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Hans Scharoun's 'Dwelling Cells' and the autonomy of architecture

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This article traces a genealogy of three Berlin housing projects: Hans Scharoun's housing estate Charlottenburg Nord (1956–1961); the Siedlung Siemensstadt (1929–1931), planned with Martin Wagner; the pre-modern reform block of Nonnendamm, designed by Johnson and Josef Feldhuber (1910–1912). Whilst for Scharoun the inversion of the figure of the perimeter block of Nonnendamm through the *Zeilenbau* organisation of Siemensstadt exemplifies modernism's radical break from the past, it is the variegated form or *Gestalt* of Charlottenburg Nord that verifies the essential nature of a dwelling cell, or neighbourhood.

By contrast, this paper argues that Scharoun's dwelling cell is the result of a continuous trajectory of typological reasoning. Each of the key spatial components of Nonnendamm—the figure of the block, the façade, the ground and the void—are taken up, hyper-articulated and re-configured, all in the service of the coherence and differentiation of a segment of the urban population. This trajectory exemplifies how modern architecture's impetus for experimentation is taken into the service of and propels the broader reflection across disciplines regarding how to house and group the urban population.

Introduction

Scharoun's drawing 'Three stages of housing development in Berlin's Northwest', 1956 (Fig. 1), exemplifies his ideal conception of the city as an urban landscape. The drawing highlights three residential 'cells', the perimeter blocks at Nonnendamm, designed by Johnson and Josef Feldhuber built through the initiative of Siemens for their employees between 1910–1912; the Siedlung Siemensstadt, planned by Hans Scharoun and Martin Wagner (1929–1934); Scharoun's Siedlung Charlottenburg

Nord (1956–1961).¹ In the drawing they perform as formally and functionally differentiated urban segments, arrayed in a linear urban structure of alternating bands of industry, residential areas and parkland.²

The drawing encapsulates both the continuity and the evolution of Scharoun's concept of the dwelling cell, and its conceptual linkage to his urban vision for a radical restructuring of Berlin after the Second World War, as exemplified in what was known as the 'collective plan'. The drawing also articulates

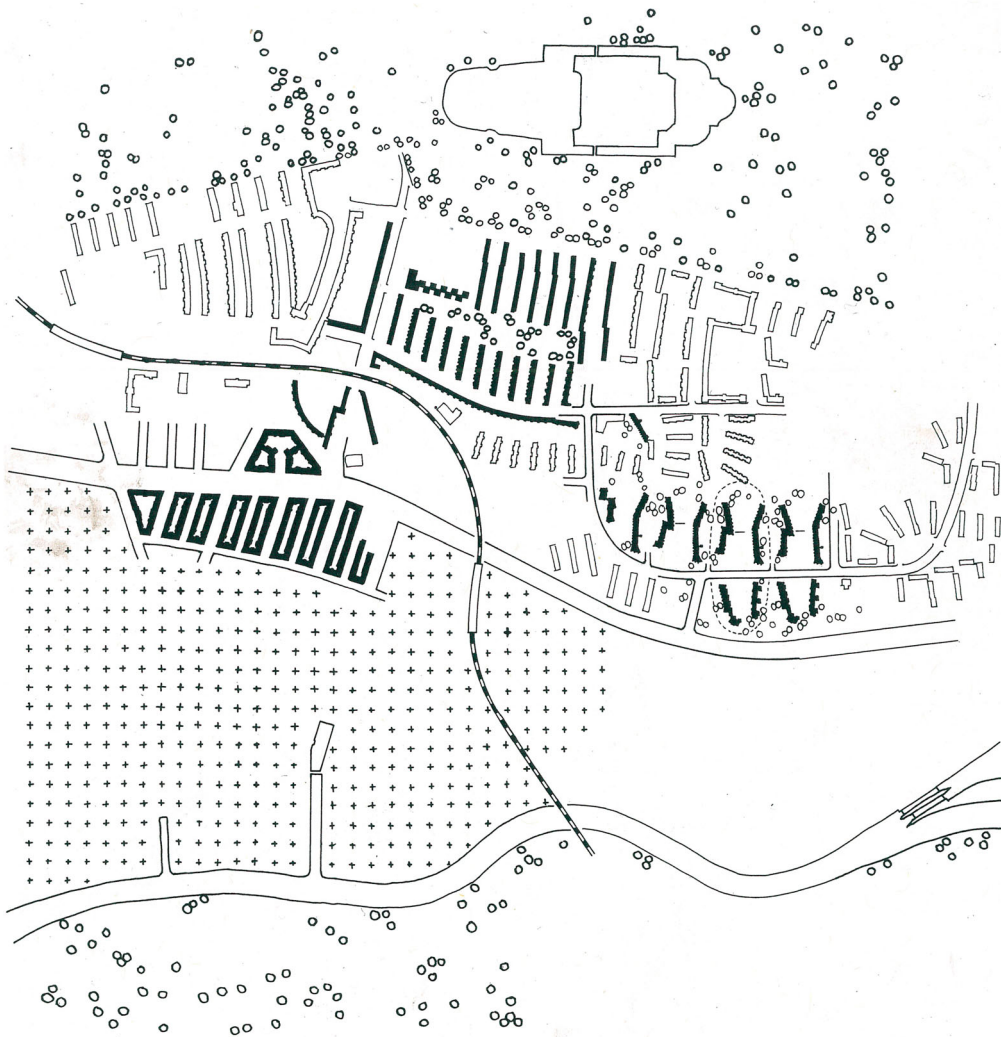


Figure 1. Hans Scharoun: three stages of housing development in Berlin's Northwest, 1956 (© Akademie der Künste, Berlin, Hans-Scharoun-Archiv, No 3721 F.81/2).

the conceptual structure of the paper. The three *Siedlungen*, Charlottenburg Nord, Siemensstadt and Nonnendamm, placed neatly next to each other in the drawing, serve as exemplars of the social and formal continuities between the late-modernist housing project of the 1950s, the early-modernist housing project of the 1920s and that of the pre-modern housing project generally.

Hans Scharoun (1893–1972) played a significant role in the architectural culture of Berlin.³ Whilst his *oeuvre* is most best known for his late projects for the Berlin Philharmonic concert hall (1960–1963) and the Berlin state library (1967–1978), he was a key figure in the conception of modern housing in Berlin both in the 1920s and after the Second World War, when he also occupied a number of key urban administrative and institutional roles.

Following the First World War, Scharoun was part of the utopian, expressionist Crystal Chain, a group led by Bruno Taut. By the middle of the 1920s, he had adopted a more pragmatic stance and became a member of a group known as *Der Ring*, formed to defend the modern movement in architecture. Six of its members (Bartning, Forbat, Gropius, Häring, Henning, Scharoun) developed segments of *Siemensstadt*. The single family house he designed for the *Deutscher Werkbund* exhibition at Stuttgart (1927), an institution for the aged at Breslau (1929) and a block of flats for Bachelors in Berlin (1928) exemplify both his particular dynamic version of modernism and helped to shape his conception of modern domesticity. When the Nazis came to power, Scharoun remained in Berlin, and his architectural activities were severely curtailed. He designed a number of private residential single-

family homes in the 1930s, now famous due to their dual formal articulation as presenting a traditional front towards the street and morphing into a more fluid and open residential landscape facing the garden, hidden from street view.⁴

After the Second World War, Scharoun was appointed director of the department of building and housing for Greater Berlin in 1945 by the Soviet military administration. He was given the task of developing a vision for a new democratic city, and a concept for the reconstruction of the badly destroyed city. A team of experts assembled by Scharoun under the name of the 'collective' worked out an extensive reconstruction plan for Berlin, which came to be known as the 'collective plan', exhibited in August, 1946, in a remaining part of the city palace. For the planners of the collective, the destruction of the war offered the opportunity to radically restructure the city, including the extensive demolition of the remaining built fabric. The new city was understood as a dispersed city landscape, adapted to the local topography of the glacial valley of the river Spree. Parallel, linear bands for dwelling, industry and gardening, all divided by traffic infrastructure, were proposed to replace the continuous structure of the nineteenth-century urban fabric. The dwelling bands proposed arrays of 'cells' of around 5,000 inhabitants, redeveloping the concept of the dwelling cell Scharoun developed in the planning of *Siemensstadt* in 1929. The collective plan remained utopian, and with a change of city government, Scharoun was removed from the post in 1946.

The following years saw the emergence of two city governments, two urban administrations and

two urban reconstruction plans: one for the western sectors, another for the Soviet sector. Whilst the western sector developed an urban plan based on adapting existing urban conditions, the Soviet sector continued work on the collective plan, with many of Scharoun's collaborators still involved. In 1947 Scharoun was awarded a professorship for urban development at Berlin Technical University. At the same time he was head of the East Berlin Institute for Building Industry until 1950. It was in this capacity that he was asked to undertake research into the social, spatial and formal formation of a dwelling cell. The project 'Wohnzelle Friedrichshain', 1949, was understood as an exemplar for the implementation of the revised collective plan. This involved a detailed examination of an ideal social and biological composition of the neighbourhood, the development of an adequate dwelling range, a range of integrated services, and the respective typological and morphological solutions. The research into the 'Wohnzelle Friedrichshain' served as a reflection on how to house and group the urban population, how to develop it as the key component for urban growth, and how to interconnect it with places of work, culture and recreation across the city region. Whilst a change in the urban paradigm favoured by the communist party saw the 'Wohnzelle Friedrichshain' fall victim to the monumental historicism of the Stalinallee in the early 1950s, much of the research into the formation of a neighbourhood as an urban component was redeployed for the planning of Charlottenburg Nord in the mid-1950s, negotiating between Scharoun's project of social formation and the requirements of West Berlin social housing.

The preceding biographical notes serve to illustrate the extent to which Scharoun's conceptualisation of the dwelling cells and its agency in his vision of the modern city as an urban city landscape are inscribed in the drawing 'Three stages of housing development in Berlin's Northwest', 1956. As the title suggests, it shows the evolutionary stages of the dwelling cell, from the perimeter block of the 1910s, to the inversion of figure and ground in the modernist *Siedlung Siemensstadt* in the 1920s, to what Scharoun saw as the ideal figuration of the dwelling cell in the 1950s Charlottenburg Nord. Moreover, the drawing emphasises that the urban situation of the three projects can be read as exemplary of Scharoun's ideal vision of the linear city as developed in the collective plan. The linear array of discrete dwelling cells within a horizontal residential band, adjoined in the North by a linear park, was separated from the industrial band to the south by means of traffic infrastructure, and was bounded in the south by the river Spree. The drawing encapsulates the dwelling cells as discrete urban components, linked to the city region through infrastructure, in a functionally segregated, balanced urban organisation that would allow for growth by lateral extension.

Given that Scharoun saw Charlottenburg-Nord as a partial realisation of his ideas developed in the collective plan, it is surprising that this *Siedlung* is relatively unknown, particularly in the English-speaking world. This is even more surprising given its physical adjacency to Siemensstadt, which is widely considered to be one of the outstanding examples of high modernism.⁵ For Scharoun, it is only Charlottenburg-Nord that came to realise what he called

an 'effective residential structure': a complex plastic *Gestalt* corresponding to the essence of a neighbourhood.⁶ For Scharoun, Charlottenburg-Nord exemplified how the *Gestalt* of the scalar relationship between the dwelling, the cell and the city describes and inscribes a seemingly natural socio-spatial structure conditioning the social and economic equilibrium of the city.

In this article, Charlottenburg Nord and Siemensstadt are not understood as completed fragments of an ideal, yet not fully implemented urban figure. Nor does it analyse Scharoun's belief in the structural or affective power of *Gestalt*. Rather, the paper argues that Scharoun's process of 'Gestaltung' exemplifies architecture's disciplinary value within urbanism. 'Gestaltung' is understood as the experimentation with the formal and spatial organisation of how to house and group the urban population.

In his essay *Typology and Design Method*, Alan Colquhoun argued that the work of architecture is neither governed by its 'outside'—what he termed 'biotechnical determinism'—nor can it be simply reduced to the product of the intuitive genius of the architect. Instead, he argues that type is what underlies the design process, understood as a mode of formal and spatial reasoning with the materials of architecture and its previous solutions. Here, Colquhoun, along with other writers on typology, suggests type as a mode of analysis, classification and projection that draws upon previous solutions to architectural problems, in a mode of repetition, experimentation and transformation.⁷

This paper traces the typological lines of repetition, experimentation and transformation of the projects Scharoun drew as 'Three stages of

housing development in Berlin's North West'. It focusses on the design process through the investigation of the drawing as the surface upon which the materials of architecture test, address and integrate a wealth of 'external' parameters and variables surrounding housing. This focus on typology as a mode of interactive and iterative testing between architecture's 'inside' and its 'outside', as registered on the drawing, opens up a different perspective on Scharoun's contribution to modern housing, and resituates architecture's agency in the urban problem of housing.

In architectural and urban histories, the grand narrative of Berlin's modernist *Siedlungen* as exemplifying a radical break from the past has been complemented by studies describing continuities of themes, actors or influences between the 'high' modernism of the 1920s and the reform housing of the first decade of the twentieth century.⁸ However, both strands of writing privilege a mode of interpretation that focusses on the completed forms and spaces of the architectural project or urban figure. Neither clarifies architecture's strategic contribution to housing, or indeed the conceptualisation of the city, beyond the realisation of the project.

Equally, Scharoun's position within the canon of modernism is defined through form. In conjunction with Hugo Häring, Scharoun is seen as belonging to an alternative tradition, one whose expressivity and plasticity are read as true functionalism in its response to use, context, culture and place, and in opposition to the geometric, rational and classicising tendencies of Le Corbusier, Gropius and Mies.⁹ Whilst this classification is based on variations in

design approaches, it does not clarify if these are instances of formal variation or qualitative differences that help the evolution of the field of architecture.

Given the extensive bibliography concerning architectural modernism and its social project, the vagueness surrounding architecture's disciplinary contribution to the evolution of housing and the development of the city is surprising. The recent decade has seen the resurgence of a critique of modernism's contribution to the project of ordering modernity. For example, David Kuchenbuch has provided an account of architecture as a key player in the social engineering of individuals, families and groups of the urban population through the spatial articulation of their needs and norms, suggesting architectural production and spatial organisation are in the service of planning society itself.¹⁰ Whilst his in-depth analysis shows architecture's interconnections to a broad range of strategies and mechanisms of ordering society through the project of the nuclear family and the neighbourhood, it is based on an analysis of some key actors, rather than an investigation of architecture's particular agency as a mode of spatial and formal reasoning, what Colquhoun calls typology.

I have previously located the advent of the scale of the neighbourhood as constitutive of a key transformation in the conceptualisation of the city in the early twentieth century through the Greater Berlin Competition of 1910.¹¹ The competition drawings show the beginnings of a set of principles that architectural history usually attributes to modernism: a shared programme to plan the city as a linked but differentiated system of social, technical

and biological functions. Similarly to the 1910 Competition drawings, the perimeter blocks of *Nonnendamm* are exemplary of a moment in which the residential neighbourhood becomes generalised as a distinct urban scale and a component of urban growth. Here, scale is understood not so much in terms of size or extension than in the way it operates. Scale allows a correlation between the formal and spatial experimentation that groups individuals into families, and a domain that concentrates a discussion across disciplines and stakeholders about how to house and group the urban population. Here, the architectural design concepts that enable the residential quarter to be coherent and differentiated within the urban fabric are linked to a conception of the natural and beneficial grouping of the urban population. This process is seen as much in the multi-scalar urban reasoning of the Greater Berlin Competition of 1910 as it is in Clarence Perry's Neighbourhood Unit and its role in the Regional Plan for New York around the same time.¹²

In the following pages, I will trace the process of typological reasoning from Charlottenburg Nord backwards to Siemensstadt and Nonnendamm; this will signal a process of repetition and variation that reworks, but does not transform, the operation of the residential cell as a distinct urban scale. This trajectory shows a strong continuity in the experimentation with architecture's design concepts as much as it provides the spatial reasoning about the constitution of the family and the concept of community from the early twentieth century to Scharoun's dwelling cell in Charlottenburg Nord. Our very conception of housing owes as much to this sustained trajectory of typological reworking and

Figure 2. Hans Scharoun: preliminary site plan Charlottenburg Nord, 1955 (© Akademie der Künste, Berlin, Hans-Scharoun-Archiv, 3811 F 196/7).



experimentation as it does to the demands on housing articulated by urban reform.

Whilst the typological process is linked to the concept of housing, it is not reducible to it. The lineage between Charlottenburg Nord and Nonnendamm also shows evidence of a nonlinear evolution and transposition of architectural concepts and strategies driving the field forward, independent of the function of housing. Scharoun exemplifies both architecture's strategic contribution to the conceptualisation of the city as much as it demonstrates its limited agency.

Charlottenburg Nord: the *Gestalt* of the dwelling cell

Scharoun's preliminary site plan of Charlottenburg Nord shows his concept of a dispersed urban landscape (Fig. 2). Here, the *Gestalt* of the neighbourhood is a loose configuration of elements interspersed with the landscape. Folded, angled and fanned rows are staggered and distributed as if to insinuate movement, seemingly interlocking the ground plane with the park space beyond. Most noticeable are the long, many-folded rows at the lower part of the site. Their north-south orien-

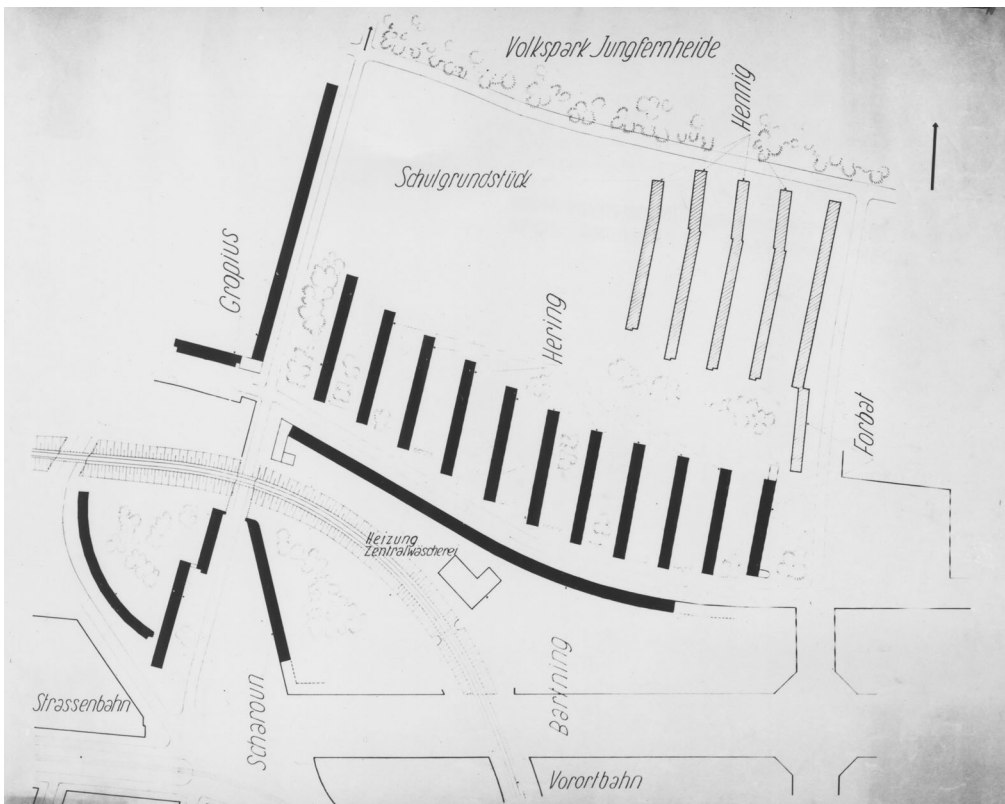


Figure 3. Hans Scharoun: site plan Siemensstadt, 1929 (© Akademie der Künste, Berlin, HansScharoun-Archiv, No 3721 F.81/5).

tation dominates the implied movement vector and funnels into a larger open space, around which a number of deeper, folded shapes are outlined in plan. By contrast, Scharoun's drawing 'Site plan of the large settlement Siemensstadt' (Fig. 3) presents a balanced juxtaposition between the clear geometries of the figure and the notation of the ground. The drawing focusses on the few key components

of the urban context: the large traffic artery linking to the site situated at the southern edge; the public park, *Volkspark Jungfernheide*, that defines the northern boundary; the lines of the tram and the light railway that curve across the site. It is these key elements against which the shaded lines and curves of the architectural figures appear to be set in a spatial dialogue, their form and arrangement

seemingly counter-posing the key elements of the site, and their interrelationship structuring a sequence of solids and voids.

Understood as a series of forms, the figure of Siedlung Siemensstadt inverts the figure of the perimeter block of the adjacent Siedlung Nonnendamm. Rather than defining the urban space of the street, it foregrounds the dialectic of building and landscape as its primary ordering principle.¹³ In the quarter of the century between the drawings of Siemensstadt and Charlottenburg Nord, it appears as if the rigidity of the rows has been propelled into movement, their rational geometries variegated and the seemingly pure balance of solids and voids of the 1930s imbued with a more complex plastic modulation of solids and voids. Similarly, the dwelling plans of Charlottenburg Nord show a much broader variety as well as a more dynamic outline in plan.

Whilst Scharoun always mentioned Siemensstadt as an example of a neighbourhood, or dwelling cell, it is only in Charlottenburg Nord that he achieved an approximation of its ideal architectural form or *Gestalt*. Scharoun and Hugo Häring, whose theories provided much of Scharoun's intellectual grounding, were influenced by early twentieth-century theories of perception. *Gestalt* theory proposed that a comprehensible figure could communicate an essence through sensory impression.¹⁴ Scharoun believed that the intrinsic laws of nature or human life ought to determine the design, but that the goal of each project was to reconcile the formal solution with the spiritual principles of the epoch.

In his view, Charlottenburg Nord's complex plasticity in plan and section, and the much broader

range of its dwelling types, showed greater correspondence between the 'structure' or essence of a neighbourhood and its *Gestalt*. Looking backwards, Scharoun critiqued the restrictions imposed on the design of Siemensstadt. He argued that in the 1930s he and his collaborators were forced to argue rationally and respond to the 'demands for light, air, and the demands of the tenants for the principally equal quality of the dwelling etc'.¹⁵ In the planning of Charlottenburg Nord, Scharoun sought to exceed these technical-organisational demands in favour of a focus on man himself:

It is no longer enough to consider the relationship between dwelling to man; instead the relationship **dwelling—man—cell—community** is the basis that exclusively can lead to new results. This disallows beginning with technical or rental administrative issues. It predisposes a *gestalt* image, an idea as image and driving concept.¹⁶

For Scharoun, the drawing of Charlottenburg Nord is an index of the process of finding this *Gestalt*, a process of formation that reveals an inherent structure; an order that comes to be disclosed in the *Gestalt*. As such, for Scharoun this *Gestalt* both reveals and propels:

... we need living space of the new man, the new society; we need dwellings with internally and externally effective new order, that is image, form-image [*gestalt bild*] of our possibilities of life and our life intentions, and that help to form them.¹⁷

Scharoun's greater autonomy in the planning of Charlottenburg Nord allowed a more extensive process of *Gestaltung*, that is, a process of identification of the adequate structure of a dwelling cell

and its transposition in the two-dimensionality of the plan and the three-dimensionality of the urban figure.

Scharoun's critique of 1920s modernism, and his stronger emphasis on man, opposed to a focus on function or rationalisation, was a general concern at the time. Scharoun, and Häring had already developed in the 1920s an 'organic' and quasi-spiritual conception of the city and its cells. By the 1940s, Scharoun was strongly influenced by the dominant urban model or *Leitbild* of post-war German planning, that of the 'dispersed city landscape'.¹⁸ Whilst continuing some of the tenets of high modernism, it articulated a model of dispersed urban growth closely attuned to the natural landscape. It was understood as a critique of the planning of the 1920s, in particular in its rejection of the monotony and lack of spatial coherence in the relentless parallel slabs of *Zeilenbau*, and, along with it, a stronger focus on the needs of man.

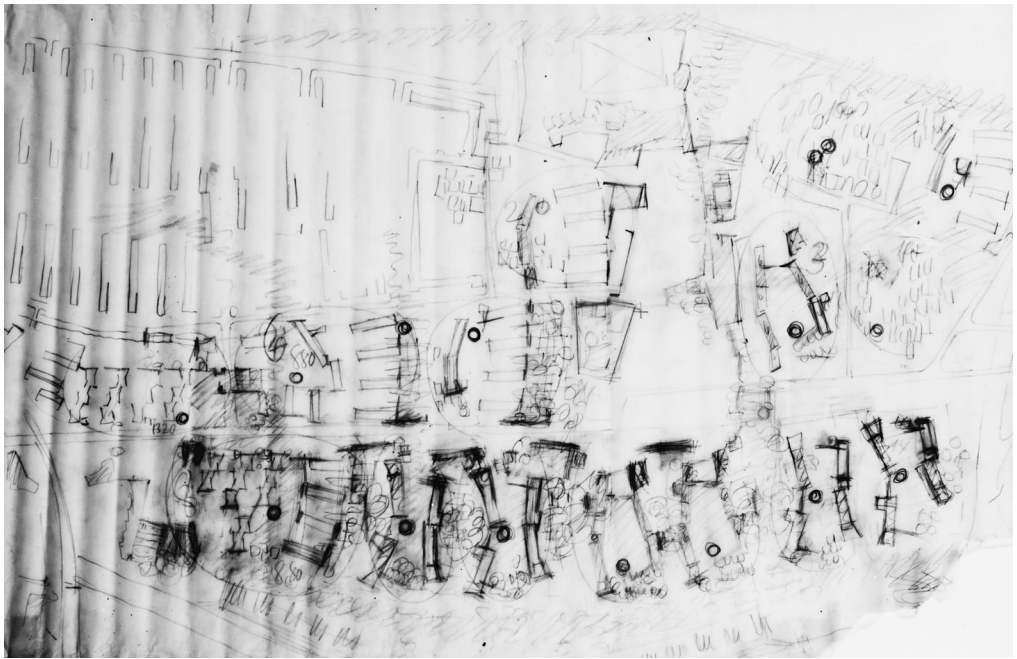
The *Gestalt* was not a pre-given figure, but required research into its 'essential condition', meaning identifying the very composition of a complete neighbourhood whose social, biological and professional structure had yet to be identified. Scharoun convinced Walter Grossmann, the technical Director of the Gemeinnützige Siedlungs- und Wohnungsbaugesellschaft Berlin mbH, the state-owned social housing provider, to commission a survey from the Institute of Urbanism at the Technical University Berlin, under Scharoun's leadership.¹⁹ This survey identified this existing 'structure', extrapolating its natural conditions combined with a reasoned assumption of its

further development. By focussing on four districts adjacent to Charlottenburg Nord, the study identified population development over time, household size and household members including the number of children, in relation to the professional status of the head of household, the proximity of workplaces and the number and distribution of services.

This data was transposed into a dwelling range, a table minutely listing household size, constitution and classification according to the professional status of the head of household, ranging from self-employed to employed, workers, unemployed, cohabitation and a special column for the over-65s. The rows further differentiated those with and without children over 15, those with children below 15 and those with children not needing supervision.

From these data Scharoun identified a threshold of 650 inhabitants for each dwelling cell that allowed a natural symbiosis of a proportional cross-section of all dwelling types as well as their required services and facilities of retail, culture and education. Complementing the dwelling range Scharoun concluded his research report with a diagram correlating sixteen cells with a detailed list and location of services (Fig. 4). A variety of shops, educational facilities, kindergartens, 135 units of doctors' practices, artists' studios and offices were distributed across the dwelling cells, and cultural, educational and civic institutions constituted its collective centre. The overall urban diagram, the table of the dwelling range and this functional programme of the neighbourhood together describe Scharoun's 'structure' of the neighbourhood.

Figure 4. Hans Scharoun: Ideal Plan, 1956 (© Akademie der Künste, Berlin, Hans-Scharoun-Archiv, No 3811 F.196/2).



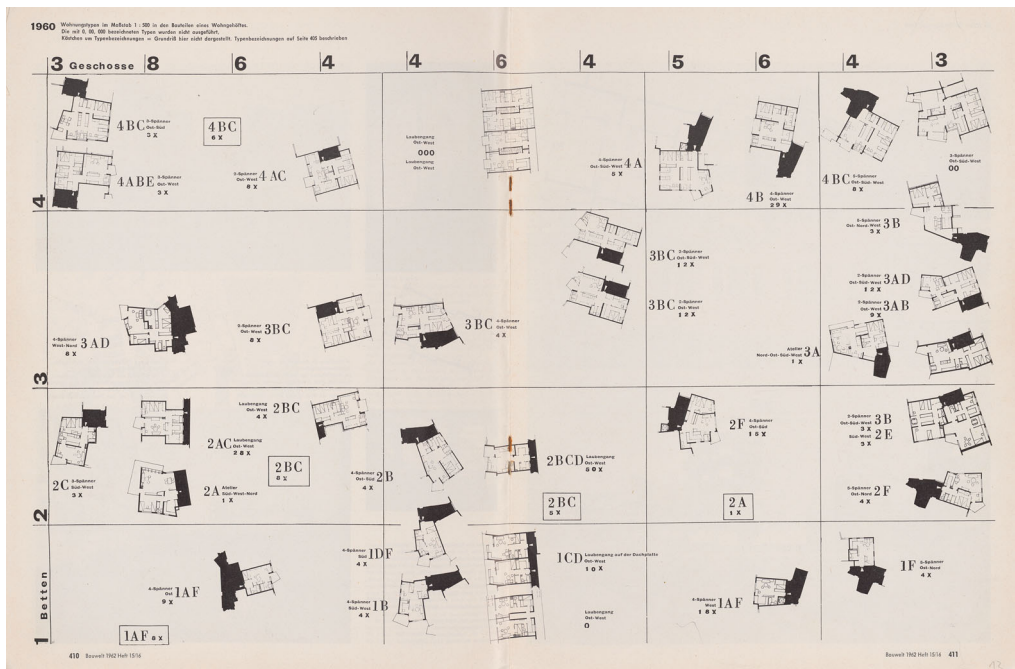
The 'Gestalt' of the dwelling cell

The 'Ideal Plan', the only hand-drawn sketch of Charlottenburg Nord in the Scharoun archives, transposes this structure into a *Gestalt* (Fig. 5). The figures appear smudged, against a ground that is also shaded and scribbled over, as if figures and field merge. The sketch explores the balance between the array of folded rows at the lower part of the sketch *versus* the figuration of the central collective space with its larger outlines in plan in the upper half of the drawing. The second compositional objective is an exploration of a graphic tension between the convex and concave rows,

and a small circle. The circle might represent a *kindergarten*, or what Scharoun would later call a *Wirkpunkt*, or 'effective point', or perhaps even both.²⁰

For Scharoun, the cell sought to provide an experimental reference point for children, a 'nest-like' quality, allowing them to explore their environment in protected stages. *Wirkpunkte* denoted for Scharoun points of constellation or concentration of activities or forces. In his description of the dwelling cell 'Wohnzelle Friedrichshain', 1949, Scharoun argued that each cell needs 'different *Wirkpunkte*' in the interior of the cell: 'market place, place of social life, cultural centre, trades yard'.²¹ This description corre-

Figure 6. Dwelling
Types in the Building
Segments of a Dwelling
Cell, 1960 (©
Akademie der Künste,
Berlin, Hans-Scharoun-
Archiv/ Bauwelt, 15/16
[1962], pp. 411–412).



propose a 'Lecturer-Type', a dwelling in which a designated study area adjoins the living room; a 'Cohabitation-Type', in which two identical spaces combining sleeping and living spaces are mirrored around a central kitchen area; a 'Symbiosis-Type', whereby a studio flat adjoins a larger dwelling to enable the housing of an elderly relative adjacent to the family (Fig. 7). We might also notice that in the majority of his plans, the living room is not only represented with a focus on a common table, but often has a specially designated working zone, often accentuated in a recess between a wall and a window.

Scharoun wrote:

The germ of a dwelling should follow the organic formation of the community being housed. While we fail to acknowledge this, we always tend towards the opposite model of a community structure imposed form above, which we experienced so destructively under Hitler. The living room must be more of a room of the middle than a workroom, but also something other than the traditional *gute stube*. The room should serve the communal demands of our work together. It should encourage the technical and

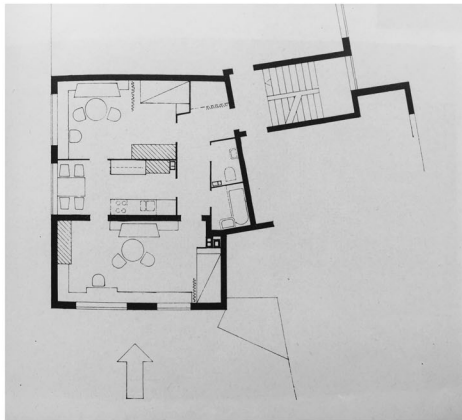
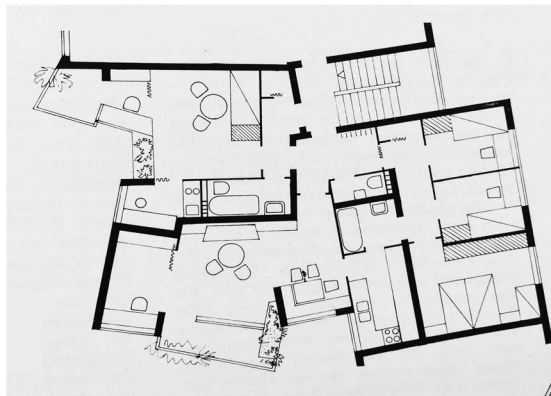
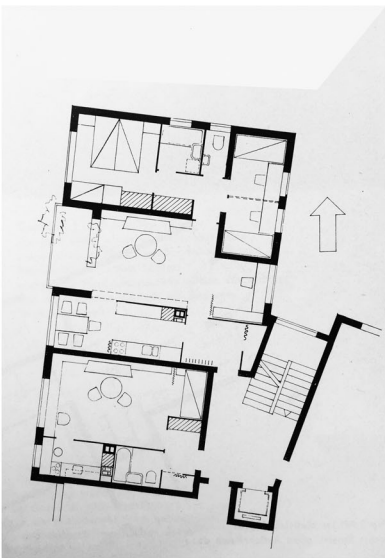


Figure 7. Dwelling Types 'Lecturer-Type' (right), 'Cohabitation-Type' (middle), 'Symbiosis-Type' (right), 1960 (© Akademie der Künste, Berlin, Hans-Scharoun-Archiv/Bauwelt, 15/16 [1962], pp.403, 413).



moral progress of mankind and facilitate the continuing development and mutual interconnections which the technical age suggests. In such a room conversations should be possible between work-bench, drawing table and writing table, promoting the contacts which bring the friends together in their work.²⁴

In Scharoun's model of domesticity the living room is more than the locale of family togetherness, more than the retreat from work or the supervision of child play. It is what he calls the 'room of the middle'. The photograph of Scharoun in discussion with guests in his own 'Atelier-Type' flat in Charlottenburg Nord (Fig. 8) is indicative of his conception of this space and the role it gives the home as the grounding for the development of the self, for the cultivation of interests and pursuits, for manual or intellectual improvement and further cultivation through debate and exchange. The single workspace so prevalent in his dwelling plans can be seen as testimony to the cultivation of the autonomous individual within the space of the home.

Much to Scharoun's frustration, his overall design of Charlottenburg Nord was curtailed, including the broad range of additional programmes and the breadth of his dwelling range. A street bisected the *Gestalt* of the residential cell, undermining Scharoun's carefully-calibrated size and composition of an ideal neighbourhood. No offices or shops were built, and opposed to the relatively complete cross-section of society in Scharoun's dwelling range, each built residential cell finally only contained 36 different types of dwelling plans, their size and composition geared toward the group eligible for social housing. Whilst this definition was broad in the

1950s and included almost 70% of the population, the range of built dwelling plans does not seek the broad social range Scharoun hoped for, nor does it correlate professional status and dwelling configuration.²⁵ Scharoun's own occupation of the Atelier type was the exception rather than the rule.²⁶

Dwelling cells and urban order

To draw up the programmatic requirements for a neighbourhood, and to suggest its dwelling range and corresponding social structure, was not unusual at the time. Both in the 1920s and 1950s the city planning office, building societies and architects worked together to establish the optimal dwelling cell: its overall size, ideal number of inhabitants, composition of different household types and corresponding dwelling range and housing forms, as well as the number and range of additional facilities, such as education, leisure, communal services, culture, etc.²⁷

Scharoun saw Charlottenburg Nord as the partial realisation of his ideal conception of the city as an urban landscape, as articulated in the 'collective plan'. As mentioned before, the 'Wohnzelle Friedrichshain', 1949, was based on Scharoun's research into the dwelling ranges, housing types and additional facilities for an optimal-functioning residential cell, corresponding to the likely population structure of 1975. Charlottenburg Nord was the opportunity finally to realise some of these ideas. Apart from the explicit mixture of social classes that we can also see in Scharoun's dwelling range for Charlottenburg Nord, the principle spatial strategies of this urban plan developed by the eastern sector were similar to those of its western counterparts.²⁸



Figure 8. Hans Scharoun with guests: the 'space of the middle', undated (© Akademie der Künste, Berlin, Hans-Scharoun-Archiv, No 3811 F.196/87 without photographer).

The restructuring of the city into an interlinked network of living, working and leisure was predicated upon the dwelling cell as a 'complete' urban component. The dwelling cell provided the site upon which the optimum size, density and composition of the neighbourhood was intensely discussed as the key component for a new democratic or socialist order in the eastern and the western sectors. Extensive calculations complemented by drawings and plans served to establish its adequate size (most proposals ranged from 5,000–8,000

inhabitants): calculated primarily in relation to the provision and distribution of schools and health-care infrastructure of hospitals and doctors, but also in relation to places of work and leisure, linked and distributed by a traffic network that allowed for urban growth.

Whilst the post-war period exemplifies a particular optimistic belief in the capacity of a fundamental restructuring (and erasure) of much of the city, the constellations of arguments about the natural and beneficial grouping of segments of the urban popu-

lation, about the range of familial organisations, their needs and the needs of the collective, had focussed on the scale of the dwelling cell or neighbourhood since the first decades of the twentieth century.

In this context, Scharoun's research and experimentation exemplifies architecture's capacity to experiment with and probe the housing of segments of the urban population. Despite its curtailed realisation, Scharoun provided a much broader dwelling range than concurrent housing projects: some of his realised dwelling plans, such as the 'Atelier-types' and the 'Symbiosis-Types', exemplify how architecture can attempt to open up the discussion about adequate domestic life.

Siemensstadt: experiments with *Zeilenbau*

In contrast to Scharoun's relative degree of freedom in the conceptualisation and resolution of the neighbourhood in Charlottenburg Nord, the financing of Siemensstadt under a special programme for minimal dwellings in Berlin in 1928 implied an aim 'to accommodate the largest number of beds through plan types rationalised to a minimal size of residential area, without endangering hygienic, social or moral demands'.²⁹ Martin Wagner, then Berlin's city planner, brought together architects of *Der Ring* movement (Hans Scharoun, Walter Gropius, Otto Bartning and Hugo Häring as well as Fred Forbat and Paul Henning) to address this task. In their first meeting, the architects decided to focus on delivering the Siedlung through building rows [*Zeilenbau*], and agreed to take Scharoun's preliminary design forward. The client, a cooperative, state-owned

building association (Gemeinnützige Heimstätten-gesellschaft Primus mbH der Stadt Berlin) supported the design approach, but discouraged the exploration of new building techniques due to limited financial means.

In an era that brought together new production techniques, new financing systems for housing and modern architecture's impetus for experimentation, the drawings of Siemensstadt exemplify one particular focus of experimentation with how to house and group the urban population. For example, Martin Wagner and Bruno Taut's Siedlung Britz (1925–33) focussed on prefabrication, the use of new building materials and assembly on site, delivering a *Siedlung* with only four different dwelling layouts. Taut foregrounded formal and spatial differentiation in the disposition of what he called 'external living rooms', whereas he favoured flexibility of the dwelling plan through similarly sized, undifferentiated rooms. By contrast, in 1928, the RFG (Reichsforschungsgesellschaft für Wirtschaftlichkeit im Bau- und Wohnungswesen/National Research Institute for Efficiency in Housing Construction) announced a competition for the Siedlung Haselhorst, with its main focus on the efficiency and economy of planning and housing.³⁰ It is seen to have signalled the 'complete submission of architecture under Taylorisation', as its guidelines explicitly formulated the departure from blocks to rows of houses [*Zeilenbau*] considered the 'best way to secure ventilation and equally good positions for all apartments'.³¹

These various experimentations at the scale of the *Siedlung* were accompanied by explorations in the hyper-articulation of the domestic. The famous

investigations of the minimal dwelling, the movement studies optimising the layout of the kitchen and the sequence of desired functions in the dwelling, the optimal layout of the plan in conjunction with the promotion of a new residential culture [*Wohnkultur*] were prevalent in Berlin and Frankfurt, and it is within this larger context that Siemensstadt's experimentation of variations with *Zeilenbau* sits.³²

Manfredo Tafuri's famous description of Siemensstadt exemplifies its reception within architecture as well as a typical classification between design approaches.

For Tafuri, Siemensstadt is

... the work in which one of the most serious ruptures within the 'modern movement' became evident ... Gropius and Bartning remained faithful to the concept of housing as assembly line, but contrasting with this were Scharoun's allusive irony and Häring's emphatic organic expression. If the ideology of the Siedlung consummated, to use Benjamin's phrase, the destruction of the aura traditionally connected with the 'piece' of architecture, Scharoun's and Häring's objects tended instead to recover an 'aura' even if it was one conditioned by the new production methods and new formal structures.³³

Tafuri's emphasis on the difference of form and its articulation of an aura is distinctly different from my reading of formal variations within Siemensstadt. As opposed to a rupture within the modern movement, I wish to emphasise a performative continuity of architectural concepts between the pre-modern Nonnendamm to the modernism of Siemensstadt.

Figures, sections and voids

Scharoun designed the gateway to Siedlung Siemensstadt, juxtaposing a stepped building lining the street and an angled linear slab to create a funnelled space (Fig. 9). The stepped building lining the street, colloquially called the 'Battleship', through its referencing of ship building motifs, is characterised by a plastic modulation of the façade, through the stepped repetition and the gondola-shaped balconies. The gondola shape of the balconies gives them an appearance of opening out into the void space. This is supported by the deep colour of their internal walls that insinuate greater depth, providing contrast to the white taut surface of the façade. With the intention of interconnecting inside and outside space, Scharoun dissolved the plane of his façade into multiple, mediating components. As Christine Hoh-Slodzyck notes, in the pedestrian approach to the Siedlung, Scharoun's façades appear increasingly to open up, emphasising the movement and directionality of the space.³⁴

On its western side, the 'Battleship' is joined by a curved building that follows the existing street layout, its façade structured by protruding stair cores with adjoining balconies, which give the curve a dynamic rhythm. The dialogue between the two entrance façades finds its continuation in the dialogue between the front and the back of all of Scharoun's buildings. Each has differently articulated façades, correlating the internal organisation of the dwellings with a distinctive articulation of the spaces bounded by the façades. Scharoun explicitly underscores the distinctiveness

Figure 9. Hans Scharoun: Gateway building Siemensstadt (©Doris Antony, CC BY-SA 3.0, <https://commons.wikimedia.org/w/index.php?curid=3714102>; photograph taken 10.03.2008).



of the building's adjoining void spaces: 'the quiet, wide open garden courtyard with old trees'³⁵ has an entirely different character from the dynamic entrance space (Fig. 10). The 'equal value of the external spaces'³⁶ also led him to arrange the dwellings alternately towards the garden space or the entrance space, which furthermore allowed him the sequence of directed balconies. Scharoun explained: '...apart from the organisational issues I was

especially interested in the formation of the spatiality and the interconnection between internal and external space'.³⁷

Each of Scharoun's three buildings has its own dwelling type. In a similar way to his plans in Charlottenburg Nord, bedrooms and kitchens are tightly planned and more emphasis is given to the articulation of the living room, its intersection with the outside through the orientation of the openings



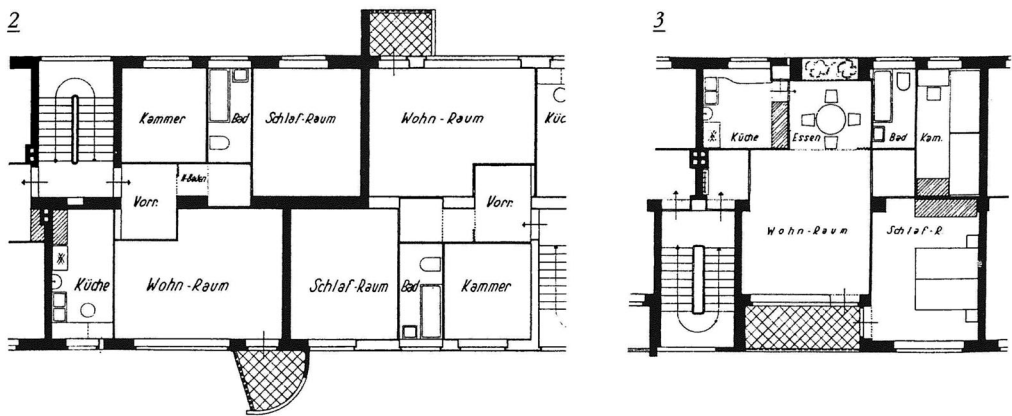
Figure 10. Hans Scharoun: Garden side gateway building Siemensstadt, undated (© Akademie der Künste, Berlin, Hans-Scharoun-Archiv, No 3721 F.81/50 without photographer).

and its expansion through the shape and orientation of the balcony (Fig. 11). In the plans of his 'Battle-ship', the adjacent flats alternate in their main orientation, their balconies and living rooms facing alternately the entrance space or the garden. Scharoun suggested that the narrow and long form of the living room receives a 'scalar increase through the fragility of the balcony gondola'.³⁸ In his smallest dwelling plan, in the angled entrance building, the

living room is oriented east-west, across the depth of the building. In relation to what Scharoun perceived as the tightness of dwelling space at the time, he describes how 'the sequence of daylight variegates and emphasises the spaciousness of the room'.³⁹

Similarly to Scharoun, Häring also foregrounded drawing the internal and external space together as the governing principle for his plan. The balconies

Figure 11. Hans Scharoun: Plans Siemensstadt, 1929 (© Akademie der Künste, Berlin, Hans-ScharounArchiv, No 3721 F.81/6).



are accessible from both the kitchen and the living room. He stated that:

... from the balcony thus results a formally and functionally distinct sphere, that mediated between the rows and the surrounding greenery as much as between the individual parts of each block. This interrelationship is social in so far as the semi private area of the balcony has been formed as a transition between the private sphere of individual dwellings and the public one of the whole Siedlung.⁴⁰

The deep plasticity of Häring's façade (Fig. 12) articulates an affective tension and sectional integration of the buildings' inside and outside. His short rows, perceptually bounded by Bartning's long curve to the south, offers defined articulated external voids.

By contrast, Gropius, Forbat, Bartning and Henning deployed a more reduced vocabulary in their figuration and external expression. Each proposed different front and back articulations.

Gropius promoted a rational subdivision of the dwelling plan to allow maximum flexibility:

Due to the varying needs of those in need of dwellings, I hold up that the form of the flexibly variable dwelling plan, in which the determination of the individual rooms is not rigidly fixed, as the most efficient. Dependent on the nature of employment, number of members and personal wishes, the family can exchange the rooms at will, since none of the rooms is a through room.⁴¹

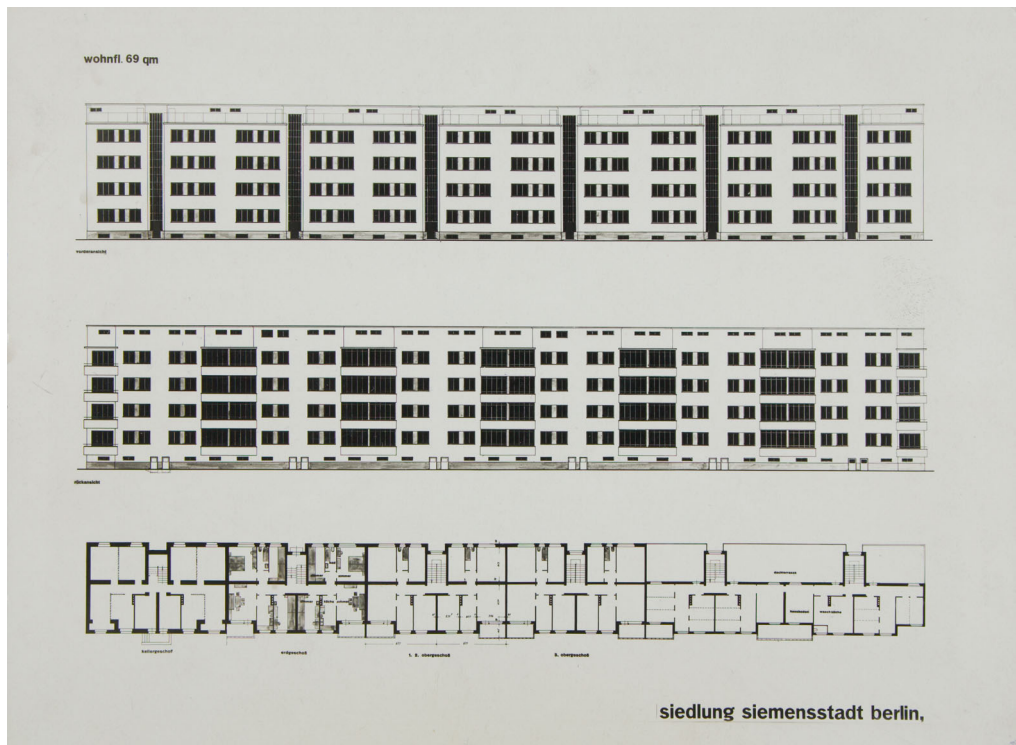
Gropius' plan organisation repeats identical dwelling units, within which the two of the so-called two-and-a-half room flats are aligned and are identical in size, allowing occupation at will (Fig. 13).

Externally, the architectural critic Huter describes Gropius' buildings as '... classically severe, rational and of a proportional brilliance'.⁴² The sharp contours and crisp lines of his buildings foreground the pure simplicity in their figuration (Fig. 14). The suppression of any protruding elements, the planar integration of window openings and the fine



Figure 12. Hugo Häring
Apartments
Siemensstadt, 1929
(photograph by the
Author, 27/03/17).

Figure 13. Walter Gropius Housing Development, Berlin-Siemensstadt, 1929–30 (Harvard Art Museums/ Busch-Reisinger Museum, Gift of Ise Gropius, BRGA.41.80; photograph, Imaging Department © President and Fellows of Harvard College).



render support the planar articulation of the façade, a taught surface stretched over a volume. The window openings are tied together as bands through darkly glazed brick infill, underlining the horizontality of the façade, whilst the recessed, glazed stair cores with their protrusion over the roof provide the vertical rhythm. A small plinth, also rendered with darkly glazed bricks, allows the long white stretch seemingly to float above the ground. Towards the garden side, the protruding

double loggias provide a light vertical relief in the length of the façade. Despite the simplicity and reduction of Gropius' figures, the corner solution demonstrates a plastic maturity in the disposition of elements.

In Gropius' building, it is not so much the perceptual sectional integration between inside and outside spaces or the plastic modulation of its façade that perform the affective relationship between the building and its adjoining space.



Figure 14. Walter Gropius Housing Development, Berlin-Siemensstadt, 1929–30 (Harvard Art Museums/ Busch-Reisner Museum, Gift of Ise Gropius, BRGA.41.28; photograph, Imaging Department © President and Fellows of Harvard College).

Instead, the long elevations provide a quiet, serene *datum* against which the space of the park flows, defining the space by the scale and weight of its presence.

Although we might classify Gropius' and Scharoun's design approaches as the rational and the organic, the functionally severe or the expressive, both address the figuration of the building with the aim of activating the adjacent void space. Both

are part of a larger set of design strategies common to both Siemensstadt and Charlottenburg Nord. Whilst the collective decision on *Zeilenbau* effected a subordination of the internal organisation and external figuration to the given volume, the description above also identified design objectives relating the internal organisation of the dwelling in relation to the external spaces. Scharoun's, Häring's and Gropius' designs exemplify variations

of the sectional perceptual integration and affective charge towards the void spaces between buildings.

Peter Blundell Jones described the buildings of Charlottenburg Nord as having been designed from the inside out, whereby the internal figure of the dwelling was allowed to find its own form and in turn was expressed on the outside.⁴³ Scharoun's extensive work on the range and spatial organisation and formal articulation of the dwelling plans—the distribution of rooms, their aspect and orientation towards the outside, their complex array horizontally and vertically—is virtually 'negotiated' with the figuration of the rows (figs 15, 16, 17). The disposition of the rows to each other in plan, the staggering of their height in section and their distance from each other are equally experimentations seeking to define the space between them. Sectionally, they integrate the articulated ground between them to provide the alternation between forecourt and flowing parkland. Landscape design and topography further accentuate the importance and differentiation of the convex and concave void space between the rows. In both *Siedlungen* the ground *datum* itself is articulated and seen to support the needs of the community in its provision of green space for relaxation and play, encounter, community coherence and identity. In other words, the figurations of both Siemensstadt and Charlottenburg Nord are geared towards the coherence and differentiation of the *Siedlung* as a whole.

Despite their obvious differences in form—Gropius' pure geometry *versus* Scharoun's more expressive orchestration, or the modulations and variations of *Zeilenbau* in Siemensstadt *versus* the 'complete' plastic figuration in Charlottenburg

Nord—the articulation of the architectural figure is in the service of the coherence and differentiation of the *Siedlung* overall. As opposed to the difference in form, and as we shall see below, it is this performative continuity we can trace from the *Siedlung* Nonnendamm, even though its form is in many ways the inverse of the figure of Siemensstadt.

From the perimeter block to the *Siedlung*

The *Siedlung* Nonnendamm (Fig. 18) was initiated by the electronic company Siemens, which had moved its central production location to the Nonnendamm area of Berlin in the late nineteenth century. It was designed by Johnson and Josef Feldhuber and developed by the cooperative building society Charlottenburg Baugenossenschaft GmbH between 1910 and 1912.⁴⁴ The size of its dwellings range between one and three heatable rooms; they include water closets and some even have bathrooms. All have a balcony or loggia each and many offer cross-ventilation. Dwellings facing north had at least the living rooms facing south into the courtyard. In addition, the project housed cooperative facilities such as a casino, a billiard room, common and study rooms. A progressive kindergarten with additional play and study rooms was situated at ground level. The void spaces between buildings housed playgrounds. At street level, the block incorporated shops, rented out preferably to members of the cooperative at reduced rates. Tenancy was protected, and the rent fixed.

With its figure of the perimeter block, complete with dwellings of a high hygienic standard and the extensive provision of facilities and programmes to support its tenants, Nonnendamm exemplified the



Figure 15. Hans Scharoun: Dwelling Cell Charlottenburg Nord (photograph by the Author, 27/03/17).

reform block of the first decade of the twentieth century. As Wolfgang Sonne observes, the figure of the perimeter blocks provided housing solutions throughout the first three decades of the twentieth century, parallel with the rise of the modernist *Siedlungen*.⁴⁵ However, in its spatial and formal coherence, housing a distinct segment of the urban population, it is also representative of other housing projects at the time.

Scharoun used images of Nonnendamm to propose Siemensstadt as a ‘fundamental reordering’ of the system legible in the perimeter blocks of the 1910s. He rejected:

the previous tradition in which the street appears as primary, the building as secondary and as last the garden courtyard enclosed by building walls. Instead, street, house and garden are adjacent and of equal value; each autonomous, each sup-

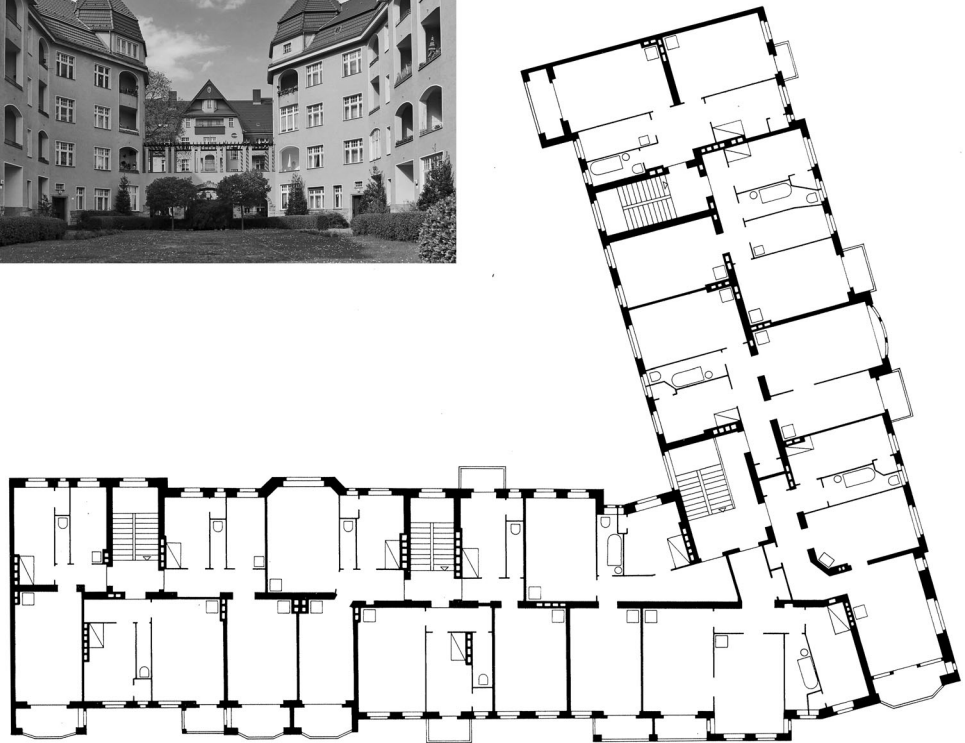
Figure 16. Hans
Scharoun: Dwelling Cell
Charlottenburg Nord
(photograph by the
Author, 27/03/17).





Figure 17. Hans Scharoun: Dwelling Cell Charlottenburg Nord (photograph by the Author, 27/03/17).

Figure 18. Johnson and Josef Feldhuber, Siedlung Nonnendamm, 1910–1912 (photograph by the Author, 21/06/15; plan drawn by the Author. (Source, Architekten- und Ingenieurverein zu Berlin e.V., Berlin und seine Bauten. Part IV: Wohnungsbau Band B: Die Wohngebäude – Mehrfamilienhäuser [Berlin, Ernst, 1974], p. 228).



porting the other. Thus, instead of street and street image there is green landscape into which dwelling cells, grouped into blocks, are situated.⁴⁶ Scharoun's description reflects the general view on the formal shift of the urban texture of the block to the figure floating in the landscape.⁴⁷ However, if we focus on individual design concepts and strategies as opposed to the completed form, arguably,

aspects of Nonnendamm's formal concepts recur in the modernist *Siedlungen*. Also, the perimeter block is carefully composed of solid and voids, its lines in plan organise adjacencies, proximities and separations. The spatial organisation of its dwellings integrates the void in section through the layout of its plans, the provision of loggias and balconies. These are immanently architectural explorations of

how to cohere and differentiate a distinct figure or a segment of the urban fabric integrating and mobilising the demands placed upon housing.

The design moves in Siemensstadt and Charlottenburg Nord can be seen as an increasing amplification of formal experimentation in each of the key spatial components of Nonnendamm—the figure of the block, the façade, the ground and the void—each has been taken up, hyper-articulated and reconfigured, but all in the service of the coherence and differentiation of a segment of the urban population.

In an unpublished manuscript of 1928, Scharoun characterises the architectural capacities of the 1920s in the following way:

next to symmetry now appears asymmetry; imbuing rhythm, stretching and dissolving the surface, the use of materials with new static laws allows an eccentric hold on the horizontal; instead of the decorative or protective function of the façade, it receives an autonomous life; the surface treatment, from which emanates the sensual affect for the perceiver evolves into a science etc. In short, just as in the field of music, the sensation and value of each single ‘instrument’ is newly conceptualized and deployed such that a new orchestral unification occurs.⁴⁸

Here the modernist contribution is re-situated in the sheer amplification of formal variation: in the ongoing orchestral de- and re-composition.

The above indicates a clear continuity of typological reasoning between the pre-modern architecture of Nonnendamm and the modernism of the 1920s and 1950s. Siemensstadt and Charlottenburg Nord rework Nonnendamm’s previous solutions to the

problem of how to house and group the urban population. In this process of iterative reworking, Siemensstadt could be said to be a further iteration in its cleaving the residential quarter out of the continuous fabric; ‘freeing it up’ from its integration with the urban grid.

I described previously how in the Greater Berlin Competition of 1910, the rise of the city as a set of linked and dispersed urban components distributed across the region was premised on the residential quarter as a distinct component for urban growth.⁴⁹ In the Competition drawings, the residential quarter not only provided a differentiated urban segment for a group of the urban population, but also came to be understood as a distinct component for urban growth. As such, the quarter could be cloven out, manipulated and placed anywhere across the new metropolitan city region. This was not only a pragmatic question of cellular segregation and distribution, but also entailed the way in which the questions concerning the health and welfare of the population came to be focussed on this scale.

Elke Sohn and David Kuchenbuch have demonstrated how the dwelling cell or *Siedlungen* came to underlie an organic conception of the city landscape from the early twentieth century, across Nazism and towards post-war planning in Germany and elsewhere; and its parallels can be found in Clarence Perry’s Neighbourhood Unit and its role in the Regional Plan for New York. They share the conception that the reasoning about the health and welfare of the population is focussed on and spatialised within the scale of the neighbourhood. From then onwards, the health, welfare and happiness of families and groups of the urban popu-

lation comes to be negotiated, targeted and mobilised by urban reform in parallel to and through its spatial definition and articulations.

What I seek to highlight here is the concurrence between the 'explosion' of modernist experimentation with the individual elements of the residential quarter, and the rise of the socio-spatial concept of the dwelling cell. Seen in this light, the plethora of design experimentations with the floor plan, the dwelling, the plasticity of the buildings and the coherence of the *Siedlungen* in Siemensstadt and Charlottenburg Nord provide the spatialisation and modes of experimentation within this urban problem field.

The limitations of the domestic 'Gestalt'

What seems to be the culmination of Scharoun's domesticity can be read in two undated plans for Charlottenburg Nord in the Scharoun archive. The hand drawings elaborate the configuration of the end dwellings at the southern tip of the rows that composed the dwelling cells. Their outline in plan is more expressive than his other dwelling layouts, and their difference from all the other material suggests that they might have played an important role for Scharoun. What follows is a speculative reading, and certainly far removed from the reality of domestic life in Charlottenburg Nord. There is no indication if these drawings ever left Scharoun's desk. Nonetheless, here they stand in for a speculative ending for Scharoun's trajectory of typological reasoning about the domestic.

First there are four dwelling plans grouped around a staircase and distribution corridor (Fig. 19). The walls of the individual dwelling plans are rotated to fan out, as if to open up the interior of the rooms

towards the outside. The rotation of the walls is accompanied by an additional shear of the rooms in plan, such that each room is expressed on the outside of the dwelling. This renders the overall outline as staggered, with the floor plans compressed as if to insinuate movement away from the rectangular row they are adjoining.

Secondly, the folded outline in plan has been replaced by an equally dynamic figure (Fig. 20). The figures of the individual dwellings are rotated out from the central access corridor. Rather than the angles of the walls opening up the dwelling towards the outside, here this principle is applied towards the overall orientation of the dwellings. In particular, the location and dynamic shape of the balconies underscore the design objective to propel the dwellings outwards. In both drawings, emphasis is placed on the situation of the working tables I described above as a distinctive feature of Scharoun's plans. In both variations, the location of the individual working desks in the overall figure of the plan is organised such that the view is uninterrupted.

The design strategy appears to be an exploration of how to make the family unit cohere, how to orchestrate its togetherness through the 'room of the middle' as much as how to separate the individuals of that family and promote their individual self-cultivation. The expressive outline in plan seemingly propels 'rooms of one's own' outwards and as far away as possible from the room of the middle. In these two drawings, Scharoun replaces the symbolic centrifugal representation of the space of the middle with a centripetal figure, as if the individual seeks to break away from the bonds of the family.

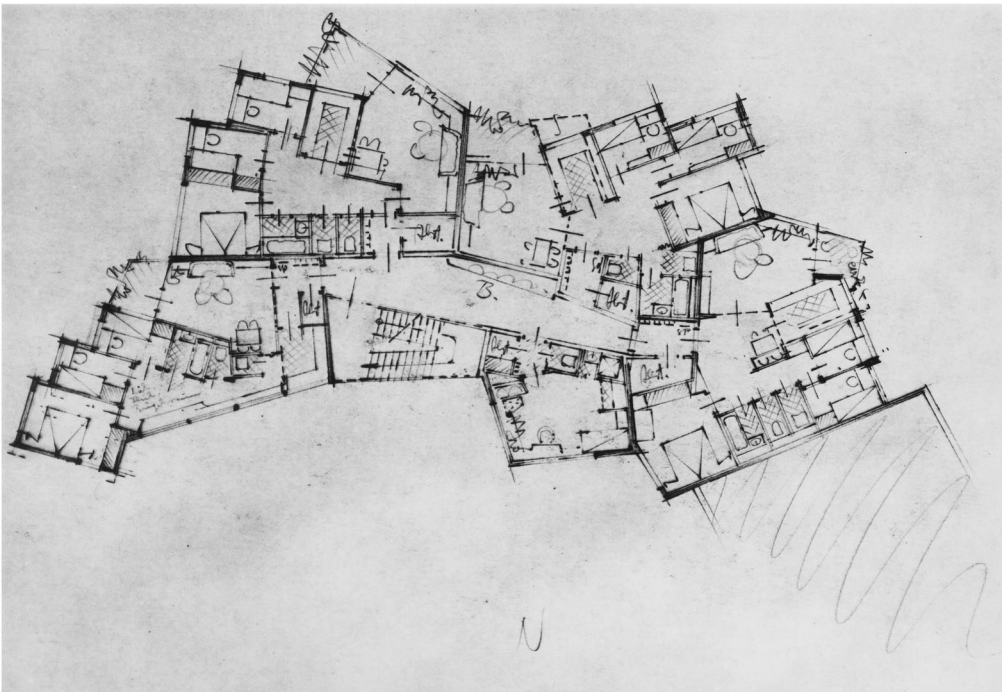
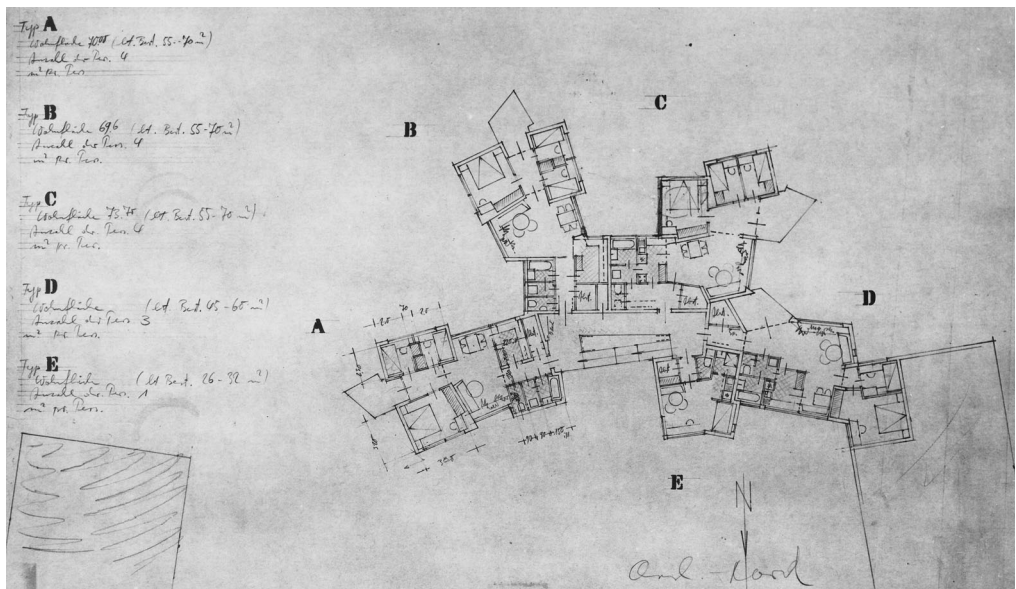


Figure 19. Hans Scharoun: sketch dwelling plan, Charlottenburg Nord, undated (© Akademie der Künste, Berlin, Hans-Scharoun-Archiv, No 3811 F.196/32).

Given that for Scharoun the *Gestalt* draws out an essential aspect of a function, in this case it is more a way of life than housing *per se*. It is interesting to note that the plan that is closest to his dynamic architectural language of folds and angles is the plan that can be read as a critique of the interiority of the domestic. Despite his declared assumption about the possibility of an ideal *Gestalt* for an ideal community, Scharoun appears to be ambivalent about the social forces of family and its spatial interiorisation.

The trajectory from Nonnendamm, by way of Siemensstadt and Charlottenburg Nord to the drawings above, is both a trajectory of Scharoun's increasing approximation between the essence of the domestic and the *Gestalt*, and a trajectory of interiorisation. The dwelling cell came into being by both cleaving out a segment of the urban fabric as well as extracting individuals out of the broad, amorphous and undecipherable social networks of the metropolis. The careful graphic explorations of sequences and adjacencies in the

Figure 20. Hans Scharoun: sketch dwelling plan, Charlottenburg Nord, undated (© Akademie der Künste, Berlin, Hans-Scharoun-Archiv, No 3811 F.196/25).



dwelling plans correspond to the interiorisation of individuals and the beneficial groupings into orderly collectives.

Colquhoun's definition of typology entails not only the reworking of previous solutions, but also the analysis and projection of iterations addressing the potential next design move, or its transposition into addressing a different problem, in a different context. Given that the *Gestalt* of the domestic is here already stretched to its limits, the next move might be the very dissolution of the *Gestalt* of the domestic, dispelling the space of the individual back into and across the city.

The values Scharoun ascribes to his plan, the possibility of the 'technical and moral progress of

mankind' through debate and discussion amongst friends in the space of the middle, the cultivation of the self through study or work on the 'work-bench, drawing table ... (or) writing table' he provides in each room, are values that we typically associate with the broader social networks of the urban, rather than the space of care and intimacy of the realm of the domestic. Scharoun's 'urban' domesticity also rings through when he describes his bachelor flats in Breslau (1929) and Berlin (1928). This serves not only to point out the limits and contradictions of Scharoun's conception of the *Gestalt* of housing, but also seeks to open up both the limits and potentials of architecture's contribution to housing.

By itself, architecture would not be able to transform our norms and understanding of the concept of housing. Instead, it partakes in a much broader socio-political discursive constellation about the modern domestic family and the collective of the cell or neighbourhood. I argued that Siemensstadt and Charlottenburg Nord exemplify this contribution as an ongoing trajectory of typological experimentation where architecture ‘pits’ its material against external demands. Nonetheless, both are iterations rather than transformations of the concept of the dwelling cell or neighbourhood. Scharoun’s experimentation with the dwelling range and his attempts to pluralise options of cohabitation exemplify how the typological process might open up the broader discussion about how we might live.

The next typological iteration of Scharoun’s expressive dwelling plans might thus point to where the potential for a true transformation of the dwelling cell lies, namely in the abandonment of the nested relationship of self, family, community cloven out from the city. Instead, he implicitly suggests that relationships of care and intimacy, and the development of self through discussion and work might go together, even if dispersed across the city.

Conclusion

The preceding pages have traced repetition and variations in the spatial and formal conceptualisation of the dwelling plan and the dwelling cell or neighbourhood from the first decade of the twentieth century to Scharoun’s post-war neighbourhoods. I re-evaluated the ‘event’ of modern housing as a continuity of typological reasoning from pre-war housing quarters, and as the

amplification of design concepts and strategies that are aligned with the shift from the residential quarter to the socio-spatial concept of the neighbourhood. It is at this moment that Modern architecture’s impetus for experimentation is taken into the service of, and propels, the broader reflection across disciplines on how to house and group the urban population.

Whereas the plans of Nonnendamm show a rational subdivision of the perimeter block to group defined dwellings, the plans of Siemensstadt exemplify the broad implementation of the self-contained domestic dwelling in parallel with an explosion of architecture’s formal and material experimentation together with the new parameters of adequate housing: synthesising construction techniques, material innovations, modes and costs of production and the experimentation with wrapping walls tightly around the family to envelop desirable activities.

Scharoun’s, Gropius’ and others’ drawings exemplify the transposition of the new demands placed upon housing and experiment with the possibility of optimising the spatial coherence of the family and the community. These drawings are instances of typological reasoning: rotations, shifts and shears in the lines in plan and section rework both the materials and design concepts of architecture as much as they reflect upon the coherence of a unity of individuals. Their addition into groups are made coherent in plasticly-complex three-dimensional forms that are sectionally articulated with the void space between buildings. Whilst Scharoun saw this process as the disclosure of an essential *Gestalt*, I argued that these drawings perform more

pragmatically in their iterative testing of how to enfold, probe and synthesise the various demands on housing. The value here lies both in the particular realisation of the dwelling ranges and forms of Siemensstadt and Charlottenburg Nord, as much as in probing the wider discussion across disciplines and stakeholders around the nature, size and constitution of groups of the urban population.

Whilst I presented Scharoun's Charlottenburg Nord as another iteration rather than as a transformation of the concept of the dwelling cell, there his contribution to housing was not understood as the failed implementation of his complete *Gestalt*. Instead, his design experimentation propelled a widening of the breadth of dwelling types provided, broadening out the typically restricted dwelling range of social housing. Furthermore, his experiments also promoted dwelling plans conducive to modes of inhabitation different from the standard dwelling plan of the nuclear family, such as the 'Atelier-type' or the 'Symbiosis-Type'.

At the core of the argument lies not so much a revision of architecture's historiography nor Scharoun's place within it. Instead, I sought to extrapolate the agency of architecture in continuously reworking and evolving its own terrain at the same time as suggesting its strategic relative agency towards its 'outside': in this case, in its providing the spatial counterpart to the very conceptualisation of families and groups of the urban population, their needs and aspirations, as much as helping the multi-scalar reasoning about the dwelling cell and its integration into the city.

To end, I wish to highlight typology's agency in moving the field forward independently from the

function of housing. I will do this by speculating on another typological trajectory that leads from Scharoun's 'Battleship', his residential cell in Charlottenburg Nord, to his extension for the Architecture Department of the Technical University in Berlin, 1969 (Fig. 21). The extension exemplifies how his so-called 'room in the middle' is not only a descriptive, but a performative category, activated by a re-orchestration of built elements.

Scharoun's extension wraps around a secondary public space, internally grouping and distributing key functions of the faculty: the library, the museum, lecture halls and the cafeteria are arrayed and distributed next to a double-height interconnected circulation and *atrium* space.

Here, Scharoun's insistence on the intersection of internal and external space, and his desire to promote collective intellectual action that coalesced with his concept of the space of the middle—both as the central space for the home and as central spaces for the collective within the dwelling cell—have been here articulated by the complete visual dissolution of the façade, by the multiplication of the ground level and a sectional stratification that allows the formal and programmatic interpenetration of internal and external void spaces that truly perform as a space of the middle.

Whereas Bernhard Hermkes' *solitaire*, the main building of the Architecture Faculty, provides the foreground of its urban figure, Scharoun's extension provides an important background, addressing the challenge of drawing the institutional and public life together in this urban situation. The large urban plaza, and the set-back from the roundabout with its heavy traffic, provided a difficult



Figure 21. Hans Scharoun: Extension Architecture Department, Technical University Berlin, 1969 (photographs taken by the Author, 23/07/17).

urban context for the formation of a publicly-accessible collective social space. Here the dissolved plasticity of the envelope, the manipulation of the figure, the planimetric and sectional experimentation with the ground and the stratification of the building section come together as an example of architecture's capacity for typological differentiation in the pursuit of an urban strategy of intensification.

Displaced across time, context and function, the typological continuity and evolution of design strategies demonstrate architecture's relatively autonomous process of evolution, its capacity to evolve and rework its field, and its urban strategy.

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Notes and references

1. The German term *Siedlung* denotes any human agglomeration. Its use specifically to describe residential quarters is in parallel to the *emergence* of the neighbourhood as an urban component of growth around 1910.
2. For an extensive documentation on post-Second World War planning, including Scharoun's 'Collective Plan', see, J. Geist, K. Küvers, *Das Berliner Mietshaus 1945–1989* (Munich, Prestel, 1989.) See also, Florian Urban, 'Recovering Essence through Demolition: The "Organic" City in Postwar West Berlin', *Journal of the Society of Architectural Historians*, Vol.63, 3 (2004), pp. 354–369. For Scharoun's most extensive description about the neighbourhood as residential cell and its relationship to the city, see, Hans Scharoun, 'Zur Wohnzelle Friedrichshain', unpublished manuscript, 07/11/1949, in, P. Pfankuch, ed., *Hans Scharoun - Bauten, Entwürfe, Texte. Schriftenreihe der Akademie der Künste Band 10* (Berlin, Akademie der Künste, 1974), pp.184–188.
3. For an overview of Scharoun's *oeuvre*, see, for example, P. Blundell Jones, *Hans Scharoun* (London, Phaidon Press, 1995); M. Risselda, ed., *Funktionalismus 1927–1961. Hans Scharoun versus die Opbouw* (Sulgen, Niggli, 1999); P. Pfankuch, ed., *Hans Scharoun, op. cit.*
4. M Risselda, 'Die Wohnung als Landschaft', in, M. Risselda, ed., *Funktionalismus, op. cit.*
5. For example, see, B. Miller Lane, *Architecture and Politics in Germany 1918–1945* (Cambridge, Mass., London, Harvard University Press, 1968).
6. H. Scharoun, 'Charlottenburg-Nord. Sechzig Jahre Entwicklung der "Siemensstadt" von der Randbebauung zum Wohngehöft', *Neue Heimat*, 2 (1962), pp. 18–32. For an extensive discussion about Scharoun's use of the concept of *Gestalt* as idea and design process, its derivation and difference from Hugo Haring's use of the term, see, E. Janofske, *Architekturräume. Idee und Gestalt bei Hans Scharoun* (Braunschweig/Wiesbaden, Vieweg, 1984). The term *Gestalt* rather than 'form' is used throughout this paper to emphasise the imbued meaning Scharoun assigned to form.
7. A. Colquhoun, 'Typology and Design Method', in *Essays in Architectural Criticism; Modern Architecture and Historical Change* (Cambridge, Mass., Oppositions Books, The MIT Press, 1991).
8. For continuities between the architecture of reform around the turn of the century to the modernist *Siedlungen*, see, J. Posener, *Berlin auf dem Wege zu einer neuen Architektur. Das Zeitalter Wilhelms II* (Munich, Prestel, 1979); G. Kähler, *Wohnung und Stadt, Hamburg, Frankfurt, Wien. Modelle sozialen Wohnens in den zwanziger Jahren* (Braunschweig, Vieweg & Sohn Verlagsgesellschaft, 1985); A. Jaeggi, 'Traditionell und modern zugleich. Das Werk des Berliner Architekten Paul Mebes (1872–1938) als Fallbeispiel für eine "andere Moderne"', *Marburger Jahrbuch für Kunstwissenschaft*, 26 (1999), pp. 227–241.
9. C. St John Wilson, *The Other Tradition of Modern Architecture: The Uncompleted Project* (London, Academy Editions, 1995); P. Blundell Jones, *Hans Scharoun, op. cit.*
10. D. Kuchenbuch, 'Geordnete Gemeinschaft. Architekten als Sozialingenieure—Deutschland und Schweden im 20. Jahrhundert' (Bielefeld, transcript, 2010); see

also, K. Ronneberger, 'Biomacht und Hygiene. Normalisierung im fordistischen Wohnungsbau', in, W. Prigge, ed., *Ernst Neufert. Normierte Baukultur im 20. Jahrhundert* (Dessau/Frankfurt a. M., Edition Bauhaus, Vol. 5), pp.432–444.

11. K. Borsi, 'Drawing the region: Hermann Jansen's vision of Greater Berlin in 1910', *The Journal of Architecture*, 20, 1 (2015), pp. 47–72.
12. See T. Finney, 'The object and strategy of the ground: architectural transformation in New York City housing projects', *The Journal of Architecture*, 20, 6 (2015), pp. 962–987.
13. For a broader contextualisation of the relationship between the perimeter block and the modernist *Siedlung*, see, W. Sonne, 'Städtebau versus Siedlungsbau. Der Urbane Kontext zu den Werkbundsiedlungen im 20. Jahrhundert', in, M. Schirren, P. Kahlfeldt, C. Kromrei, eds, *Bauen und wohnen. Die geschichte der werkbundsiedlungen* (Stuttgart, Karl Kramer, 2016).
14. P. Blundell-Jones, *Hans Scharoun*, op. cit.
15. H. Scharoun, 'Zur Wohnzelle Friedrichshain', op. cit., p. 187.
16. *Ibid.*, p.188.
17. *Ibid.*
18. This Leitbild was most clearly expressed by J. Göderitz, R. Rainer, H. Hoffmann, in *Die gegliederte und aufge-lockerte Stadt*, (Tübingen, Wasmuth, 1957). The research and content of the book was disseminated earlier, in the mid-1940s: Hans Bernhard Reichow, *Organische Stadtbaukunst [The Organic Art of Building Towns]* (1948). See, J. Diefendorf, *In the wake of war: the reconstruction of German cities after World War II* (Oxford, Oxford University Press, 1993); E. Sohn, 'Hans Bernhard Reichow and the concept of Stadtlandschaft in German planning', *Planning Perspectives*, Vol. 18, 2 (2003).
19. A copy of the survey report, complete with tables, is in the Scharoun Archive, Berlin [Scharoun WV 196, Mappe 30]; for a summary, see, K. Thiele, '60 Jahre Berlin-Siemensstadt', *Bauwelt*, 15/16 (1962), S.399–415.
20. Scharoun described the plan of Charlottenburg Nord as 'forces effect plan' [Kraefftewirkplan]. According to Gerd de Bruyn, Scharoun used this term in reference to Heidegger, in particular the latter's understanding of the essence imbued into space through place: G. de Bruyn, *Fisch und Frosch oder Die Selbstkritik der Moderne*, *Bauwelt Fundamente*, Volume 124 (Berlin/Basel/Boston, Birkhäuser, 2001).
21. H. Scharoun, 'Zur Wohnzelle Friedrichshain', op. cit., p.184.
22. E. Janofsky, *Architekturräume*, op. cit., p. 23.
23. *Ibid.*
24. H. Scharoun, undated lecture manuscript, printed in, J. Geist, K. Küvers, *Das Berliner Mietshaus*, op. cit., p. 450.
25. Florian Urban, 'Mass Housing in East and West Germany—Controversial Success and Ambivalent Heritage', in, J.Lizardi, M. Schwegmann, eds, *Espacios Ambivalentes: historias y olvidos en la arquitectura social moderna* (San Juan, Puerto Rico, Ediciones Callejón, 2012), pp. 52–75.
26. A community representative confirmed a relative social homogeneity of the area at the time of the projects first occupation. He did not remember any correlation between profession and assignation of dwellings.
27. Mies van der Rohe's collaboration with the Urban Planning Department in Stuttgart in the establishment of the dwelling range for the Weissenhof *Siedlung*, Ernst May's dual role as city architect and planner of the city of Frankfurt and its *Siedlungen* and the collaboration between the chief city planner of Berlin, Martin Wagner, and Bruno Taut exemplify collaborations on the dual constitution of the adequate size, composition

- and formal articulation of *Siedlungen* in the 1920s. See, Markus Jäger, *Siedlungen der Berliner Moderne/ Housing Estates in the Berlin Modern Style*, Jörg Haspel, Annemarie Jaeggi, eds (Basel, Berlin, Deutscher Kunstverlag, 2012; 2nd revised edition); N.Huse, *Siedlungen der zwanziger Jahre—heute* (Berlin, Publica Verlagsgesellschaft, 1984); M. Wagner, 'Großsiedlungen, der Weg zur Rationalisierung des Wohnungsbaues', in, *Wohnungswirtschaft*, 3, 11/14 (Hamburg, 1926), pp. 81–114; C. Mohr, M. Müller, *Funktionalität und Moderne: Das Neue Frankfurt und seine Bauten, 1925–1933* (Cologne, Rudolf Müller Verlag, 1984); K. Kirsch, *The Weißenhofsiedlung. Experimental housing built for the Deutscher Werkbund in Stuttgart 1927* (Stuttgart, Deutsche Verlagsanstalt, 1993; English version).
28. See Note II above.
29. Quoted in J. Kirschenmann, E. Syring, *Hans Scharoun. Die Forderung des Unvollendeten* (Stuttgart, DVA, 1993), p. 127.
30. M. Bienert, *Moderne Baukunst in Haselhorst. Geschichte, Bewohner und Sanierung der Reichsforschungssiedlung in Berlin-Spandau* (Berlin, Berlin Story Verlag, 2015).
31. *Ibid.*, p. 12.
32. For example, see, B. Miller Lane, *Architecture and Politics in Germany*, *op. cit.*
33. M. Tafuri, *Architecture and Utopia, Design and Capitalist Development* (Cambridge, Mass., The MIT Press, 1976).
34. C. Hoh-Slodzyck, N.Huse, G.Kuhne, A Tonnemann, eds, *Hans Scharoun. Architekt in Deutschland 1893–1972* (Munich, Beck, 1992), p. 31.
35. H.Scharoun, quoted in A. Jaeggi, 'Die Planungs- und Baugeschichte der vier Siedlungen, Großsiedlung Siemensstadt', in *Siedlungen der zwanziger Jahre—heute, vier Berliner Großsiedlungen 1924–1984* (Berlin, Bauhaus-Archiv, 1984), p. 39.
36. *Ibid.*
37. *Ibid.*
38. *Ibid.*
39. *Ibid.*
40. Hugo.Haring, *Die Bauwelt*, 36 (1930).
41. W. Gropius, 'Grossiedlung Siemensstadt', *Die Bauwelt*, 4 (1930), pp.9–10
42. K-H. Hüter, *Architektur in Berlin. 1900–1933* (Dresden, Verlag der Kunst, 1987), p.136.
43. P.B. Jones, *Hans Scharoun* (London, Phaidon Press, 1995), p. 65.
44. Architekten-und Ingenieur Verein zu Berlin, eds, Berlin und seine Bauten. Teil IV: Wohnungsbau (Band B: die Wohngebäude - Mehrfamilienhäuser) (Berlin, Ernst & Sohn, 1974), pp.228–229
45. W. Sonne, 'Dwelling in the metropolis: Reformed urban blocks 1890–1940 as a model for the sustainable compact city', *Progress in Planning*, Vol. 72, Issue 2 (2009), pp. 53–149.
46. H.Scharoun, 'Die Jungfernheide', in, P. Pfankuch, ed., Hans Scharoun, *op. cit.*, p. 93.
47. See also Pavlos Philippou's analysis of *Collage City* elsewhere in this Issue of *The Journal*.
48. H.Scharoun, 'Bauen, Schöpfung und Betrachtung', unpublished manuscript, in, P. Pfankuch, ed., *Hans Scharoun, op. cit.*, p. 82.
49. K. Borsi, 'Drawing the region: Hermann Jansen's vision of Greater Berlin in 1910', *op. cit.*