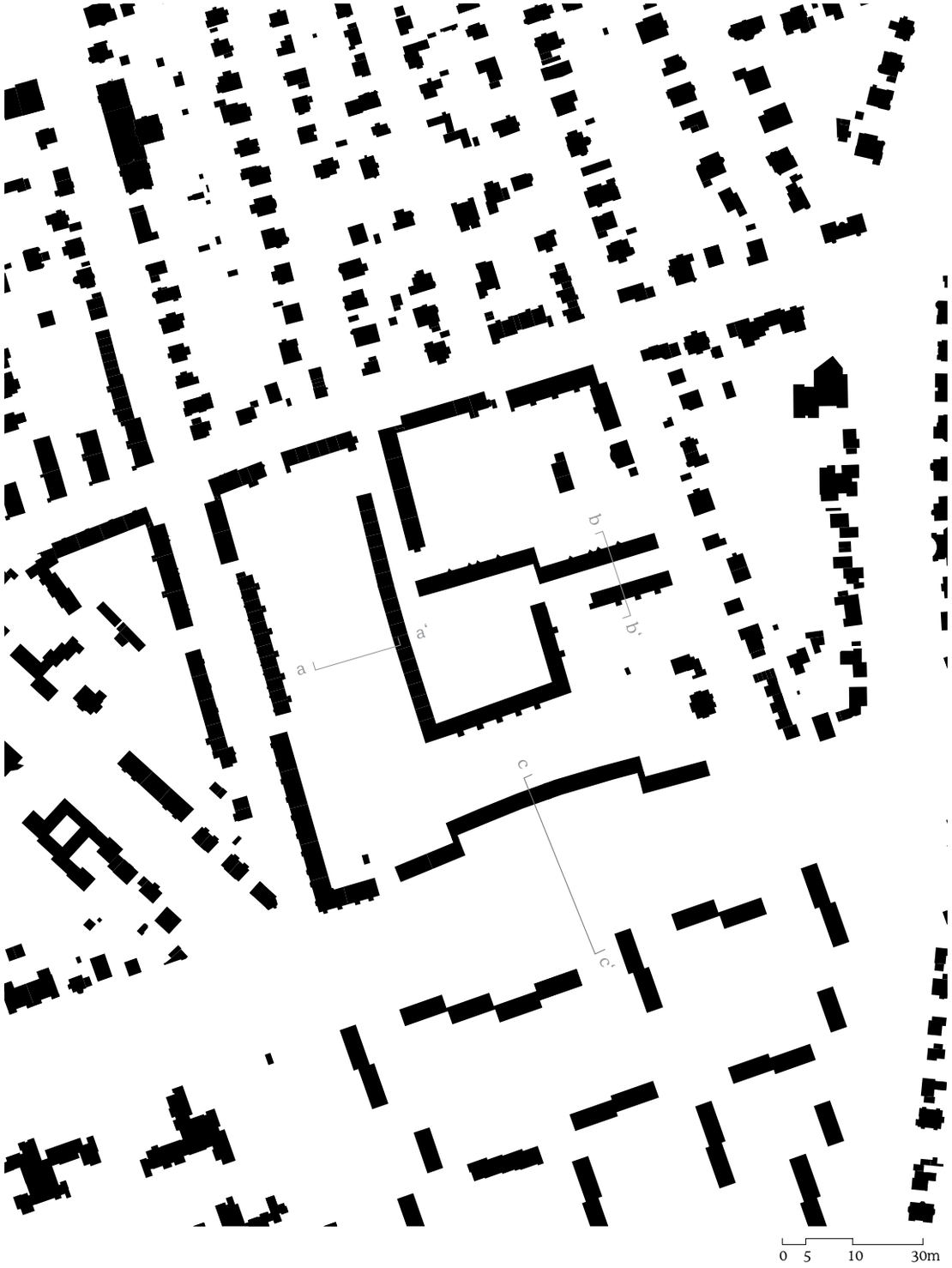


Thresholds of access

Entering the building means transitioning from one self-contained room to the next. Each room is distinctly separated from the others and serves specific functions, such as the connector room or the staircase. Narrow doors separate these rooms from each other. The resulting door-room-door rhythm extends from the street to the bedroom. Yet, none of the transitional spaces invites one to linger.

I. Public street
II. Buffer zone with hedges
III. Entrance with doorstep
IV. Inner half of the staircase
V. Outward facing half of the staircase
VI. Shared connector room with two neighboring apartments
VII. Internal connector room with 4 more doors
VIII. Room with a view

Mapping of the access route in the Reinickeshof; Author's illustration.



2. Siedlung am Heidehof, 1923

In 1923, the construction of the settlement at the Heidehof began and was completed already in 1925. The settlement is therefore an early work of the 1920s. The Siedlung typology generally seems to be an idea of the early 1920s. At that time, the architecture of Paul Mebes and Paul Emmerich were already among the established architects of the movement and participated extensively in the contemporary discourse. The Siedlung am Heidehof is one of their most elaborate works. However, since the Siedlung typology was generally recognized as quite affirmative, the Siedlung am Heidehof can be investigated as a representative example. However, it should be mentioned that the original inhabitants certainly belonged to the upper working class and middle class.

The Heidehof settlement consists of a total of twelve individual structures, encompassing both multi-story apartment buildings and row houses. The twelve volumes are arranged as a semi-permeable composition on the 60000 sqm site. A road leads through the arrangement and forms a central square with representative vegetation. Apart from entering through the road, narrow gaps and small gates grant access. The inside of the settlement is primarily occupied by gardens, which are connected by an organic network of paths that form minor squares. The staircases and entrances of the two-story buildings are accessed from the street side. From here, one can enter one of the 147 apartments.

The settlement at Heidehof was severely damaged during the World War II. Many parts of the buildings became uninhabitable. However, all damages were reconstructed true to the original, so that today the settlement reappears in almost its original condition.

One of the reasons for the few transformations of the building is the preservation status. The Siedlung am Heidehof holds a special position in the preservation department, so that a special concept was developed, which meticulously regulates every intervention.

Today the property of the settlement is in private ownership. Apart from some exceptions, the terraced houses are privately owned and the majority of the apartments are for rent.

left: Site plan of the Siedlung am Heidehof; Author's illustration.

Photo 8.
Path between Facade and Garden,
Author‘s photograph.

Photo 9.
Following the Path into the Gardens
Author‘s photograph.

Photo 10.
Gardens
Author's photograph.

Photo 11.
Gate
Author's
photograph.

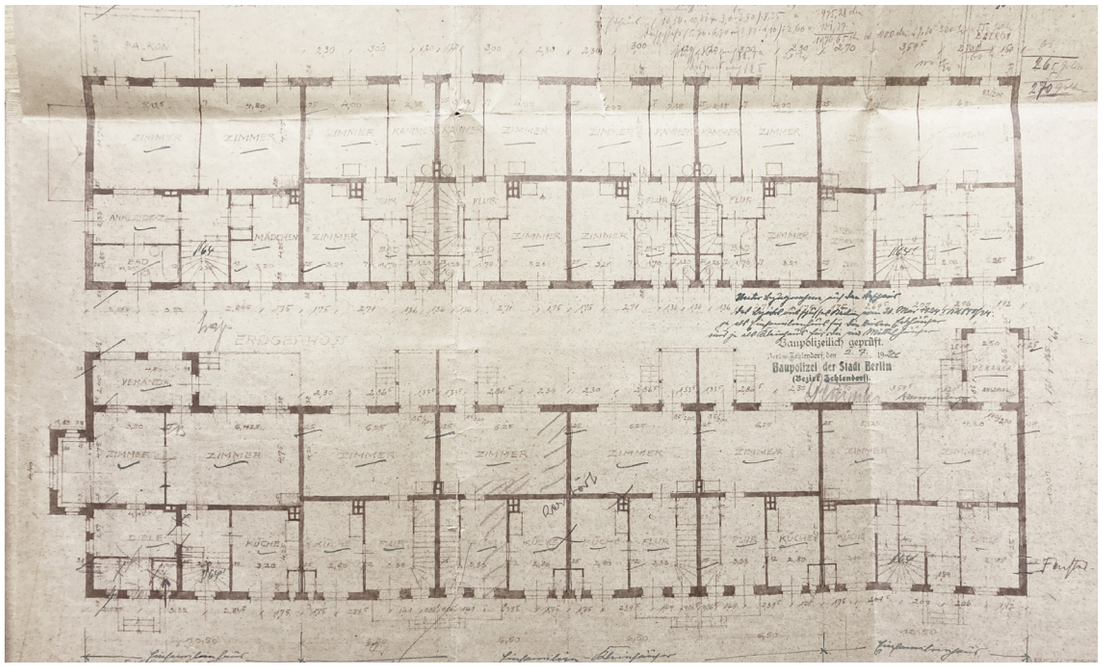


Figure 26.
Floorplan, Bauaktenarchiv Steglitz-Zehlendorf, Berlin.

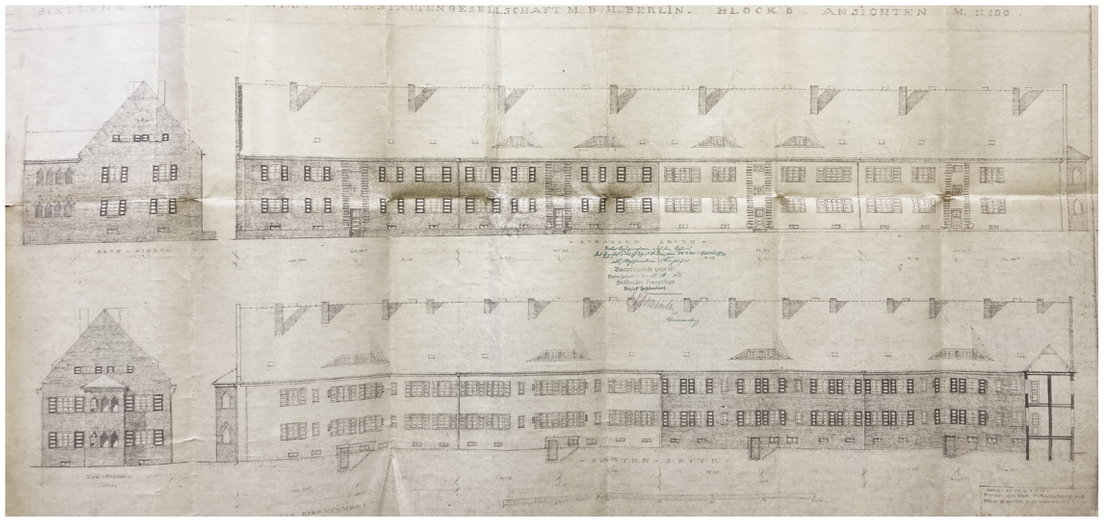
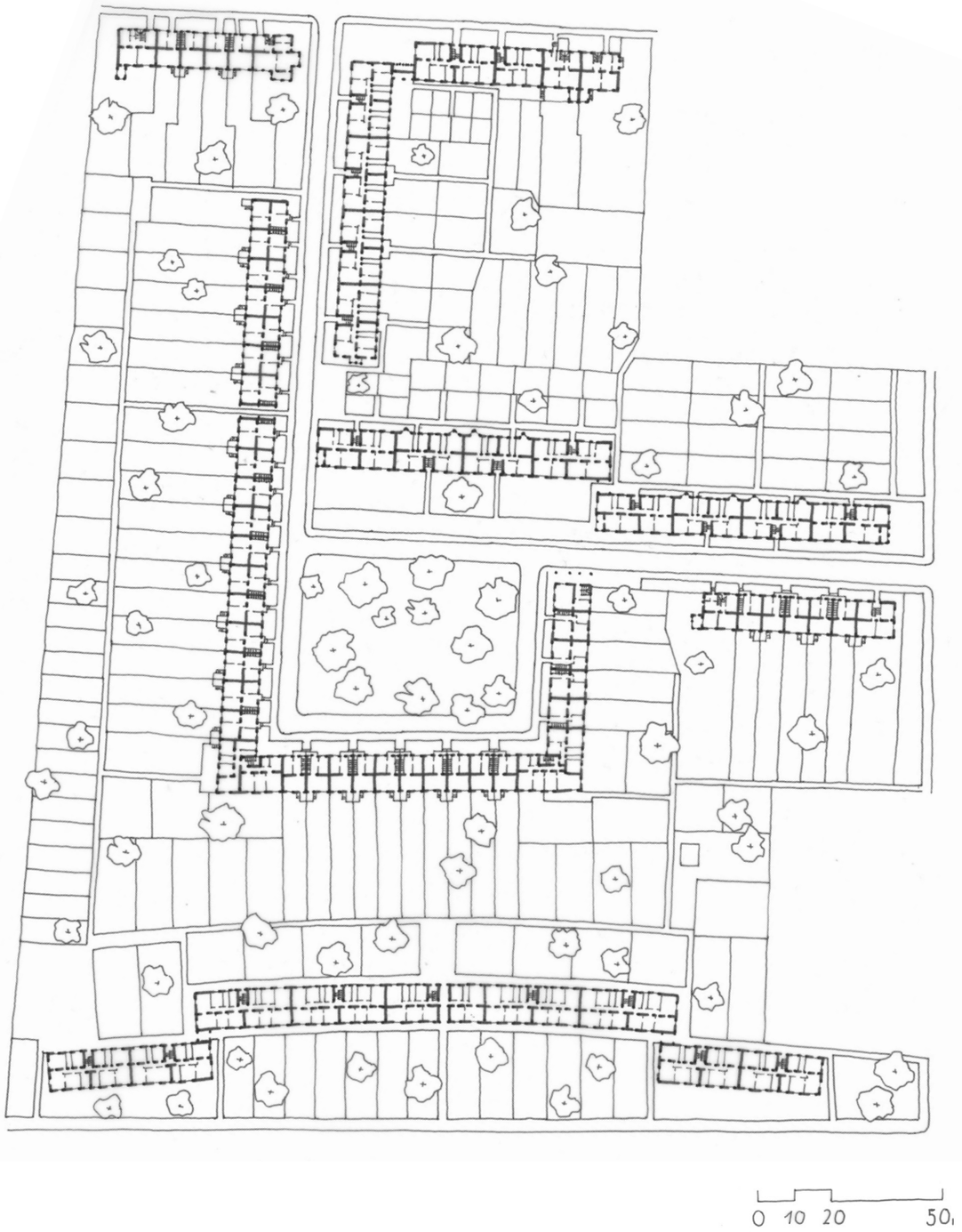


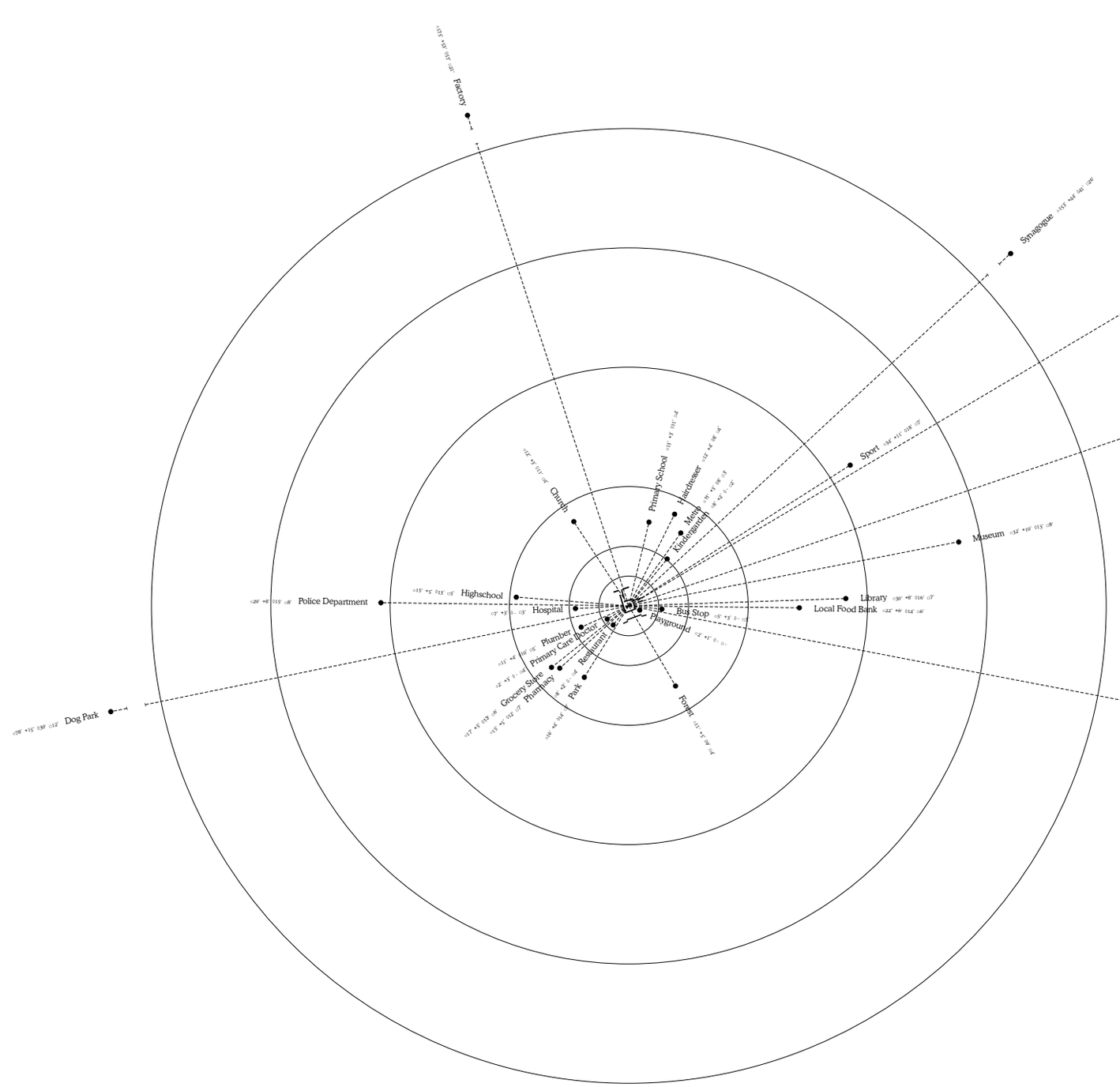
Figure 27.
Elevations, Bauaktenarchiv Steglitz-Zehlendorf, Berlin.



Site Map

The Siedlung am Heidehof has the lowest density of residents among the studied examples, with 147 dwelling units on approximately 60‘000 sqm. The primary reason for this is the high proportion of row houses and their low height. Consequently, the footprint of Heidehof is relatively large, however, the complex geometry of the building configuration creates plenty points of overlap with the outdoor spaces. These are mainly used as gardens of the residents. However, an inhabitant of the apartment building has a different relationship to these gardens than an inhabitant of a row house. The row house and its associated garden must be understood as a cohesive entity. The garden becomes an extension of the interior space and shares the same structural logic. The garden of the apartment building is independent of the architecture. The inhabitant has to walk along the built collective paths to his own allotment garden. The size of all garden units is meticulously balanced. The proportions of the divisions create almost exactly the same floor areas. It seems like a remnant of Leberecht Migge‘s calculations of the cultivation area required per capita. Contrary to the ideal envisioned at the time, countless fences and screens have been erected here, communicating ownership unequivocally and completely neglecting the intended social aspirations.

left: Ground level plan of the Siedlung Heidehof; Author‘s illustration.

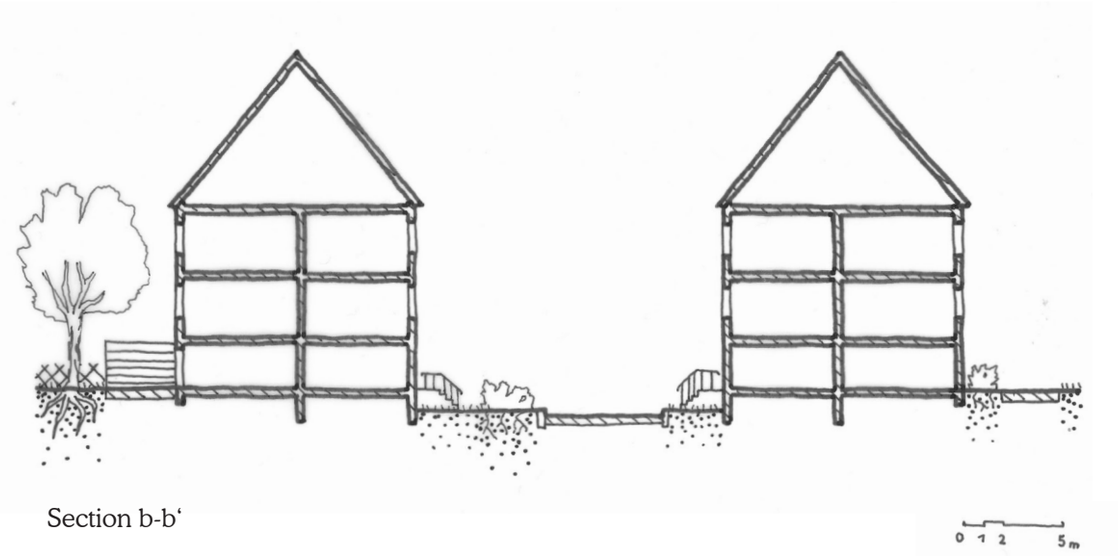


Amenities

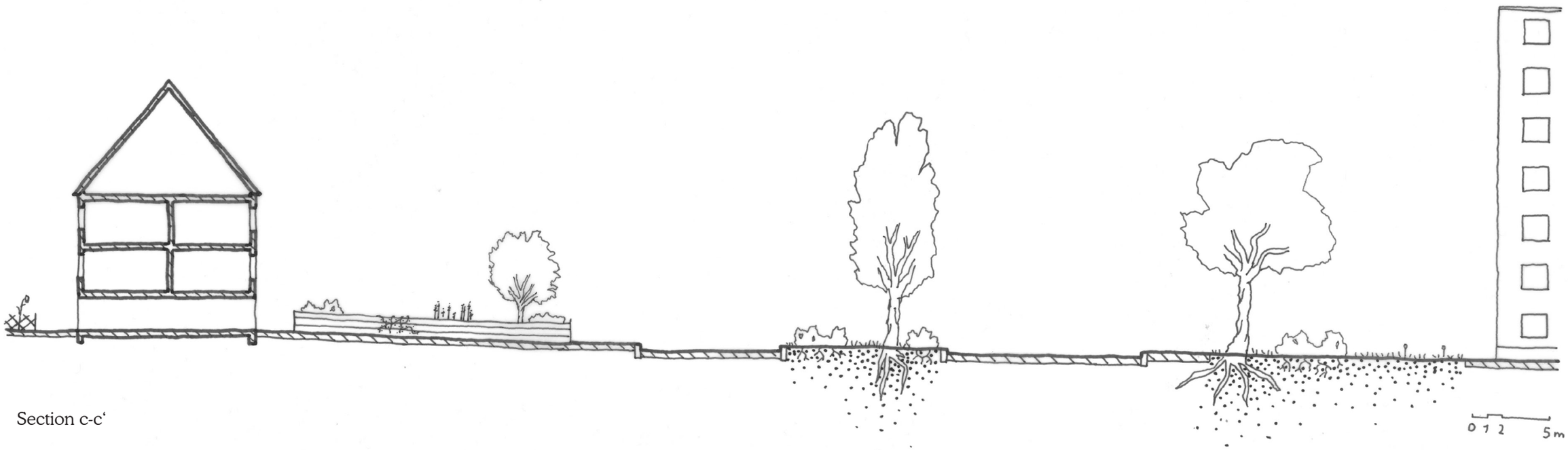
The Siedlung am Heidehof is located in the periphery of Berlin. Although the suburban location often necessitates buying a car, many amenities are within walking or biking distance. In particular, fundamental services such as grocery stores, doctors, and even a hospital are no more than a 15-minute walk away. In contrast to the Reinickeshof, the overlooked amenities, such as a mosque or an employment agency, are quite far off. Furthermore, it takes an 11-minute walk to the closest metro station. The reason for such variations to the Reinickeshof may result from the means of transporation of the historical inhabitants. While the Reinickeshof was dedicated to the blue collar workers, the Siedlung am Heidehof accommodated privileged workers and even middle-class. These groups were more likely to have access to faster means of transportation. This assumption is supported by the fact that the closed factory was an uneconomic 175-minute walk or a 57' train ride away.

left: Cartography of amenities around the Siedlung am Heidehof; Author's illustration.

Section a-a‘



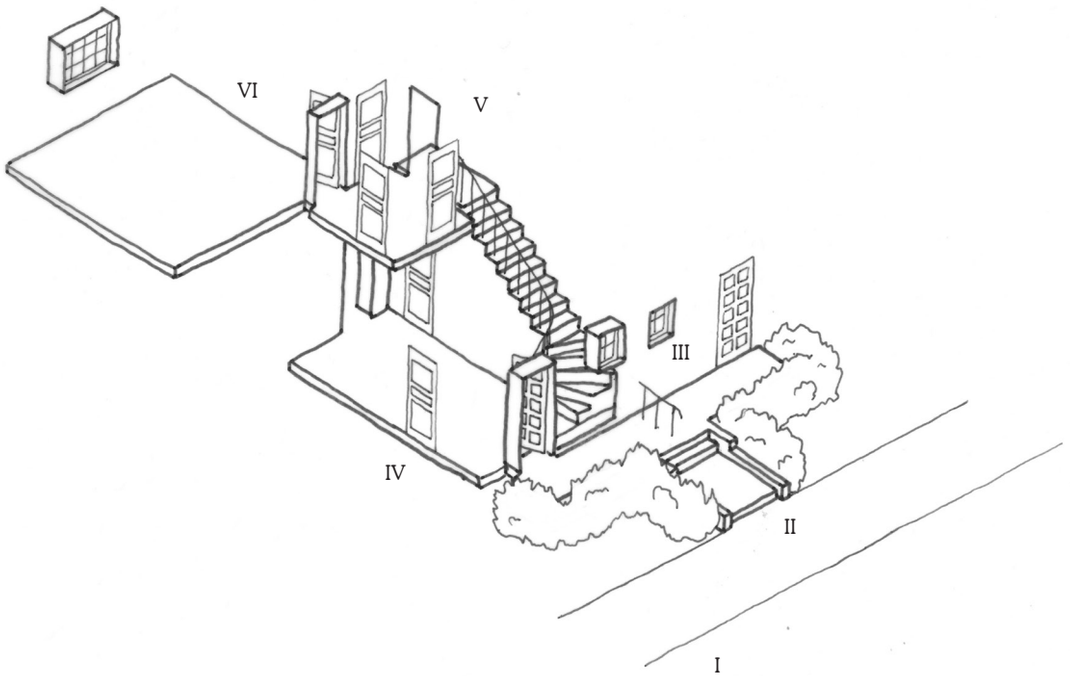
Section b-b‘



Section c-c‘

Mapping ecological continuities

above: Sections through the surrounding territory. Author‘s illustrations.



Thresholds of access

Just like in the first case study, entering the building means transitioning from one self-contained room to the next. Here too, each room is distinctly separated from the others and serves specific functions, such as the connector room or the staircase. Narrow doors separate these rooms from each other. The resulting door-room-door rhythm extends from the street to the bedroom. However, the sequence is much shorter as in the Reinickes Hof. Apart from the shared terrace, none of the transitional spaces invites one to linger.

I. Public side walk
II. Buffer zone with steps and hedges
III. Shared terrace
IV. Internal connector room
V. Curved stairs leading to a plateau and the second connector room with four more doors
VI. Room with a view

left: Mapping of the access route in the Siedlung am Heidehof; Author's illustration.

3. Dammwegsiedlung, 1919

The Dammwegsiedlung is based on plans by the architect Reinhold Kiehl. However, the realization of the design began under the architect Josef Zizler in 1919 and was completed three years later. Therefore, the Dammwegsiedlung is the youngest of the three case studies. Nevertheless, the structure of the settlement clearly speaks the language of the English Garden City concepts. In the early 1920s, numerous similar projects were realized in the periphery of Berlin. The Dammwegsiedlung reflects many aspects of this common type, and many findings of the analysis can be observed in other representatives of this type.

Although the development is composed of sixteen individual buildings, the overall shape appears fairly complete. The nine semi-detached houses and seven two-story apartment buildings are arranged in a steady rhythm across a total of 52,000 sqm. Three parallel streets divide the site into uniform parts. The middle street develops into a public square with a restaurant in the very center of the settlement. However, the consistent structural alignment separates the interior gardens from the street. Thus, the private gardens with their simplistic network of paths are completely isolated from the public space. The 196 apartments are accessible from the streets.

This building was largely spared from the destruction of the World War II. The few damaged buildings in the southern area were dismantled and replaced. Therefore, the condition of the settlement today is still almost in its original state of 1922. However, it should be mentioned that the urban context has changed drastically and now represents one of the most precarious neighborhoods of Berlin.

The preservation order also registered this settlement as a monument. The streets, squares, gardens and the interior and exterior of the buildings are under strict preservation protection due to artistic and historical aspects.

The land of the settlement is in private hands. It seems that all the buildings of the complex are under rental contracts.

left: Site plan of the Dammwegsiedlung; Author's illustration.

Photo 12.
Public street
Author's photograph.

Photo 13.
Central Square
Author's photograph.

Photo 14.
Metro railways
Author's photograph.

Photo 15.
Gardens and fences
Author's photograph.

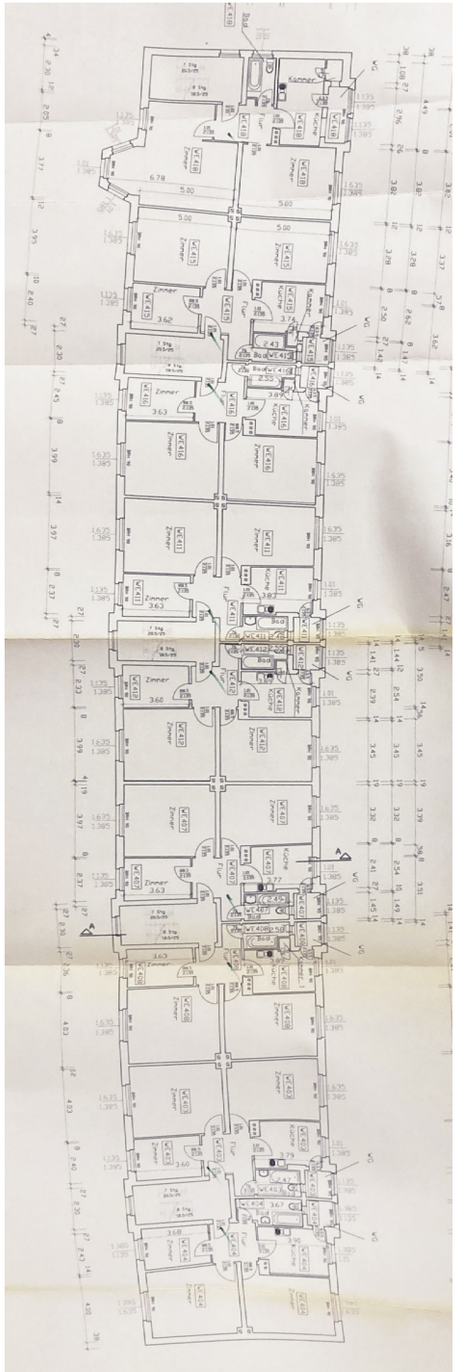


Figure 28.
Floorplan, Bauaktenarchiv Neukölln, Berlin.

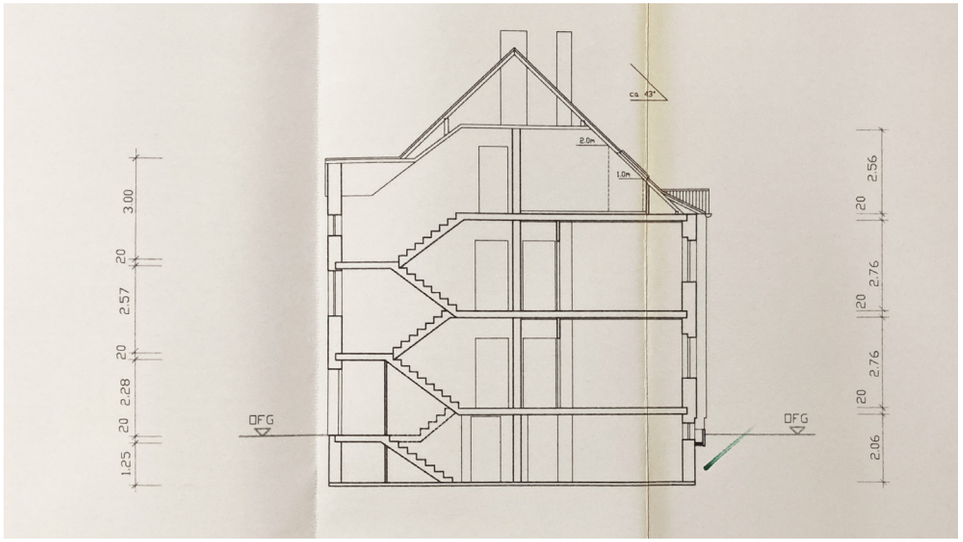
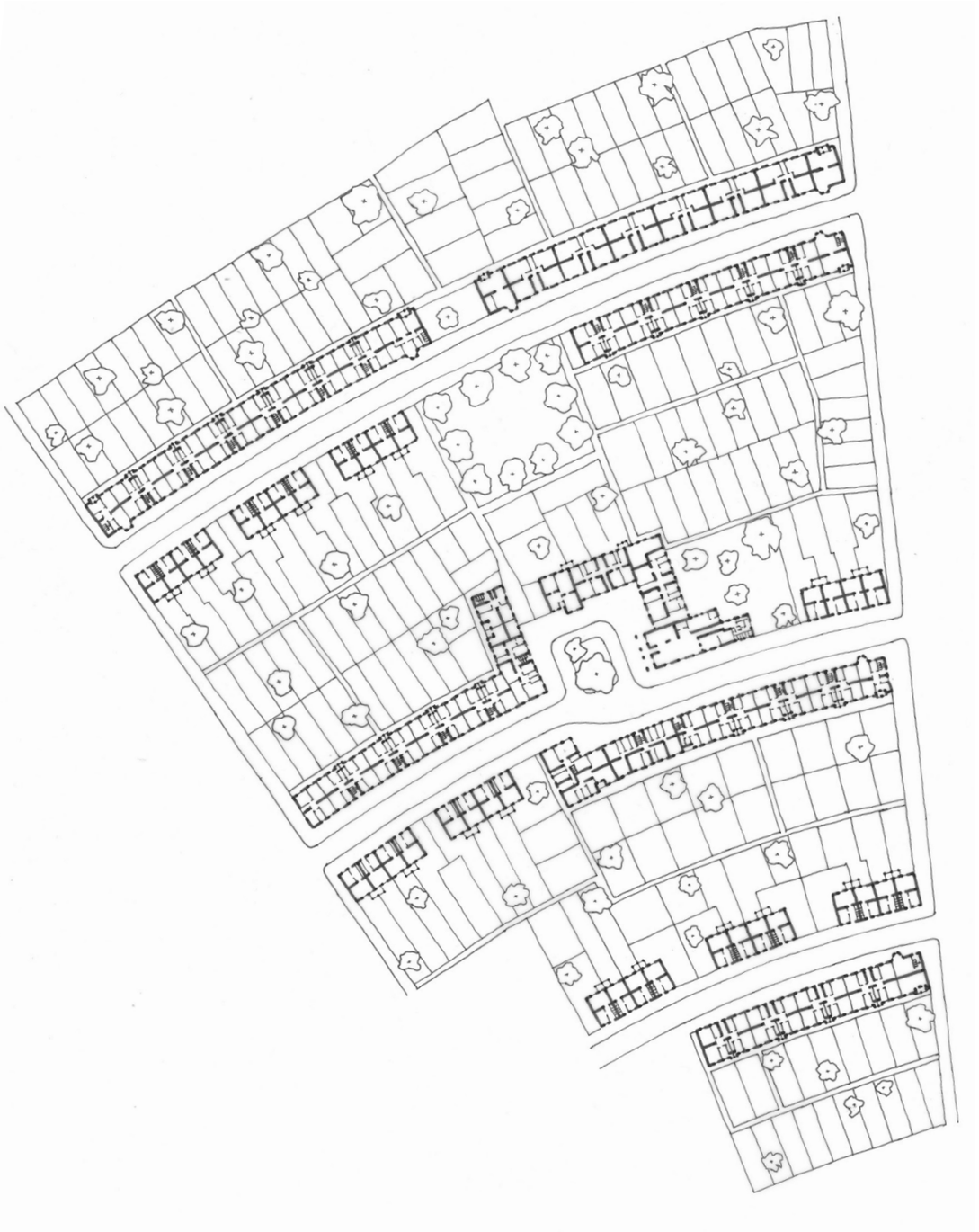


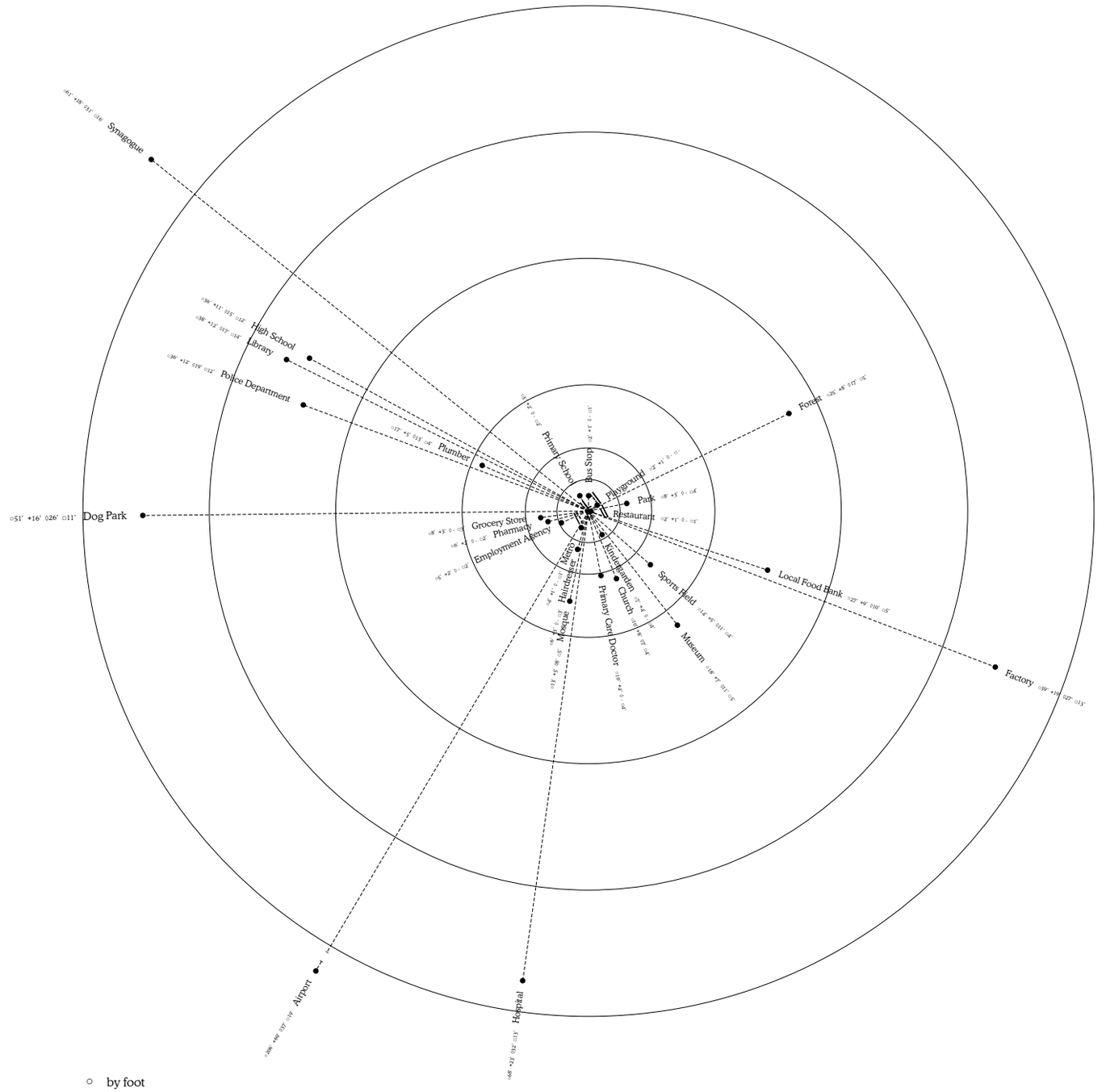
Figure 29.
Section, Bauaktenarchiv Neukölln, Berlin.



Site Map

With 196 dwelling units on approximately 52‘000 sqm, the Dammwegsiedlung is characterized by a similar density as the Siedlung am Heidehof. Similarly, the reason for this is the high proportion of row houses and their low height. Consequently, the footprint of the Dammwegsiedlung relatively large. The simplistic geometry of the building configuration does not foster interaction with the outdoor spaces. These are mainly used as gardens of the residents. However, an inhabitant of the apartment building has a different relationship to these gardens than an inhabitant of a row house. The row house and its associated garden must be understood as a cohesive entity. The garden becomes an extension of the interior space and shares the same structural logic. The garden of the apartment building is independent of the architecture. The inhabitant has to walk along the built collective paths to his own allotment garden. The size of all garden units is meticulously balanced. The proportions of the divisions create almost exactly the same floor areas. It seems like a remnant of Leberecht Migge‘s calculations of the cultivation area required per capita. Contrary to the ideal envisioned at the time, countless fences and screens have been erected here, communicating ownership unequivocally and completely neglecting the intended social aspirations.

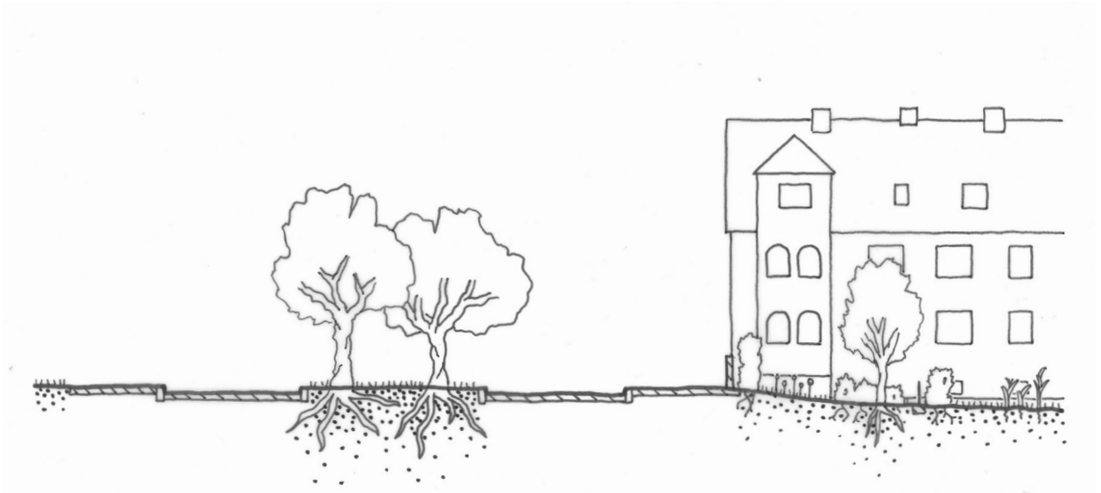
left: Ground level plan of the Siedlung Heidehof; Author‘s illustration



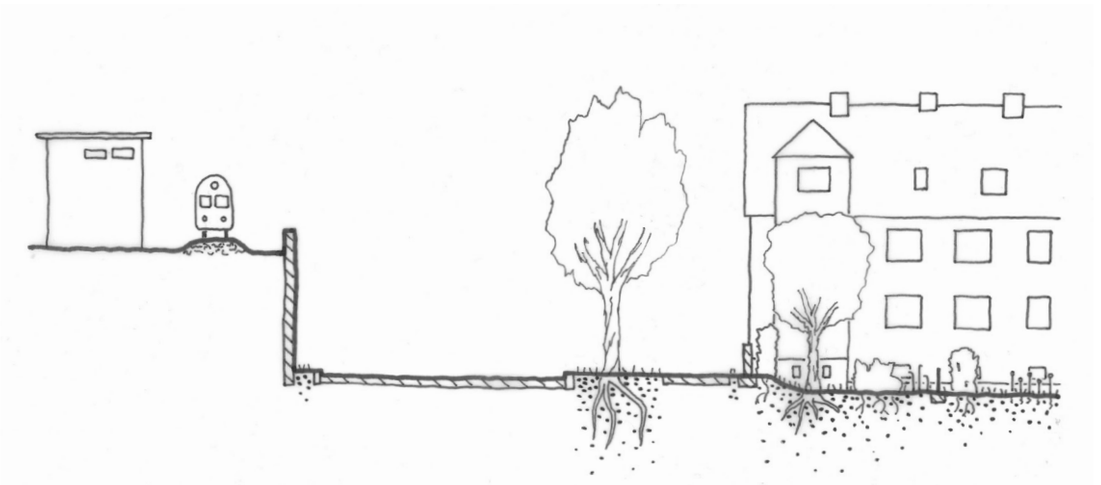
Amenities

Just like the other examples, the Dammwegsiedlung is located in the periphery of Berlin. Here again, the suburban location typically necessitates buying a car, but many amenities are within walking or biking distance. In particular, fundamental services such as grocery stores, doctors, or schools are no more than a 10-minute walk away. Similar to the case of the Reinickeshof, many overlooked amenities, such as a mosque or an employement agency, are also around the corner. For any further distance, residents can use the metro station, which is adjacent to the settlement. Surprisingly far away are only the high school, the synagogue and the hospital. The reason for such regional infrastructure could be, on the one hand, the increasingly urbanized context. The historically suburban situation has now been integrated into the city. On the other hand, this could also be a remnant of history, since workers in the 1920s mainly traveled on foot or by metro. The infrastructure around the Dammwegsiedlung present great similarities to the one of the Reinickeshof. This may be due to te fact that, historically, these settlements have been inhabited by blue collar workers with similar financial means.

left: Cartography of amenities around the Dammwegsiedlung; Author's illustration.



Section a-a‘



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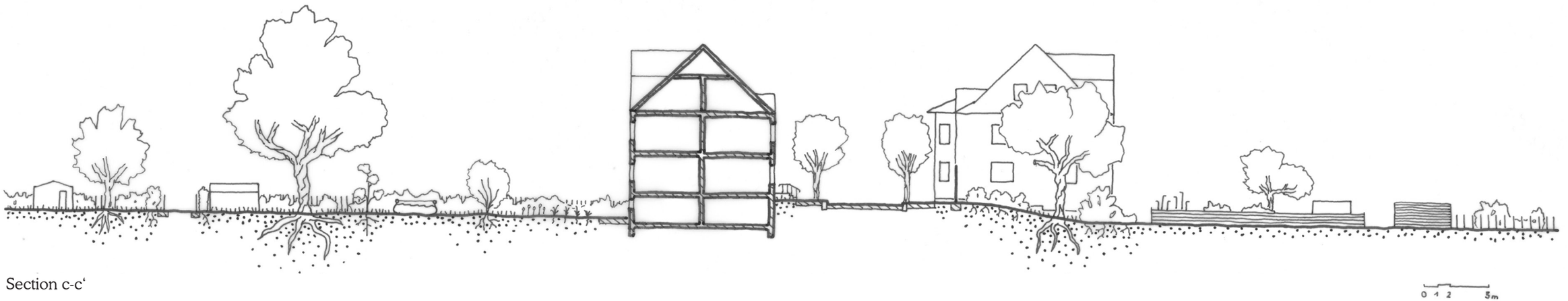
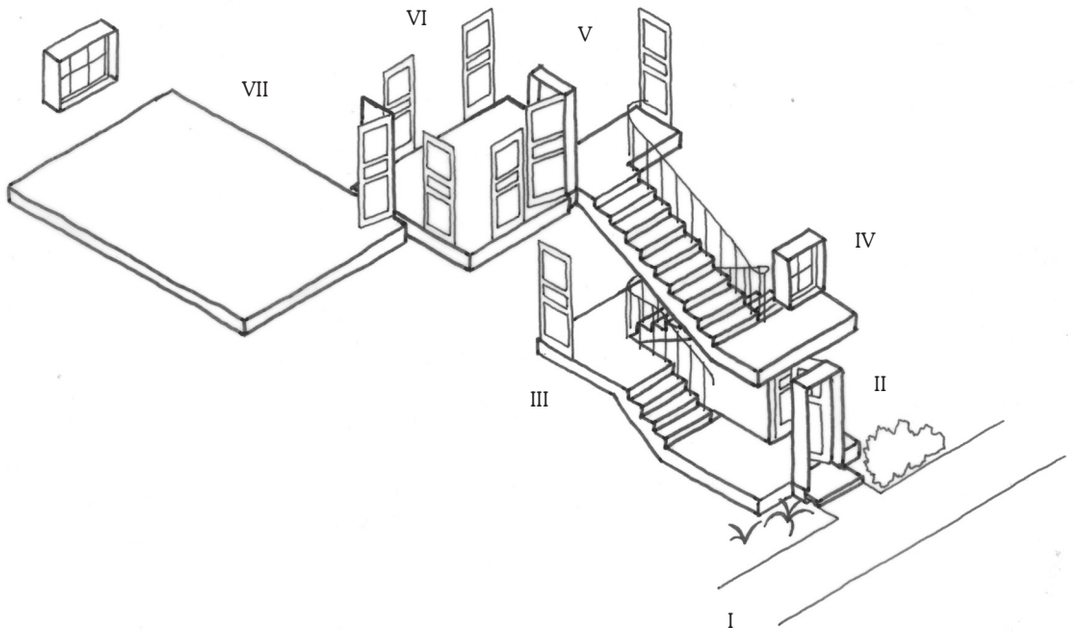


Section c-c‘

Mapping ecological continuities

above: Sections through the surrounding territory. Author‘s illustrations



Thresholds of access

The access route of the Dammsiedlung is almost identical to that of the Reinickeshof. Thus, entering the building means transitioning from one self-contained room to the next. Here too, each room is distinctly separated from the others and serves specific functions, such as the connector room or the staircase. Narrow doors separate these rooms from each other. The resulting door-room-door rhythm extends from the street to the bedroom. Apart from the shared terrace, none of the transitional spaces invites one to linger. However, considering its function, the private connector room is surprisingly generous.

I. Public side walk
II. Entrance with doorstep
III. Inner half of the staircase
IV. Outward facing half of the staircase
V. Shared connector room with two neighboring apartments
VI. Internal connector room with 5 more doors
VII. Room with a view

left: Mapping of the access route in the Dammwegsiedlung; Author's illustration.

Repair

To Live in a Monument

"Memory is the very matter and meaning of the monument."[124] Memory relates to a historical event that is of relevance to a certain community today. Since the relationship of the community to histories of the monument may vary over generations, the meaning of the monument shifts as well. Therefore, a monument can be a tribute to, fragment of, or comment on a specific historical event. This position towards a memory can be expressed through its condition and context. The restoration of a bronze of a dictator on a central square represents a different meaning than its transplantation into a national museum. In their introduction to the preservationist journal Future Anterior, Jorge Otero-Pailos and Mechtild Widrich argued that all changes to the monument will affect its meaning.[125] Thus, the way we treat our monuments reflects on our relationship our recollection on the past.

[124] Aron Vinegar and Jorge Otero-Pailos, "What a Monument Can Do?" *Future Anterior: Journal of Historic Preservation, History, Theory, and Criticism* vol. 8, no. 2 (Winter 2011): 4. https://www.jstor.org/stable/10.5749/futuante.8.2.0iii.

[125] Jorge Otero-Pailos and Mechtild Widrich, "Ex Situ: On Moving Monuments-Introduction to Future Anterior," *Future Anterior: Journal of Historic Preservation, History, Theory, and Criticism* vol. 15, no. 2 (Winter 2018): 5. https://www.jstor.org/stable/10.5749/futuante.15.2.0iii.

Immutability

Reinickes Hof, Heidesiedlung and Dammwegsiedlung are listed historic monuments. Hereby, the local preservation laws of Berlin from 1995 determine basic guidelines for different types of monuments. Heidesiedlung and Dammwegsiedlung are both defined as a so-called General Complex (Gesamtanlage), while the Reinickes Hof is preserved as an Arrangement (Ensemble). The difference lies in the structural heterogeneity with the general complex being more homogeneous than the arrangement. The law determines both as two differentiations of the so-called Monument-Zone (Denkmalbereich). The Monument-Zone includes cohesive buildings, streets, squares, parks as well as bodies of water within a certain perimeter.[126] Moreover, the Higher Administrative Court of Berlin decided in an adjudication from 1997 that:

> If, however, in the case of building complexes, no such factors are degrading the listed status, protection may extend to the entire interior of the building, including accessories and furnishings.[127]

Whether arrangements or general complexes, all parts of the composition are to be considered first as individual monuments.[128] The following applies to individual monuments of Berlin:

> [§11] (1) Only with permission of the competent monument authority can monuments be:
> 1. changed in appearance,
> 2. removed entirely or partially,
> 3. removed from its location or place of storage, or
> 4. repaired and restored.[129]

In other words, if no individual exceptions are in place, all unauthorized changes within any part of the housing complex are illegal by law. Re-organizing the garden, re-modeling the kitchen or installing solar panels is generally illegal until permitted. Decisions on such exceptions from preservation laws and any transformation projects are based on individual preservation concepts, if available. Such a concept covers a thorough study of the monument's artistic, historical and scientific relevance today. Resulting of this research, the preservation concept determines appropriate guidelines for each element of the monument. In the case of the Heidesiedlung, the historical study suggests that, for example, the building's internal layout is crucial for the monument's character.[130] Therefore, the preservation concept determines that all changes of the layout must be reduced to a minimum and must follow the structural logic. Such evaluations range from the mailbox to the chimney. One method of determining the monument's character is a color analysis. The preservation concept of the Heidesiedlung includes a list of the RAL-colors for doors and windows, that must be matched when renovating them.

The value of the workers' housing complexes seems to lay in their structure and substance. The preservation concept repeatedly mentions that the structural characteristics of the original design are to be maintained. This applies to the spatial organization of the entire settlement from the garden to the bathroom. In case mandatory changes are to be made, they must follow the design's original language and principles. On the other hand, the preservation concept also puts great emphasis on the formal appearance of the original materiality. In case of mandatory changes, the original craftsmanship and materiality are to be imitated.

The Berlin preservation laws follow the principle of nothing is allowed until it is permitted. Such permissions will only be given if the structure and substance

[126] §2 Absatz 3 DSchG Bln.

[127] Hitzfeld, "Rundschreiben des Landesdenkmalamtes," (unpublished manuscript, November 2017): 6, typescript. Author's translation

[128] Ibid. 3.

[129] §1 Absatz 11 DSchG Bln. Author's translation.

[130] Susanne Willen, *Denkmale: Schutz und Pflege: Siedlung am Heidehof* (Berlin: Untere Denkmalschutzbehörde Steglitz-Zehlendorf von Berlin, 2011), 31.

of the original project are not changed. Therefore, maintenance of the original structural and substance seem to be key aspects for the memorial purpose of this monument under the preservation laws of Berlin. One may say this preservation approach considers any form of alteration as a degradation of the contemporary value of the related historical event.

In this context, the above-mentioned article by Otero-Pailos and Widrich names the myth of immutability.[131] They argue that monuments could be considered as a mechanism that establishes continuity as a balance to the erratic and incoherent state of human life. They state that the human mind constantly forgets about the past and that the monument externalizes the human need for recall. Therefore, any modifications to the monument would undermine the historical foundation for today's state of stability.

The responsible preservation department wrote that the Heidesiedlung must be preserved as it is a remnant of a relevant and completed phase in the local history of Berlin. As argued above, the historical context of the construction of workers' housing in Berlin must be understood as a reaction to an urgent crisis. Nobody intended to erect monuments for the future but to solve an immediate issue. Instead, the housing complex turned into a monument by cultural definition[132].

While the historical phase of Berlin's housing deficit ended with the materialization of each building, the story of these housing complexes has just begun. After the 1920's multiple generations were living in these dwellings. In his text "Living in a house" Alvaro Siza depicts a delicate image of the multiplicity of domestic labor.[133] Siza acknowledges all tasks from fixing drawers to repainting wood, and he states that being an inhabitant is a full-time job that combines the role of a lifeguard, a physician, a lawyer, a receptionist and many more.[134] In his text, Siza carefully describes how to dwell means interacting with the surrounding architecture. For Siza domestic life is never constant but an ongoing process in close relation to its physical setting. The preservation concept of workers' housing in Berlin denies the domestic life depicted by Siza. In an immutable monument, the development of inhabitants' domestic life degrades its memorial purpose. In other words, the immutable monument stands in opposition to the practice of dwelling.

[131] Otero-Pailos and Widrich, "Ex-Situ: On Moving Monuments," 3.

[132] Ibid.

[133] Álvaro Siza, "Living in a House," in *Álvaro Siza: Compete Works*, ed. Kenneth Frampton (London: Phaidon Press, 2000), 1.

[134] Ibid.

30

Figure 30.
Color palette determined by preservation concept.
Author's illustration

Continuity

The struggle with immutability is not a local phenomenon but occurs in various contexts. For this reason, inhabitants, architects and preservationists discussed the pertinence of conventional preservation. They proposed counterarguments that aim to meet contemporary demands while respecting the value of collective recall.

In 2016, Daniela Sandler's approached a similar issue in her book "Counterpreservation: Architectural Decay in Berlin since 1989". Sandler's approach originates from a case study that covers typical examples of the 1980s squatter movement in Berlin. For her, this is not surprising as Berlin has always been a hub for alternative movements. In the featured projects, she recognizes a particular preservationist practice that she names Counterpreservation. Despite deriving from existing cases, she argues that her

31

Figure 31.
"Capitalism normalizes, destroys, murders". Sandler, KA 86 und Tuntenhaus, 2007.

term is not merely a description but can be understood as a larger conceptual framework.[135]

Sandler defines the notion of Counterpreservation as the practice of intentional decay of buildings.[136] For Sandler, this is not a result of antipathy towards buildings but a conscious appreciation of their temporality. Therefore, she states that a key principle of Counterpreservation is the refusal to restore.[137] Counterpreserved buildings are not renovated but, instead, decay is considered a part of the architecture and celebrated as such. Echoing Sigmund Freud's essay "On transience", Sandler notes realizing the ephemerality of our physical environment increases its value while it exists. Yet, this does not mean that counterpreserved buildings are merely left for decay. Instead, Sandler agrees that life is an uncertain process and, thus, the inhabitants are asked to actively engage with the architecture. The inhabitants are free to transform the architecture with functional reparations or necessary additions.[138] The concept of Counterpreservation extends even beyond the architecture-user relation. Some examples of her case study became active landmarks in the political urban landscape, hosting public roundtables and cultural events or becoming gathering points for protesters. Sandler considers this process a continuation of the building's history. This covers functional reparation, transformations as well as social reappropriation.

In Sandler's approach, Counterpreservation is a critique towards conventional preservation practices. In Counterpreservation, the continuation of the monument's history becomes equally relevant as its historical value. The historical value is understood as ephemeral and embraced in its physical decay. This decay becomes the interface for communities in the present allowing history to be written on. Counterpreservation becomes a practice that constantly negotiated the relation of the meaning of the monument in the past and in the present.

Another contribution of criticism of conventional preservation practices comes from Jorge Otero-Pailos, Erik Fenstad Langdalen and Thordis Arrhenius in 2016. Their concept of the "Experimental Preservation" outlines a new preservation tendency emerging in the realm of architecture and arts. The authors provide essays accompanied by numerous projects and discussions. These documents criticize conventional techniques for their rigidity and instead explore the monument as a laboratory for alternative preservation concepts. Such explorations go beyond the boundaries of classical preservation as they do not only consider defined monuments but rather intuitively choose their object.[139] By transforming, criticizing, revaluating or imitating the appearance of such objects, practitioners of experimental preservation are testing their meaning to us.

Among the discussed projects one finds the Fittja People's Palace by the architecture office Spridd. The architects were facing a neglected and poorly equipped social housing site from the 1970s depreciated by both government and inhabitants. Therefore, the competition's objective was the revaluation of the neighborhood by architectural means. However, Spridd's approach started by thoroughly studying the contemporary values provided to the inhabitants. Complementary to this, the architects analyzed the complex's physical construction as well as its theoretical background of the welfare state. Resulting of this research phase, the architects proposed a subtle modernization that would not oppose the original design or increase

[135] Daniela Sandler, *Counterpreservation: Architectural Decay in Berlin since 1989* (Ithaca: Cornell University Press, 2016), 235.

[136] Ibid. 19.

[137] Ibid. 22.

[138] Ibid.

[139] Jorge Otero-Pailos, "Experimental Preservation: The Potential of Not-Me Creations: Choosing Objects," in Experimental Preservation, eds. Otero-Pailos, Jorge, Erik Langdalen, and Thordis Arrhenius (Baden: Lars Müller Publishers, 2016), 21-25.

the rent, but rather improve practical living standards. The other part of the intervention included workshops and debates as well as an exhibition. Spridd aimed to re-tell Fittja's story in order to convey its inherent charm as well as the potentials of gentle structural transformation to the inhabitants and beyond.

Although neither the government nor the inhabitants have ever considered Fittja to become a monument, Spridd would not deny its historical and contemporary value. In doing so, it turned into their field for experimental preservation.[140] Their approach aims to reinforce the forgotten historical meaning and to identify these qualities in the present. Spridd's modernization and exhibition are utilized as tools for the continuous negotiation of the present and the past.

[140] Thordis Arrhenius, "Monumental and Non-Monumental Strategies," in *Experimental Preservation*, eds. Otero-Pailos, Jorge, Erik Langdalen, and Thordis Arrhenius (Baden: Lars Müller Publishers, 2016), 47.

Alois Riegl's work "The modern cult of monuments" (Der moderne Denkmalkultus) from 1903 provides a helpful terminology for understanding the criticism of both alternative preservation practices towards the convention. Riegl generally separates the value of the monument into its memorial and present value. For Riegl, the memorial value is characterized by an internal conflict between the so-called age-value and the historical value.[141] The age-value is based on the circularity of human creation and natural decay of all physical objects.[142] Riegl states that if the monument is regarded only under the aspect of the age-value, ideally, it would be left untouched for its natural decay. This way, human creation and the natural decay are harmonized.[143] On the contrary, Riegl argues that the monument also holds historical value. This value refers to the historical event that was worth being captured in a memorial object.[144] According to Riegel, under the historical value, the original condition of the monument must be maintained and all modifications concealed. The present value of the monument consists of the so-called use-value and art-value. The use-value becomes particularly relevant if the monument possesses contemporary functions, such as churches. The use-value aims to maintain the practicality of such monuments by employing functional fixes and repairs. Thus, Riegl argues that use-value and age-value are in a conflictual relation.[145] The art-value describes the potential of historical objects to satisfy the human demand for completeness. However, Riegl holds a quite modernist position towards this value.

Applying Alois Riegl's terminology to Daniela Sandler's approach, one may say that the point of departure for the concept of Counterpreservation is the re-appreciation of the age-value. The age-value is understood as the result of a series of historical events that happened within the architecture and keep happening. Since counterpreserved buildings can be modified according to contemporary demands, the use-value is the progressing element, that allows new layers of history to be added to the age-value.

The Fittja housing complex is a project with forgotten historical value. Through exhibitions and discussions, Spridd architects were aimed to revitalize the historical value. Their modernization interventions are tools that intend to meet the rediscovered historical value with its contemporary use-value.

Both concepts seek to re-balance what Alois Riegl calls the memorial and the present value. Both approaches criticize conventional preservation practices for focusing on the representation of single historical events through

[141] Alois Riegl, *Der moderne Denkmalkultus: Sein Wesen und seine Entstehung* (Vienna: W. Braumüller Verlag, 1903), 31.

[142] Ibid. 24.

[143] Ibid. 25.

[144] Ibid. 29.

[145] Ibid. 41.

Figure 32.
Participatory action at Fittja Complex.
Spridd Architecture, *Model of Fittja Housing Project*.

immutable fragments of the original design. This would lead to a fractionary perception of history. Instead, the alternative preservation approaches aim to represent the continuity in-between memorial and present value. Thus, the entirety of the building's history including the story of every inhabitant is drawn into focus. Since conventional preservation is obsessed with the maintenance of the monument's original condition, its inhabitation is considered conflictual. However, in both approaches, domestic life inside the monument does not aim to overwrite the original meaning. It rather forms its physical boundaries according to functional needs, leaving nothing but traces of the present. Thus, historical value and use-value are not seen as antagonists but rather in a direct relation in which the historical meaning is maintained through its inhabitation. Therefore, to live in a monument means to continue it.

This realization has essential implications on every kind of architectural approach to monuments. Thus, Counterpreservation clearly separates itself from the approach of adaptive reuse. Sandler writes:

> Adaptive reuse takes material and stylistic liberties, departing freely from the principles of the original building, and destroying much of its extant fabric. In some cases, buildings are completely gutted so all that remains is the outer shell, to be filled in by new architecture (this has been called façadism). In other cases, even the façades and outer appearance are changed.[146]
>
> Once construction is finished, these spatial qualities are also fixed, closed to further transformation.[147]

A similar position can be found in Thordis Arrhenius' comment on the Fittja People's Palace:

> Successful ongoing examples such as Paris's Tour Bois-le-Prêtre (Frédéric Druot and Lacaton & Vassal) or Sheffield's Park Hill (Hawkins\ Brown and Egret West) show how architecture in the form of new spatial organization, material, and color schemes is brought in to generate change – change that in turn introduce new temporalities of "befores" and "afters," creating discontinousness and ruptures rather continuations.[148]

Understanding the continuity of memorial and present value changes the perspective on the temporality of the architectural object. Both authors were criticizing other architectural approaches for considering their contemporary intervention apart from the monument's history. Instead, both authors emphasize the ephemeral nature of the monument as well as contemporary transformations. They should function as a comment, manipulation or stimulation of an ongoing process rather than as a mere metamorphosis. Moreover, the practice of repair will become a crucial tool in the continuity of the monument. The practice of repairing demands a constant investigation of the monument's use-value. Whenever a characteristic of the building turns dysfunctional the reparation reinstates a healthy condition. However, the repairer knows about the temporality of this healthy condition and, thus, already integrated possibilities for further modification. The inhabited monument becomes an open work that cannot be completed for the uncertainty of domestic life constantly demanding renewal.preservation.

Figure 33.
The Arimaston building in Tokyo stands emblematic for such openness. Keisuke Oka simultaneously constructs and transforms the building according to his choreographies. The builder knows that tomorrow his behavior may change and, thus, not disassembling the scaffolding.
Häusler and Vollmer, *Arimaston Building*, 2022.

[146] Sandler, *Counterpreservation*, 29-30.

[147] Ibid. 31.

[148] Arrhenius, "Monumental and Non-Monumental Strategies," 48.

Reparation Principle 1

The living situation of the working class during industrialization was characterized by uncertainty. Their lack of financial means forced them to share apartments. Those lucky enough to rent an apartment were barely able to afford it, hence, hosting one or many temporary subtenants. While the subtenant was dependent on the tenant's goodwill not to be replaced, the tenant itself was dependent on the landlord. The inhabitants were in a hierarchical rental system based on personal relations rather than contractual rights. With the rise of socialism, the working class enjoyed greater acceptance as a societal foundation. For architects and planners of the 1920s, every worker had equal rights to a reliable long-term housing situation. Their living demands were unified by the standard dwelling type. On a political level, typification became an instrument to reduce the cost of the individual unit to maximize the number of new apartments, aiming to provide equal access to housing for the working class. On a building scale, the stereotypical repetition of types provided similar spatial qualities for every inhabitant. None of the inhabitants had higher living standards than others. One could say that the typification resulted in horizontal power relations. Such horizontality is a common principle of a socialist community. Reciprocity was believed to thrive when common property grants equal say while withering away in capitalist hierarchies and social dependencies. In the preservation policies of Berlin, the layout of the typified dwelling units became significant elements of the monument. Due to the myth of immutability, the composition of these units is still almost in its original condition. But although the original structure is maintained for 100 years, the concept of horizontal power relations is faded and with it some of the historical value of the monument. It is not unreasonable to assume, that the economic pressure on the working class caused a unification of sorts. Low wages and little vertical mobility point towards consistent and similar domestic conceptions amongst the workers. The modern welfare work, instead, allows every family free development of their desired living concept. Today, flat shares, retirees and large families are neighbors in the workers' housing settlements. However, a two-room apartment provides a different living standard to a single than to a large family. To continue the monument means to re-establish the intended horizontal power relation. Therefore, the reparation should explore architectural mechanisms that allow the re-distribution of spatial qualities among the inhabitants.

Reparation Principle 2

Workers during industrialization were housing und unhealthy conditions. Oftentimes, a single room deprived of ventilation and sunlight was occupied by multiple inhabitants. As socialism flourished, the housing situation of workers drew into the focus of trade unions and politicians. Thus, various urbanist proposals, such as the Garden City, aimed to improve the workers' living standards during the 1920s. Bruno Taut's "Dissolution of the Cities" proposed the radical decentralization of workers' settlements. For Taut, the decentralization mainly aimed to reconnect the worker to the nature. However, the envisaged decentralization failed as the industry of Berlin demanded the centralized infrastructure of the metropole and proximity of workers to remain competitive. Consequently, the renewal of the building code of Berlin determined the footprint of the new workers' housing to 10% of the land area. Thus, the desired decentralization became a low-density strategy. The common goal here seems to be the provisioning of large proportion of nature. These gardens were meant for collective cultivation accessible for all inhabitants. Such a collective activity became the core of community of inhabitants. Although the green space of the workers' housing is protected by federal preservation policy, the gardens have been privatized in two of three examples of the case study. Today, the communal gardens are cut into private allotments by fences and walls. The original concept of the collective garden is forgotten and, thus, the preservation concept has neglected a crucial historical value. Today, the community is deprived of its very foundation. The reparation should aim to overcome the phase of exclusive enclosure and re-establish the collective purpose of the garden. Moreover, the abolishment of boundaries allows to repair ecological continuities and create biodiversity corridors. The continuation of the monument brings forth a re-invigorated community that transcends its anthropocentric relationship to nature and, instead, is based on inclusivity of both humans and non-humans.

Reparation Principle 3

In the beginning of the 19th century factories and housing were intertwined in the outskirts of Berlin. The primary means of transportation was walking and, thus, the working place and all amenities were nearby. With the commissioning of the so-called Ring provided a transportation system for the working class. This circular metro network passed through all workers districts and connected them to the factories. Thus, in the beginning of the 20th century housing districts and factories separated but remained side by side in close juxtaposition. Architects and planner of the 1920s carried on the idea of regionality. Martin Wagner expected only socialist workers involved in communal economy to inhabit the settlements. Just like communal economies would have been isolated cells in the national liberalist economy, many workers housing complexes rather introverted leaving only small entries for the curious. External people slipping through the gaps and gate houses should have been convinced of the superiority of the socialist life. Over the course of the last century, communal economy disappeared and, instead, economy globalized. Inhabitants desired to be connected to the entire metropole and automotive traffic was considered the solution. Today, the workers' housing settlements are neighbors to enormous traffic axes, and the inner sidewalks and public squares function as parking lots. Such transformations have been permitted by the preservation offices. The neglect of the local infrastructure leads to loss of a historical value of the monument. However, necessary amenities are still in proximity. The reparation must aim to reinforce the local network in the neighborhood of the workers' housing. Moreover, this transition will encourage biking and walking in place of automotive traffic, thus, establishing a sustainable transportation network. In the continuity of the monument, the latent regional infrastructure is re-activated and the slow mobility network propagated.

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