



WHAT IF? WHAT NEXT?

SPECULATIONS ON HISTORY'S FUTURES

SESSION 2B

ROUTES TO THE PAST

Authentic? History, Heritage and Matters of Veracity and Experience

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THE SCIENCE OF THE SUPERBLOCK: RUDOLF EBERSTADT'S IMAGE FOR GREATER BERLIN, c.1910

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From the ideal of the Existenzminimum to Ludwig Hilberseimer's regional "settlement unit", some of the most enduring ideals of the modern movement in architecture emerged from various attempts to identify optimal spatial units through which to negotiate complex social needs and economic processes. Focussing on economist Rudolf Eberstadt's novel concept of the superblock as it materialized in his prize-winning entry to the 1910 Greater Berlin Competition (submitted with architect Bruno Möhring and engineer Richard Petersen), this paper examines a lesser-known but important pre-war endeavour to economize as well as humanize residential living in the modern metropolis at the scale of the block. Eberstadt's entry was significant in advancing a new approach to housing provision, whereby pedestrian-friendly residential superblocks would be laid over the traffic network of the city-region, establishing a renewed sense of community in the rapidly urbanizing city of Berlin. Eberstadt's traffic solution was more than simply part of a strategy of urban amelioration. It instigated a shift in thinking about urban scale, whereby housing as a statistical problem was brought into dialogue with artistic considerations advanced within the German city planning (Städtebau) tradition.

Introduction

From the ideal of the *Existenzminimum* to Ludwig Hilberseimer's regional "settlement unit", some of the most enduring ideals of the modern movement in architecture emerged from various attempts to identify optimal spatial units through which to negotiate complex social needs and economic processes.¹ Focussing on economist Rudolf Eberstadt's novel concept of the superblock (*große Blockeinheit*) as it materialized in his prize-winning entry to the 1910 Greater Berlin Competition (submitted with architect Bruno Möhring and engineer Richard Petersen), this paper examines a lesser-known but important pre-war endeavour to economize as well as humanize residential living in the modern metropolis at the scale of the block. Eberstadt's entry was significant in advancing a new approach to housing provision, whereby pedestrian-friendly residential superblocks would be laid over the traffic network of the city-region, establishing a renewed sense of community in the rapidly urbanizing city of Berlin. Eberstadt's traffic solution was more than simply part of a strategy of urban amelioration. It instigated a shift in thinking about urban scale, whereby housing as a statistical problem was brought into new dialogue with artistic considerations advanced within the German city planning (*Städtebau*) tradition.

German pre-war urban theory is often ignored in favour of citing the garden city model as the privileged intellectual predecessor of interwar modernism and its concern to rationalize urban space and scale.² As this paper shows, the pursuit of multi-scalar complexity in German architectural culture began as a pragmatic effort to deal with the economic and social conditions shaping extant industrial cities, rather than a utopian effort to build a new society. As many recent studies have demonstrated, modern city planning in Germany emerged in the early twentieth century as a sophisticated response to the economics of capitalist urbanization, drawing and refining principles like zoning, density, and scale from naturalized patterns of centrifugal growth shaping industrial cities like Berlin—principles which were later universalized through the abstract model of the "functional city".³ Within the German city planning tradition, the economist Rudolph Eberstadt (1856-1922) has received remarkably little attention from scholars, despite having exerted great influence in architectural circles, producing the most important housing handbook of the pre-war era.⁴ His entry to the Greater Berlin Competition represented a culmination of two decades of writing about housing that he penned both in response to polemics over the "housing question" as well as to new questions posed from within the architectural tradition of city planning (*Städtebau*).⁵ Deriding what he described as a "cult of the street" prevalent in Haussmann-era planning, throughout his career Eberstadt called for the geometer's two-dimensional map as a guiding principle in city planning to be replaced with more complex architectural engagements with three-dimensional space and typo-morphological processes, which were capable of reconciling the intimacy of the single-family dwelling with the social whole.

The Development Plan

The period of intense industrialization that occurred in Germany between 1840 and 1870s left its cities with considerable health, housing, and sanitary problems. In Berlin, urbanization was controlled by the development plan. As the name suggests, the 1862 development plan, better known as the Hobrecht Plan, was an official plan for future land-use, consisting of a two-dimensional print of street-traffic lines drawn over a surveyor's map. Architects and engineers implemented the plan in a piecemeal fashion, working not from the entire map but from acquiring individual sections from booksellers, caused them to perceive the city not as a whole but as a "set of islands".⁶ The plan left a uniform mass of boulevards and deep blocks for use by private investors, who were required to offset the cost of the expensively-paved streets that served as the city's main traffic arteries. The building code, as the chief legal supplement to the development plan, focussed on ensuring basic hygiene and fire safety requirements for what was built on the blocks—leading to a booming real estate industry and much-maligned tenement construction (Fig. 1).

Berlin's development plan was widely criticized shortly after its implementation. In an 1870 article for the *Deutsche Bauzeitung*, liberal theorist Ernst Bruch described its gridded streets as a

straitjacket that prohibited the natural development of the city based on private market-based principles that could cater to the unpredictability of life. For Bruch, the main deficiency of Berlin's planning was not the lack of roads, but rather their artificiality. He proposed a new system whereby a street network funded and managed by the municipality would provide a looser skeleton for the city's traffic, leaving the provision of minor pedestrian-based streets to private investors, creating cheaper rents for tenants. Allowing the urban fabric to be released from the knife of the city's police officials, Bruch believed that private interest would create districts defined by the natural, more picturesque topography of pre-existing commercial paths.⁷ Bruch's read the Hobrecht plan as an absolutist rather than a truly liberal plan, with boulevards serving not genuine commercial needs but rather the representational needs characteristic of a bygone era of Baroque planning. Unlike the prior piecemeal approach to expansion, his approach to planning facilitated a laissez-faire ethos by providing a scaled framework for shaping complex and unpredictable urban patterns, enabling a greater differentiation of use that catered to the heterogeneity of liberal society.⁸

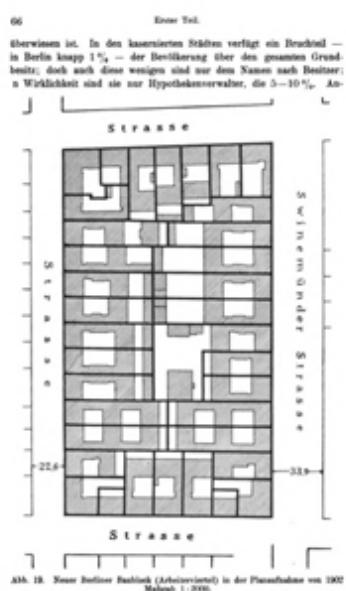


Figure 1. Typical tenement block of Hobrecht plan. Rudolf Eberstadt, *Handbuch des Wohnungswesens und der Wohnungsfrage* (Jena: Gustav Fischer, 1910): 66

Reimagining the Urban Block

In tandem with the general disappearance of debate on housing for two decades following Germany's unification in 1871, Bruch's idea of the two-street system was not elaborated upon until Eberstadt published an article on the topic in 1892, writing it whilst working as a banker in Berlin.⁹ In the article, Eberstadt argued that large housing blocks, with narrower and more cheaply paved residential streets, ought to be distinguished from the city's traffic skeleton in order to make more efficient use of expensive land. Distinguishing commercial and residential traffic would allow for more decentralization, keeping rents down and making homeownership achievable for the lower middle classes. While more critical than Bruch of the monopoly created over land prices in Berlin, Eberstadt nonetheless expressed faith that planning could help bring equilibrium to the housing market. Warning of the perishing of freedom that would occur under communism, Eberstadt's article helped reconcile the idea of comprehensive planning with a laissez-faire ethos, effectively shifting the liberal ideology of economic prosperity from commercially-active citizens to a homeownership middle-class base. He addressed housing problems from the self-appointed perspective of a technician and scientist observing natural laws. Reasserting Bruch's emphasis on the absolutist character of the 1862 development plan, Eberstadt pointed out that "even the external design of Berlin's housing contradicts our economic laws, which are based on private property."¹⁰

Coinciding with the favourable reception of his article amongst local experts, Eberstadt began studying economics in Berlin and Zurich. A year later, the architect Theodor Goecke assessed the viability of Eberstadt's model against the Hobrecht plan at the scale of the block. Compared to the typical perimeter-block construction (Fig. 2) of the Hobrecht plan, which cut off the side and rear apartments from air and light, Goecke showed how the construction of narrow, cheaply-paved residential streets for local use by pedestrians and milk carts (Fig. 3) provided equal access to light and air across all apartments while achieving almost the same density as that allowed by the Hobrecht plan. A new development scheme based on these principles would resemble Figure 4. The outer periphery of this block would serve a similar function to the old block by including five-storey apartments with shops, workshops, and stables facing onto traffic streets measuring approximately 15 metres in width (approximately half the width of the streets of the Hobrecht plan). Residential streets in the superblock's interior would measure around 11 metres in width, with smaller row houses at the centre serving purely residential purposes, producing a funnel for air and light.

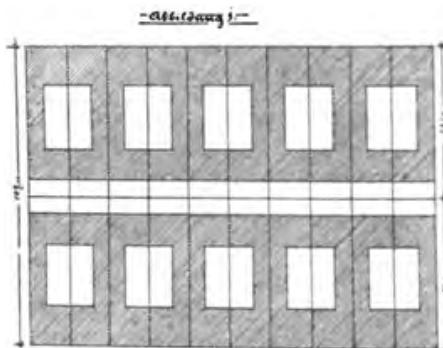


Figure 2. Perimeter block construction typical of the Hobrecht plan. From Theodor Goecke, "Verkehrsstraße und Wohnstraße" *Preussische Jahrbücher* 71, no. 1 (1893): 88

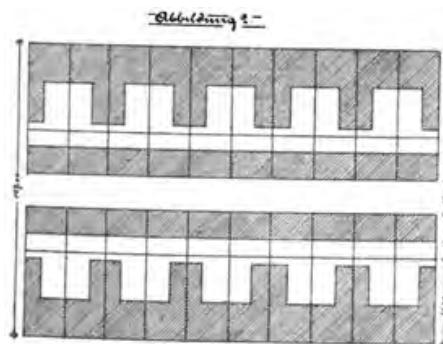


Figure 3. Idea for residential streets. From Theodor Goecke, "Verkehrsstraße und Wohnstraße" *Preussische Jahrbücher* 71, no. 1 (1893): 89

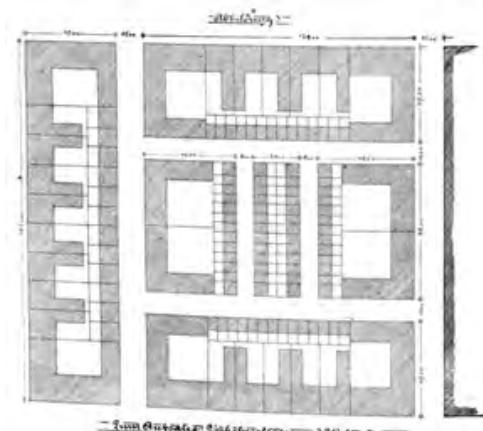


Figure 4. Superblock. From Theodor Goecke, "Verkehrsstraße und Wohnstraße" *Preussische Jahrbücher* 71, no. 1 (1893): 96.

In his writings, Goecke emphasised the worker's right to access urban amenities, praising the sense of community and solidarity offered by the old tenement block. He also chided well-meaning paternalists and who sent their workers to cottages on the suburban periphery.¹¹ For Goecke, Eberstadt's model offered an intermediary solution for reformed urban blocks that was capable of recreating an appropriately domestic scale, inward orientation, and local character for housing, whilst keeping the sense of closeness offered by urban living intact. Unlike other architects working to reform urban housing blocks, such as Alfred Messel and Albert Gessner, Goecke's and Eberstadt's superblock did not merely serve to lower the density of building on the regular Hobrecht block, but rather interrupted the logic of the development plan at large in order to "correct" the natural economic patterns shaping the city's growth. Moreover, such residential blocks could be given appropriate architectural expression, not just from their facades, but from their capacity to articulate suitable human scale, historical character, and a sense of intimacy and seclusion in the city.¹²

The immediate impact of Goecke's and Eberstadt's ideas was overshadowed by the publication of Camillo Sitte's book *City Planning According to Artistic Principles* (1889) as well as the ensuing debate between Sitte and urbanist Joseph Stübben over the visual effects of "straight or crooked streets".¹³ When Goecke and Sitte co-founded the journal *Die Städtebau* in 1904, the artistic questions advanced by Sitte, who had died before the first issue was published, would be fully brought into dialogue with the consciously technical and socio-scientific ones posed by Eberstadt.¹⁴ Receiving his habilitation in 1902 and becoming Professor in economics at Humboldt University, Eberstadt became a critical figure amongst city planning experts during the first decade of the twentieth century. Deriding what he labelled as a "cult of the street" characteristic of the previous era of planning still emotionally rooted in a bygone era of absolutism, Eberstadt's superblock model became the centrepiece of his entire agenda to establish the scientific, rational foundations of modern housing provision. His statistical calculations would continually be tested and refined by architects as well as economists who took the block as the central departure point to reimagine a series of urban optimums capable of relating the scale of the single-family dwelling to that of the expanding city region (Fig. 5). In his 1910 handbook for housing, he devoted significant attention to exploring the historical and artistic dimensions of residential streets, dedicating an entire lecture to the topic for the *Städtebau* lecture series at the Technische Hochschule zu Berlin.¹⁵

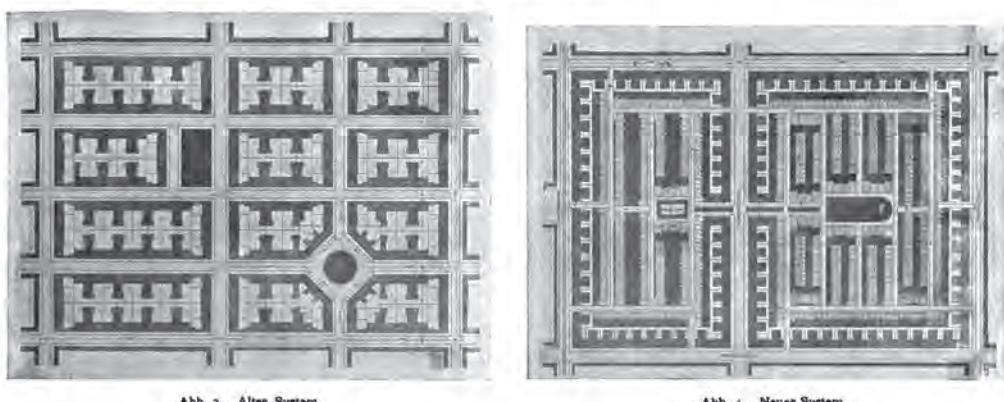


Figure 5. "Old and new block system". From René Kuczynski and Walter Lehwers, "Zweifamilienhäuser für Grossstädte" *Der Städtebau* 7, no 6 (1910): 71

The Greater Berlin Competition

Coinciding with the publication of Eberstadt's handbook, the 1910 competition to find a new master plan for greater Berlin was an important milestone in the formation of city planning in Germany, with its entries reimagining the city as an integrated social organism composed of key functioning parts, including those serving transport, industry, housing, and commerce.¹⁶

Eberstadt, Petersen and Möhring's entry won third prize. It included a design for a residential district (Fig. 6) intended for execution in the suburb of Wittenau (ten km from the centre of Berlin), which would remain unrealized. The aerial view of the district vividly represented Eberstadt's superblock model, incorporating mixed-use residential housing and internal pedestrian streets. Above the superblock, a tree-lined street, canal, car, train and bike lanes, and playground, separated the residential block from an industrial district above. Where the exterior perimeter featured treelined avenues and five-story apartments, the gated entry into the block marked a perceptible transition to the human scale, incorporating two-story row houses with individual garden plots. The main residential street cutting through the block led to a central village green with a distinctly civic feel, featuring a playground and other "non-profit and public facilities".¹⁷ While the design clearly exhibited Eberstadt's superblock ideal, he did not encourage the standardization of such units but rather recommended that their interior design should be left to cooperative-based entities, emphasising that the "individualized, free design of single city districts should impart a sense amongst the urban population of the individuality of their residential district, and thus impart a sense of feeling for home [*Heimatgefühl*] in the middle of the city."¹⁸

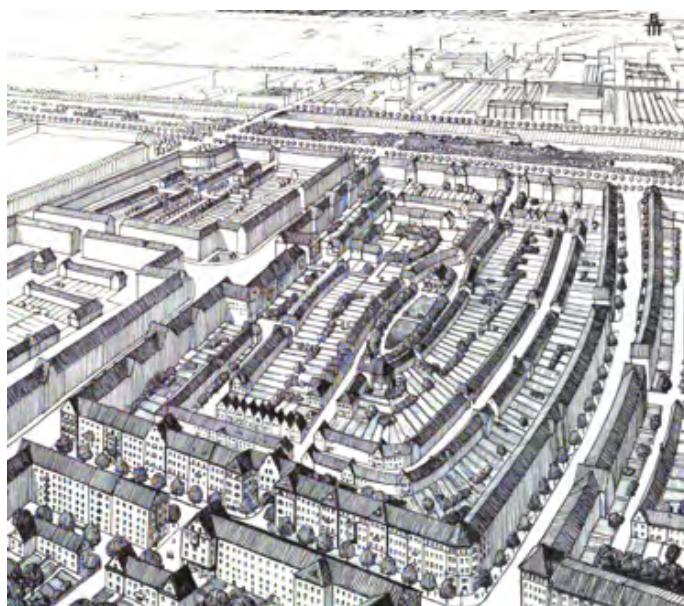


Figure 6. Rudolf Eberstadt, Bruno Möhring, and Richard Petersen, entry to the Greater Berlin Exhibition, plan for a large mixed-use residential block unit for suburb of Wittenau. From: Albert Hofmann, "Beilage für Wettbewerbe" Deutsche Bauzeitung 44, no. 29 (1910): 216

Eberstadt, Peterson and Möhrings's design exemplified what Katherina Borsi has defined as the competition's chief innovation of the "strategic plan", which unlike the Hobrecht plan as a straightjacket, was an instrument for negotiating adaptable processes occurring across the scale of the city-region.¹⁹ For Borsi, this innovation was initiated via the joint-first prize-winning entry by Hermann Jansen for a residential district in Tempelhofer Feld (Fig. 7), which brought forth the notion of a functionally differentiated urban "segment" laid over the traffic network of the city region. Jansen's detailed aerial perspective showed a neighbourhood that, like Eberstadt's model, differentiated train lines from local traffic whilst maintaining continuities with the five-story courtyard tenement type, only exchanging commercial ground floor shops with arches that allowed air to flow through to the courtyard, offering the urban segment a distinctly residential quality. Yet, Jansen's site map in the top left of his aerial perspective still recalls that of the section from which architects worked off the Hobrecht plan—only warped to integrate curving streets, whilst still grasping the city in fragments rather than in units. On the other hand, the logic of Eberstadt's aerial view was only graspable as a supplement, along with statistical tables and charts, for a set of socio-spatial analytical procedures based on scientific analysis, which aimed to incisively disrupt the prior logic of the development plan, rather than simply offer a glimpse into

an ameliorated urban condition. This balance-sheet urbanism will foretell similar visual strategies exploited in the graphics of Ernst May and Walter Gropius a decade later.²⁰ In his enthusiastic review of Eberstadt, Petersen and Möhring's accompanying book for the competition entry, Goecke remarked that their entry successfully overcame “questions about whether a street should be broad or narrow, straight or crooked, long or short etc., [...] those questions belong to technology—they are artistic details. The foundation [of city planning] must first be a largely urban-social one, and socially beneficial housing construction will, foremost, be able to create an urban architecture [*Städtebaukunst*]”.²¹



Figure 7. Hermann Jansen, entry for the 1910 Greater Berlin Competition, development plan for Tempelhofer Feld.
From Architekturmuseum TU Berlin, Inv. No. 20563.

Conclusion

Eberstadt's engagements with the problem of urban scale did not represent a fundamentally utopian socio-political rejection of the nineteenth-century laissez-faire development plan, but rather functioned as an elaborate reorganization and refinement of it, transferring the market logic of urban growth from the commercial sphere of the street to the productive sphere of the home. Eberstadt, Möhring, and Peterson's entry into the Greater Berlin Competition arguably pushed the possibilities of urban architecture to its programmatic limits, after which the impulse to grasp large-scale urbanization patterns at the scale of the block began to be colonized with avant-gardist strategies and Fordist rationalization principles during the Weimar period.

Endnotes

¹ Aristotle Kallis, “From ‘Minimum Dwelling’ to ‘Functional City’: Reappraising Scale Transitions in the Early History of CIAM (1928-33),” *Planning Perspectives* (2020), <https://doi.org/10.1080/02665433.2019.1711446>.

² For a history of pre-war German urban theory see Georgio Piccinato, *Städtebau in Deutschland 1871-1914: Genese einer wissenschaftlichen Disziplin*, vol. 62 (Birkhäuser, [1977] 2014). See also Julius Posener, *Berlin auf dem Weg zu einer neuen Architektur: Das Zeitalter Wilhelms II* (Munich: Prestel, 1979); and Harald Bodenschatz, *Platz frei für das neue Berlin* (Berlin: Transit Berlin, 1987). On the influence of the garden city model on CIAM see Mark Swenarton, “Rationality and Rationalism: The Theory and Practice of Site Planning in Modern Architecture 1905-1930,” *AA Files* 4, July (1983); Konstanze Sylva Domhardt, “The Garden City Idea in the CIAM Discourse on Urbanism: A Path to Comprehensive Planning,” *Planning Perspectives* 27, no. 2 (2012).

³ Katharina Borsi, "Drawing the Region: Hermann Jansen's Vision of Greater Berlin in 1910," *The Journal of Architecture* 20, no. 1 (2015); Christa Kamleithner, "Concrete Abstractions: Berlin's Statistical Bureau and the Concept of Zoning, 1862-1910," in *Productive Universals Specific Situations: Critical Engagements in Art, Architecture, and Urbanism*, ed. Anna Kockelkorn and Nina Zschocke (Berlin: Sternberg Press, 2019).; Parker Daly Everett, *Urban Transformations: From Liberalism to Corporatism in Greater Berlin, 1871–1933* (University of Toronto Press, 2019); Anna Vallye, "Balance-Sheet" City: Martin Wagner and the Visualization of Statistical Data," *Journal of Urban History* 46, no. 2 (2020).

⁴ Only two works appear to address Eberstadt's oeuvre. See Zurfluh Katrin and Lukas Albrecht, "Between Decoding and Recoding: Raymond Unwin's 'Town Planning in Practice' and Rudolf Eberstadt's 'Handbook des Wohnungswesens' as Means of Reflection and Regulation," in *Recoding the City: Thinking, Planning, and Building the City of the Nineteenth Century*, ed. Britta Hentschel and Harald R. Stühlinger (Berlin: Jovis 2019), 119-137; and Francois Claessens, "Rudolf Eberstadt, a Pioneer of German Typo-Morphological Research," in *The European City: Architectural Interventions and Trans-Formations*, ed. Francois Claessens and Leen Van Duin (Delft: Delft University Press, 2004), 362-269.

⁵ On the history of the housing question in Germany see Clemens Zimmermann, *Von der Wohnungsfrage zur Wohnungspolitik: Die Reformbewegung in Deutschland 1845-1914* (Göttingen: Vandenhoeck und Ruprecht, 1991).

⁶ Tilo Amhoff, "The Agency of the Paper Plan: The Building Plans of Late Nineteenth-Century and Early Twentieth-Century Berlin," *Journal of Urban History* 46, no. 2 (2020): 275.

⁷ Ernst Bruch, "Berlin's bauliche Zukunft und der Bebauungsplan," *Deutsche Bauzeitung* 4, no. 9; 10; 12; 15; 21; 23; 24; 25 (1870).

⁸ See Christa Kamleithner, "'Life, Liberty, and the Pursuit of Happiness': Liberalism and the Image of the City in German Planning Theory around 1870," in *Urban Planning and the Pursuit of Happiness: European Variations on a Universal Theme (18th-21st Centuries)*, ed. Arnold Bartetzky and Marc Schalenberg (Berlin: Jovis, 2009), 20-33.

⁹ Albrecht, "Between Decoding and Recoding," 127.

¹⁰ Rudolf Eberstadt, "Berliner Communalreform," *Preussische Jahrbücher* 70 (1892).

¹¹ Theodor Goecke, "Das Berliner Arbeiter-Miethshaus: Eine bautechnisch-soziale Studie," *Deutsche Bauzeitung* 24, no. 83 (1890).

¹² Theodor Goecke, "Verkehrsstraße und Wohnstraße," *Preussische Jahrbücher* 71, no. 1 (1893).

¹³ See David Frisby, "Straight or Crooked Streets? The Contested Rational Spirit of the Modern Metropolis," in *Modernism and the Spirit of the City*, ed. Iain Boyd Whyte (London: Routledge, 2003), 57-84.

¹⁴ Theodor Goecke and Camillo Sitte, "An unserer Leser," *Der Städtebau* 1, no. 1 (1904). Sitte was planning to publish a second volume to his successful book, titled "City Planning According to Scientific and Social Principles". See Christiane Crasemann Collins and George Collins, *Camillo Sitte: The Birth of Modern City Planning* (Mineola, NY: Courier Corporation, 1965), 28.

¹⁵ Rudolf Eberstadt, *Bodenparzellierung und Wohnstrassen* (Berlin: Ernst & Sohn, 1911).

¹⁶ See Werner Hegemann, "Einleitung" in *Der Städtebau nach den Ergebnissen der Allgemeinen Städtebauausstellung in Berlin*, ed. Werner Hegemann (Berlin: Ernst Wasmuth, 1911), 18. For a description of all entries see Wolfgang Sonne, *Representing the State: Capital City Planning in the Early Twentieth Century* (Munich: Prestel, 2003).

¹⁷ Rudolf Eberstadt, *Handbuch des Wohnungswesens und der Wohnungsfrage* (Jena: Gustav Fischer, 1910): 203.

¹⁸ Rudolf Eberstadt, Bruno Möhring, and Richard Peterson, *Groß-Berlin: Ein Programm für die Planung der neuzeitlichen Großstadt* (Berlin: Ernst Wasmuth 1910), 12.

¹⁹ Katharina Borsi, "Drawing and Dispute: The Strategies of the Berlin Block," in *Intimate Metropolis: Urban Subjects in the Modern City*, ed. Vittoria Di Palma, Diana Periton, and Marina Lathouri (London: Routledge, 2009): 47-72.

²⁰ See Gerhard Fehl, "From the Berlin Building-block to the Frankfurt Terrace and Back: A Belated Effort to Trace Ernst May's Urban Design Historiography," *Planning Perspectives* 2, no. 2 (1987), 194-210.

²¹ Theodor Goecke, "Neue Bücher und Schriften," *Der Städtebau* 7, no. 5 (1910): 58.