Manlio Michieletto

DOTs

COMPOSE THE SIEDLUNG

Ernst May's Niddatal project, Frankfurt 1925-1930. The Anger as an archetype of the formal structure



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The Anger as an archetype of the formal structure
di \ by
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The problem of the big city, particularly in Germany, emerged as a significant architectural challenge at the turn of the century. This urban issue, which this paper aims to address, is fundamentally an architectural problem.

Giorgio Grassi, *La costruzione logica dell'architettura* (1967), 2008.

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Introduction

The context of this research work is deeply rooted in the architectural contributions of Ernst May, particularly his work on the three *Siedlugen* that formed the Niddatal project. This project, conceived and implemented in Frankfurt during the Weimar Republic between 1925 and 1930, is a significant backdrop for the research. The main objective is to take a unique and innovative approach to identify a formal structure with a high degree of generality, a novel aspect of this research that can be adapted to analyse settlements based on a well-established archetype: the *Anger Siedlung*. This study is a comprehensive historical exploration of relevant examples of architecture and urban planning, offering a rich and nuanced understanding of the subject.

1. Every work of architecture, in this case, the *Siedlung*, has a profound structure beyond a sensitive appearance that makes its value and greatness substantial.
2. A work of architecture's deep or formal structure is intelligible and understandable through analysis of its composition.
3. The third assumption concerns the intelligibility of an architectural work's formal structure, which derives from its comprising more or less complex transformation processes of typological structures. This assumption underscores the practical application of our theoretical framework, a vital aspect of this research, in understanding and analysing the formal structures of architectural works. In other words, our theoretical framework is not just a theoretical construct but a practical tool that can be used to understand and analyse the complex transformation processes of the typological structures of architectural works.

Formal structure, in the context of this research, refers to the underlying rules and orders that substantiate architecture. This structure can be understood and analysed through a compositional analysis. Therefore, when we refer to the structural aspects of the form, we refer to an internal structure and a particular set

of rules that qualify and characterise it. It also means assigning a specific role to its form:

> "The term form is not used here in the sense it is sometimes given to him in aesthetics when it is conceived in opposition to the content, identifying the content with the profound dimension and the necessary quality of the object and relegating the form to represent the superficial aspects and contingent qualities. The meaning we attribute to the word is closer to what it assumes in metaphysics, where the form is opposed to matter, the matter is that with which one forms they build things, and form is what determines a matter so that things are what they are" (Martí Arís, 1990, p. 77).

In the context of this research, "form" refers to the underlying rules and orders that substantiate architecture. It is not just about the visual appearance of a building but about the internal structure and the set of rules that define and characterise it.
Martì Arìs discusses a concept of form close to metaphysics and opposes the idea of matter. The form then becomes a work's deep, hidden but intelligible structure, underlying the non-sensitive aspects of an architectural fact and relevant in reality to a logical-spatial framework of the object, a code inscribed in matter:

> "[...] An object possesses a latent and invisible figure in addition to possessing an evident figure, which can only be identified intellectually, to which we give the name of the form " (Martí Aris, 1990, p. 80).

Ultimately, it is necessary to move away from the concept of a figure, that is, from the visual and immediate transposition of an object or architecture, to return to the etymological context of the form. Looking at Römerstadt from the Nidda Valley, enclosed in its curved and characterised by bastions profile, it does not

provide information on its structure. The declared objective lies beyond the sensitive form of the intervention in the search for the typological identity that stands at the basis of its formal structure. The typological identity clearly describes the *Siedlung*, corresponding to an architectural reasoning independent of place, time, use, and cost. This reasoning lies in the materiality of the urban fabric. Still, it is recognised as a principle and, at the same time, abstract ordering, such as a law of uniformity and rhythm[1].
The connection of different elements characterises the city, elements identified by the types. In turn, the types result from previous transformations, "in the belief more general than cognitive activity, according to which only the connection with previous experience creates possibilities for progress" (Martí Arís, 1990, p. 11). From this perspective, the link with the experience takes on total value through memory and its invention, which in this case translates into a re-proposal of the Anger, or the public space identified by one passing road and along which the appropriate characteristic elements are inserted and the typical composition according to this model. Behind the apparent simplicity perceived when visiting the *Siedlung*, a complex and highly articulated world is hidden, a world that inevitably becomes the research object. The analysis of types, i.e. the relationships they establish and their consequences, translates into the study of the composition of the architectural work, leading to a unique result: the formal structure.

The architecture of the book
The reading of the Niddatal *Siedlungen* is a study aimed at decoding a way of composing the modern settlement with an urban character and an intelligible formal structure consisting of precise and determined elements derived from the Anger tradition.
The first commitment of the research is the study of the idea of a master plan, of a satellite and housing present in May's thought, as valuable tools for understanding composition. The next step involves tracing an excursus on the cultural context and the state of affairs in which the architectural work is inserted: from the figure of Ernst May, the story of him as *Stadtrat*, or head of the urban planning sector, up to the most complex matter of the New Frankfurt. The experience of progressive protagonists and events aimed at an objective common: low-cost residence for the disadvantaged classes, an objective culminating with the II CIAM Congress in 1929.
All this fits into a framework of favourable economic conditions: "the relationship which at that moment was established between the program (the plan) and the city built, among urban planning principles (in particular the *Trabantenprinzip*, or cities

1. On typology, see Manuel De Solà-Morales, "From memory to abstraction", in *Casabella*, *n.* 509, 1985.

for satellite nuclei, developed by May) and the achievements (the settlements in the city)" (Aymonino, 1971).
Once the main elements of the composition have been identified, their internal structure and the complex system of relationships that bind them, the deep structure, the formal explanatory structure, is made explicit regarding the formalisation of thoughts on the *Siedlung* a starting point for identifying valid themes in a general way. Essentially, a rational, or rather communicable, method is studied to compose the *Siedlung* in the belief that "the quality of the project consists in the quality of the theme characters and their recognition in the forms of architecture" (Semerani, 2008, p. 53).
The analysis continues with an "analogy for comparison" conducted on a dual path, both concerning the experiences relating to the work completed with the architect (Wroclaw, Frankfurt, Magnitogorsk, Mombasa and Wiesbaden) and the contemporary experiences of other protagonists of the architectural panorama of the twenties: J.J.P. Oud, W. Gropius and B. Taut.
Once the compositional mechanisms of the settlement have been understood, starting from the Anger and the idea of *Siedlung*, it has been deduced in May's thought, an idea that inevitably includes elements and parts of the city's history[2]. Some analogies are examined contemporary. The concept of history, in everything, has an antecedent; it is linked to the belief that only the connection with practice anterior produces possibilities for progress. It is then inevitable to refer to this experience through memory. Memory is a system of rules that allows us to rediscover the rationality of the compositional process and the use of elements and architectural types.

2. Here, the concept expressed by Aldo Rossi in *Architecture of the City* refers to the city's construction over time and the belief that "every city is in its history." Aldo Rossi, *The Architecture of the City*, Città Studi Edition, Turin, 1995.

Three key concepts for (re)composing the city: the Trabantestadt, the Satellite City, and the Anger

The city model: the Trabantestadt

The Trabantenstadt

Before delving into a detailed analysis of the *Siedlungen*, which are meticulously dissected for their formal structure anchored on the *Anger* archetype, it is crucial to establish a framework of the references and their sedimentation in May's thought. The *Anger* archetype, a central element in the *Trabantenstadt* concept, refers to a central open space in a residential area, often used for social gatherings and community activities. This comprehensive understanding, critical to grasping and comprehending the subsequent architectural behaviours in the Nidda Valley, will keep you engaged and informed about the *Trabantenstadt* concept. Specifically, these references, including the planning, satellite, and *Siedlung*, are the primary and characteristic elements of May's work in urban composition, forming the foundation of her architectural approach.

The *Trabantenstadt* (satellite city model), a pivotal concept that has been a constant companion to May since his early urban planning ventures in Silesia, is the cornerstone of this research. This concept, born from May's rich experiences and insights, profoundly influences his subsequent architectural endeavours, shaping the very core of his work. Its significance in urban planning cannot be overstated, and understanding its nuances is vital to comprehending May's innovative approach.

Ernst May's transformative 'satellite' journey commenced in 1906 at Unwin's studio with the German translation of Town Planning in Practice. This marked his second English stay, having frequented London University College. He then completed his university studies at the Technische Universität (polytechnic) of Munich with Prof. Theodor Fischer, a period that significantly shaped his understanding of urban planning.

May's time in England, particularly his work in the Unwin office during the construction of Hampstead Garden Suburb, was a significant period in his training. Here, the idea of the satellite city, a vital component of the *Trabantenstadt* concept, took root and began profoundly influencing his future projects, laying the groundwork for his innovative approach to urban planning. These early projects, deeply rooted in the *Trabantenstadt* concept, are a fascinating testament to May's forward-thinking and creative approach.

This research aims to delve into the primary reasons for the *Trabantenstadt* concept, the initial proponents, and the supporters who, with their work, contributed to its formation. A specific focus will be on its application in the Niddatal project, a real-world case study that comprehensively explains the concept's history and theory. The Niddatal project, which applied the *Trabantenstadt* concept in its urban planning, offers valuable insights into the practical implications of this concept.

The references

Ebenezer Howard

The initial link in this story is represented by the figure of Ebenezer Howard regarding garden cities, which states:

> "A garden city is a city designed for healthy living and beneficial work. It is large enough to allow an adequate life but not too large, surrounded by a green belt (intended for the campaign); the lands of the entire city will be public or administered by the Citizens' Society" (Howard, 1965).

The garden city, as a satellite nucleus of the modern industrial city, has long been interpreted as a convincing model for a policy of decongesting urban phenomena. It originated an extraordinary episode of urban planning in the immediate post-war period: Sir Patrick Abercrombie's Greater London Plan, from which the program of creating London's satellite cities and new towns was derived. This concept of the garden city, emphasising the creation of self-contained, green, and well-planned residential areas, shares similarities with the *Trabantenstadt* concept but also has distinct features that set it apart.

Howard applies the 'Royal Crescent' architectural model, including the Bath Circus and the Nash houses in Regent Park, London, to create an actual city. This model, known for its distinctive crescent shape and integration with the surrounding landscape, is a critical reference in the *Trabantenstadt* concept. Howard imagines an immersed town in the countryside, not in bucolic or rural terms but instead in terms of structured soil, where the landscape continues with some newly built elements.

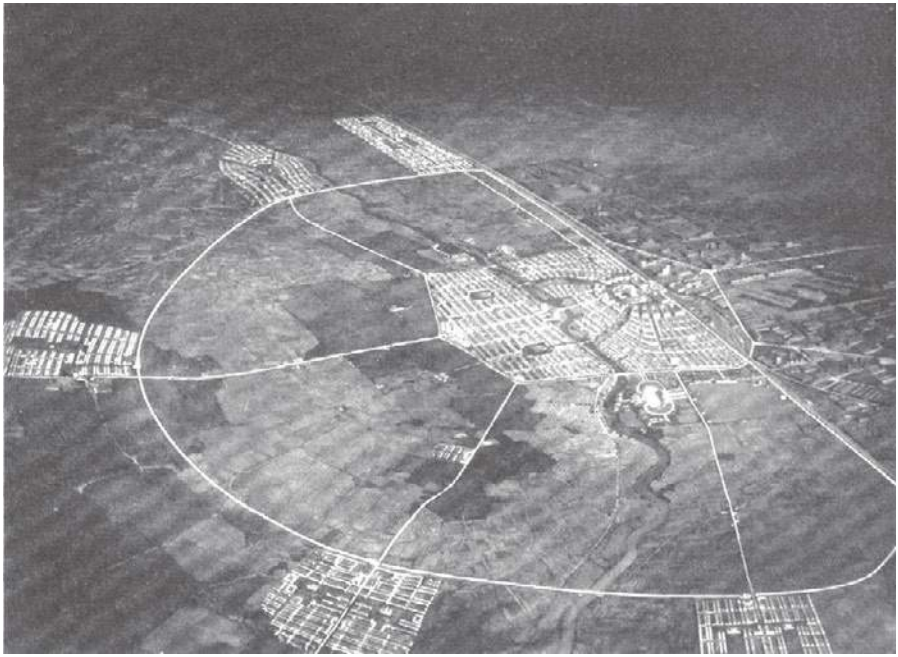
These parts of the urban development have limited growth, and once 32,000 units are reached, a new settlement is generated intended to offset further growth:

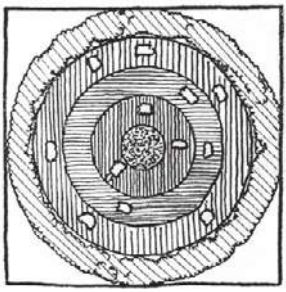
> "[…] this principle of development – a principle that consists of always conserving a belt of the countryside or gardens around our cities will always be kept in mind until, in the course of the times, there is no group of towns not arranged following the rigid geometric shape of my diagram, but grouped around

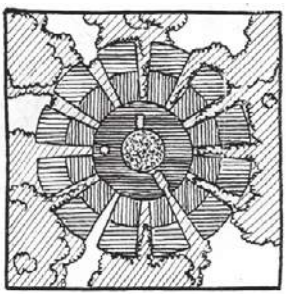
> the central city so that all the inhabitants of the entire system, although in a certain sense, they live in modest-sized towns, they would live in a magnificent and essential city and would enjoy all the advantages of housing in the countryside" (Howard, 1965).

Into the seventh diagram of the series contained in the text Garden Cities of Tomorrow, Howard pauses to describe the relationship between the individual Garden Cities and the growth dynamics of the system urban satellite. This diagram leads us back to two large ideas inherent in the initial quote: the first concerns a large green belt that separates the big city from the perimeter system of satellite cities (in turn, one by one, immersed in the countryside), destined to withstand the push for expansion from the centre, which is drastically limited; the second idea consists of a heavy and rational infrastructure of the entire urban system as a whole.
In addition to appearing in R. Unwin's treatises, these two ideas are part of May's *corpus* of applications, especially regarding the master plan for Frankfurt, which found an adequate conjuncture between politics and architecture.
Another typical element of Howard's thinking is the single-family house, which is identified as the only form of housing that can be adopted in a city with distinctive characteristics: low density and relationship with nature. This concept, which goes beyond the typology of the home isolated in the plot through the composition of individual units in row houses, is a crucial element in the *Trabantenstadt* concept. It reflects the concept's emphasis on creating self-contained, green, well-planned residential areas.

Raymond Unwin
Raymond Unwin, a key figure in urban planning, has consistently dedicated himself to identifying and developing the elements to build a new way of living and understanding urban development as a dwelling that belongs to the city and the countryside. His contributions, particularly in developing the *Trabantenstadt* concept, have significantly influenced the field of urban planning.
In *Town Planning in Practice*, Unwin explores the practicability of architectural composition principles in the city's design. These principles, which involve relating the parts of the composition itself, hierarchically accentuating some elements and subordinating them to others, are a vital aspect of the *Trabantenstadt* concept. They play a crucial role in shaping the design and layout of the satellite cities.
Unwin and Parker fully developed the composition of satellite nuclei in the 1904 competition project for the first garden city of Letchworth. The concept of 'satellite nuclei', which involves the







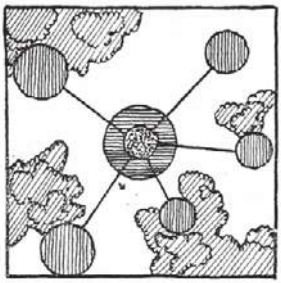


Fig. 1 • Image taken from the film *Die Stadt von Morgen*, 1930.

Figg. 2, 3, 4 • Options for the Greater Berlin Project. Concentric urban development scheme; Radial urban development Scheme; Urban development scheme for satellite nuclei.

creation of multiple centres, each of which is represented in a way formally defined, is a critical element of the *Trabantenstadt* concept. It reflects the concept's emphasis on creating self-contained, green, well-planned residential areas.
These centres are considered autonomous and with character precisely to show the idea of a formally concluded whole, the fruit of the aggregation of its essential element, the simplest urban element: the single-family house.
May's compositional method is indebted to these principles. He is a debtor to a particular way of assembling the city, from his general design and plan to passing through the public spaces and his specific design, that of the house.
With Unwin, Ernst May recalls, "We didn't discuss figurative fashions that change from year to year, like the fashion of women's hats, but it was about finding the eternal laws of humanity that would have a meaning even when the architectural form that covers them today will have undergone profound changes" (Tafuri, 1964, p. 67).
A bond, the one with the English urban planner, which becomes active in the *Siedlungen* of Frankfurt, both as regards the element basis of the composition, the aggregated single-family house terraced (Secchi, 2005, p. 39), both in terms of passage from the concept of a garden city to that of a satellite-linked to context and with an unmistakable urban character.
In 1925, Unwin's collaborator, Charles Benjamin Purdom, published the book *The Construction of the City by Satellite Nuclei*, which underlines the interest that this type of planning idea had now assumed (Henderson, 1990). The text essentially traces the story of the English garden cities, focusing on the need to build new settlements like satellites gravitating around a leading centre.

Die Stadt von Morgen!
A few years later, in 1930, the film Die Stadt von Morgen was released (Goldbeck and Kotzer, 1930, pp. 257-259), The City of Tomorrow (fig. 1), whose review in the pages of the *Städtebau* magazine provides a detailed and complete picture of the will to avoid and overcome the so-called *Klumpenstadt*, or the crowded city, according to a scheme that closely resembles Howard diagrams.

The early projects
Trabant cities of tomorrow
The first city project by Ernst May, composed of satellite nuclei, dates to the Breslau plan competition of 1920 (fig. 5). This proposal is based on a fundamental political premise, or the extension of the administrative boundaries of the city for combat overpopulation and promiscuity between housing and industries, not forgetting, at the same time, the need to rationalise the communication routes. These political choices aim to extend

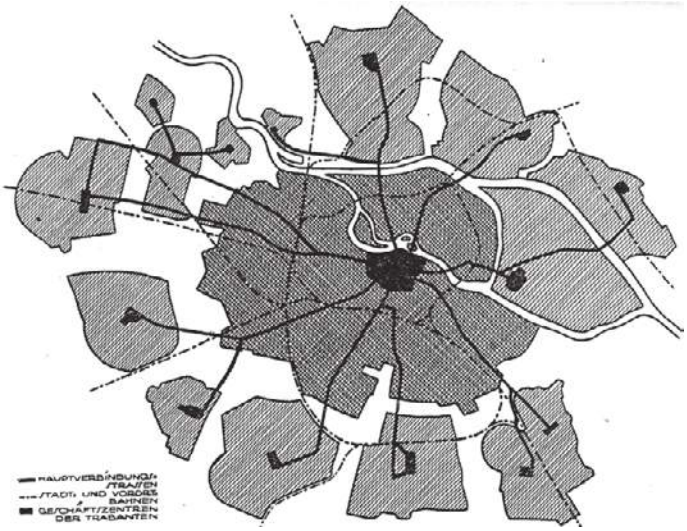




Fig. 5 • Competition project for developing the city of Wroclaw, diagram. E. May-H. Böhm, 1922.

Fig. 6 • Competition panel for Breslau, E. May - H. Böhm, 1920.

the city's power on previously autonomous territorial areas: a genuine act of annexation, which constitutes the keystone of the entire planning operation (Henderson, 1990).
The proposal of May and his collaborator Böhm, also present in the "New Frankfurt" working group, plans to surround the central nucleus with *Trabanten* (satellites), placed beyond a narrow green belt, as happens in the projects already discussed of garden cities by Howard and Unwin:

> "These individual entities, with a delineated outline, can be expanded through external neighbourhoods characterised by low and spacious buildings in settlements with zoning well graduated, to which they will join organically secondary centres" (fig. 7) (May 1922, pp. 51-55).

The project presentation article, published on the pages of *Schlesisches Heim* (May 1922, pp. 269-273), provided a brief excursus on examples of outdated city models from the *Trabantenstadt*, excursus present a decade later also in the magazine *Das Neue Frankfurt* (May 1930, pp. 28-29). The first image represents a concentric city (fig. 2), a model already widely used classic. In contrast, the second image takes up, always schematically, Rudolf Eberstadt's project, Bruno Möhring and Richard Petersen, on the competition for the Greater Berlin of 1910[1] (fig. 3), May recognise an embryonic desire to create the satellite nuclei, but according to a radial widening. The following diagram (fig. 4) continues instead of the planning hypothesis of the *Trabantenstadt*, in which we find the communication routes that lead from Wroclaw towards satellites, connected to pre-existing villages, ending in their centres, consisting of commercial activities, and served from new public transport lines.
The satellites for the "New Wroclaw" follow the orographic conditions or are structured according to routes that are equipped with solid regularity, a fact that testifies to the willingness to present interventions containing an accentuated urban idea and bearing apparent symmetries and alignments (Fig 6). From this point of view, the German architect is more closed to Unwin's proposals rather than Howard's utopian city design.
This prototype city for satellite nuclei allows evaluations not only of a purely symbolic nature but also linked to drawing as a whole; the architect goes into depth with the projects of each *Siedlung*, which is the topic of the next chapter.
Ernst May's urban planning experiences in Silesia allowed him to refine his cultural tools, which he elaborates on by binding

1. The drawing of the Göttensberg extension can be found in May Ernst, Siedlungspläne, in *Schlesisches Heim*, 1920, n. 2, p. 8.

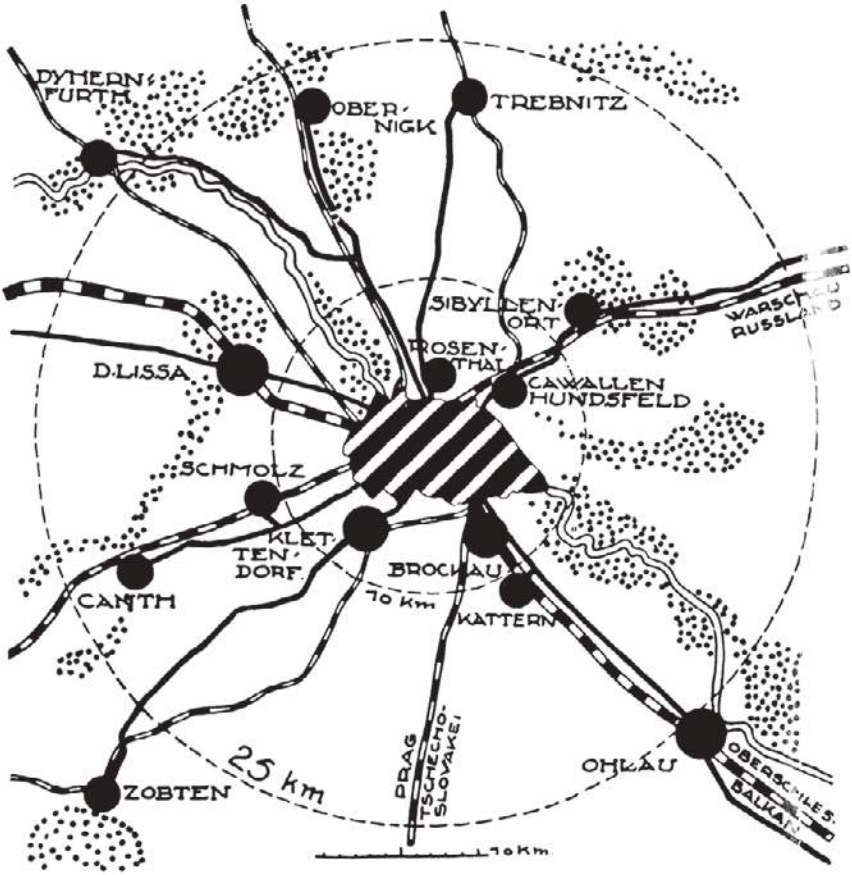


Fig. 7 • Drawing of the regional development project of Wroclaw, E. May - H. Böhm, 1925.

to architectural and urban planning methods and ideal and civil programs of broad scope (Tafuri, 1964, p. 71).
May subsequently provides a detailed description of the concept of *Trabantenstadt* on the pages of the *Städtebau* magazine in 1922:

> "[...] The image (fig. 5) shows a model of expansion of a large city using the satellite system. This expression was chosen to express that the new organisms concentrate around the old nucleus as the planets rotate around the sun: free bodies that depend on the central star for many functions. [...] the necessary satellites will be built, relying on small existing inhabited centres or creating them from scratch, joining them to the central nucleus through appropriate connections. [...] Despite their local autonomy, they remain linked to the central city, from which they exploit all those cultural and economic advantages that flow onto the daughter city. The fundamental difference between satellite and the usual small city lies in this"[2] (May 1922, pp. 51-55).

He also returned to the topic in 1958 with a short writing entitled *The Satellite Nucleus, an Element of the Modern Metropolis*:

> "In 1920, I designed a plan for development in Germany for the first time, according to the idea of satellite nuclei for the 'Great Wroclaw'. Satellite cores were envisaged, immersed in the landscape, with new connections and relationships with small villages so that the inhabitants could use free space between the historic core and the *Trabanten*" (May 1958).

In this publication, May recalls how the references to the first cities made up of satellite nuclei must be traced back to the construction of the garden cities of Letchworth (1903) and Welwyn (1920), both located north of London. He also attributes Raymond Unwin as the first to have used the motto "Satellite City" in the competition for Paris 1920, in which a crown of settlements is hypothesised around the urban centre, predicting future urban planning choices.

2. [...] A limit is placed on the central city after a certain regularisation of its shape according to the territory it extends. It acquired the green area surrounding the central municipality, used for public greenery and arable land. In individual points of this large green belt, located in particularly favourable positions (in our age of metropolitan railways and cars, the distance of the satellites from the central body can rise to 20-30 kilometres). [...] If they are equipped with all the typical institutions of local administration, the individual satellites can become partly residential settlements, partly small industrial cities or localities that serve these two purposes equally. [...] The city creeps into the countryside like a shapeless mass without any precise limit. This uncontrolled expansion results in a loss of local character, making it impossible to locate a distinct identity anywhere.

The external nuclei, having a population varying between 30,000 and 100,000 inhabitants, are autonomous. However, they are linked to the centre by the presence of the primary services: theatre, museums, universities, and hospitals. From this point of view, it differs considerably from Howard's conception, which placed all these elements at the centre of the garden city (DAM, 1986, pp. 93-99).

This last factor must be considered for the following chapters, as the Frankfurt settlements also rest on this precise compositional methodology: a historical nucleus around which the autonomous satellites are located but simultaneously dependent on the centre for primary services.

Ernst May also provides a regional development diagram, not limiting the satellite form to the municipal boundaries but expanding the *Trabantenstadt* concept far beyond the city limits (fig. 7). Such vision, extended to the entire region, is a further element taken up in Frankfurt in the study of the long-term plan, which closely resembles the diagram of satellite towns in London.

The satellite model: the Siedlung

The Siedlung

Once the plan has been defined, we delve into Ernst May's ground breaking and highly innovative contributions to urban planning and architecture. May's revolutionary solution to designing satellites, known as the *Siedlung*, is a testament to his visionary approach. We trace the road towards a plan drawing for the city composed of satellite nuclei in its founding elements. It's crucial to understand how these satellites should be developed and their shape and structure, relying on past experiences. Following the war, May was appointed as an official of the *Schlesische Landgesellschaft*, a Wroclaw-based company that, with state funding, played a pivotal role in constructing housing developments in suburban areas of Silesia. Within the company's building office, May was involved in the design of the *Schlesische Heimstätte* (Silesian Homeland), a project focused on settlements and affordable construction. In 1920, the office also established the *Schlesisches Heim* magazine, a platform for disseminating architectural and urban planning achievements and activities, marking a significant period in the evolution of these fields[1] defining a preparatory path towards Frankfurt, a strategic planning process that involved identifying critical areas for development and establishing guidelines for urban growth. This process was crucial in planning new settlements, economically building houses, and publishing a magazine to disseminate the achievements and activities conducted.

Some examples of early settlements realised outside inhabited centres as a solution to the problem of the big city are the basis for facing and understanding May's projects in Silesia and the future choices in Niddatal.

1. A copy of the original issues of the magazine *Schlesische Heim* is preserved in the archives of the Germanisches National Museum in Nuremberg, Germany.

The references

Raymond Unwin

Unwin's ideas on settlement composition proposed a logical order in studying the constituent parts and the need for a clear dependence of the secondary parts on the main ones. His principles of relating and proportioning elements within a project that affects the city are evident in the *Siedlung*, which draws heavily from Unwin's ideas. In his work, May built upon Unwin's concepts, adapting them to the specific context of urban planning and architecture in Germany. This showcases the collaborative nature of architectural development, inspiring us with the possibilities of collective creativity.

The composition is, therefore, configured as an association of more elements: a road, a square (opening) and a green area (fig. 8), which they, in turn, order the layout of the homes. The latter aggregate, forming a precursor unit of the neighbourhood unit and at the same time indebted to the rural village; for example, with the revival of the idea of a cluster, the space around which a series of services becomes community-based, which, upon closer inspection, recalls the founding process of the German *Anger*[2].

Residential building types have, in these patterns, some slight variations; the articulation of collective places, of 'primary centres' and 'secondary', a spatial organisation principle that designates certain areas as focal points and others as supporting elements, produces a notable variety of spaces. It is combined with the adoption of rows made up of single-family units attributable to the tradition of English cottages, the lesson Camillo Sitte gave regarding the organisation of urban space and applying control techniques in the physical construction of urban places and road sections.

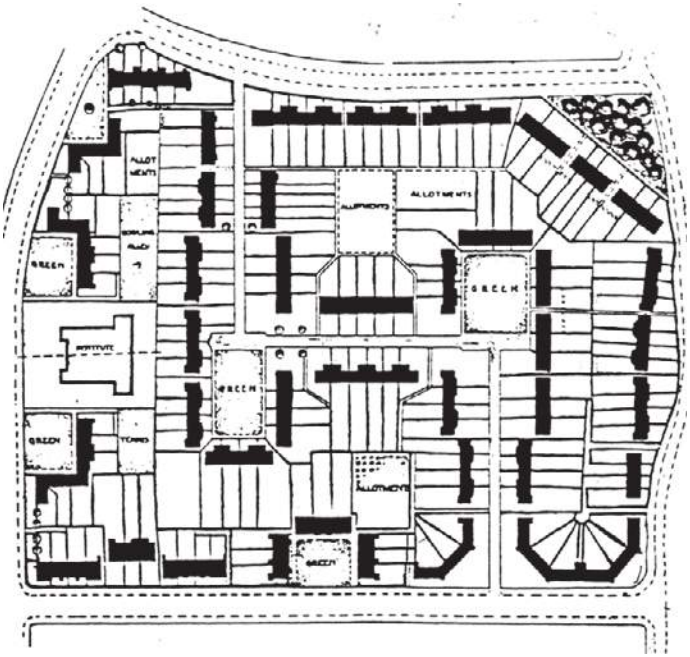
Such road cross sections became fundamental for E. May, especially in Niddatal's projects, as they allowed him to control public spaces geometrically and proportionately along the circulation system within the settlement[3].

Numerous types of spaces are thus constructed, combining precise compositional principles attributable, for example, to the search for open views onto a free space or park for the possible number of buildings, the search for closed perspectives, the visual continuity, and the design of the gardens.

The effort is to bring back the city's new dimension to known proportions and sizes to an elementary town,with meticulous work of identifying units that are always smaller and better manageable, as well as in terms of urban architecture.

2. See Chapter 1, *Three ideas for (re)composing the city*.

3. See Chapter 4, *The components of the Siedlung*.



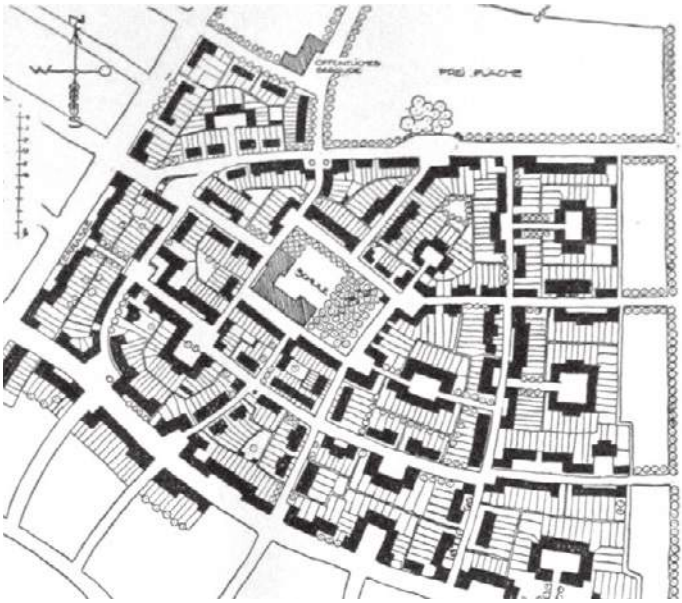


Fig. 8 • Compositional scheme of an area within the city of Letchworth.

Fig. 9 • Plan of the Leipzig-Lößnig settlement by H. Mutesius, 1918.

Waldemar Kuhn

May's work fits into pre existing research on the *Siedlung*. It is no coincidence that much of the architectural culture in Germany, even before the end of the war, was questioning itself with insistence on the most appropriate form to give to the new settlements and the construction methods most suitable for their realisation[4]. The most exciting episode within this research is constituted from the arguments provided by Waldemar Kuhn in his book *Klein Siedlungen aus Friedrizianischer Zeit* (Kuhn, 1918). In this book, a systematic study of the colonies founded during the reign of Frederick II is catalogued, and an extensive collection of *Siedlungen* was built as part of the internal colonisation of eighteenth-century Prussia. Kuhn's work was instrumental in shaping the understanding of the *Siedlung* model, and his ideas significantly influenced May's approach.

Starting from the settlement problem, Kuhn's analysis moves on to studying typified construction techniques, a method of standardising construction processes to increase efficiency and reduce costs, present in New Frankfurt. It is no coincidence that similar problems require similar solutions.

The study of standardised dwellings made up of serial elements has also accompanied the architectural story since the early days of May. This theme is constantly re-proposed by the former experiments in Silesia, passing through the Frankfurt projects in the Soviet Union and Africa, up to the latest settlements built in the Federal Republic of Germany, demonstrating May's work's enduring practicality and relevance[5].

Hermann Muthesius

1918, Hermann Muthesius's book *Kleinhaus und Klein Siedlung* was published as a construction manual for minimal houses and small settlements. It identifies the origin of the tradition of these short residential compositions in the sixteenth-century "*Fuggerei*" of Augsburg.

Like Kuhn, Muthesius did not limit himself to providing ideal schemes for realising the *Siedlungen*. Still, he pushed the analysis to the limit of the constructive definition, developing, as mentioned, a practical manual for construction. The manual, in addition to analysing the small bourgeois house, focuses on the adequate form the settlement had to take, indicating how the model to follow, precisely that of *Siedlung*.

4. On the story of the birth of the Siedlung in Germany: De Michelis Marco, *Nascita della Siedlung*, in *Bruno Taut: la figura e l'opera*, FrancoAngeli, Milan, 1990, pp. 197-216.

5. For a complete examination of Ernst May's projects in the Federal Republic of Germany, see Seidel Florian, *Ernst May: Städtebau und Architektur in den Jahren* 1954-1970, doctoral thesis TU-München, supervisor prof. Press Ingrid Krau and Prof. Winfried Nerdinger, Munich, 2008.

The envisaged solution was to consider existing cities as completed episodes and, simultaneously, consider external, established settlements based on row houses with gardens, which allow direct contact with nature, in a vision of the city immersed in the countryside. In the project for a *Siedlung* in Leipzig-Lößnig (fig. 9), they recognise elements borrowed from a custom, typically Anglo-Saxon. Muthesius's English sojourn between 1896 and 1903, as an official of the German embassy, in the years in which the first garden city of Letchworth was founded, certainly had a determining effect on the formulation of his ideas.
According to the site layout, the square, which is the centre of the project, is identifiable by the presence of a public building, the school. These elements denote a formal structure achieved using those compositional expedients already seen in Unwin in the diagram of the satellite cities of London (1921), within this case, a more precise and more defined subdivision of the homes into blocks, surrounded by streets, which essentially end up meeting around a green area. The central circulation remains outside the settlement, crossed only by residential streets. The building type, row house, and distribution characteristics allow us to identify the tradition within which May's work in Frankfurt was also completed.

Peter Behrens
Vom sparsamen Bauen is not just the title of the published text in 1918 by P. Behrens and H. de Fries, but above all, a precise way of assembling the single-family terraced house, i.e. the primary elements of the composition into complex elements: the *Gruppenbauweise* (grouped construction).
An adequate general compositional process generates *Siedlung*'s cost-effectiveness, which resides exclusively in using typified and standardised materials or construction systems and applying programmed distributive functionality.
A hypotactic speech requires a specific sequence whose rhythm specifies its reading, and the rhythm imposed by the system *Gruppenbauweise* becomes pressing in the belief that the concentration of several close beats leads to savings in construction. The grouped construction involves a different conception of street and square. The square is no longer an enlargement of the roadway and pedestrian paths; it is a space that opens between the buildings, regardless of its possible use as a traffic route. Placing part of the gardens in front of the houses creates ample space between one group of houses and another, which makes you forget the narrowness of alignment. They can also make public areas accessible to the community.
These complex elements, represented by groups of single-family homes, become primary elements in forming a complete

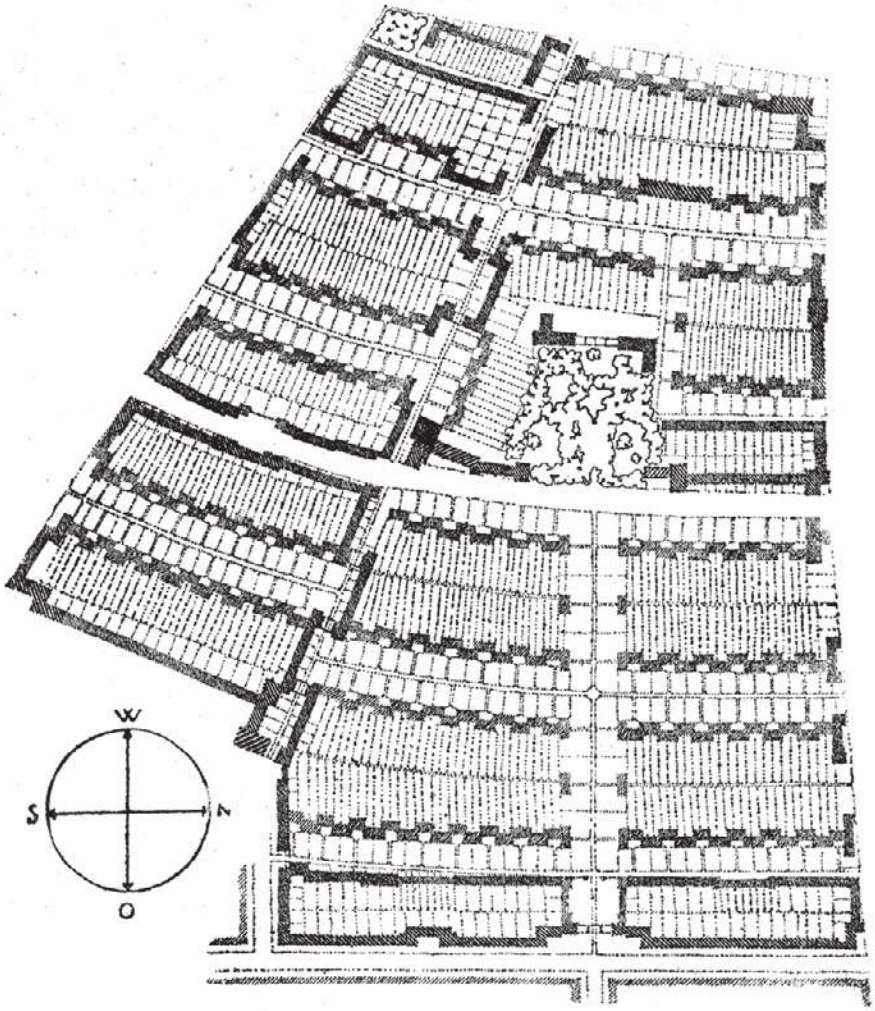


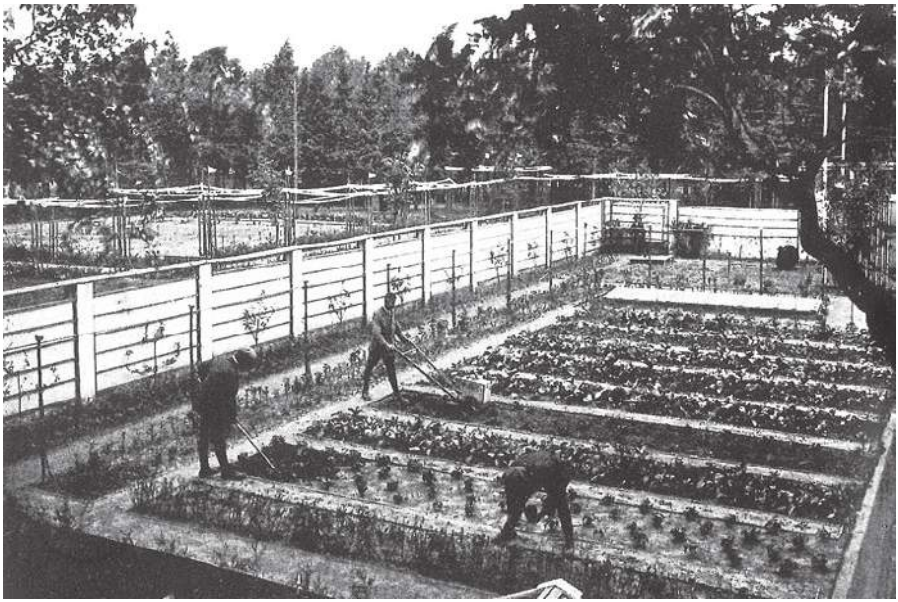
Fig. 10 • Master plan Siedlung, project by P. Behrens, 1918.

settlement. In *Vom sparsamen Bauen*, a city project[6] is proposed (fig. 10), whose structure formally recalls the custom of the *Anger Siedlung*, the theme of the next chapter relating to the *Siedlung* model put into practice in Frankfurt[7].
Along the main road/*Anger*, they stand in addition to the residential streets directed to the blocks of *Gruppenbauweise*, the public buildings, gathered around a green space, which takes on the character of the centre of the composition, recognisable through the heights of the buildings, the language used and their overall arrangement. The adequacy of design moves makes the composition clear and intelligible, increasing its interest as an example for future planning.

Leberecht Migge
Another interesting case study is the one represented by Leberecht Migge, May's future collaborator in Wroclaw and later in Frankfurt, which publishes a text entitled *Iedermann Selbstversorger* (everyone self-sufficient). He argues that all people have the right and the possibility to produce what is necessary for their livelihood.
Migge foresees solving a social problem through a particular architectural solution. The idea is to build settlements outside urban centres, in which the size and subdivision of the lots allow the creation of gardens in direct contact with homes so that every family can draw from their land as necessary for survival (fig. 11).
Ernst May wrote about this topic in the review of Bruno Taut's book *Die neue Wohnung. Die Frau als Schöpferin* (1924), recalling the architect's experience Hans Weisen, who founded December 1919 the *Siedlung* Weißeloh, based on an autarkic management of a tiny rural community.
The exceptional nature of the Wiesel *Siedlung* was not so much its economic autonomy, a recurring characteristic of that period, but more so because tiny houses would have had to be produced in it, complete with furniture, which could have been shipped by train throughout Germany. In this case, May, from the pages of *Schlesisches Heim*, while pointing out the exaggerations in Weisen's thinking, underlined the importance of foreseeing in the construction of a house, not only the structural building parts but also the furnishings (Zanchettin, 2000). These topics also appear on the pages of the magazine *Das Neue Frankfurt*.

6. The project is published in Behrens Peter, De Fries Heinrich, *Vom sparsamen Bauen. Ein Beitrag zur Siedlungsfrage*, *Vr. der Bauwelt*, Berlin, 1918, p. 73.

7. See Chapter 3, *A method for composing the Siedlung*.



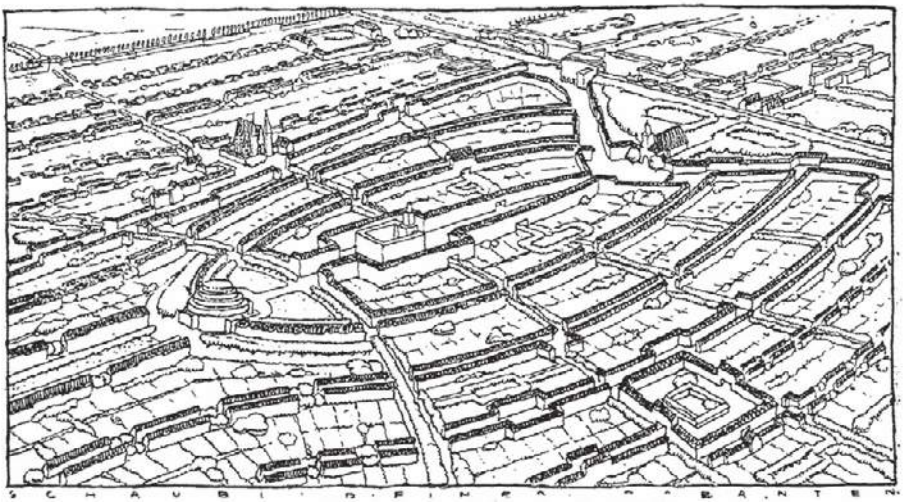


Fig. 11 • Photo of common gardens. Project by L. Migge, 1920.

Fig. 12 • Bird's eye view of the Woischwitz satellite, 1920.

The early projects

The analysis of the panels for the "New Breslau" project of 1922 allows us to observe how the settlements follow in shape, partly the orographic conditions or are divided according to tracks with a strong regularity and, as previously mentioned, are based on precise symmetries and alignments (fig. 12).

The project for the Woischwitz satellite, positioned on the city's south side, appears exemplary. Along a road layout of two arcs that form a pseudo-oval, strips of low houses are arranged interspersed with gardens. The settlement is structured according to a symmetry given by the central axis leading to the public buildings, a solution closely resembling Letchworth's formal scheme. Therefore, these urban design elements are closely connected with Unwin's proposals or May's English education during his years of study. It should be underlined, among other things, that the Woischwitz satellite was chosen by May to explain the construction of the *Trabantenstadt* settlements in the article *Stadterweiterung mittels Trabanten*, which appeared in 1922 on the pages of the *Schlesisches Heim*.

From a bird's eye view (fig. 12), the link appears clear with the architecture of Wroclaw, with the reference to the building, which closes the perspective of the central promenade at *Jahrhunderthalle* by Max Berg from 1913. Also, the planimetric drawing, extracted from the competition panel (fig. 5), denotes two exciting facts: on the one hand, the satellites, gravitating around the nucleus central, are separated from this by a green belt and maintain an autonomy, clearly formal, or a structure closed and concluded, compared to the historical nucleus; on the other side, too depending on Wroclaw for primary services, it has buildings public aligned at the centre of the settlement.

The types of residence that have become emblematic of the Siedlugen of German rationalism are substantially those of the *Kleinhaus* and the *Reihenhaus*. The connection with some housing experiences over time is evident; remember the Ausburg *Fuggerei* or the countless *Zwei*—or *Dreifensterhäuser* of German Gothic cities (Grassi, 2008, p. 135). Therefore, determining new urban residential typologies aims to deepen and refine some fundamental types identified in the city's historical experience dating back to its original composition.

In Central Europe, the *Kleinhaus* typology has remained unchanged from the Gothic age to the present and is identified and evident in its very form. Thus, the terraced house reports its own morphological and distributional characteristics in the projects of the Modern Movement, in a relationship of continuity with its tradition.

The only significant difference compared to the typical plans of German row houses is the presence of the Frankfurter Kuche,

which detriments the large Stube. This identifies a multifunctional space, not monofunctional, as in the Niddatal estate developments.
The key points are identified in the importance of simplification in the construction of the house and the elimination of the superfluous aimed at the search for the essentiality of forms.
Likewise, the great work of typifying the accommodation is fine with the re-proposal of the *Anger*. At the same time, the dialogue between the plan's apparent spontaneity and its constituent parts' regularity appears with some evidence. We are faced with one central concrete vision of the housing problem, given its mandatory urgency and absolute modernity that it imposes on adopting new techniques for its solution.
Since the third issue of the *Schlesisches Heim* magazine, May has proposed interesting furnishing ideas and typified objects destined for mass production.
In this context, the progressive sizing of the accommodation and design of its interior furnishings appear as two consequential phenomena: the limited dimensions require maximum rationalisation of the living space. A domestic space reduced to the essentials is also the main topic of Bruno Taut's *Die neue Wohnung*, and ten years earlier, in 1909, H. Tessenow, in *Der Wohnhausbau*, seems to predict Ernst May's future choices.
Essentiality becomes the dominant motive for a radical attempt at living reform, a life within the domestic sphere also finds a way to express itself in the New Frankfurt projects.

The Siedlung archetype: the Anger

Anger, derived from the German word for 'meadow,' is not just a physical space but an archetype of formal structure that holds a significant place in urban planning. It serves as a central gathering point and a symbol of community in many settlements, marking its profound historical importance in urban development.
Initially, on the pages of *Schlesisches Heim*, May is worried about answering the dimensional problem of the built lot and the area intended for the garden. They are foreseen of the standard measurements, which vary from 1,500 to 2,500 sqm for peasant houses, while the gardens must be between 300 and 500 sqm, considering the maximum cultivable area in free time. Once the calculation of the necessary zones has been resolved, the possible form for the *Siedlung* is defined, referring to its traditional structures:

Streusiedlung = scattered settlement.

Straßesiedlung = settlement along a road.

AngerSiedlung = settlement around a collective space, is a crucial concept in urban planning. It is a form of urban development where the central space, known as the *Anger*, serves as a focal point for the community.

The first case, the *Streusiedlung*, is typical of contexts in which the existing conditions impose the dispersion of the houses according to a scattered placement across the territory. The second case, the *Straßensiedlung*, is realised when connective routes are scarce. Therefore, the entire construction is realised along the only existing road, getting the typical elongated design. The *AngerSiedlung* is set around the shared space, the square, that becomes the central axis of the village. This last solution is also obtained through grouping buildings, as in the 'ancient towns', to limit places that function as squares for the community: the *Versammlungsplätze* (collective places).



Modern urban planning projects have embraced the *Anger* or public space as a cornerstone element for the other aspects of the composition. This approach stands as a testament to the innovation and the limitless possibilities of the *Anger* concept. Services and public buildings strategically surround the square or piazza, and the low single-family houses are assembled and arranged in a comb-like perpendicular to the road front, demonstrating the adaptability and versatility of the *Anger* concept.

This square results from dividing the road into two parts, which typically delimit a green space identified by the village well and sometimes by a building that, depending on its size, can be a church or a chapel (fig. 13).

Over time, the green space is overtaken by a traffic route passing through the settlement; however, while maintaining the character of the central and public space, it is still a place of gathering and leisure for the population. This arrangement is the basis of the structural scheme of Römerstadt, which also allowed the reading of other similar projects, Praunheim and Westhausen, or the whole Niddatal project.

In May's *Siedlungen*, the church may not have a physical place, but its essence remains. However, public buildings and commercial activities characterise the *Anger* as a public place for the satellite's inhabitants. This underscores the community-centric nature of the *Anger*, fostering a deep sense of belonging and unity among the residents, a critical aspect that urban planners and architects should strive to achieve.

The references

The references to the *AngerSiedlung* are not linked to specific projects of well-known architects but are part of the Prussian tradition of colonising the territories. In the case of the *Anger*, a way of composing the settlement is linked to unwritten laws regulated precisely from this public space on which the architectural elements stand and assemble.

Fig. 13 • Photo of the Anger in the village of Blankenburger, Germany.

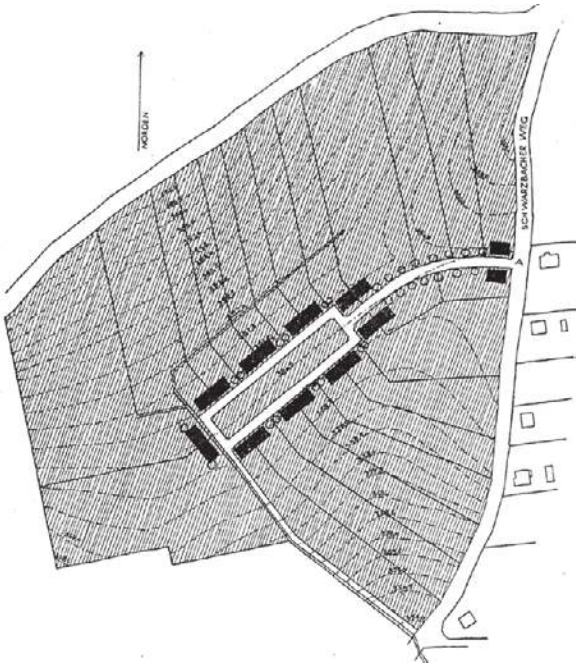
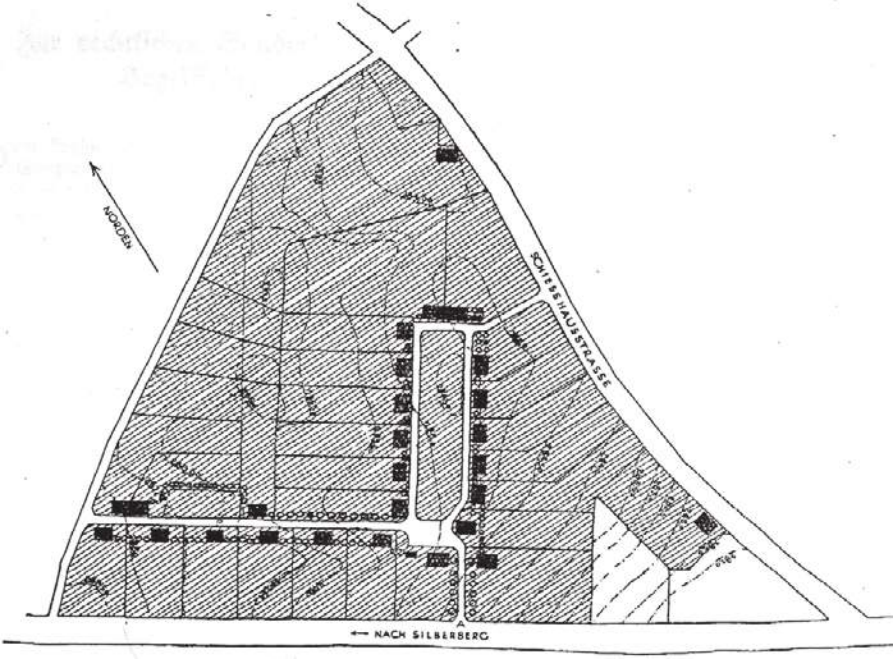


Fig. 14 • Master plan of the Hirschberg Siedlung, 1920.

Fig. 15 • Photo of the Frankenstein Siedlung, 1920.

Fig. 16 • Master plan of the Frankenstein Siedlung, 1920.




NORDEN
SCHIESSHAUSSTRASSE
NACH SILBERBERG

Two examples are retrieved from the past: two small villages near Berlin, The *Angerdorf* Pankow and the *AngerSiedlung* Blankenburger (fig. 13), as they appear in a photo from 1910.
Pankow and Blankenburger represent, in two different eras, the same compositional procedure, dominated by the place of worship as a sign of recognition of the centre of the *Anger*. Ernst May traces the history, the references, and the architectural traces left behind on the territory over time and mixes them with new concepts and spaces picked from the English world. A job of comparison and assumption of urban planning techniques that find their maximum expression on the banks of the Nidda.

The early projects
Since the initial issues of the magazine *Schlesisches Heim*, Ernst May has published *Siedlungen* projects to be implemented in Breslavia[1]. This allows us to evaluate his compositional approach, especially regarding the application of the *Anger* system.
The examples of *AngerSiedlung* of Hirschberg (fig. 14) and Frankenstein (fig. 15-16) were developed in length with a road running around the small central square, representing an ideal domestic and community function model. A similar solution in many ways is provided by the enlargement of Göttesberg, on which attention has already been focused on its being an explicit reference for the *Trabantenstadt*[2], with the difference that, in this case, the *Anger* is not formed by the alignment of twin houses but of row houses positioned on the lot fronts.
The first year of *Schlesiches Heim* ends with its publication of a particular issue containing some exciting one's projects which develop the concept of *Anger*: The *Kleinsiedlung* Brieg (fig. 17) and the *Siedlung* Neustadt (fig. 18). Looking at them, it appears the affinity with the work of Unwin, which does not consist, only in the adoption of compositional choices, is evident and straightforward, but rather in recognising, on the one hand, the possibility of solving with small one's settlements the endemic problem of the big city and, on the other, to support the need to provide such interventions a precise individuality.
The individuality of each satellite nucleus becomes a distinctive feature in the Niddatal. Each *Siedlung* differs from the others, although this does not conflict with the principle of unitarity of the intervention for adopting a concrete formal structure.
The re-composition of *Anger* passes through a measured fragmentation of the settlements, the application of artificially

Fig. 17 • Photo and master plan Siedlung Brieg, 1920.

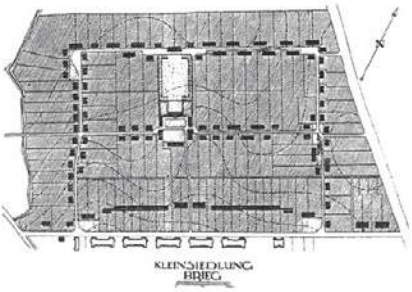
Fig. 18 • Photo and master plan Siedlung Neustadt, 1920.

Fig. 19 • Aerial view and master plan Siedlung Ober Salzbrunn, E. May, 1920.

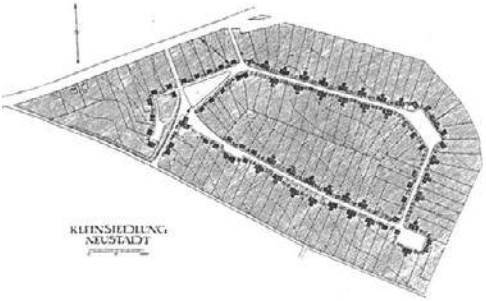
1. In the first part of Susan Henderson's research work, *Ernst May's Siedlungen from 1919 to 1925 in Silesia are extensively covered: Henderson Susan, Breslau, 1919-1925, in the work of Ernst May*, 1919-1930, Columbia University, 1990, pp. 45-178.

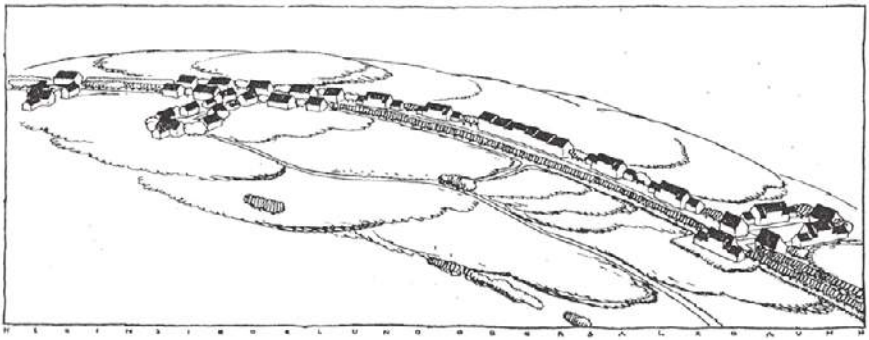
2. See Chapter 1, *Three ideas for (re)composing the city*.

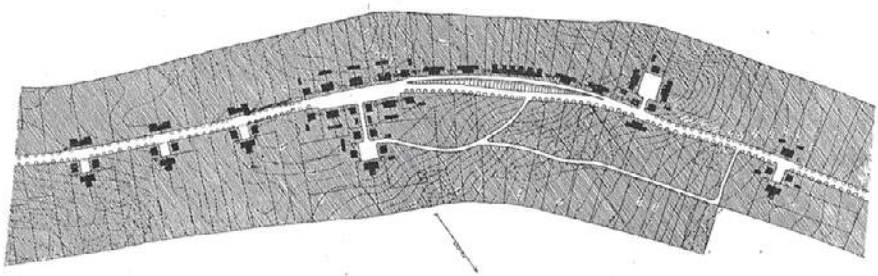



KLEINSIEDLUNG
BRIEG

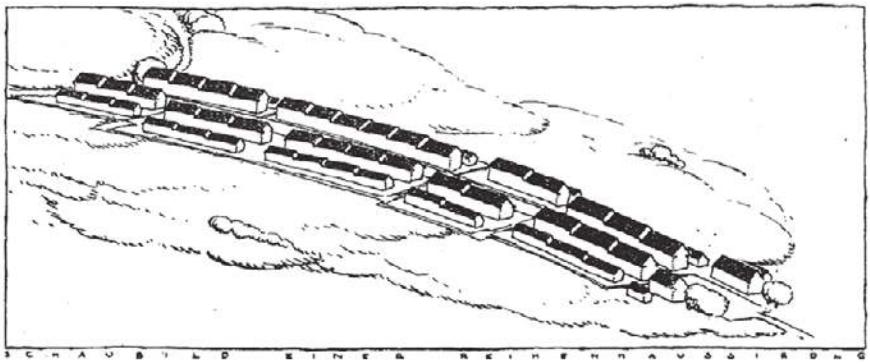


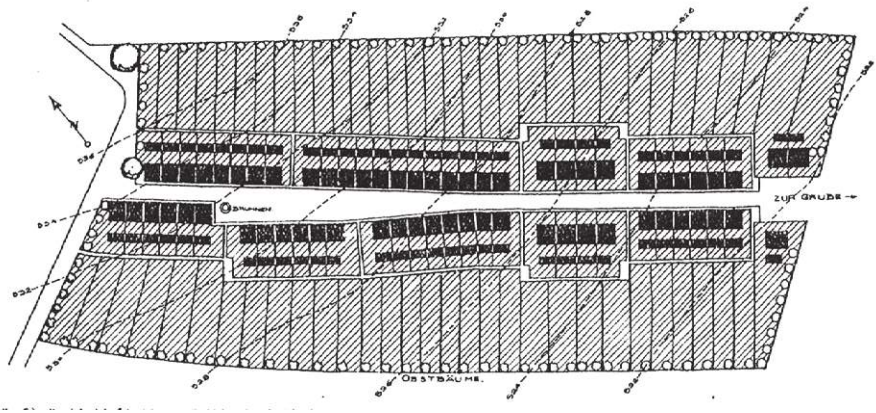

KLEINSIEDLUNG
NEUSTADT





accidental situations, and slight variations that represent the rule in cities built over time.
Here, May's research object is the debate between a spontaneous dimension and a regularising reason, a modus operandi visible and found in the composition of the *Siedlung* Praunheim in Frankfurt.
Between 1920 and 1922, the office of the *Schlesiches Heimstätte* elaborated further projects: the *Siedlung* Ober-Salzbrunn (fig. 19), the *Siedlung* Niptsch (fig. 20) and the *Siedlung* Kreuzburg (fig. 21). In Ober-Salzbrunn and Nimptsch, May pairs two models: the *Anger Siedlung* with the *Straßensiedlung*, creating a very elongated and narrow *Anger*. A year later, the exact process was developed with the *Siedlung* Kreuzberg, where the bifurcation in two main road parts definitively disappears, leaving space for continuous variations in the road section. These are underlined by the opening of small piazzas at intersections and changes in the direction of building blocks. This composition will resume in Praunheim village, where the first Niddatal project will be carried out.





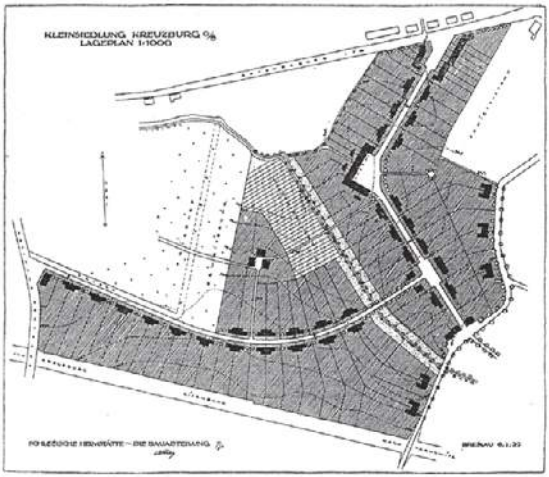


Fig. 20 • Bird's eye view and master plan Siedlung Niptsch, 1921.

Fig. 21 • Master plan Siedlung Kreuzburg, 1922.

The context: Frankfurt and Nidda Valley

Das Neue Frankfurt

The favourable juncture

A favourable economic situation in Germany, characterised by [specific economic indicators such as GDP growth, inflation rate, and employment rate], set the stage for a transformative building process in 1924 that would mark a significant architectural and urban planning era. With its unique blend of economic, political, and social factors, this era holds immense importance in architectural and urban planning development history, underscoring its transformative nature[1]. Frankfurt's architectural landscape was significantly shaped during this era, thanks to the visionary leadership of Ludwig Landmann and the innovative ideas of Ernst May. Their appointment and ideas, coinciding with a [specific political crisis such as a change in government or a major policy shift], marked a turning point in the city's architectural and urban planning developments, inspiring the audience with their forward-thinking approach[2], as *Oberbürgermeister*, mayor of the city.

From a programmatic point of view, Landmann presents himself as the spokesperson for the compromise between economic liberalism and social policies. His intuition was not to reverse the investments in individual companies but to direct them towards programs in the long term. This was achieved through a calibrated delegation mechanism of power, which involved carefully distributing decision-making authority to ensure the best outcomes for the city's architectural and urban planning developments[3].

1. This was a significant turning point due to American funding provided by the Dawes plan, which, at the same time as the introduction of the Rentenmark in the last months of 1923, allowed inflation to stop and opened new prospects for the German economy. In this context, a new property tax, the *Hauszinsteuer*, was enacted, the proceeds of which were supposed to finance new buildings.

2. As mayor of Frankfurt, Landmann succeeded Franz Adickens, an official from the municipality of Altona, who was at the time in solid urban competition with Hamburg.

3. From the early years, Landmann did not limit himself to strengthening the existing road and water infrastructure; he turned his attention to new means of transport. At this time, the foundations of Frankfurt's centrality for air traffic were laid, and the Hamburg-Frankfurt-Basel (Ha-Fra-Ba) axis was conceived and completed after 1933.

The development policy promoted is anything but aimed at simple internal economic strengthening; on the contrary, it attempts to give Frankfurt a new role among the main cities of Germany, to make it a real *Großstadt*. This term, often translated as 'metropolis', carries significant implications for the city's architectural and urban planning developments, as it signifies a shift towards a more urbanised and cosmopolitan identity[4]. Not surprisingly, the magazine *Das Neue Frankfurt*, a key platform for architectural discourse, adopts the following subtitle: *Montaschrift für die Fragen der Großstadt-gestaltung*, a monthly publication on the issues of the new Metropolis, thereby reflecting the ongoing debate on architectural principles. This era was marked by the adoption of new architectural principles and urban planning concepts, a testament to the innovative spirit of the time.

> "The problem of the big city, for several reasons, particularly in Germany, has become an element in this turn of the century that is central to the architectural experience. [...] This idea of the city is, first and foremost, an idea of architecture" (Grassi, 2008, p. 103).

The "Vision for the future", with a view of Opera Square (fig. 22), seems to anticipate the architectural choices of contemporary Frankfurt, the recognised capital of the European economy, with an increasingly distinctly vertical profile.
In parallel with this policy of expanding external relations on the part of the city, Landmann attempts to reconfigure the overall urban space through the annexation of external territories that, until then, constituted autonomous administrative entities[5]; the immediate consequence of this conception is to consider housing decentralisation as one of the critical options for urban development[6].

4. Some of the projects for the *Großstadt*, such as the covered market (*Großmarkthalle*) by Elsaesser, his *Reformschulen*, and various churches within the Siedlungen, accentuated their urban character. Also, the factories of Adolf Meyer, the *Kokerei im Gaswerk Ost*, with its loading plant and silo, or the new power plant. Part of this category of buildings is also a series of public projects, which remain on paper, like the Art Academy, along the lines of one new Bauhaus, new swimming pools or large libraries, and an Architecture Museum. In this museum, the works and elements of a new modern life can be exhibited to the community.

5. Three weeks after his election, Landmann faced the need to provide the city with new spaces for industries and areas for new Siedlungen to achieve this goal. Landmann announced the policy could count on the support of the main Financial and industrial lobbies, which had every interest in the development of infrastructure, but this cost could not be to the detriment of the social program on which the governing coalition based its consensus. For this reason, the building program was an essential factor in achieving a complex general political and economic balance. To understand the reasons and meaning of May's arrival in Frankfurt, it is necessary to keep in mind this panorama, which, if on the one hand, it appears based on political compromise on the other, allowed its implementation of one of the most ambitious building programs between the two world wars.

6. The concept of decentralisation emerged in the last years of Franz Adickens' work, driven by increasingly vehement criticism of the conditions of the dwellers of the old city. This

A certain concordance with the new premises is recognised as the Wroclaw plan, in which the planning possibility is subordinated to the city's expansion. Supporting concept of Ernst May and Herbert Böhm's plan consisted, in fact, in the development of a city through satellite centres, providing at least two necessary political conditions: on the one hand, enlargement of the territory of the city and on the other the development of a network of infrastructures that allow individual satellites effective communication with the centre. This idea of an outward-looking city like the one recognised in the political choices already implemented in Frankfurt finds itself a point in contact with the concept underlying the May-Böhm plan[7].

The construction of housing and *Siedlungen* was financed by cooperatives or from the municipalities they became during the Republic of Weimar, starting from 1925, the essential instrument of progressive power to govern the social and cultural policy of the country[8]. The architectural and urban planning developments of the time were not just about buildings and infrastructure. They were mainly about building the conditions for a new life, for a 'new man' according to the modern needs of the time. This was the essence of *Siedlung*, a term often translated as 'settlement'. It was about housing and creating a new social and cultural environment. A piece of history was made here of social architecture, architecture not only composed of *Siedlung* but from an overall and unitary urban plan.

Ernst May: Stadtrat of Frankfurt

Originally from Frankfurt, Ernst May came from a family of industrialists active in the social democratic political scene (Landmann, 1919). Before the war, he opened an associated architecture studio, "*Musch und May*", which included among its projects a group of four villas aggregated in the Holzhausenpark, published in 1914 in the pages of the magazine *Wasmuth Monatshefte* (fig. 23).

In January 1925, May won the competition to hold the position of *Stadtrat* of the Frankfurt municipality. He brought the idea

concentration had reached unbearable levels. Also, Martin Wagner 1917, shortly after he was elected chief urban planner of Berlin in a publication, describes establishing a municipal organisation to implement Siedlungen within the city limits. Mohr Christoph, Mülller Michael, *Funktionalität und Moderne. Das neue Frankfurt und seine Bauten 1925-1933*, Verlag, Köln 1984, p. 30, *"[...] In demselben Jahr, 1917, hatte Martin Wagner, kurz vor seiner Ernennung zum Stadtbaurat von Berlin, in einer Publikation den Rahmenabgesteckt, in dem er die Form einerstaatlichen Organisation des Siedlungs- und Wohnungswesens sah [...]"*.

7. See Chapter 1, *Three ideas for (re)composing the city*.

8. See Mohr Christoph, Mülller Michael, *Funktionalität und Moderne. Das neue Frankfurt und seine Bauten 1925-1933*, Verlag, Köln 1984, p. 7, *"[...] Der kommunal und genossenschaftlich finanzierte Siedlungs- und Wohnungsbau war in der Weimarer Republik ab 1925 zum wichtigsten Instrument der von fortschrittlichen Kräften gesteuerten Sozial-und Kulturpolitik geworden [...]"*.





Fig. 22 • "Vision for the Future". Opera Square, Frankfurt, 1925.

Fig. 23 • Photo of the four combined villas from the street. Frankfurt, 1914.

of *Trabantenstadt*, a concept proposed after the Wroclaw competition. This concept, loosely translated as 'satellite city', was not essentially different from the expansion hypotheses that Landmann was formulating. It involved the development of satellite centres around the central city, a strategy that would significantly impact the city's urban landscape.
The establishment of the *Siedlungsamt*, the office of the *Siedlung*, was a significant milestone in Frankfurt's architectural and urban planning developments. It was a *fait accompli* and responded to an urban model, as mentioned, expressed since 1919 by the future mayor of Frankfurt, a municipal councillor. The *Siedlungsamt* played a crucial role in implementing the city's housing and urban development policies, marking a shift towards a more systematic and coordinated approach to the city's transformation[9].
In the long term, the partnership between May and Landmann appears to be a coincidence of intent for the substantial transformation of the city. Facing the dimensions that the administration intends given his building intervention, the choice to join the *Neue Architektur* (New Architecture) uploads the political program of an altogether peculiar architectural physiognomy.

Dezernat für Hochbauwesen
Investing May in the role of head of the *Dezernat für Hochbauwesen* (urban planning sector) was a strategic move. It meant giving him full responsibility for the urban offices in Frankfurt, a position of significant influence and power. It meant, above all, having a single point of contact with the direct consequence of making decisions faster and shortening implementation times of municipal programs. The *Dezernat für Hochbauwesen* played a crucial role in the city's architectural and urban planning developments, serving as a central hub for decision-making and implementation. The person in charge of the urban planning sector and having unconditional political support felt the political investiture upon himself, as he stated during a public speech: "[...] I knew precisely that my activity had political meaning and that I used political support"[10].
From this position of absolute power, May organised her own office and delegated specific areas of action to the various collaborators. Among these collaborators, some emblematic figures should be remembered, like Martin Elsaesser, coming from the

9. DAM, *Ernst May und Das Neue Frankfurt. 1925-1930*, Ernst&Sohn, Francoforte 1986, pp. 93-99: "*[...] May wächst in solcher bürgerlichen Atmosphäre einer Frankfurter Fabrikantenfamilie auf, der Großvater war Führer der demokratischen Partei im Stadtparlament gewesen[...]*".

10. DAM, *Ernst May und Das Neue Frankfurt. 1925-1930*, Ernst&Sohn, Frankfurt 1986, pp. 93-99: "*[...] ich erkannte immer klarer, daß mein ganzes Schaffen Politik bedeutete, und daß ich mich politischer Stützen zu bedienen hatte [...]*".

experience of director of the *Kunstgewerbeschule* in Cologne. He was given the most relevant position from a strictly architectural point of view and was responsible for designing the most critical non-residential buildings. Max Bromme later joined Leberecht Migge and became director of the green planning office. The office for the standardisation is entrusted to Ferdinand Kramer, a student of Theodor Fischer in Munich together with May and J.J.P. Oud. Herbert Böhm is responsible for the urban planning (*Stadtplanung*), while Adolf Meyer is appointed construction advisor (*Bauberatung*) and project coordinator for the historic centre of Frankfurt. These architects were crucial in shaping the city's architectural and urban planning landscape.
Mart Stam, Max Cetto, and C. H. Rudloff are other architects in the working group for Das Neue Frankfurt. Margarete Schütte-Lihotzky, Franz Schuster, and Anton Brenner are architects who participated in the *Siedlungen* movement of Vienna, directed by Adolf Loos[11].

Das alte und Neue Frankfurt
In the first issue of *Das Neue Frankfurt* from 1926, Ernst May retraces, with a brief excursus, the history of the city, pointing following the attention to the question of the new form from attribute to the town:

> "The absurd concentration in rented barracks in the stone city gives way to a horizontal residential city development. Modern urban planning expresses a new conception of life. [...] Progress cannot just happen by the will of man. However, intelligent measures can smooth the way and speed up the process. The periodical monthly *Das Neue Frankfurt*, of which this is the first issue, pursues this objective. Starting from the shape of the large city and referring to its economic foundations, the investigation of *Das Neue Frankfurt* will extend to touch all those sectors which, in our opinion, are significant for the definition of culture in the new big city" (Grassi, 1975, pp. 54-58).

Also, city councillors Herbert Böhm (Böhm, 1927, pp. 105-112) and Eugen Kaufmann (Kaufmann, 1927, pp. 113-118) discussed topics related to the research of the new form in the magazine's fifth issue in 1927. These themes allowed an adequate reading of the context in which urban planning takes place in Frankfurt. This context is linked to the past and the city's tradition regarding the division and use of land and the study of typical Gothic row houses.

11. An interesting examination of the topic is offered by Denti Giovanni and Peirone Silvia, *Adolf Loos, uno spirito sociale : gli studi sulle abitazioni operaie*, Alinea, Florence, 1993.

H. Böhm: Division and use of urban land yesterday and today in Frankfurt
Herbert Böhm begins by underlining the lack of expressiveness of the urban face of Frankfurt, to be attributed to the lack of an identity that in other German cities is attributed to the hand of the princes; emblematic cases are Karlsruhe, Mannheim, Dresden, and Potsdam.
The medieval city, which is closed around the city walls, reveals a regular and strict distribution of residential areas and the distribution by the width of the commercial and commercial streets, which stands out in traffic compared to narrow alleys.
Since 1810, the fortified earthworks lost their importance and were transformed into avenues. The urban centre expanded towards the Northwest, taking on an extensive character, with houses, single-family and collective, isolated or gathered in small groups, all served by wide streets and airy gardens.
At the end of the 19th century, land speculation spread to Frankfurt; the city required wide streets and small residential blocks to make the most of the land. The turning point came with the introduction of modern urban planning dictates and the advent of the May era in Frankfurt.

> "[...] Urban planning worthy of the name does not exist without referencing a general order and subordination to this. The single building is the element that forms the urban row or block; the blocks come together organically, forming the neighbourhood, the Siedlung; the single neighbourhood, in turn, fits in the general prediction of the shape of the city and in planning urban economy, since both are part of a general plan: the form and the plan" (Grassi, 1975, pp. 65-69).

Böhm continues by re-proposing the urban block idea as a principal urban design unit. The planning of this unit must reflect the vision of the Modern Movement, which defined its measures, functions and characters. The block is narrowed and oriented so that the rows of buildings are guaranteed the best sunshine on both sides, offering a private backyard.
The shape and layout of the blocks and the constituent buildings also become a significant theme. First, the construction of single and double buildings must decrease significantly in favour of the row house typology. Subsequently, the aggregated row houses can be grouped in regular or rectangular shapes or suit specific shapes in particular circumstances, such as existing roads, the land's orography, or the edges of green areas or waterways. Thus, it gives life to compositions more compliant with different environmental situations, as in the *Siedlungen* Römerstadt and Praunheimcase[12].

12. See Chapter 3, *A method for composing the Siedlung.*

An additional consideration concerns the character of the composition. A character determined by the combination and the design of the collective buildings, churches, schools, administrative buildings and houses of the people, as Giorgio Grassi reminded us:

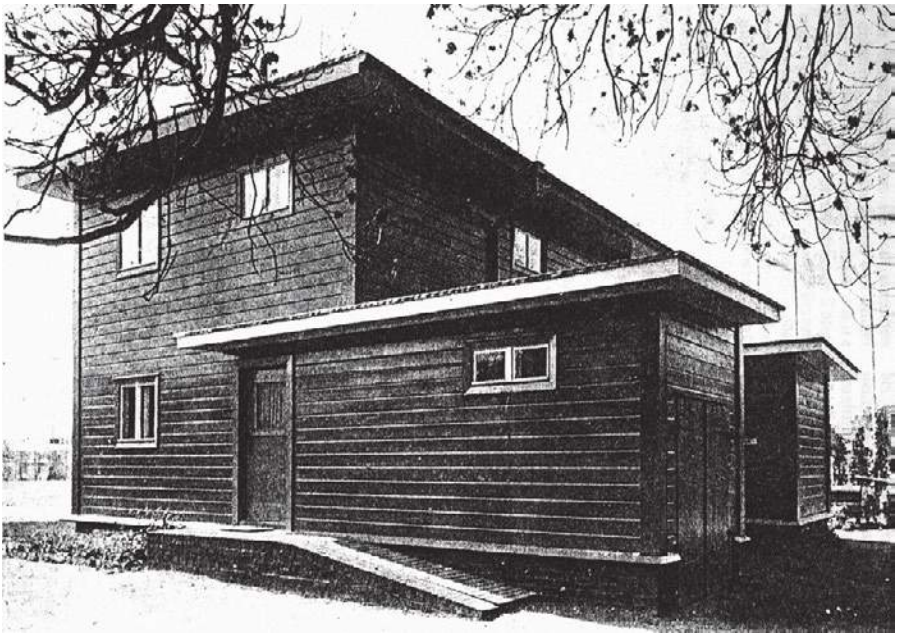
> "[...] are neither monotonously aligned next to each other nor thoughtlessly placed where there randomly exists a free space; instead, they are distributed as urban reference points according to the requirements of the land's conformation and the road network. In this way, the cities could regain a characteristic face as seen in the splendid ancient engravings and overall views of the Merian" (Grassi, 1975, pp. 70-74).

E. Kaufmann: Types of small houses in Frankfurt in ancient and modern times

Eugen Kaufmann, however, leads the issue of the *Neues Bauens* on the tracks of typology. The history of architecture teaches that in homes, the shape and distribution of plants have always played a fundamental role in typological schemes. It was once thought obvious that similar problems required similar or slightly different solutions. The lack of culture, recorded at the end of the 19th century, accentuated the individuality of the building construction, marked by a character parvenu, linked to the habit of externally conferring on each new construction a particular prominence compared to the neighbouring buildings, resulting in a total disharmony of the whole. It has nothing to do with the building types on the *Schöne Aussicht* at the beginning of the nineteenth century, where the unitary arrangement was made possible by the entry into force of a building statute. It contained rules relating to building heights, floor heights and alignment roads. The situation changed further in the pre-war period when the so-called *Bauwich*, or the obligation to maintain a free space between two adjacent buildings, was applied. This entailed an in-depth development of the housing design, a depth that sometimes extended the entire lot length, thus cancelling all the original advantages. The abandonment of the *Bauwich* allows us to reconnect with the tradition of the previous period, i.e., the construction of terraced houses, where the depth of buildings generally does not exceed ten metres so that the depth of the rooms can reach reasonable proportions and transversal ventilation can always be obtained easily. The morphological and distributional characters of the internal spaces are studied and optimised to satisfy the needs of the inhabitants and limit construction costs.

Neues Bauen

The search for the new urban form is accompanied by adhesion to the *Neues Bauens* movement. This movement not only applies *Trabantenskonzept* but also achieves a modern way of doing



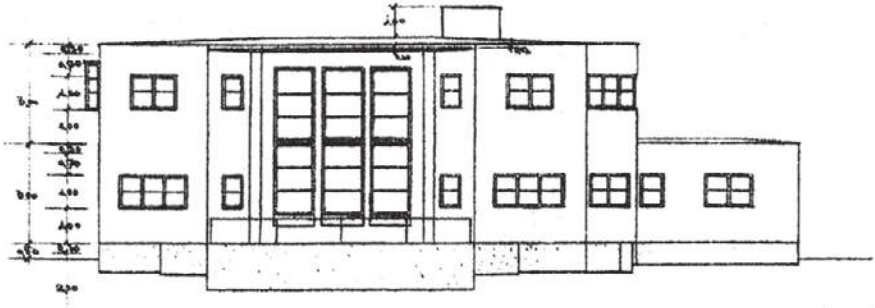


Fig. 24 • Photo "House for an average family" by E. May, Wroclaw 1924.

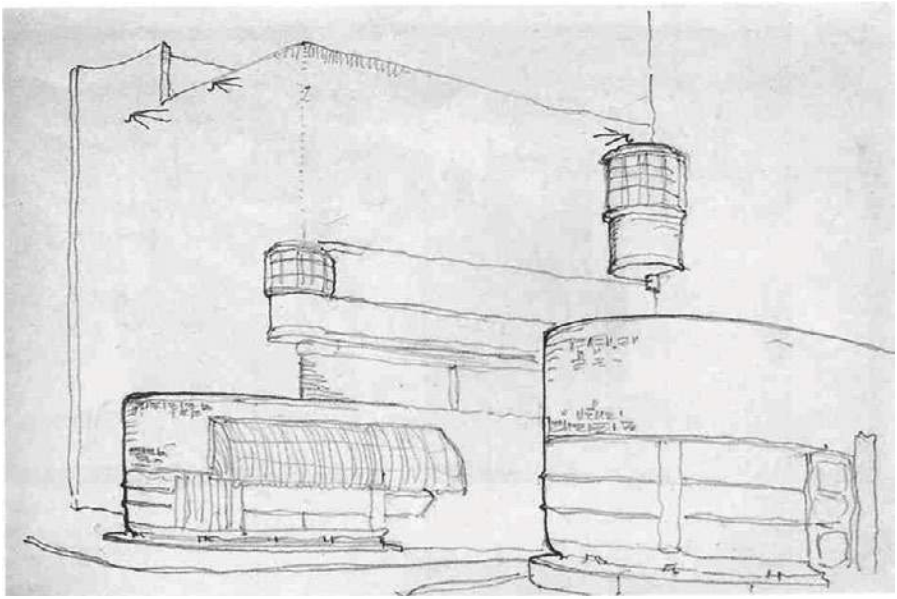
Fig. 25 • West elevation house of E. May, Wroclaw 1925.

things, a sort of linguistic revision, very evident in the works after 1925 but which, in reality, hides a close continuity with previous experiences (Zanchettin, 2001, pp. 84-91).
The house project for an average family (fig. 24), presented at the exhibition of the construction of Bresalvia in 1924 (May, 1924a, pp. 143-149), built in wood, with a typical planimetric layout, presents for the first time in May's work, the flat roof and absence of any element that could recall the local architecture.
The choice to create a construction composed of simple squared volumes covered by a protruding flat roof is consciously intended to experiment with the new language.
To better understand the transformation towards the "modern" of May's work, one can compare the project to his house from 1920 with the subsequent, revised and corrected one from 1925, or consider a studio for your home (fig. 25), also from 1925.
In the pages of the magazine directed by May, in the same issue in which the house project for an average family is published, Dudok's projects for Hilversum and examples of row houses built from prefabricated elements, are presented, among other things (May 1924b, pp. 210-215). Furthermore, simplifying the exterior corresponds to equally essential interior furnishings, which recall Bruno Taut's ideas that appeared in *Die neue Wohnung. Die Frau also Schöpferin* (Taut, 1924). References to a precise way of building and understanding architectural design projects will be reconnected to trips to Holland and America[13], together with Martin Wagner and the collaboration with the latter in the Berlin group to study affordable houses.

Holland
On the pages of the *Schlesische Heimstätte* in 1924, May dedicated a lengthy article on the news of the International Congress of Urban Planning, held in Amsterdam in the same year (May 1924c, pp. 208-211). The paper records the results of the Dutch debate, mainly focusing on the relationship between residence and the city, for which the Frankfurter architect proposed the well-known *Trabantenstadt* model.
From the point of view most closely linked to the architectural language, the sketchbooks created by May are of considerable interest during these trips, which reveal, on the one hand, an interest in the compositional possibilities offered by the variation of simple shapes,the Michel De Klerk's buildings are among the most portrayed[14] (fig. 26-27), On the other hand, it expresses the need to be modern through construction elements, such as flat roofs or

13. The original photos from the 1924 trip to the United States are preserved in slide format at the Deutsches Architektur Museum's Archives in Frankfurt.

14. The material is preserved in the archives of the DAM (Deutsches Architektur Museum) in Frankfurt. Sketchbook, Inv. Nr. 160-904-036, Holland 1924.



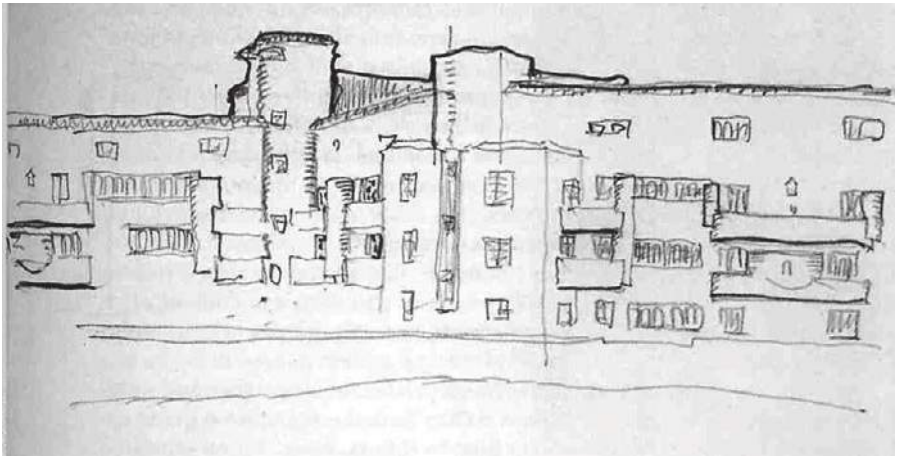


Fig. 26 • Sketch of a building by M. De Klerk and P. Kramer for De Dageraad. E. May, Amsterdam, 1924.

Fig. 27 • Sketch of a corner solution for a residential building, E. May, Amsterdam, 1924.

corner solutions, which are unique aspects of *Das Neue Frankfurt*. The flat roof becomes a source of debate in a dedicated issue of *Das neue Frankfurt*. Adolf Behne, Le Corbusier, Richard Döcker, Otto Häsler, André Lurçat, Frank Lloyd Wright, J.J.P. Oud, Josef Frank, and Heinrich Tessenow were involved in the discussion on *Das flache Dach* (on the flat roof)[15].

Berlin

Berlin's municipal manager for urban planning, Martin Wagner, was impressed by the American construction industry's production methods. Returning from a trip to the United States, he founded a *Kopfgemeinschaft* with Walter Gropius, Ernst May, and Bruno Taut,a study group under the direction of the DEWOG[16].

In 1924, Wagner explained how the main objective of this cooperation was to "clarify and resolve every problem formal, constructive, economic or any other type, inherent in the design of experimental houses" (Jaeggi, 1984, pp. 26-32).

Each group member must provide the design for a house famous to be carried out by the DEWOG, such as to be produced in series after a trial period. Rents must be limited to 300 marks or 20% of average annual salaries for a minimum living area of 60 m^2, with 200 m^2 of garden, in single – or semi-detached houses – assembled in rows. As a principle constructive, Wagner indicates the need also to use panels of slag cement, requiring manual work minimum for assembly, to be carried out in any season of the year, within 14 days (Nerdinger, 1988, p. 108).

This preparatory period became fundamental for almost all four members of the group for future achievements: Gropius in the *Siedlung* Törten of 1926, built in concrete blocks; May in the *Siedlung* Praunheim of 1926-29 and Westhausen of 1929-31, precast concrete slab construction. Bruno Taut remains faithful to traditional construction systems, as in the case of the Hufeisen *Siedlung* in Berlin (1925-31), attributing still an excessive economic expense to the new ones for their implementation.

The first experiences in mass production in Germany can be attributed to the "Master of Masters" Peter Behrens, thanks also to the diffusion of the 1918 text *Vom Sparsamen Bauen*.[17]. Gropius also dealt with it in 1909-10 while working at the Behrens' office on the standardisation of construction elements for the prefabricated buildings of the AEG workers' village in Henningsdorf (Buddensieg, Rogge, 1978, p. 112).

15. The articles appear in Das Neue Frankfurt in issue 7-8 of 1927, entitled *Das Flache Dach*. In May Ernst, *Das Neue Frankfurt*, Frankfurt, 1926-1927, n. 7, pp. 149-211.

16. Deutsche Wohnungsfürsorge-Aktien-Gesellschaft für Beamte, Angestellte und Arbeiter = Company for constructing public housing for employees and workers. Incorporated in 1924 with union funds, it operates in the Berlin area through GEHAG and Märkische Wohnungsbau.

17. On the topic, consult the book chapter Michieletto Manlio, *Von SparsemBauen*, in Malcovati Silvia e Moro Alessandra, *Peter Behrens. Maestro dei Maestri*, Il Libraccio, Milan, 2011.

The Nidda valley

The Frankfurt Trabantenstadt

In the sequence of historical maps, which vividly depict the evolution of Frankfurt from 1890 until 1933, a significant urban process unfolds in various directions, underscoring the crucial historical context and the dynamic evolution of Frankfurt's urban landscape over time:

1. at the very beginning, the urban growth is almost entirely centripetal; the zones development reds are concentrated just outside the walls of the city; minor are the additions in the surrounding villages (fig. 28);
2. from 1880 to 1890, this development stopped without recording evident new urbanisation (fig. 29);
3. from 1890 to 1914, the city expanded radially from the historical centre, as well as recording a substantial conurbation of *extra moenia* (fig. 30);
4. The final map in the sequence reveals the transformative impact of Ernst May's urban planning strategies on Frankfurt's landscape. His implementation of the *Trabantestadtkonzept*, a concept involving the creation of satellite cities around a central core, led to significant changes, particularly on the north side of Frankfurt (fig. 31).

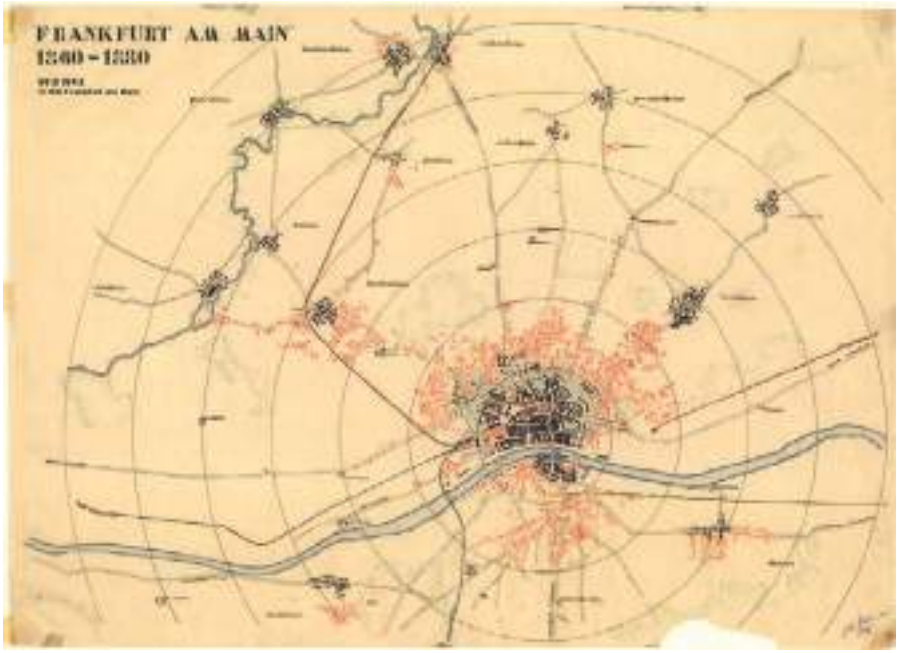
Until the first decade of the twentieth century, Frankfurt appeared, therefore, like a city segregated in its dense speculative structure. It was morphologically dominated by the *Mietkasernen* building type, as depicted in the views of the Merian (fig. 40). The *Wohnungsbauprogramm* of 1925, a comprehensive housing program to be carried out over ten years, was a crucial initiative in Frankfurt's urban development. It concentrated on areas outside the urban centre, marking a shift in urban planning strategy[1]. Before Ernst May's tenure, the seeds of decentralisation were sown by Ludwig Landmann, the mayor of Frankfurt. Landmann's visionary leadership steered the city towards peripheral areas for new building expansions, setting the stage for the urban planning strategies that May would later implement[2].

Fig. 28 • Historical map of Frankfurt am Main 1860-1880.

Fig. 29 • Historical map of Frankfurt am Main 1914-1933.

1. See Chapter 1, *Three ideas for (re)composing the city*.

2. For a complete examination of the political and social events of Frankfurt in the twenties, of particular interest is the text Mohr Christoph, Mülller Michael, *Funktionalität und Modern. Das neue Frankfurt und seine Bauten 1925-1933*, Verlag, Köln, 1984, pp. 25-32.


FRANKFURT AM MAIN
1240 - 1330

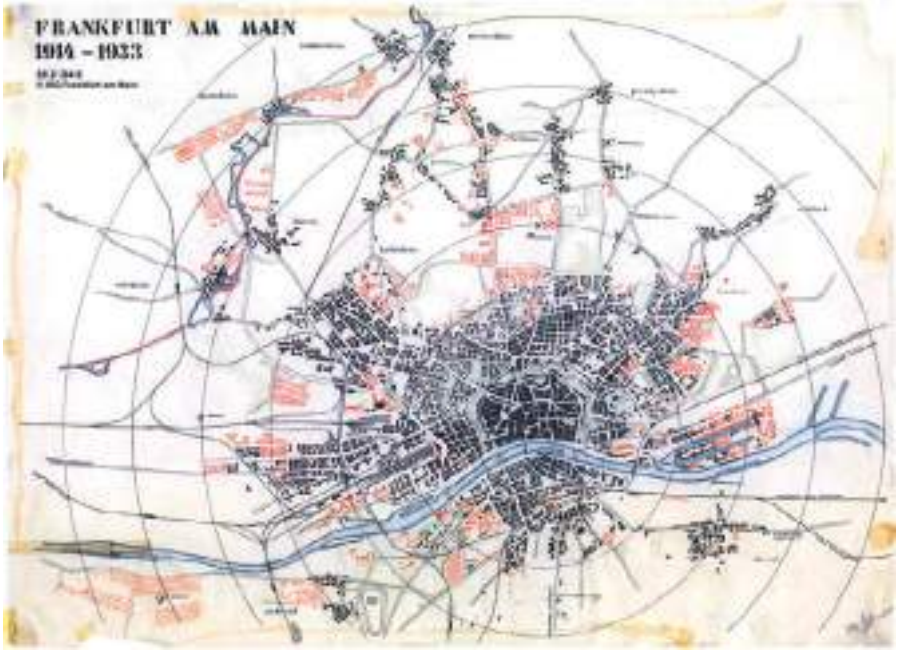

FRANKFURT AM MAIN
1914 - 1933

Diagram no. 5 of May

In the fifth diagram of the series contained in Ebenezer Howard's seminal urban planning work, *Garden Cities of Tomorrow*, published in 1902, Howard focuses on describing the relationship between the individual Garden Cities and the dynamics of growth of the satellite urban system. This scheme, not far from the one proposed in Wroclaw and then in Frankfurt by Ernst May, was a key influence on May's urban planning strategies.

In the drawing of 1926-27 (fig. 30), the first six *Siedlungen* foreseen by the plan can be recognised schematically, with the planned number of homes indicated: 764 in Praunheim, 1500 in Heddernheim, 84 in Ginnheim, 828 in Bornheim, 490 in Riederwald and 650 in Niedderad.

In the January 1928 issue of *Stadt und Siedlung* (Schürmeyer, 1928, p. 1), an overview table of the municipal territory shows the perimeter routes of the six planned *Siedlungen*[3].

Ernst May meticulously crafted the *Siedlungen* guide plan, unveiling the *Trabantenstadt* and the strategic location of the *Siedlungen*. Among these settlements, Höhenblick stands as a testament to the model of the city hypothesised and to May and his collaborator Elsaesser's vision as they built their own homes and envisioned future settlements along the Nidda. These *Siedlungen*, or settlements, were not just residential areas but integral parts of May's urban planning strategy, each with unique historical and geographical significance that enriches our understanding of Frankfurt's urban development.

The competition for Wroclaw[4] mentioned earlier reappears almost a decade later on the cover of Das Neue Frankfurt magazine. Images of residential buildings represent the satellites, the typical elements of the settlements' composition: Höhenblick (1926-1927), Bornheimer Hang (1926-1930), Praunheim (1927-1929), and Niederrad (1926-1927).

In March 1930, almost at the end of May's experience in Frankfurt, the complete plan for future expansions, including industrial and green areas, public and private, was published.

May's work oscillates between two poles: on the one hand, the re-proposal of an overall and general model of the city, seen in the previous chapter, and on the other, the configuration of particular cases, such as settlements in the territory (Tafuri, 1980, p. 257).

The *Trabantenstadt* concept, implemented between 1925 and 1930, was not a series of scattered settlements across the countryside. It was a unique geography of specific *Siedlungen* gravitating around Frankfurt, illustrating May's innovative and

3. For a guide to the first Sieldungen in Frankfurt, see May Ernst, "Grundlagen der Frankfurter Wohnungsbaupolitik", in *Das Neue Frankfurt*, July-August 1930, n. 7-8, pp. 113-157.

4. See Chapter 2, *The context*.

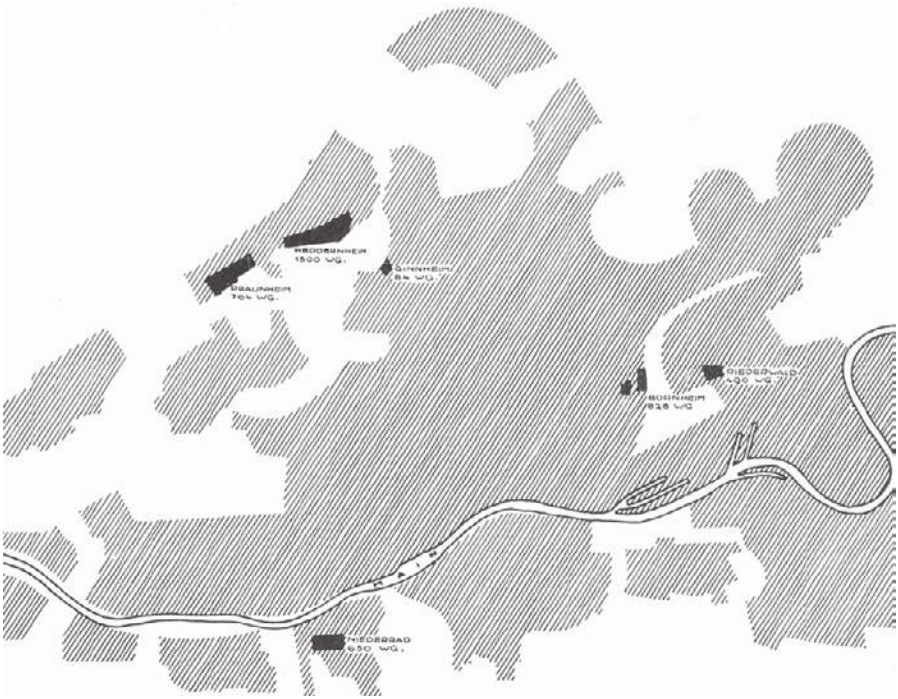


Fig. 30 • The Siedlungen of Frankfurt, 1926-27. The first 6 Siedlungen that were designed are shown in black.





Fig. 31 • Map of May's Siedlungen, Frankfurt, 1930.

original approach to urban planning[5]. Settlements don't have to be seen as independent centres; they are precisely related to the preexisting context, represented by the surrounding landscape, Frankfurt, and its primary services[6].
Another point to clarify is the way these satellites are understood and declined, clarification offered by the words of Aldo Rossi on *Casabella Continuità*:

> "What is certain is that when we talk about rationalist urban planning, we mean urban planning of the neighbourhoods by lay people and specialists. This attitude, also considered in its methodological implications, immediately reveals its insufficiency. First, consider the urbanism of rationalism as the urban planning of the neighbourhood; it means limiting the vastness of this experience in the German urban planning of the 1920s. And even in this case, there are so many diversified real solutions that the definition is not even valid for the entire history of German urban planning" (Rossi, 1964, pp. 11-20). (Also, the term neighbourhood, which is a translation as fortunate as it is imprecise of the German term *Siedlung*, means many different things that it is preferable not to use unless after having it carefully examined [t.n.]).

The *Siedlungen* are to be considered as real one's autonomous nuclei and not associated with the idea of simple residential neighbourhoods; that is, "they are alternative solutions to the city, but with it in a close morphological relationship" (Panerai *et al.*, 2004, p. 147). Finally, in the general table of 1929 (fig. 31), it can be seen the entirety of the plan was realised, consisting, in total, of twenty-six *Siedlungen*, willing to define, in the northern part, a crown built around the central core.

The city as a satellite project
The *Trabantestadt* advocated in Wroclaw finds a solution and construction, as seen on the banks of the Main: the so-called project Niddatal (Nidda Valley) represents the first opportunity to compose actual satellite nuclei[7].
"Starting points for the development of the plan"[8] of 1927 were

5. DAM, *Ernst May und Das Neue Frankfurt. 1925-1930*, Ernst&Sohn, Frankfurt, 1986, pp. 93-99: "*[...] insgesamt als Weiterentwicklung der Siedlungs geographie, die mit den eingemeindeten kleinen Orten um Frankfurt ihre Fixpunkte hatte*".

6. Mohr Christoph, Mülller Michael, *Fünktionalität und Moderne. Das neue Frankfurt und seine Bauten* 1925-1933, Verlag, Köln, 1984, pp. 80: "*[...] Ausgangspunkte für die städtebauliche Entwicklung*".

7. The satellite core concept is addressed in Chapter 3.

8. Mohr Christoph, Mülller Michael, *Fünktionalität und Moderne. Das neue Frankfurt und seine Bauten* 1925-1933, Verlag, Köln, 1984, pp. 81.

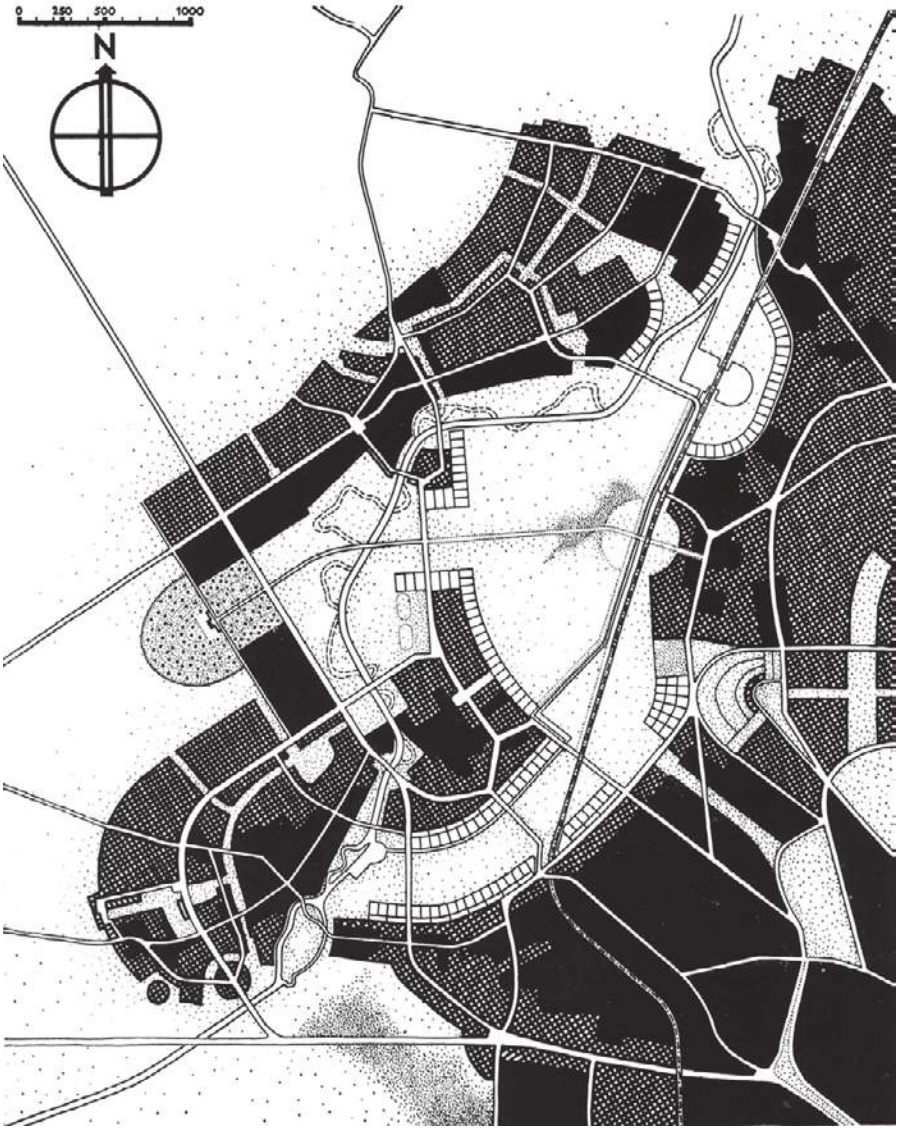


Fig. 32 • Master plan of the Niddatal project, Frankfurt 1930.


Steinbach
Steinbacher Hohl
Hofgut des Waisenhauses
Im Thal
Wasser werk
Buchbach
Sandgasse
Heimgraben
Praunheimer Weg
Oberfeld
Dietrich Str.
Bernfeld Str.
Waisenhaus
Bade Platz
Praunheim
36
Pumpwerk

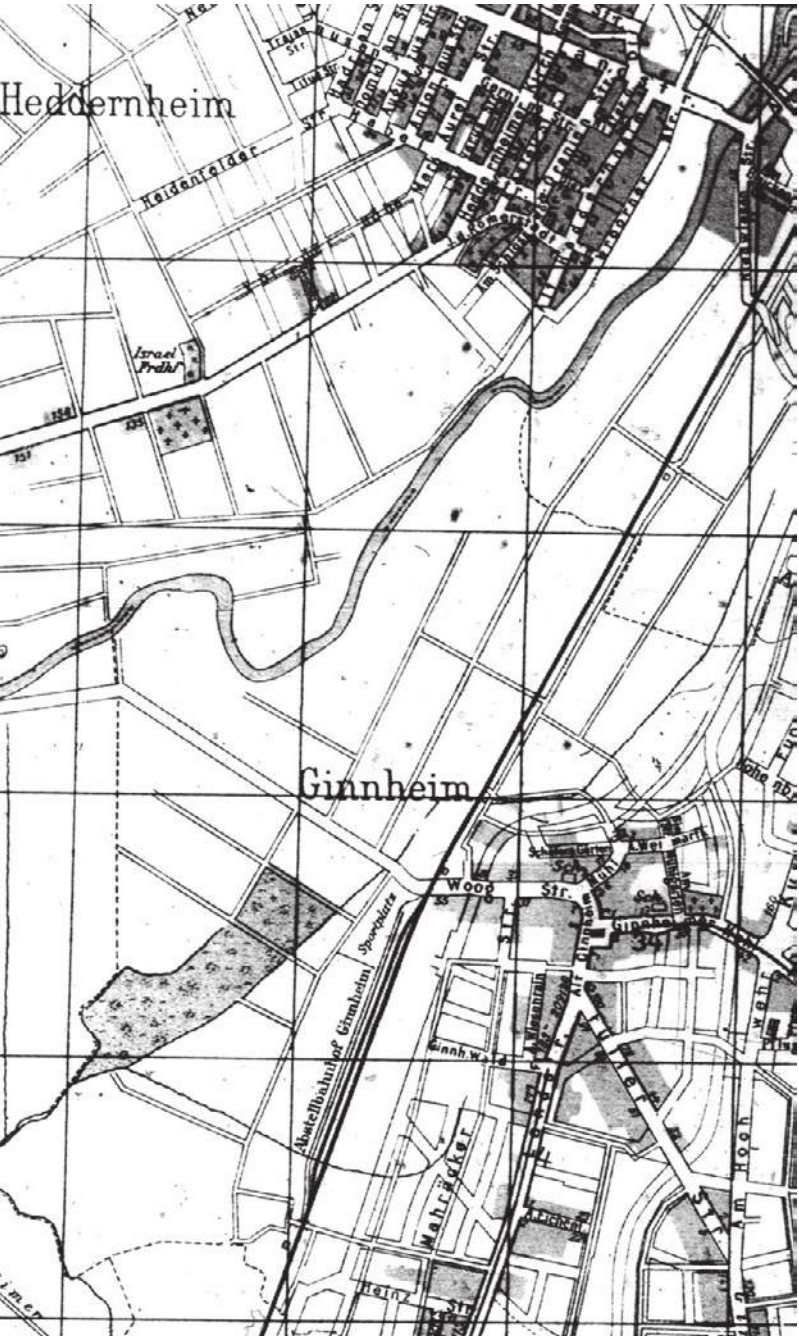


Fig. 33 • Historical map of the Niddatal, 1900.

those points built and detached from the centre of Frankfurt and identifiable in the suburbs, enclosed within the boundaries of the municipal territory.
The *Siedlungen* Römerstadt, Prauneheim and Westhausen are in the free space between Heddernheim, Praunheim and Hausen[9] villages. These villages became project elements, and they founded the plan implementation process on them.
Therefore, the satellite city finds a way to be fulfilled, starting from a tangible reality, a particular reality. It is no coincidence that the three settlements are made explicit precisely in the relationship between the particularity of places and the generality of the plan, the subject of the following pages.

Piano Niddatal 1926-1930
The plan for the construction of Niddatal, drawn up in a first version in 1927 and then revised in 1930 (fig. 32), allows you to look more closely at the general and particular strategies to which Praunheim, Römerstadt, and Westhausen are tied.
In Fig. 32, the new and the pre-existing settlements are highlighted in black, to which are added the areas of future expansion, marked with hatching. On the one hand, it can be noted how the green belt touches the three *Siedlungen* that become the built backdrop of the landscape and how it created a new road network that allows for relationships between the satellites with the centre in Frankfurt. Hadrianstraße in Römerstadt is designed as a traffic road towards Ginnheim, and the *Siedlung* Höhenblick, as well as the Mindenburgstraße, connects to the Damaschkeanger of Praunheim, tying into one network organised and ordered the settlements to the city.

Geography as the surface of a project
"...I designed the landscape" (Malaparte, 1964, pp. 289-290).
May understands the geography along the Nidda as the surface of the project. The particular orography of the land, between the first jumps in altitude towards the Taunus mountains to the north and from the city of Frankfurt to the south, forms a natural valley, around which the scenographic layout of the *Siedlungen*-built crown is arranged: Praunheim, Römerstadt, Westhausen, and Höhenblick.
The historical map found at the Institute of History of Frankfurt (fig. 33) reports precisely the situation, the state of Ernst May and his working group's work on the design of the first *Trabanten*.
The inhabitants of Praunheim in the west and Heddernheim in

9. The land on which Römerstadt stands is expropriated, obtaining, among other things, from the court the ability to pay them on average 3.5 Mk per m2, when instead the normal price for agricultural land and parkland was 15 Mk. Mohr Christoph, Mülller Michael, op. cit. p. 33.





Fig. 34 • Panel no. 2 identifies the Siedlung Praunheim and Westhausen.

Fig. 35 • Panel no. 3, identification of the Siedlung Römerstadt.

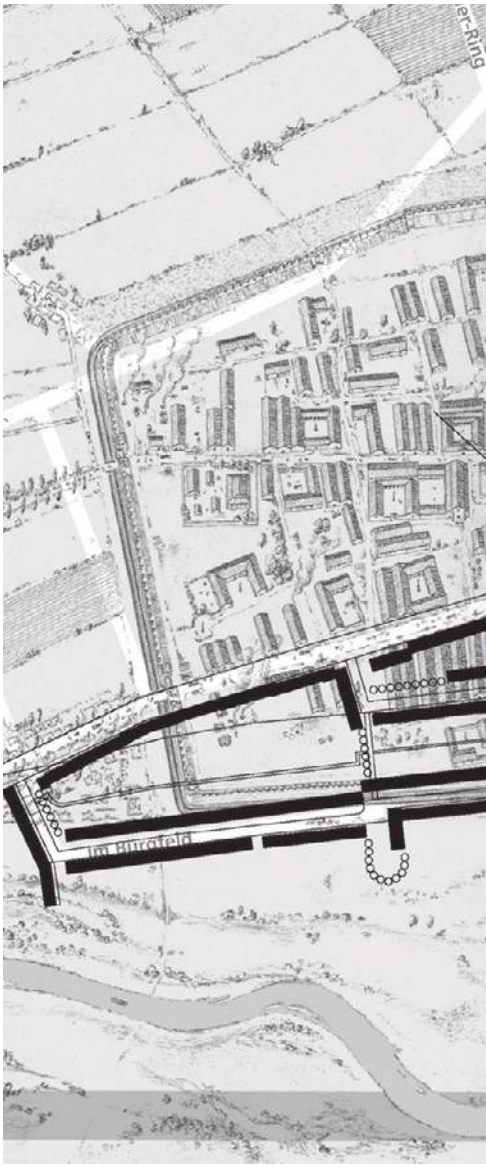
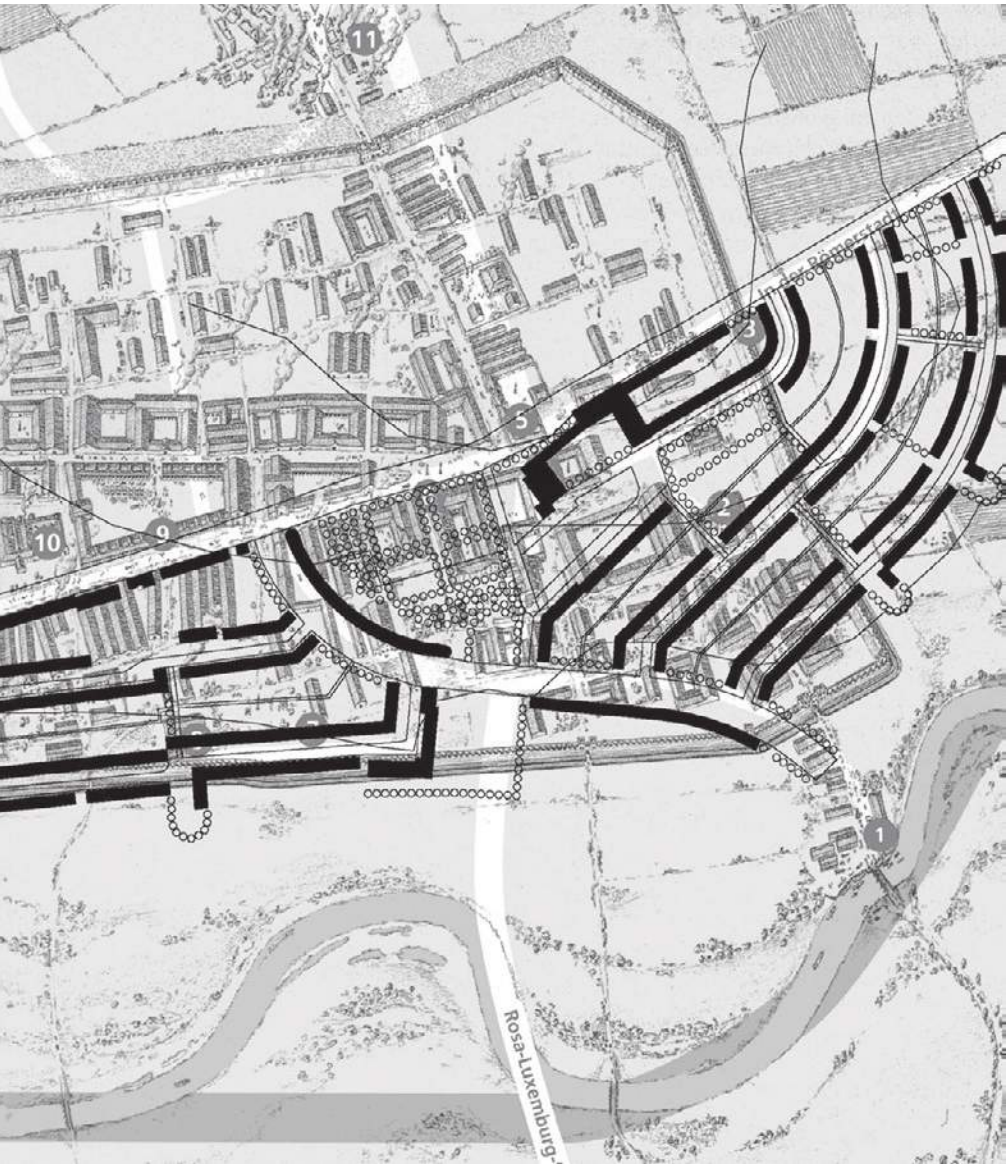


Fig. 36 • Sketch Siedlung Römerstadt from Nidda, E. May, 1928.

Fig. 37 • Superposition of the Siedlung Römerstadt on the Roman city Nida.




11
10
9
5
4
3
2
1
Rosa-Luxemburg-

the east provide the connections for the "satellites" and the existing roads, particularly in the aforementioned In der Römerstadt. Two other panels preserved in the "Denkmalpflege" archive of Frankfurt clarify another fundamental and foundational point of the context, i.e. the rectification of the path of the Nidda (figs. 34-35). This rectification aims to rationalise and optimise the public green space available to *Siedlungen*, which is subject to frequent flooding.
Panel number 2 (fig. 34) concerns the river redesign close to the *Siedlung* Praunheim and the later *Siedlung* Westhausen. Similarly, in Panel number 3 (fig. 35), the new route of the Nidda at Römerstadt is recognised, indicating the first signs in the landscape, the walls with bastions, which delimit it towards the valley.
Therefore, these two documents provide information on the new hydrographic structure and exciting reports on the strategic plan guidelines relating to the Niddatal project. Other valuable sources for understanding the relationship between the landscape and its morphology are Hermann Treuner's watercolours. In two of his paintings, the climb from Nidda towards the Praunheim settlement and the entrance road to the same *Siedlung*, still under construction, connect the centre of Frankfurt to the satellites. The series of watercolours is composed of other views featuring scenes from Hadrianstraße a Römerstadt, both entering from the pre-existing Roman road and the river towards the *Anger*.
In a radio interview from 1966, E. May himself provided an accurate description of the character of the place upon which he would find location Römerstadt:

> "The *Siedlung* is built on a slope and across terraces, and the orientation of each sector obtains a precise and clear scansion (composition), which ultimately determines the form so that you can quickly embrace it with the look" (May, 1966).

In the 1928 issue of *Das Neue Frankfurt*[10], an architect's sketch appears, almost hidden, between the lines. It reproduces the settlement in its development as a village perched and closed by ramparts, which become the ideal points of view towards the valley and the city of Frankfurt.

Geography as the surface of history
However, geography must also be understood as the surface of history, given that Römerstadt's case is based on a Roman city,

10. The image takes up a sketch of the Siedlung Römerstadt, captured from the Nidda valley (May, 1928, p. 134).

Nida[11]. The primary centre of *Civitas Taunensium* disappears after the collapse of the Empire, and sadly, her ultimate destiny is to be hollow for the nascent antagonist Frankfurt.
Of the Roman Nida, only a few fragments remain whose memory in some evocative elements of the city, the bastions. The bastions facing to the southeast, towards Frankfurt, are in all respects the metaphor built from the past, the memory of a distant echo still alive. Another clear sign is the road *in der Römerstadt* that retraces the layout of the ancient *castrum* of Nida, originally the axis connective between the garrisons of Trier to Mainz, and that delimits the northern border of the intervention.
In the reconstruction of the ancient city, with the superimposition of the settlement of the 1920s (fig. 37), we can see the almost perfect adherence of the *Siedlung* to the founding city on the southern side of the valley to rediscover its *genius loci*. Römerstadt stands on the pre-existing Roman road to the north, and, as mentioned, the south finds the limit within which the *Siedlung* is found in the old layout of the walls.
This memory returns the image of a fortified citadel, present in a 1928 sketch published in pages of *Das Neue Frankfurt* (fig. 36), and to be understood as a sign of irrefutable awareness of the place and its history. Having resolved the issue regarding inclusion in the plan and context, Römerstadt's compositional process remains to be analysed regarding the indications collected, starting from identifying its constituent elements.

11. Nida was a Roman rear camp during the empire of Domitian between 83-85 AD. It was located in a strategic position along the already existing road to Mainz.

A method for composing the Siedlung

Composition by parts

The compositional parts

Once the context of references within the first part was fixed, the research advanced with the analytical work of decomposing the architecture (*Siedlung*) into its constituent parts to arrive at the definition of a compositional model. This model, a key outcome of our analysis, is a structured framework that categorises and organises the various elements of *Siedlung*'s architecture, providing a comprehensive understanding of its composition.

The analytical work is focused on a significant architectural project, the *Siedlung* Römerstadt, a housing estate built in the 1920s and 1930s in Frankfurt, Germany. This project is an exemplary case for our research due to its innovative design and alignment with our broader objective of understanding *Utilitas* in architecture. It is a tool for analysis, not the final point of our study.

Römerstadt's paradigmatic and pragmatic character may be an assembly of parts, having their precise characteristics; on the one hand, it allows us to investigate a concrete way of composing the *Siedlung* and, on the other, to identify its recurring elements, those relating to the formal structure of the *Anger*, or a place defined as central in the settlement, on which the compositional parts are assembled: residential streets, public buildings, residential buildings and commercial activities. Identifying these elements translates substantially in typological research or the analysis of types and their connections as a "result of the experience of previous periods"[1] and their implications in the cases under consideration.

The elements

Jean-Nicolas-Louis Durand states that the elements of composition are for architecture, "what words are for speech or notes for music, and without perfect knowledge it would be impossible to

1. See Narpozzi Marino, "The Composition", in Semerani Luciano, *Dizionario critico illustrato delle voci più utili all'architetto moderno*, C.E.L.I., Faenza 1993, p. 95.

proceed further"[2]. Therefore, an accurate typological taxonomy allows an architecture, the *Siedlung*, to be divided into recognisable and classifiable elements.

The research on the compositional parts is not a hasty endeavour but a meticulous process. It involves an initial phase of recovering the plans of the *Siedlung* Römerstadt, floor plans published between the 1920s and 1930s in most important German architecture magazines; this was an obligatory choice from the limited original material saved from the devastating consequences of the Second World War.

Among the recovered drawings, the one of 1927 is taken into consideration (fig. 39), when Römerstadt was still called *Siedlung in der Römerstadt zwischen Praunheim and Heddernheim*, "settlement along the road in der Römerstadt between the towns of Praunheim and Heddernheim". In the legend, some typical elements of the composition already appear written on the panel: low houses, tall houses, and facilities[3]. They are missing the collective buildings to be defined, which in actual construction, yes, reduce it to just the School on Hadrianstrasse; this project was entrusted to the architect Martin Elsaesser[4].

Image number 39 schematically highlights the parts identified as constitutive of the *Siedlung*. The general intent of this choice is immediately evident in omitting peculiar and characteristic parts of Römerstadt, like the walls with the bastions, or parts that contrast with the structure's clarity, such as the cemetery and the kindergarten. Another element not considered is the church, whose presence in the initial project is more surprising than its failure to build[5].

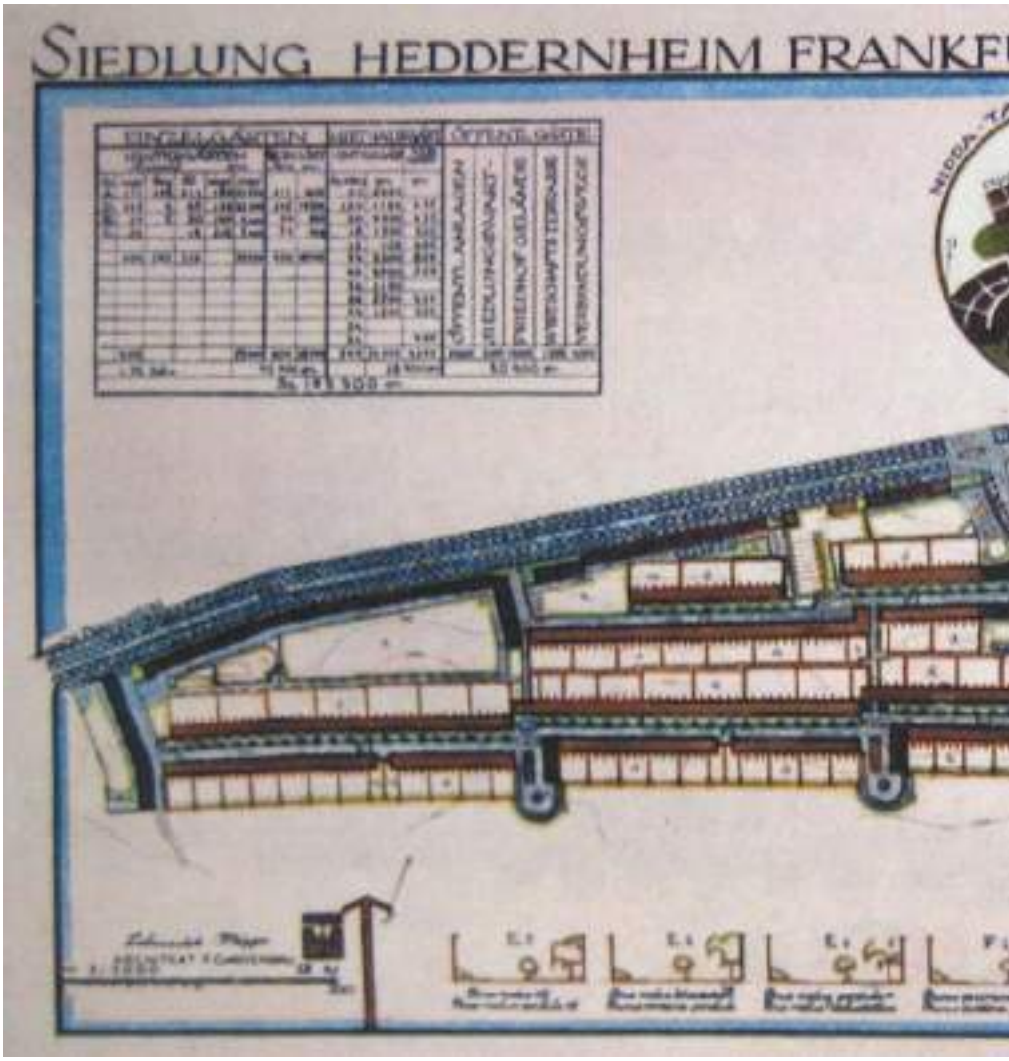
A seventh, not highlighted, must be added to these six parts in the redrawing of Figure 39, but it is necessary to study the compositional structure: public greenery. This does not appear or almost appears in the internal project at *Siedlung* because it is the space between the city and the satellite core,belt green crowned by the Niddatal complex.

2. Between the end of the eighteenth century and the beginning of the nineteenth century, Jean-Nicolas-Louis Durand developed a clear and mechanistic systematic classification of buildings and their elements which, in his time, constituted the basic repertoire of architecture, and showed the infinite combination possibilities. At the basis of his reflections there was first and foremost the dual postulate of functionality and economy. Durand thus approached the functionalist idea of the beauty of the useful (Moneo, 1999, p. 56).

3. The following types are identified in the legend.
1. The types of low-rise houses: type A and B, north-type single-family houses; type C, semi-detached houses; type D and E, single-family homes;
2. Types of tall houses: type H, apartment house; type H_1 and Z, apartment house north-type; type K, north-type apartment house; buildings with terraces on the upper floors;
3. Facilities: commercial activities.

4. See Chapter 4, *The components of the Siedlung*.

5. Ernst May, a Jewish mother, will never marry any religion, this being the case beyond that to influence the plans for cult centres in the Siedlungen, it will cost him internment during his African stay in an English concentration camp (Herrel, 2001).


SIEDLUNG HEDDERNHEIM FRANKF

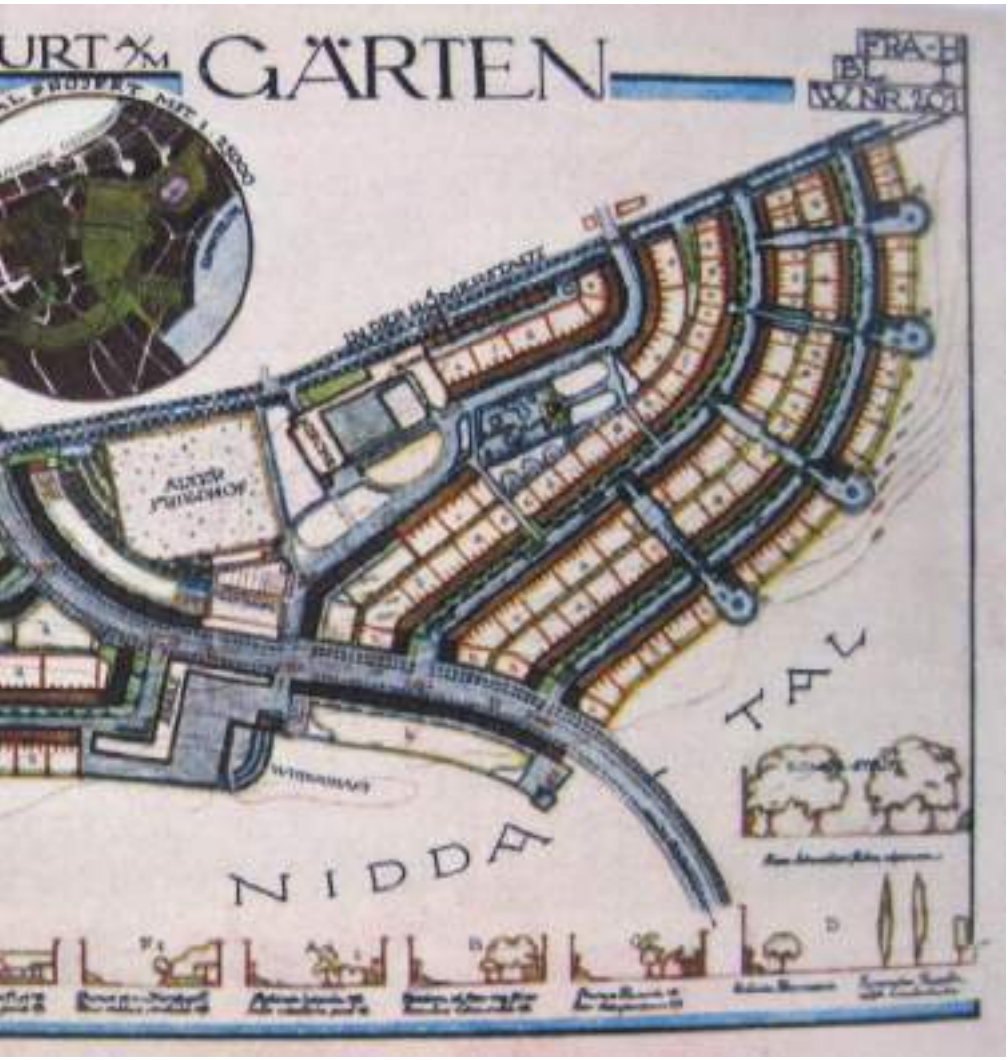


Fig. 38 • Master plan of the Siedlung Römerstadt, greenery, L. Migge, 1928.

Here are the compositional parts of the settlement linked to the formal structure of the *Anger* (fig. 40):

1. The central axis/*Anger*;
2. The residential street;
3. The tall building;
4. The public facilities;
5. The commercial activities;
6. The low building;
7. The public green spaces.

A comparison between the first project ideas and the executive project of 1927 highlights a double permanence: on the one hand, in the number and, on the other, in the composition of the elements. Some variations, at a 'volumetric level', are detectable compared to the expected projects. This term refers to the three-dimensional aspects of the design, such as the buildings' height, width, and depth. The buildings in the ramparts, facing south, do not still have the "expressionist" volumetric force, revealing a rigid stereometry; the linear house of C.H. Rudloff, long Hadrianstrasse, instead, seems to want to communicate through a different L-shaped corner solution, with the street "in der Römerstadt".
Regarding the design of the greenery, particularly the private one of the row houses, present in the plates signed by Lebercht Migge (fig. 38), there is a marked community will in their definition. They are not individual private gardens but instead the aggregation of the latter into groups of four residential units.

Elementary structures
Martì Arìs defines the pieces of the composition as:

> "Elementary structures are conceptualised forms that possess a defined identity and can interact between them, generating more complex structures. Numerous architectural works can be analysedby applying transformation operations starting from one or more elementary structures. [...] So in architecture, as in any human activity, only by starting from the elementary components can we explain the complexity of the result" (Martì Arìs, 1990, p. 116).

In this first phase of the analytical procedure, however, the research's peculiar attention does not dwell much on each element in question but on the existing relationship, the complex mechanism regulating its composition, or the typological concatenation.

The typological concatenation

The necessary premise is to consider each project, in this case, the Römerstadt artefact, as "a different, more advanced solution of an architectural theme" (Monestiroli, 2004, p. 20), like the result of a series of certain transformations.

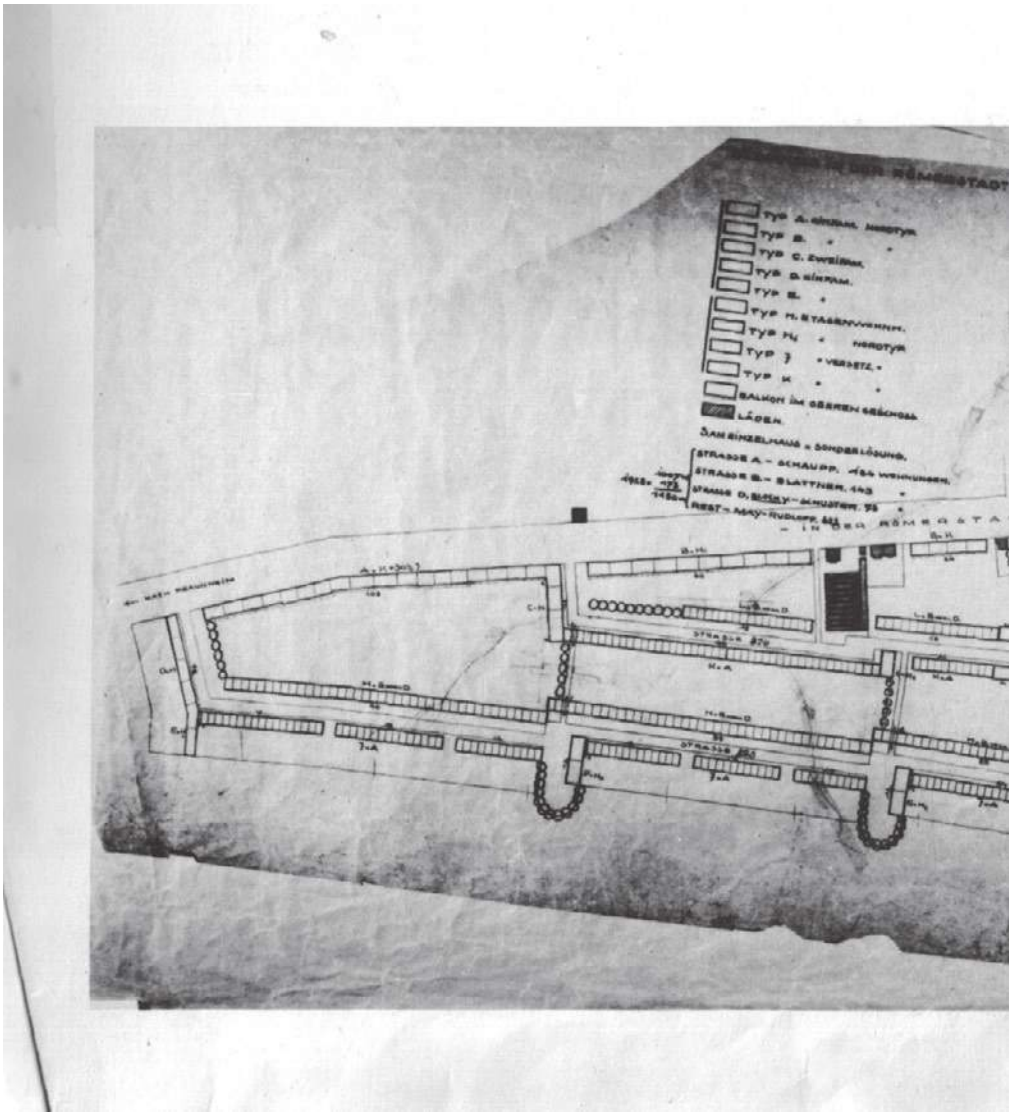
In this regard, Martì Arìs identifies three processes that characterise the transformations of an architectural artefact: variation, concatenation, and superposition. These 'transformation operations' are analytical tools that allow us to understand how the architectural elements of a design can change and interact to create different forms and structures.

In the case of the *Siedlung* Römerstadt, May develops the theme of concatenation because "it is a usual procedure in those architectures that openly exhibit complexity and fragmentation of their components, evading any attempt to subject them to a single and global law" (Martì Arìs, 1990, p. 120).

According to this approach to the project, they are linked to a series of heterogeneous formal structures, each of which is called to maintain its typological individuality unchanged. Each element of the *Siedlung* has its own set of characteristics, such as making it intelligible within the complex, which remain evident in all assembly processes. Every element is always conceived as a part of a system; this system is the complete settlement and completeness. This results, however, in a solid underlying contradiction: the single parts are dominated by a fragmentary, heterogeneous nature, but they are unified and held together by a complex world of relationships. These elements are not independent or disconnected from a common context but related through different forms of articulation, interpenetration, and solidarity.

Thanks to them, the whole ceases to be a mere disintegrated sum of parts and acquires a specific internal cohesion. Thus, each element appears subordinate to the structure without dissolving into it since the structure, as seen previously, is defined through the shape of the elements that compose it:

> "In general, it can be said that the word structure expresses the latent desire to make intelligible, through progressive abstraction, a heterogeneous and complex reality that manifests itself in the name of fragmentation. Structural research is, in a sense, the epistemological answer to a feeling of dissolution, loss of cohesion and homogeneity of things, an attempt to dominate a new universe from a broader perspective. Structure tends to move the analysis from the elements to their relationships, highlighting that the element acquires a full meaning only about the relative position the structure assigns to it. The structural method bypasses the matter to concentrate on form" (Martì Arìs, 1993, p. 189).



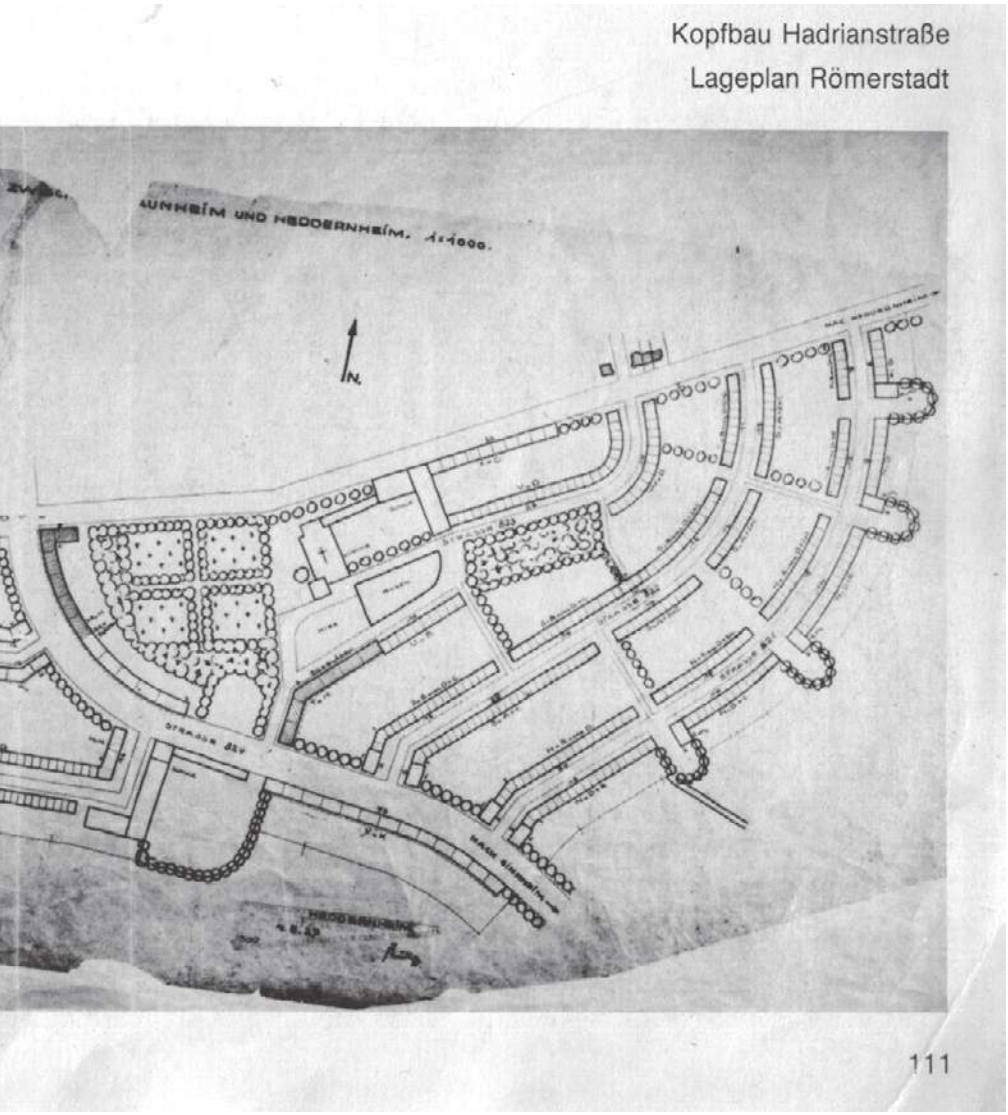


Fig. 39 • Master plan of the Siedlung "in der Römerstadt", 1927.

1. Main street
2. Residential street
3. Tall building
4. Public facilities
5. Commercial activities
6. Low building
7. Public green spaces

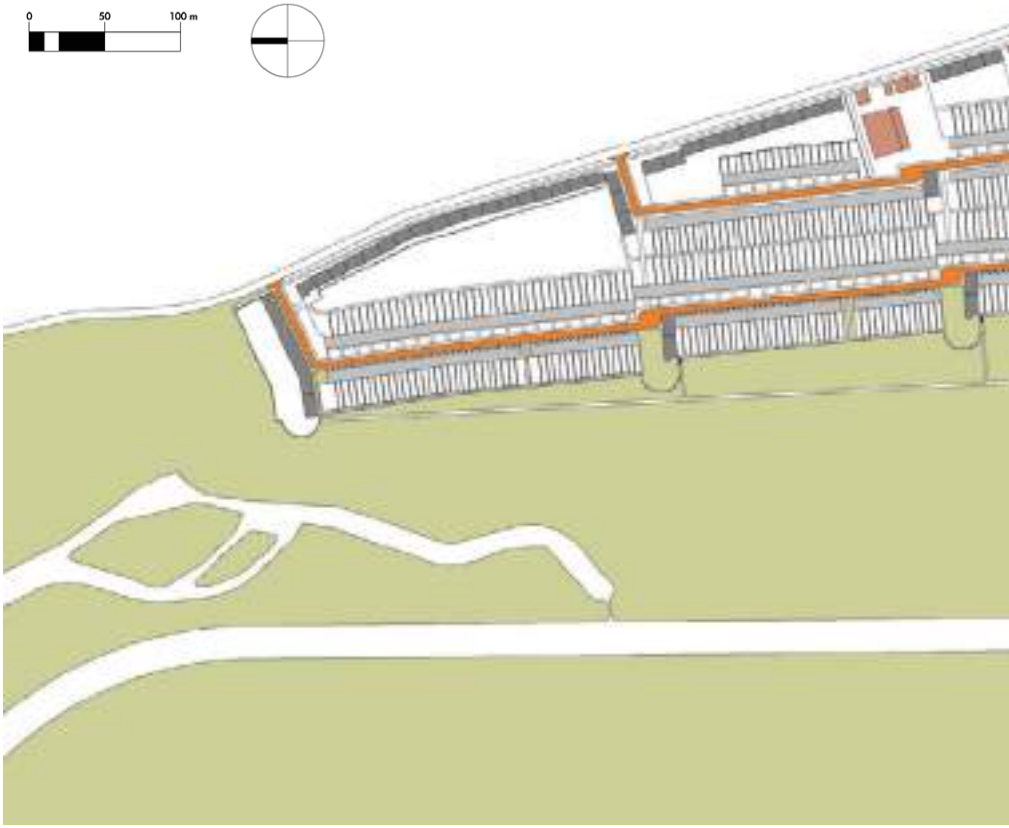




Fig. 40 • Redrawing of the Siedlung Römerstadt, identification of the components. 1927 project.

The typological concatenation summarises a single design strategy in this network of relationships, translating the tensions between parts in a complete and intelligible balance.
Ultimately, the elements are neither arranged nor chosen disorderly or casually within the composition but follow a predetermined rational consequentiality. The *Siedlung* explains itself, and the architectural work tends towards unity, conceived as a series of spatial types in logical juxtaposition.

Unity
May clearly expresses the concept of unity, of grasping the settlement as a finished artefact, further than through drawings and sketches on various occasions. In a conference held in Frankfurt in 1929 to illustrate the program of work completed up to that point, Ernst May compares the *Siedlungen* "to the honeycomb of bees," in which "the sum consists of the same residential elements" (Mohr and Mülller, 1984, p. 41) or of the same building types.
On the pages of the *Städtebau* magazine, May provides a clear description of the character of the satellites that suits the representation of Römerstadt:

> "[...] Particular importance should also be attributed to the fact that thanks to the predetermination of its maximum extension, the satellite city – once its expansion is complete – will be separated from the green area surrounding it by precise and definitive margins. Like the ancient traveller, entering the city through the barrier and the moats or through the walls, he learned to recognise the medieval city that appeared before his eyes as a whole with well-defined contours, even the satellite city, surrounded by rows of grouped buildings or from avenues, will announce its peculiarity as a fixed unity already with its contours. Groups of taller buildings, rising road outlets at the satellites' borders, will highlight that the concept is also particularly effective for delimitation of the entity" (May 1922, pp. 51-55).

Continuing with this examination of the unity of settlements, the words released in the radio interview are worth remembering in 1966, which provides an interesting investigation into compositional moves related to the *Siedlung*:

> "Yes, the *Siedlung* Römerstadt, or rather the famous project called"Niddatal", in its entirety, which I built at the time, showcases cubic buildings designed in a modern form, and the entire mass of buildings was created as a single body to place a new society, preparing parks, gardens and other facilities. For this reason, different colours and heights were used

> to take on the shape and value of a city. Above all, I would like to highlight this character because the *Siedlung* Römerstadt has the functional characteristics of a modern *Siedlung* but has complete regard for the urban form. The *Siedlung* is built on a slope and through terraces, and the orientation of each sector obtains a precise and clear scansion (composition), which determines the shape of the whole so that it can be readily embraced with the gaze [...]"[6].

This urban character is dominated by unity and grasping the city before seeing the houses emerge clearly and loudly from May's words. Forty years after the construction of the *Siedlung*, he remembers the use of modern language for a modern man who recognises the settlement as a collective project, part of history, precisely in the belief that architecture is a fact of knowledge that remains in the groove of tradition.
Then, there are the typical characteristics of the city: the colours, the diversity of heights, the hierarchy between buildings and spaces, the proportions, and urban dimensions. The confirmation of the ancient rules contributes to determining a form, a formally completed city that "you can easily embrace with your gaze", recognising it.

Appropriateness and character
Architecture's ability to be recognisable, measurable and understandable introduces two fundamental themes: appropriateness and character.
May works on the question of the appropriateness of the project compared to a theme, the *Siedlung*, and to a specific place, the Nidda Valley: "The more they will appear necessary at that moment and in that place and for that place, even more, so the figures and the forms will be appropriate" (Semerani, 1993, p. 79).
This job is suitable for giving identity and character to the composition of the different parts since the constituent parts alone are not the meaning of architecture, which resides in the operation, in use and character.
The *Siedlung* "is a place of knowledge, in which by travelling through it,functions and values of our life are recognised" (Semerani, 2008, p. 62) because, in the collective character of the settlement, there is the main element for its understanding, through which the work manifests its eloquent essence: what it is.
Adolf Loos's six-foot-long, three-foot-wide mound makes us severe but, above all, aware that "someone is buried here": this is architecture.

6. May Ernst, *Radio interview*, Berlin, 1966. Complete translation in the attachments: pp. 216-217.

Aldo Rossi considers architecture as a cognitive fact, the most intense and purest experience, since "it identifies itself in the fact itself; then only in the historicity of architecture does it happen that separation between the original element and the forms that the ancient world seems to have resolved forever and from which it derives the character of permanence that we recognise in those forms. Also for this reason," – continues Rossi – "all great architecture they re-propose the architecture of antiquity as if the relationship were fixed forever; but each time it presents itself with a different individuality" (Rossi, 1995, p. 143).
Enrst May, in Römerstadt, crystallises the relationship with the past. The tradition of *Siedlungen* and the Gothic-mercantile city is through memory: memory is a system of rules that allow us to rediscover rationality, both the compositional procedure and the use of typological elements.

The memory

> "There is a vast memory of architecture but also an architecture of memory which is an essential way to build one's design existence" (Mantese, 2008, p. 16).

Memory is directly linked to the theme of concatenation, explains Martì Arìs, as he has a precise lineage, "recalls the ancient practice of building architectural complexes, such as the conventual ones, through aggregation and concatenation of buildings over time" (Martì Arìs, 1990, p. 124).
In the case of the Niddatal project, this procedure is directly linked to the compositional strategy set on the road main/*Anger*, i.e., the public space already described in the first chapter.

L'Anger
The practice was brought to light in the Römerstadt project. Still, even earlier in the settlements in Silesia, it was, as mentioned, the *AngerSiedlung*: *Anger*, or square, is a collective place, and *Siedlung*, settlement[7].
The existing main street, a symbol of the permanence of a past that we still experience, becomes the public space on which the collective buildings, commercial activities, and houses are located. The latter are arranged orthogonally to the road axis to generate private courtyard spaces and enclosed gardens, as described in the first chapter.
In 1927-28, the first phase of Praunheim was created, one of May's

7. Manfredo Tafuri, regarding the references relating to the design of the Siedlung, states: "The peasant Siedlung was, moreover, the first conceptual nucleus from which it would be May's urban idea started" (Tafuri, 1964, pp. 68).

initial *Siedlungen* in Frankfurt, a "satellite" built and composed along the *Damaschkeanger*[8]. In this case, the main road widens and dilates its space to become a place dedicated to the combination and assemblage of civil life. In Römerstadt, the *Anger* is represented by Hadrianstrasse and the complex elements that constitute it, declaring its central character in the composition[9]. As will be seen later, this model alone does not explain the complexity of Römerstadt and the *Siedlungen* of Niddatal; we must also refer to the development of the gothic-mercantile city.

Paraphrasing Agostino Renna's words referring to the square, we can say that *Siedlung* exposes itself on the street, which is the mirror and the representation. It is inspired by an idea "of progressive construction over time, which is revealed in the form" of *Siedlung* as a city, "realising it however through that act simultaneous and global which is the project" (Martì Arìs, 1990, p. 122).

Arìs concludes his reasoning on the transformations of architecture's work, stating that these processes, "produced over time, can convert into work tools within a synchronic vision. By abstracting its temporal component, the idea of transformation generates a mental activity specific to the project. Thus, through the project, it is possible to reconstruct that complex order that the temporality it gives to architecture" (Martì Arìs, 1993, p. 124).

In this regard, Giorgio Grassi's vision about the *Anger* is more than adequate for the discussion. In his text Das Neue Frankfurt 1926-1931, an exciting comparison appears between two models, that of Römerstadt (fig. 40) and that of Praunheim (fig. 41). Look at the first mirrored figure, compared to reality and compared to the same two images appearing at the same time on *Das Neue Frankfurt* of 1927, allows us to grasp the same generating instinct: *Anger*.

The *Anger* is the foundation of the settlements' compositional model. We will talk about Niddatal later, starting from the assumption that the structure underlying the projects is hypotactic. The *Siedlung* Römerstadt appears to be a work of a bygone era in more intimate construction but under the guise of an absolutely and deliberately modern architectural language. Using, in this case, the words of Aldo Rossi, it can be stated that the *Siedlung* is in its history, in its permanences and its memory, and bursts into the present dressed in white, that is, observed in the light of reality, material of the present era. But architecture modern and past architecture are generally in one antagonistic relationship: what relationship with history, then?

8. Damaschke Adolf gives his name to the Anger of Praunheim, which is not an accidental choice.He was the theorist of landowner reform and founded the Movement for the Housing of Fighters (*Kriegerhaimstätten*) in March 1915. This event allows for a resonance hitherto unknown to the themes of city reform and house reform (Damaschke, 1917a; Damaschke, 1917b).

9. See Chapter 3, A *method for composing the Siedlung*.

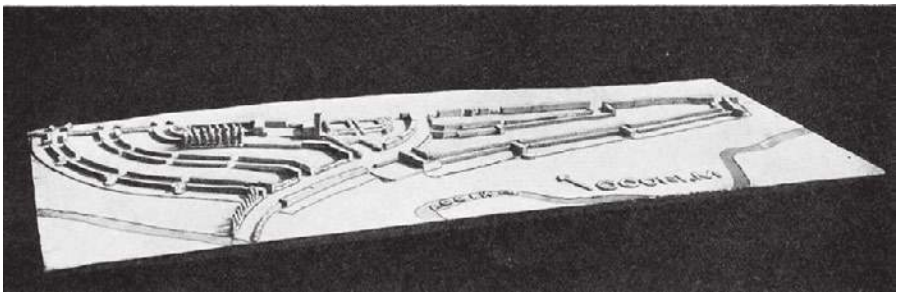
Continuity or discontinuity?

> "We are proud of the traditions of our beautiful city on the Main, of his affirmation in difficult days and those happy. However, we refuse to copy the works of the past to honour its tradition. On the contrary, we want to realise it worthy by being well rooted in our time and constructing it new spirit by welcoming the most vital stimuli of our era [...]" (May 1926, pp. 2-9).

May concludes the introduction to the first issue of *Das Neue Frankfurt* of 1926, distancing itself from a practice that refers to the memory and the past as construction material for the present. If these words are read as a proclamation, they intone the *tabula rasa* of architecture, the fracture. However, this research intends to rediscover May's experiences in the "satellite decade" of Frankfurt.
Gropius at the Bauhaus posed the question of completely excluding historical references to ensure that architects directly engaged with the complexity of contemporary problems.
The contemporary problems of the city and residence have been faced since his first assignments in Wroclaw, despite Gropius's peremptory position, in continuity with his becoming modern and within the tradition. *Come diventare moderni* (*How to Become Modern*) by Zanchettin is an exciting study on simplifying the architectural language of Ernst May, from the first works in Wroclaw to the Frankfurt experience (Zanchettin, 2001, pp. 84-91).
Every transformation, dictated by technical needs, contains already in itself its formal solution because such needs are not never completely new and because the answer is always reducible to a well-defined field of shapes within a choice general, concerning the city as a whole and in its totality:

> "Just as a literary work does not need a constant invention of the language or narrative techniques to develop in an unlimited way, in the same way, architecture does not invent a different form on every occasion. Everything comes from something, and this concatenation and continuity of experiences ensures their mobility and openness" (Martì Arìs, 1990, p. 106).

Therefore, memory is not servile subjection to formal canons of the past, but continuous building vitality, continuous drive for a more pure expression of current contents, of the spirit of the present, by the definition of tradition provided by K. F. Schinkel.
The rejection of decoration, stylistic features, and all academic vocabulary in favour of their simplification and their reduction



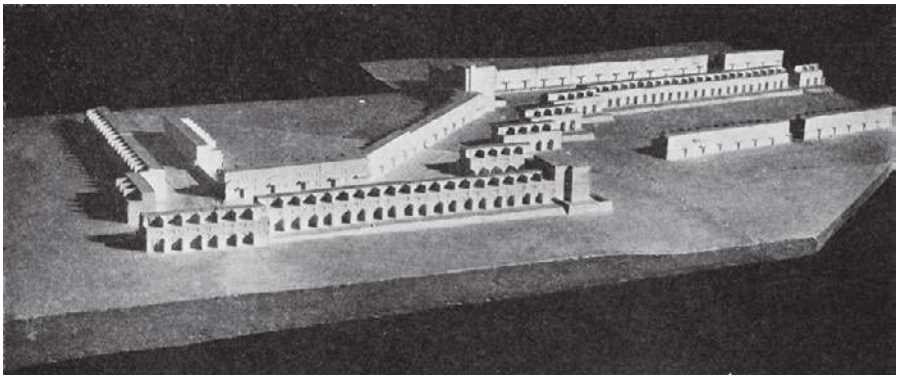


Fig. 41 • Photo of the model of the Siedlung Römerstadt, 1930.

Fig. 42 • Photo of the model of the Siedlung Praunheim, 1930.

of essential shapes with immediately evident geometric relationships already evokes the classicism category (Bonfanti, 1981, p. 125).
In essence, continuity is supported here because memory takes on a fundamental and foundational role when May chooses composition as a tool to develop the architectural project of the settlement, together with the use of a language dominated by simplicity, clarity or from *Sachlichkeit*.

Memory as a compositional technique
By employing innovative concatenation processes, *Siedlung*'s compositions emerge as a unique project, encapsulating the memory of all past architectural endeavours. As Mantese (2008, p. 16) succinctly states, this approach is an "awareness that each element of the city's construction corresponds to an architectural theme that has its reality even before it is defined again with a new project".
The *Neues Bauen*: A Unique Approach to Building Construction
When faced with the challenge of providing affordable, healthy, and modern housing to low-income individuals, *Siedlung*'s urban planning principles embody a profoundly humanistic approach. It is not a mere departure from tradition but a heartfelt recognition of the debt owed to it. In this context, the *Siedlung* is not just a physical representation but a testament to the human condition. The discourse revolves around the 'new man', living a modern life, yet grounded in an identifiable context, where he recognises his own culture as 'the shape and value of a city'.
The memory is projected in time, recognisable and transmittable in the assembly of the architectural elements of the aspects of the city in history, a history which, upon closer inspection, does not refer to the Roman world. In this case, the compositional technique cannot be confused with the names of some streets in *Siedlung*, *Am Forum* or *Hadrianstrasse*[10], and the fascination with a past on which Ernst May found a new history.
The block is another essential element in reading about Frankfurt's settlements and its role in the city's composition. This fragment of urban memory transforms and then is distorted to build the settlement. Herbert Böhm, contributor of the *Neues Frankfurt*, regarding Römerstadt and the second and third phase of Praunheim, talks about questions of method, remembering how "always, a priori, the schematic form was used of rectangular blocks" (Mohr and Mülller, 1984 p. 90) for proceeding with the overall design of the project.

10. The toponym of the streets of Römerstadt recalls the past, both in the existing streets, "In der Römerstadt", and in the project ones: "Im Burgfeld", "Am Forum", and "In der Mauer".

It is inevitable to mention Gropius and May's well-known and famous schemes about the evolution of the nineteenth-century block.
This evolutionary process of the modern urban block is found in the III scheme, the pattern through which the *Siedlungen* were assembled.
The sequence of images in Figure 43 represents a simulation in which the pattern is used according to the modalities expressed by Böhm's words. They start by arranging the blocks perpendicular to a north-south reference axis; we continue orienting and placing the blocks according to the orography of the terrain, such as to follow the level curves; in the last simulation, we proceed to a greater adherence to the context, such as following the existing road "in der Römerstadt" and the layout of the buildings according to precise facing points of view towards the Nidda valley.
In this transformation process, Main Street/*Anger* gradually takes on the characteristics resulting from its adaptation to the context while maintaining its value as a central, public, and recognisable place.
The final project becomes a combination of alternative elements and equivalents, intended for entirely conducted experimentation within the architecture itself, its experience, and, therefore, the city's historical experience.
An example of the application of May's III scheme, just a little earlier than those of Niddatal in Frankfurt, is located in Duisburg. The municipality's "public housing" section was built between 1925 and 1926 and is remembered as one of the first settlements in Germany entirely made of flat cover[11].

The fragment as a quotation
In addition to the components identified, some elements can be recognised with a solid semantic value. May allows himself, in Römerstadt, a single quote, a fragment of memory, a transparent element figurative: the walls with the bastions.
In the 1966 radio interview, already previously taken into consideration, the architect thus responds to a question about the Niddatal project:

> "[...] there is no other Römerstadt, and Römerstadt is one Römerstadt, and this, I believe, distinguishes it from many *Siedlungen*, which were subsequently designed, which deny the unitary form and only through the (architectural)

11. An interesting description of the Siedlung can be found in *Neues Bauen der zwanziger Jahre als Problem der Denkmalpflege*, in *Siedlungen der Zwanziger Jahre - heute* by Runsky Eberhard (Runsky, 1984, pp. 81-90).

contrasts, and other methods they seek, to bring, in a certain way, life into the city"[12].

Ernst May compares the *Siedlung* to an actual Roman city and takes up the old walls as a characteristic element of Nida, located on the southern side, following its route. To these, he adds the bastions, which have become an icon of the whole settlement and explicit references to the typical medieval city (May 1922, pp. 51-55).
Thus, a symbiotic relationship is established and amplified between the new and pre-existing environmental and historical components. The walls and bastions, while dialoguing with the past, also determine the shape of the settlement. They function as a natural fence, defining a limit for buildings but not for greenery and the visual relationship with the landscape. This design intent is beautifully suggested through the bastions, the terminals of the pedestrian paths, and the viewpoints well precise on Nidda (fig. 44-45).
This element presents, however, a dichotomy linked to the fact of being accurate at the same time, related to the place and its history, but also abstract as it lacks the original function. It is not a coincidence that its height drops to the point of becoming a simple terrace at the eastern and western extremes of the settlement. Therefore, the allusion to the city of the foundation remains in some of his work's constituent parts, making clear the fact of being in a place special, underlined by the solid symbolic character of the architecture.

The city as a paradigm of the Siedlung

> "*Siedlung* in the broadest sense of the term refers to each human settlement, understood both as a place of rest during nomadism [...] and as a temporary place of parking for camps or, in the case of fixed residences, such as farms, villages or cities" (Rossi, 1995, p. 135).

The thesis supported here is, once again, the architectural validity of the idea of *Siedlung*, the principle that architecture is born from architecture and not from abstract considerations of character functionality.
Also, the *Existenzminimum* has a meaning in this speech because of the degree of rationality it introduced into the design without representing a limitation in architectural choices.
On the one hand, the city is a collective fact, identity, and memory. On the other, it is an urban fact identified in the formal values

12. May Ernst, *Radio interview*, Berlin, 1966. Complete translation in the attachments.

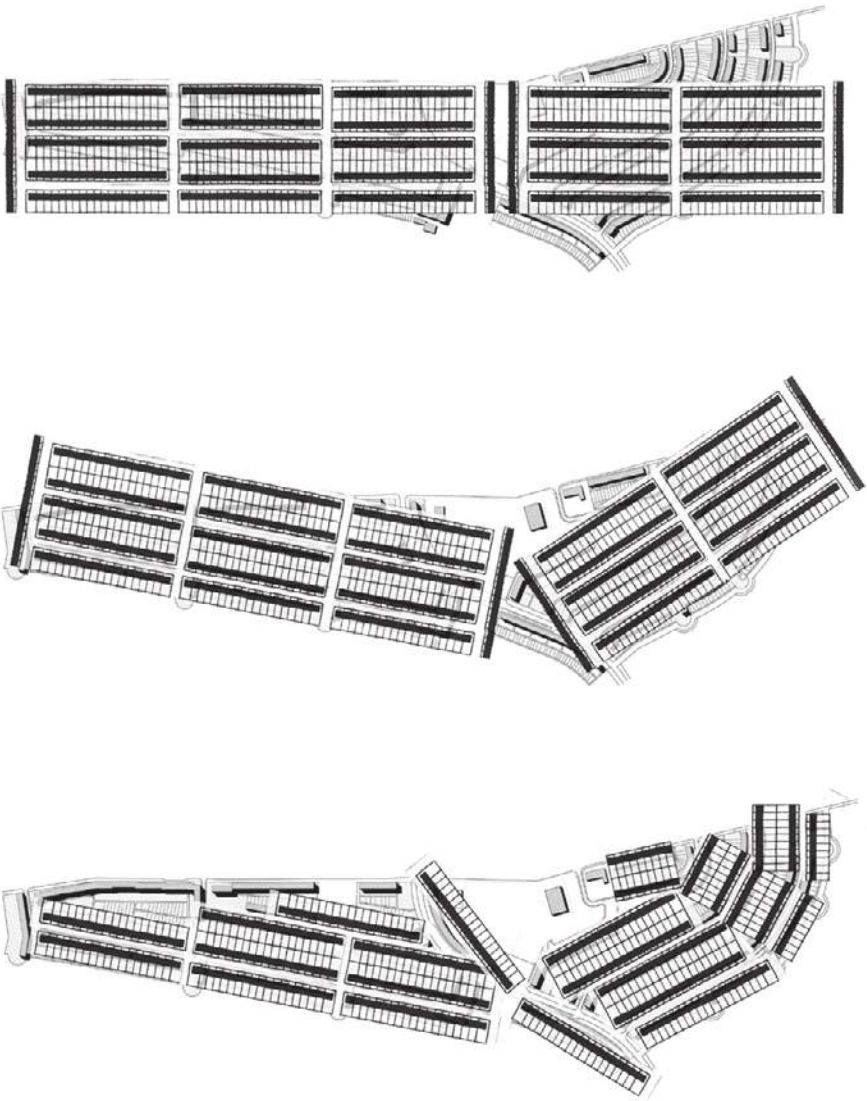


Fig. 43 • Simulation of the Römerstadt project design using diagram no. 3. First, second, and third phases.

of places and the quality of space through measures, dimensions, and relationships (Dal Fabbro, 2009, p. 9).
The objection that can be raised concerns the vision of settlements built as real cities. This objection is relative to the fact that it is possible to consider urban as one of the two reference models, particularly the *Anger Siedlung*. The *Anger Siedlung* is a pattern in sixteenth notes, a short composition in a few lines, and a reduced version of the medieval German settlement built along the existing main road.
The main road becomes the backbone, which holds them together, the components, and orders their relationships. In the medieval city, the road is an absolutely and truly new element compared to the Roman town because it becomes the overlooking place of the residence, together with the recovery of the block as an elementary urban part. The references, therefore, take on the role of a real matrix to carry out a work whose settlement structure refers to an analogy to the founding processes of the city and integrates perfectly into the existing context.
"Filarete contrasts the good ancient manner with the Gothic manner" because he sees the possibility of overcoming the gothic city. Ernst May chooses this type of reference for the *Siedlung* because he sees in it the possibility of composing the settlement, in the belief that "every architecture binds its reason present to his past reason and bears witness to that event general which is precisely history" (Monestiroli, 2004, p. 45).

The Gothic-mercantile city
The salient features of the history of the formation of the Gothic city are:

> "Public and private buildings, freely brought together, form a strongly identified overall organism, which offers a legible summary view from the outside. It appears "irregular" because unity does not derive from adherence to a large-scale geometric rule - as in ancient or Renaissance cities - but with a perfect adaptation of its elements. [...] The streets and squares form an environment with a unique and articulated audience, where every element makes itself present, and the community recognises itself. The streets are varied and conformed for non-specialized collective functions. [...] The closed and privileged character of the city has as concentration as a consequence: the city occupies a space as narrow as possible [...]" (Benevolo, 1996, p. 48).

If in the medieval city, the fundamental prerequisite for building a house was the organisation of work, in Römerstadt, the definition of a way of life became the protagonist again. This is why the

courtyard blocks of terraced houses are in-depth derived from the city of the nineteenth century, as the schemes of May and Gropius demonstrate.
Here, we are talking about invention, which, unlike innovation, does not exist outside of specific rules; it consists of a rediscovery, a new combination of elements chosen from existing materials according to proven compositional methods.
The Gothic road system bears the nineteenth-century residential blocks with a view to the progress of architecture, which, while seeking ever greater adequacy of forms to its reason, frees itself from all those conditionings that make it partial and particular.
For example, the 1:4 ratio between the street front and the depth of the lot indicated as the most widespread in European cities (Monestiroli, 2004, p. 73) is also taken up in Römerstadt:

Northside type row house, 5.3x23 m;
Southside type row house, 6x23 m.

The city as paradigm of the *Siedlung*, therefore, means to underline a relationship of continuity with the past, seeing the city as a composition of pre-existing architecture and the desire to build "a single body" composed of intelligible main functions and distinguishable:

the residence (houses in line, terraced);
typical facilities (public buildings, open spaces);
circulation (roads, paths).

The thematic units
This subdivision into macro thematic units reveals within itself a precise urban hierarchy. The housing consists of tall houses for apartments and two-level row houses. The central collective buildings, churches, schools, people's homes, and secondary collective buildings, such as communal laundries, represent fixed assets. Public and private open spaces must be added to these activities as fundamental places for developing community life. Finally, the urban hierarchy is used in the subdivision of traffic routes between primary and secondary (residential) roads and between pedestrian and cycle paths.
There is, therefore, a necessary and appropriate contrast of parts, of thematic units, and their consequent balance in the complete and concluded form of the *Siedlung*, in the belief that the whole is more important than the individual parts, and in the conviction that the shape of the city determines the quality of housing (Mohr and Mülller, 1984, p. 163).
Rather than being a total overhaul of the city's image, the layout of the buildings appears to be a typological restructuring of

residence compared to the formal experience of the historic city over time.
The urban agglomeration became, in the 1920s, a dwelling for the masses for as many people as possible, and to define the appropriate form for this new condition of his, he must renounce every form of individualism, that is, it must take on the characteristics of one "homogeneous metropolis"[13], "democratic", made up of elements typified and serial (Schweitzer, 2010).
By proceeding in parts, through "urban allusions," May concretises the character of the *Siedlung*, crystallising its being a city within a city.

Building density and Mischbebauung
If, on the one hand, the historic city of the nineteenth century imposed a density of medium-high buildings capable of meeting housing needs, the typological choices of the *Siedlung* impose different densities suitable for a modern lifestyle and a new found relationship between the city and the countryside.
Even adopting different building types brings back the city's complex history. The *Urban Ensemble* is reached through the assembly hierarchy of various elements: the *Mischbebauung*. This corresponds to the general principle by which he determined the choices relating to the other interventions in Frankfurt (Grassi, 1975, p. 49).
The row house type defines residential blocks that delimit, together with the buildings in line or blocks, the street curtains, and the fronts of the free spaces, so different building types highlight different free spaces. Considering the block, the maximum organised entity of individual properties, it is clear how the city's division into blocks corresponds to the city's division into public and private space. The hierarchy of free spaces is the system for occasionally giving precise individuality to these residential areas.

Street hierarchy
The hierarchy of streets represents another critical factor in *Siedlung*'s compositional strategies. Ludwig Hilberseimer, for example, considers mobility one of the issues determining the construction of the contemporary city.
In his research, Hilberseimer makes the hierarchy of streets coincide with the definition of the parts of the city. This idea derives from the pre-industrial city, where the differentiation of the streets, from the main traffic road to the alley, corresponds

13. On the concept of homogeneity applied to the metropolis and society, towards which the work of New Frankfurt, the theories of Christoph Mohr and Michael are interesting Mülller contained in the chapters *Die Omogene Metropole* and *Die Omogene Masse* (Mohr and Mülller, 1984, pp. 167-180).





Fig. 44 • Photo of the Nidda with the Siedlung Römerstadt in the background.

Fig. 45 • Photo of the ramparts of Römerstadt, 1930.

to a differentiation of the urban parts, a fact that the nineteenth-century city tends to cancel.

Relationship with nature
A consequence of May's design choices is renovating the architecture-countryside relationship with the landscape regarding buildings and man. The *Siedlung* crossed by nature, understood as mentioned, to be like a green surface, where all its parts come together with it perpetually, testifies to the desire to take on the latter as context. Nature becomes the fixed scene through which architecture represents human events and finds a relationship of continuity in the surrounding landscape.
The ramparts extend towards the bed of the Nidda, underlining the limit of the intervention and the quality of landscape integration of the intervention itself.
The most important settlements in Frankfurt, however, are localised within a continuous fabric of equipped greenery that extends into strictly defined meshes by unifying the construction of the urban blocks; this also explains the prevailing expansion along the banks of the Nidda River:

> "If modern architecture is intimately anti-naturalistic, this does not mean that its relationship with nature should be excluded, that perhaps should be dialectical: the *Siedlungen* Praunheim, Römerstadt Bruchfeldstrasse demonstrate this possibility in concrete, presenting various ways of this relationship in highly differentiated morphologies" (Tafuri, 1964, pp. 66-80).

The compositional model

Two combination modes
The analysis of the *Siedlung* Römerstadt, as a composition of precise and determined elements, has allowed us to define the architectural theme of typological concatenation. This theme is achieved through the sequential assembly of the seven parts previously identified:

1. The main road/*Anger*;
2. The residential street;
3. The tall building;
4. The public facilities;
5. The commercial activities;
6. The low building;
7. The public green spaces.

The objective is to trace the formal structure that regulates the concatenation between these parts and the possible combinatorial methods between the available elements.
The first combination mode, a complex arrangement involving an accidental disposition of almost all the components, results in a multi-axial connection scheme dominated by an ample central space. Like the *Siedlung* Römerstadt, the second mode features a sequential arrangement of the parts, with a single element, the road, connecting all the others, thereby establishing a hierarchical and constrained system.

Hypotaxis and parataxis
Before studying the specific typological strategy through which the *Siedlung* Römerstadt is built, it is appropriate to specify and define the possible combinations. The combination modalities can essentially be traced back to two formal structures: the hypotactic type model and the paratactic type model.
In architectural analysis, hypotaxis and parataxis are two syntactic procedures that allow for the organisation of words in sentences, or in this case, the components in primary or higher

units. Hypotaxis establishes a relationship of dependence between two propositions, as in the case of architectural elements, which are ordered according to relationships of subordination, as in the case of the concatenation between the parts of a building. The second procedure, parataxis (from the Greek *pará* "near" and *taxis* "disposition"), instead follows two prepositions, leaving them autonomous; without any relationships of mutual subordination, essentially all parties have the same importance.
Both are valuable tools for the correct composition organisation, but they must be chosen based on the type of "text" or architecture you want to create. The tone of a paratactic and hypotactic work is different; the former is much simpler and less elaborate, almost informal, and the latter systems are more articulated and complex.

Paratactic hypothesis
You can get a paratactic reading of the *Siedlung* by imagining that even some elements of the composition are not more tied to the road, to its constraint, as the *fulcrum* of the settlement.
In this case, the design strategy involves the absence of a main road, to the detriment of a green public space in which they are located collectively, and public buildings and services are immersed. In this case, the design strategy involves the absence of a main road, which is detrimental to a green public space where the public facilities and commercial activities are located.
Later, the Römerstadt constitutive sequence disappears, favouring the reading of a structure closer to the concept of *Landschaftsarchitektur*, a concept openly taken up by May in the *Siedlungen* of the 1950s and 1960s in the Federal Republic of Germany[1].

Hypotactic reading of Römerstadt
The structure of *Siedlung* Römerstad is based on a sequence along a path, represented by the main road. It is impossible to establish a priori whether it is a hypotactic-type structure or paratactic. If the system comprises independent and autonomous architectural components placed in a sequence concerning the system, these could be positioned in various ways.
At first glance, the arrangement of the *Siedlung* elements does not respond to a specific constraint, thus amplifying their autonomy. From this starting point, they can be analysed as entities that exist regardless of the system, directing the analysis towards reading paratactic.
However, hypotaxis is an articulated and complex system of composition, which highlights a precise sequence along the road,inserting relationships of subordination into the architectural

1. See Chapter 5, *Analogies, for a comparison.*

discourse and variations between elements. An architecture derives from it governed by a precise order, which establishes hierarchies of arrangement between the parts:

1. The main road/*Anger* is the backbone of the settlement.
2. Collective buildings, such as services and the high house, stand on the main road.
3. The low houses stand on the residential streets, structured according to the main road.
4. Public green spaces become a privileged landscape for the components of the settlement.

The Anger as an archetype of formal structure: Römerstadt

The question of *Anger* as an archetype of formal structure has already been written in the first chapter in its reference capacity for the composition of the first *Siedlungen*; however, this chapter seeks to understand his role in Niddatal's projects.

The topic under discussion focuses on how the idea of *Anger* is applied after its experimentation in Silesia and is now enriched by the possibility of using it in a more complex masterplan within a new architectural language[2].

Always taking Römerstadt as a base of study and, based on the definition of *Anger*[3] It is possible to analyse the application of this formal structure as a shared space, a square consisting of a road passing through the settlement. The redrawing (fig. 46) allows you to identify the elements that determine the presence of this structure:

1. the main street;
2. pedestrian paths;
3. public greenery.

The *Anger* is defined by those elements, the buildings that they overlook and with which they are in direct connection, determining its character (fig. 46):

1. the residential street;
2. the tall building;
3. the public facilities;
4. the commercial activities.

As analysed in the previous chapter, since its first manifestations, the history of this structure recalls the simultaneous presence of a passing road divided into two parts, between which public

2. See Chapter 2, *The context*.

3. See Chapter 1, *Three ideas for (re)composing the city*.

space is formed, the square. It positioned itself in the centre of this square, the church or a chapel, depending on the size of the settlement, and along the transit routes, the public buildings and houses, which in turn, arranged like a comb, constitute private courts.

Relationship between the main road and locus

The route in Römerstadt does not follow a straight path but adapts to the place, as seen in the first chapter, going down towards the river. The other *Siedlungen* of the Nidda Valley propose a collocation strategy dependent on the location in the same way.

The variations on the theme are nothing more than the consequence of placement strategies and relationships with the existing context, even if, at first sight, they might suggest, once again, a paratactical *dispositio* of the system, its fragmentation without relationships of subordination between the parts.

The fragmentation effect, due to this apparent absence of a compositional system attributable to a principle of unity classically understood, is contrasted by the introduction of a recurring element: the main road/*Anger*, which, composed around thematic units or elementary structures, unifies the variations made case by case.

The main road/*Anger* takes on the role of a *leitmotif* along a narrative sequence, which proves capable of incorporating the accidental data derived from the place within the compositional rules.

The connective axis becomes a reference and, in the system, holds the parts together and makes them integral. It transforms them from isolated and self-referential fragments into elements necessary for the constitution of an architectural *unicum*, a concept, the latter, foundational in May's *Siedlungen*.

The composition is perceived along the way in the three-dimensional space of an actual narrative sequence,while its unity can be seen from the Nidda Valley.

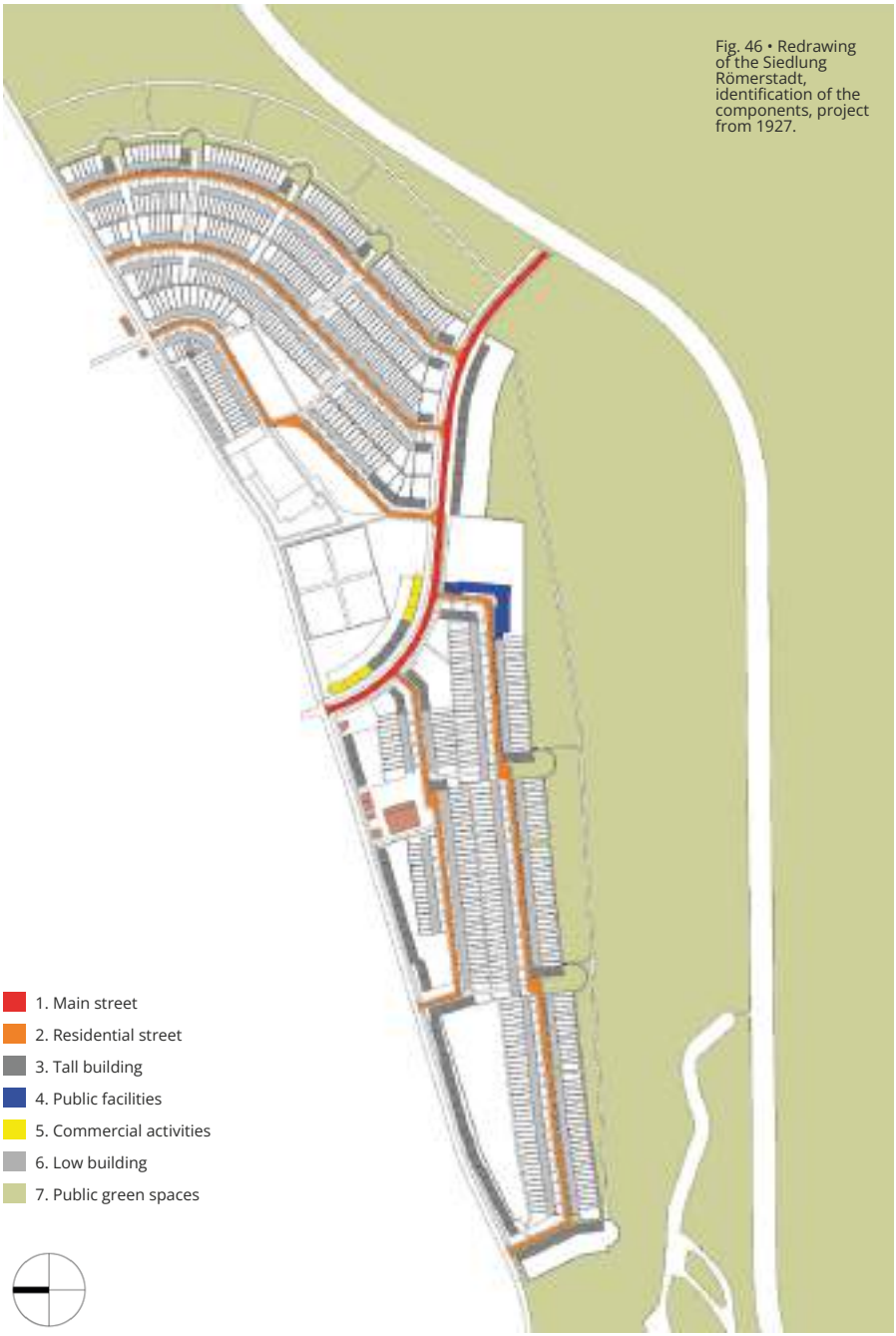


Fig. 46 • Redrawing of the Siedlung Römerstadt, identification of the components, project from 1927.

The different declinations of the formal structure

The formal structure

Grasping the concept of formal structure is not a simple task but a prerequisite for comprehending its numerous applications in architecture. Formal structure refers to a design's underlying framework or organisation and serves as the bedrock of architectural discourse. This understanding is pivotal and intellectually stimulating as it delves into its versatile applications, sparking curiosity and engagement.

When discussing formal structure in architecture, assigning a precise role to 'form' is essential. This role differs considerably from the aesthetic exception of the term, which implies a clear contrast between form and content. In essence, the content is identifiable with the profound dimension of the object, while the form stops at its sensitive connotations.

In architectural discourse, form is not a mere appearance; it goes beyond things' superficial and contingent aspects. It is a distinct category within the realm of the intelligible and reason. The ability to reason presupposes the capacity to analyse this concept rationally and dissect its characteristics and rules, and these rules, these elements of form, constitute the formal structure.

Understanding Römerstadt as an additive system based on a precise sequence means referring to one's characteristics of its internal structure, comparable to the line of the arch, which they form the stones of a bridge, without which, however, the arch itself it wouldn't exist:

> "Marco Polo describes a bridge, stone by stone.
> But what is the stone that supports the bridge? – asks Kublai Khan.
> This or that stone does not support the bridge – he replies.
> Marco – but the line of the arch that they form. Kublai Khan, remains silent, reflecting.
> Then he adds: – Why are you talking to me about stones? I care only about the arch.
> Polo replies: – Without stones, there is no arch"
> (Calvino, 1996).

The *Siedlung* is a fascinating architectural phenomenon that comprises a series of elements or parts that seem autonomous at first glance but are related according to an exact form of spatial articulation. These case studies, rich in architectural discourse, offer a unique perspective on the concept of formal structure.
The structural analysis, applied to other examples of *Siedlungen*, is focused on the relationships between elements, which are preserved or enriched depending on the degree of transformation.
In formal structure, 'transformability' refers to its adaptability to the changing needs of time, place, and users. This notion is exemplified in the works of Praunheim (1927-29) and Westhausen (1929-30), which are interpretations of *Siedlung*'s constitutive characteristics or variations on the theme. This adaptability is not just a feature but a crucial aspect to consider. Its ability to transform and adjust to specific circumstances without compromising its core characteristics is a testament to the dynamic nature of architectural creation.

The satellite

May's original contribution, underlines Giorgio Grassi, was that of having built formal alternatives "capable of be, in fact, alternatives and not substitutes for construction nineteenth-century of the city" (Grassi, 1975, p. 40).
The Niddatal project's construction is proper from the start as an urbanised crown, an authentic green backdrop, and *extra moenia*. The cases on stage here, Römerstadt, Praunheim and Westahausen, embody the true spirit of the satellite core, the spirit described in detail in 1922 on the pages of *Schlesiches Heim*[1], and which differentiates these cases from all others built in Frankfurt:

connection, within the municipal boundaries, within an existing settlement;
connection with an existing road axis;
connection with public green areas;
re-proposal of the *Anger* as a collective space.

The last point, the re-proposal of the *Anger*, essentially refers to the same formal structure, to an analogy composition with intelligible characters (May, 1922, pp. 51-55). In the architectural context, *Anger* refers to a central open space in a settlement, often used for communal activities or as a gathering place.
The adaptability of the formal structure is not just a feature but a remarkable aspect to consider. Its ability to transform and adjust to specific circumstances without compromising its core

1. See Chapter 1, *Three ideas for (re)composing the city*.

characteristics is a testament to the dynamic nature of architectural creation. This adaptability should inspire us all, showing us that even the most rigid structures can evolve and meet the changing needs of our society.
May and his working group apply this scheme to different contexts, dominated by the Nidda River, bending the construction constraints, orographic and functional, to a precise architectural idea. The project, therefore, in being available to these changes, makes its distance from being a mere re-proposal explicit of a fixed and immutable model, becoming instead a formalisation of an objective type.
Ultimately, the two projects that conclude the Nidda Valley, Praunheim and Westhausen, are not isolated entities but harmonious variations on the same compositional theme: the main street as *Anger*. They are united by their precise character as satellite nuclei and their shared objective of shaping the settlement with a strong urban character. In architecture, 'urban character' refers to the unique features and qualities that define a city or metropolitan area.

The early Siedlungen: 1925-1926
The result obtained in the "Niddatal" project must also be attributed to the work carried out in the first interventions in Frankfurt. In September 1925, Ernst May began working to realise the planned settlements. This historical context is crucial to understanding the evolution of the formal structure in architectural discourse. As students, professionals, and architecture enthusiasts, your role in understanding and appreciating this evolution is invaluable and integral. In this period, it is necessary to refer mainly to four cases built on the city's outskirts: The *Siedlungen* Bruchfeldstraße, Bornheim, Höhenblick and Praunheim. If the *Siedlung* Bruchfeldstraße constitutes part of an intervention already under construction, the *Siedlungen* Bornheim, Höhenblick and Praunheim are located on the established expansion axis of social housing.
The area on which Höhenblick stands, where May and Elsaesser built their own private homes[2], is slightly raised on the Nidda northwest of the city in a privileged point regarding the view of the surrounding panorama. From this strategic location, visible in a 1929 watercolour by H. Treuner, May imagines and draws the white backdrop made by the fixed scenes of Niddatal.
In this speech, he puts some elements into practice, above all, symbolic figures traceable in Dutch travel sketchbooks of the early 1920s, especially in the corner solutions, and re-proposes the theme of the entrance turrets at the heads of row houses.
The *Siedlung* Praunheim is significant in the context of the Niddatal

2. Ernst May's house in Ginnheim is described in a 1966 film: *Anonym, Ein Wohnhaus in Ginnheim bei Frankfurt/M*, Video.

project as it constitutes the first nucleus of the entire Niddatal. In contrast, the Bornheim project is essential because the settlement is close to the peripheral neighbourhoods and builds the initial nucleus of a complex restructuring urban area fully equipped with services and infrastructures. These projects and the *Westhausen* project are critical examples of applying formal structure in architecture.

The Praunheim Siedlung

The *Siedlung* Praunheim (1926-1929) encompasses, as a whole, all of May's architectural experience in Frankfurt. It is possible to follow the development of the architect's thoughts from different aspects, ranging from the conception of the settlement as a whole to the architectural point of view and the global organisation of infrastructures and services. The settlements result from a plan in parts that, only later, take on a unitary form in the project for the Nidda Valley. The system is divided into three sectors or phases, structured around the *altes Hofgut*, an existing courtyard.

First phase

The settlement was born as a small town without an initial masterplan; however, the opportunity is seized to "invent" a piece of the city, following the ideas set out in his articles, which appeared in the magazine *Schlesisches Heim*.

A model published in *Das Neue Frankfurt* in June 1927 allows you to read the layout of the *Damaschkeanger* (fig. 42), the collective space of the *Siedlung*, as also demonstrated in the drawing by Hans Leistikow, published later but referable with certainty at this stage (fig. 47).

In this first sector, row houses were wholly constructed with *plattenbau*, prefabricated elements, in which the members of *Das Neue Frankfurt* lived to test their comfortability.

Second phase

Starting in 1927, the second batch of the *Siedlung* was set up, and it would have occupied the sector west of the Altes Hofgut (fig. 49).

This sector's overall concept abandons the buildings' layout at the lots' limits. The blocks are simple rows of houses that open the shorter sides. If the design of the blocks in the first lot was aimed at following the irregular shape of the *Damaschke Anger*, in this case, the division of the lots is perfectly regular. At the same time, the variation is obtained through minor deviations concerning the alignment of the road line.

Perhaps it is possible to recognise in these compositional movements the residue of the same attitude that leads to minor "accidents" along the way within the *Siedlung* of Silesia, where May inserts slight off-axis or small irregular flares inside road fabrics understandable from a geometric point of view.

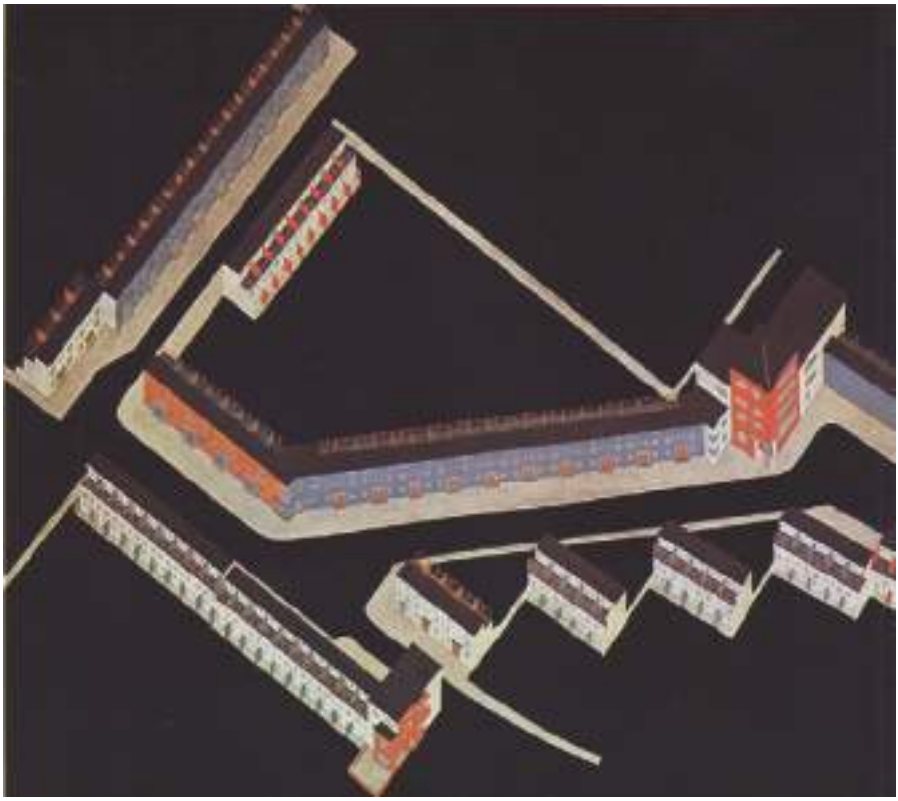


Fig. 47 • Isometry of the Siedlung Praunheim by H. Leistikow, 1926.

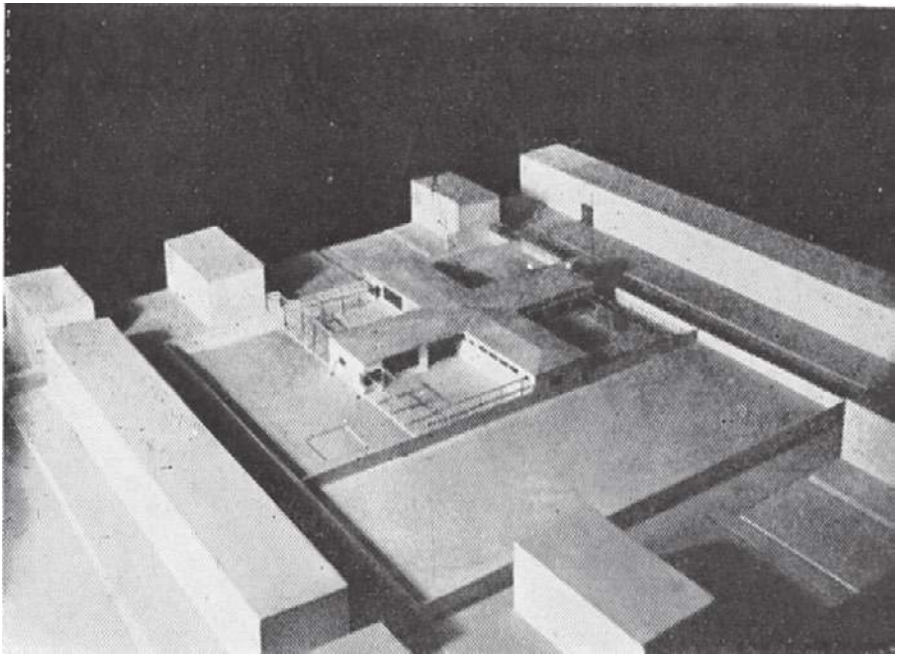
Third phase
The third and final sector of the *Siedlung*, completed in January 1930, a few months before May's departure from the Soviet Union, was to become the symbol not only of industrialisation construction starting from the first lots but also of the complete reorganisation of the installations in the individual houses through the centralisation of heating and electricity.
The substantial difference compared to the first two batches lies in the system's regularity: adherence to the road layout is absolute, and strict regularity does not entail infringements.
At the centre of the settlement, a closed regular square space on three sides constitutes the only break in the uniform system made by juxtaposed blocks; this should have housed "the kindergarten for 100 children" designed by M. Schütte-Lihotzky[3] (fig. 48).

The compositional parts
The analytical work of decomposing an architecture has been carried out in Römerstadt in its constituent parts; the same is done for the *Siedlung* Praunheim.
Once again, the way put into practice by May is studied to compose the settlement as an assembly of parts, each with its characteristics and referring to a structure's exact basic form: the *Anger*.
Identifying the elements starts with redesigning the project presented in *Das Neue Frankfurt* magazine, pages 1927. This table represents the first two phases or excerpts of the *Siedlung*; therefore, it was not only the first building built around the Hofgut but also the possible development towards the east and west.
The research work made it possible to recover other floor plans which tell the evolution of Praunheim and, above all, some unreleased solutions, such as the placement of a school at the end of the *Damschkanger*, as well as an inclination of the buildings towards Ludwig Landmann Straße (fig. 49).

The determined compositional parts do not differ from Römestadt if not for the function assigned to the public building, here destined to be the "People's House".

1. The main road/*Anger*;
2. The residential street;
3. The tall building;
4. The public facilities;
5. The commercial activities;
6. The low building.

3. The complete description of the project is published in Mohr Christoph, Müller Michael, *Funktionalität und Moderne. Das neue Frankfurt und seine Bauten* 1925–1933, Verlag Rudolf Müller, Köln, 1984, pp. 243.



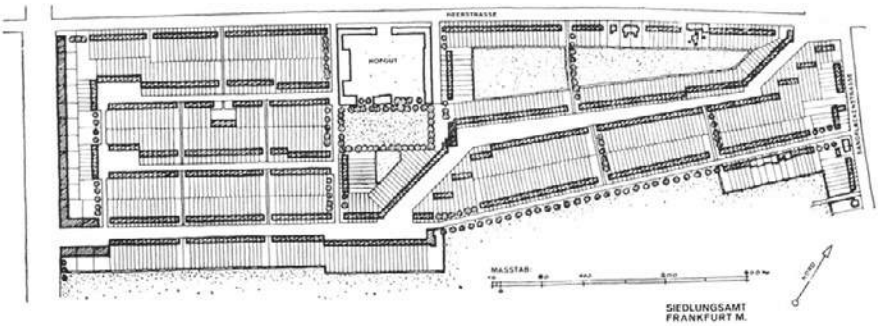


Fig. 48 • Master plan and photo of the model "Kindergarten for 100 children" by M. Schutte Lihotzky, 1930.

Fig. 49 • Master plan of the Siedlung Praunheim, 1927.

The schematic drawing of the *Siedlung* (fig. 50) isolates the constituent elements of the entire *Siedlung*. These elements are needed to add the public greenery, which is to be understood again as part of the green belt crowned by the Niddatal complex.

1. The main road/*Anger*;
2. The residential street;
3. The tall building;
4. The public facilities;
5. The commercial activities;
6. The low building;
7. The green public spaces.

The Westhausen Siedlung

During the last months of 1929, while the third phase of Praunheim was still under construction, May designed and began to build what would have been his terminal intervention in the valley of Nidda: Westhausen.

The project's authorship must be attributed to the collaborators of H. Böhm and F. Kramer, who participated in the same year's competition for the new Berlin district Haselhorst, arriving seconds. The commission, chaired among others by the same "Stadtrat" of Frankfurt, rewarded W. Gropius' proposal based on a compositional solution, which in turn seems to anticipate this which will be seen in Karlsruhe with the Dammerstock.

In the *Siedlung* Westhausen, the idea of standardisation is brought to the extreme consequences starting from the general system. This tendency towards simplification, already clearly recognisable since the second batch of Praunheim, is reflected in the image of a serial city. In it, all the strongly characterising elements found in previous *Siedlungen* have disappeared to leave room for the simple image of the house as pure mass-produced, a "Ford" construction defines it Giedion. The construction of the settlement coincides with the second CIAM, organised by May in Frankfurt in October 1929, entitled *Die Wohnung für das Existenzminimum*, "the dwelling for existence", where precisely this example is presented to explain theories on minimal housing (Aymonino, 1971).

Westhausen remains the last example of applying the hypotactic formal structure dominated by *Anger*, according to a fundamentally, relating to its construction, more rigid and planned according to the rules of standardisation and typification.

The compositional parts

Once Praunheim has been broken down, we will identify the Westhausen constitutive parts.



Fig. 50 • Drawing of the Siedlung Praunheim, the compositional parts of the Anger.

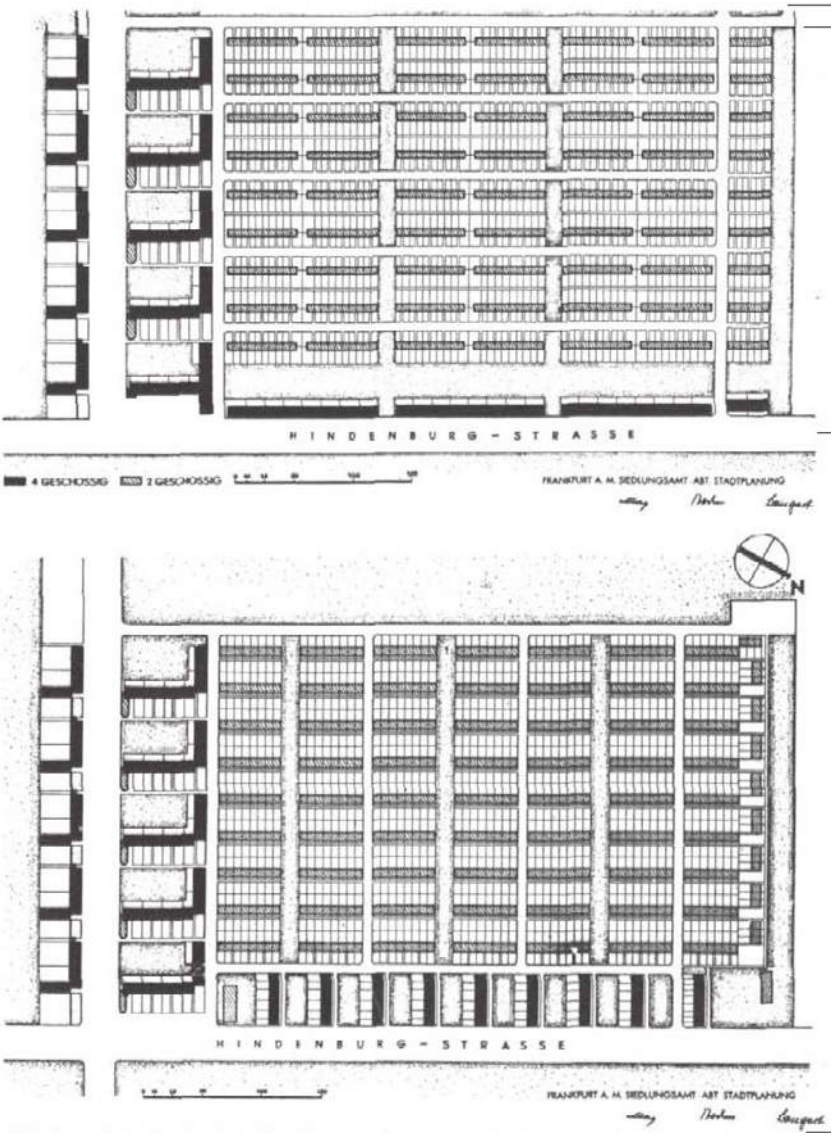


Fig. 51 • Master plan of the Siedlung Westhausen, variants with double and single rows, 1929.

The compositional modus takes shape from the premises seen in Niddatal's previous projects, namely, staging the *Anger* as the starting point for the assembly of the parts.
The research in the documents of that time allowed us to rediscover the first site layouts from 1929, published in the magazine *Zentralblatt der Bauverwaltung* (fig. 51). Here, there is an interesting comparison between two solutions in the northern part of the project: *Einzelreihenhaus vs. Doppelreihenhaus*. It's about understanding the advantages of the system composed of a residential street, along which the rows are arranged like a comb and therefore served by pedestrian paths, compared to the same road serving a double row, as in Römerstadt.
The article mentioned above starts from the premises on which the Berlin competition project is based. The discussion will develop until the greater cost-effectiveness of the *Einzelreihenhaus* model is determined. Row houses are affected by this study, and the houses lined up along Mindeburgstraße initially arranged along the north-south axis and then, again, for reasons of *Sparsamenbauen* built along the east-west axis.
Another interesting point to note in this 1929 plan is the presence of buildings on four levels arranged along the no longer built main road, thus removing the *Anger* on which the formal structure is funded.
The compositional parts are repeated the same way in the *Siedlung* Westhausen. The only exception concerns the building collective, present only in the 1929 project, in the *Doppelreihenhaus* version. This is placed at the beginning of the *Anger*, but starting from the plan with an *Einzelreihenhaus* system no longer appears.
The following schemes retrace the elements present in Westhausen, trying to provide an overall planimetric framework (fig. 52):

1. The main road/*Anger*;
2. The residential street;
3. The tall building;
4. The public facilities;
5. The commercial activities;
6. The low building;
7. The green public spaces.

The Anger as an archetype of formal structure: Westhausen
The *Siedlung* consists of a main road/*Anger* located south of the blocks of row houses, oriented along the east-west axis; these residential blocks are arranged serially, initially following the placement scheme number III and subsequently number IV, present in the evolution of the modern block (Gropius-May).



Fig. 52 • Drawing of the Siedlung Westhausen.

The different direction of the houses is to be attributed to May's will and that of his collaborators to experiment with this disposition for improved internal comfort.
The urban front on Hindenburg Straße is resolved through the alignment of a four-level deck access block of flats designed by Ferdinand Kramer and arranged transversally concerning the system of rows, initially also thought along the east-west axis. The tall buildings overlook the *Anger*, as seen for Römerstadt and Praunheim, and commercial activities are represented by bass-rounded buildings, clearly visible in the drawings presented on the pages of the *Wasmuth Monatshefte* magazine and the site layout published in *Das Neue Frankfurt*.
The difference lies in the function and shape of the collective building, initially planned in a "T" shape at the entrance to the *Anger*, which will be assigned to the settlement laundry.
The absence of these elements and the lack of implementation of the complete plan are attributed to the reduction of the funds allocated to the construction of the third section of Praunheim. Lack of money and the need to satisfy the need for housing for the majority possible number of workers involves the conversion of houses to single-family rows on two levels, to houses for two concentrated families, each crammed onto a floor of just over 40 square metres.

A formal structure: the Anger

The AngerSiedlung in the Niddatal project

The working group led by Ernst May convenes periodically, dissecting the various components from a central theme: the *AngerSiedlung* (Martí Arís, 1990, p. 105). The consistent breakdown of the three interventions into elements allows for a nuanced understanding of the differences, precisely the degree of transformability of the formal structure. The concept of transformability, as elucidated by Martì Arìs, is best understood when he revisits the words of Jean Piaget. The *Anger*, a term we use to refer to the main road or central space in the *Siedlungen*, not only plays a pivotal role in our analysis but also holds a significant place in the overall understanding of these urban structures, highlighting each intervention's unique characteristics and adaptability. It is not just a physical entity but a symbol of the community's identity, a testament to the thoughtful urban planning that went into these settlements.

> "[...] a system of transformations, which involves laws because it is a system (as opposed to the property of the elements) which is preserved or enriched thanks to the very play of its transformations, without these leading outside of his borders or appealing to external elements" (Martí Arís, 1990, p. 105).

Transformation is a crucial aspect, but equally important is the ability of the *Siedlung* to maintain its identity, its essence as a community, founded on assembly and a nucleus: the *Anger*. The diagrammatic breakdown of the *Siedlungen* becomes a process of analysis that is not just about deconstruction but also about reconstruction and the potential of a 'May' method. This method, developed by Ernst May, is a flexible and adaptive approach to urban planning and architecture that can evolve with the community's needs. With its inherent adaptability, this 'May' method is not just a testament but a shining example of the forward-thinking approach to urban planning and architecture, instilling a sense of innovation and progress in our analysis.

Our comparison of the three *Siedlungen* is based on the three assemblage methods used in the Nidda project. These methods,

Fig. 53 • Drawing of the Siedlung Römerstadt.

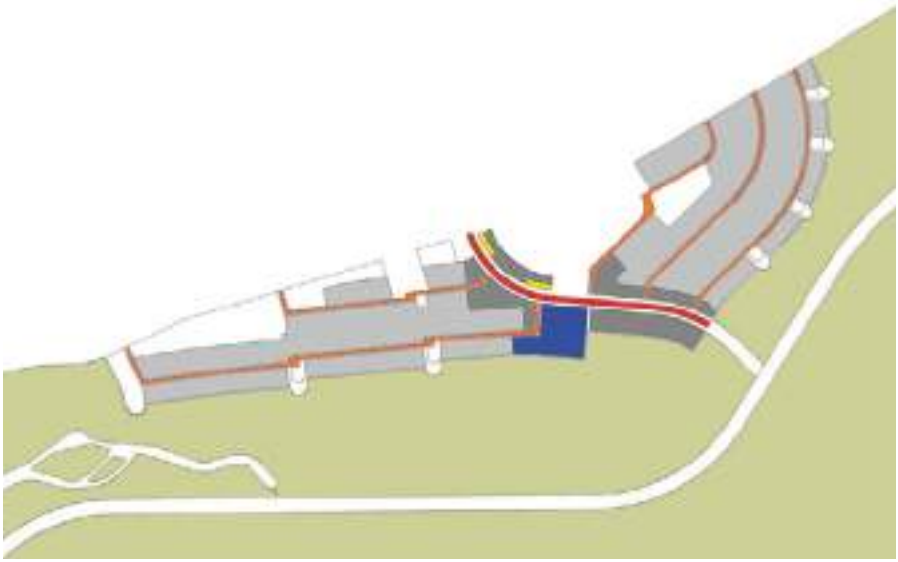


Fig. 54 • Drawing of the Siedlung Praunheim.

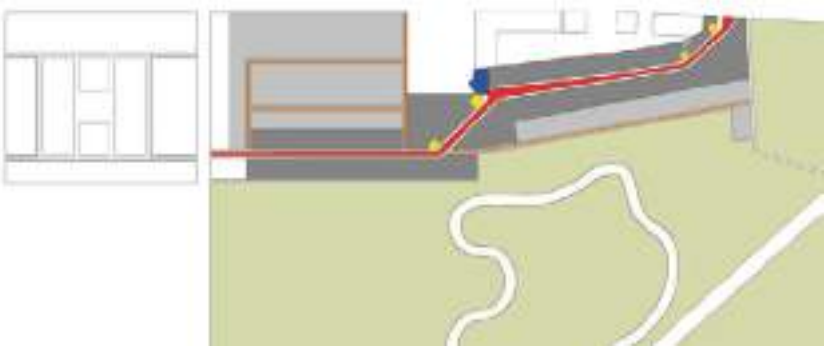
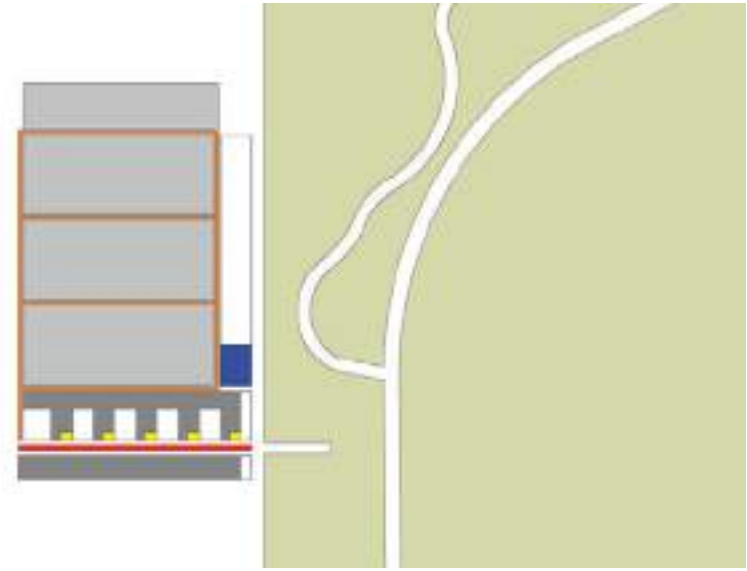


Fig. 55 • Drawing of the Siedlung Westhausen.



1. Main street
2. Residential street
3. Tall building
4. Public facilities
5. Commercial activities
6. Low building
7. Public green spaces

developed by Ernst May, involve the repetition of the same elements but use a different assembly in the sequence. This structured approach allows us to compare the three *Siedlungen* comprehensively, enhancing the depth of our analysis.

Römerstadt
The discretisation of the *Siedlung* Römerstadt allows the identification of the following elements (fig. 53):

1. The main road/*Anger*, Hadriastraße, divides the *Siedlung* into two sectors along the north-south direction;
2. The residential street is a road system oriented in the east-west direction, which branches off from the main road;
3. The tall buildings are located along "Hadrianstrasse" to hierarchically underline the urban character of the central core of the settlement;
4. The public facilities, represented by the school designed by Martin Elsaesser, stand along the central space: the *Anger*;
5. The commercial activities are incorporated at the ground floor of the tall buildings, located at the entrance to the settlement, and designed by the architect C.H. Rudloff;
6. The low buildings are built on the residential road system as repetition of the same type: the row house on two floors;
7. The public greenery, which Römerstadt overlooks, takes the name of Niddatal (= Nidda Valley).

Praunheim
As for Praunheim, analysing exclusively the former two phases, the following compositional parts were defined (fig. 54):

1. The main road/*Anger*, the *Damasckeanger*, the public place around which the settlement is composed;
2. The residential street is a second-oriented road system along the north-south direction, which branches off from the main road;
3. The tall buildings are located along the *Damaschkeanger* to hierarchically underline its character as the urban centre of the settlement, as an aggregation of row houses on three floors;
4. The public facilities, represented by the "people's house" designed by Max Cetto, it is located as background to the prospective view generated by the *Anger*. Initially, a tower building was planned in its place;
5. The commercial activities are located on the *Anger*, in the junctions between the buildings along the main road;
6. The low buildings are built on the residential road system, as a linear combination of the same type: the row house on two floors;

7. The public greenery, which Praunheim overlooks, is again the Nidda Valley.

Westhausen
The last of the three cases examined allows us to identify, once more, the typical and characteristic elements of the composition (fig. 55):

1. The main road/*Anger* becomes the starting public place on which the settlement is made;
2. The residential street is reduced to a second-oriented street in the north-south direction, which branches off from the main road to serve the linear blocks of row houses;
3. The tall house is located along Angerstraße, to underline it hierarchically as the central space of the settlement;
4. The public facilities, represented by the common laundry that closes the view on Hindenburgstrasse with its iconic high chimney;
5. The commercial activities are located along the central space: the *Anger*;
6. The short buildings are dislocated on the residential roads as a repetitive addition of the same type: the row house on two floors;
7. The public greenery, which Westhausen overlooks, is not only represented by the Niddatal but also by green "pockets" between the rowhouses.

Therefore, the elements included in the three diagrammatic drawings (fig. 53-54-55) are constantly repeated and combined, starting from the anger; they can fall within a discussion of generality or generalisation of an applicable method.

The components
The components of the *Siedlung* are assembled, as mentioned, starting from and according to a regulated formal structure centred on the concept of *Anger*. Once the constant idea has been established in the three settlements, it can be seen how the constituent elements can be traced back and enclosed by three general macro groups:

1. public facilities;
2. housing;
3. mobility.

These groups are, in turn, made up of particular pieces: the public facilities comprise collective buildings and public spaces; the residence consists of linear constructions and row houses; the circulation from the main road and residential roads.
The study of Praunheim, Römerstadt, and Westhausen illuminates their unique features and strategic placement along the *Anger*. The main road, the backbone of the settlement, is not just a physical

entity but a symbol of the community's identity and a testament to the thoughtful urban planning that went into these settlements. The memory of *Anger* and the European gothic-mercantile city remember and resume the relationship with the street as a recognisable public place of knowledge: a wise, rigorous system that is magnificent at arranging the elements in the hypotactic context.

Public facilities

These three *Siedlungen* vary in their dedication to public facilities (collective buildings): a people's house in Praunheim, a school in Römerstadt, and a shared laundry in Westhausen.

However, a significant change must be registered in this last intervention, where the collective space is not directly connected to the *Anger* but incorporated into the settlement plan, acquiring a purely symbolic value. Its location at the beginning of the long row of houses in line with its high chimney represents the iconic landmark, the element of recognition for the inhabitants of Westhausen[1]. A building which, however, does not take up the legacy left vacant in the settlement and whose story has already been discussed previously[2].

The placement of the commercial activities is exciting. They are constantly located along the main road: in Römerstadt, they occupy the ground floor of a building in line; in Praunheim, at the road junctions, they occupy the ground floor of the linear residential blocks; and finally, in Westhausen, they are in the heads of the L-shaped buildings, overlooking the *Anger*.

The Nidda valley represents the common public green, on which all three projects overlook and come into direct contact. From the aerial views, the *Siedlungen* are closely related to green space bordered by the river.

Housing

Analysing the individual architectural elements composing the *Siedlungen* allows us to clarify how these are proposed again in the three projects with continuity and coherence. The housing element is further subdivided into tall and low buildings. We mean tall buildings, apartment houses in line, and adjacent blocks directly overlooking the *Anger*. In Römerstadt and Westhausen[3], along the main road, the row house type of residence and the apartment blocks can be recognised, while in Praunheim, only town houses are considered in the two phases.

1. "*[...] Für die Westhausener Bewohner ist er zum "Wahrzeichen" ihrer Siedlung geworden*" (Mohr e Mülller, 1984, p. 51).

2. See Chapter 2, *The context*.

3. The Siedlung Westhausen is here understood according to the 1929 project, which was not realized because the funds necessary for its construction were diverted to the third section of Praunheim (Mohr and Mülller, 1984).

Mobility
The circulation is structured in the three interventions according to a tested strategy. Starting from a central axis, which has often been said to take on the characteristics of the *Anger*, the residential streets branch off. They are characterised by a different flow rate, which determines their size. They are further recognisable by the character of the elements that hierarchically compose them[4].

Repetition and locus
The formal structure of the three projects remains constant, making them part of a broader and more general project: the satellite city.

The repetition
Even though there isn't a figurative similarity, it was possible to compare the *Siedlungen*; this fact is attributed to the formal structure's transformability and adaptability. Now, the question shifts, inevitably, to the explanation of the ability to construct solutions from time to time, which are different but profoundly the same. The answer is found in the concept of repetition, of which Martìs Arìs, in addressing the relationship between type and place, states the main concepts:

> "When approaching the study of architecture from a typological perspective, the problem of repetition arises. In the first instance, yes conceives the architectural type as an invariant, a form replicated in multiple objects and reproduced in different situations. [...] the problem is [...] clarifying what kind of repetition is implicit in the notion of type. We have seen that although the type characterises a set of objects, it is not identified with any of them. The type is placed on the general level, i.e., what binds a series of phenomena beyond the respective differences. It, therefore, does not belong to the category of how much it is mechanically reproducible: it cannot generate a repetition without a difference" (Martí Arís, 1990, p. 84).

The formal structure, aiming to be general, cannot produce repetition without a difference; in other words, it is foreign to each intervention's specificity and can only be repeated for reference to specific modifications.
The recognizability of the *Siedlung* is entrusted to the "differences", identified by Tafuri as necessary to demonstrate the infinite capacity of a type to vary while remaining equal to itself (Tafuri, 1980, pp. 258).

4. See Chapter 2, *The context*.

The locus

A typical modification of architecture concerns its location, the place and the environment with which it deals:

> "[...] architecture, taking root in a specific space, remains enveloped in the characteristics of the place, and is therefore unrepeatable. [...] and deduces its specific characteristics from it" (Martí Arís, 1990, p. 85).

The probative example to illustrate the relationship between type and place is that of the Roman cities, where the same idea was developed differently every time. Starting from this assumption, Giorgio Grassi compares two Roman cities in Algeria:

> "A large part of the theory of architecture of the Roman city is expressed in their forms. [...] In the direct comparison between these two cities also confirm what was said above regarding the difference between pre-established formal orders imposed from outside and formal orders from other factors. This order comes out of their condition. [...] All this theoretical and methodological density and evidence is just because one city is in the middle of a plain and the other is on a mountain ridge curve. All this was only because the resistance opposed by the natural element differed in the two cases. [...] This is the same city that was built in two different places" (Martí Arís, 1990, p. 85).

Arriving in two different places is not the discordant element between two variants but the added value, the proven testimony that the type is understood as a statement that describes a structure formal; it adapts to the conditions of the place by its generic dimension: "the type represents the generic dimension, universal and abstract, while the place is identified with the aspects particular, singular and concrete". (Grassi, 1980, p. 85)

Despite their apparent differences, Timgad and Djemila obey the same logical arrangement of the elements and are governed by identical principles of formal structuring. The Romans entrusted the value of transfiguration to the *locus* when they had to build new cities while reiterating the exact elements.

In the previous chapter, we discussed how memory is a foundation for planning the present. References to the *AngerSiedlung* and the Gothic city precisely define the shape of the settlement. Urban construction takes place by undergoing a cognitive and planning process of reality. This process creates a relationship with the city that is always guided by specific ideas about what the city should be.

Ultimately, May's projects can be considered a single project repeated on several occasions and modified or transformed for each.

The variable is the place which, while keeping the context the same, varies in its orography. Römerstadt and Praunheim, in the first sector, continuously adapt to it themselves with terraces, while Westhausen represents the application of the same method in an entirely flat ground.
The analysis of the three projects allowed us to highlight their degree of similarity by applying a formal structure. Furthermore, three groups containing the compositional elements have been identified, dissecting their peculiarities.
Differences then, as seen, account for this structure's transformability and adaptability. Römerstadt remains the reference composition in the discussion. It is poetic, concluded by the ramparts, almost as if to challenge Frankfurt, and definitively consigned to the history of the Architecture of the Modern Movement. It is a true icon of the German rationalist experience of the 1920s (Grassi, 2008, pp. 108-114).
It plays a fundamental role in understanding the modern city and its definition, as "a city must be understood in a sense urban planning as a completed architectural formation" (Grassi, 2008, p. 113). Niddatal's intervention becomes more apparent with the analysis of the individual components, an analysis intended for discussion in the next chapter.

The components of the Siedlung

The primary elements

Definition

May's composition method, a testament to his meticulous approach and deep understanding of the craft, is a hallmark of his architectural prowess. This method, particularly evident in the creations of the Nidda Valley, is not just a way of arranging elements but a unique approach that allows for precise identification and analysis of each part, thereby enhancing the overall architectural design. This method involves a systematic process of selecting and arranging architectural elements to create a cohesive and meaningful design.

The previous chapter studied how they assembled these parts: their compositional structure. It started by observing that a discussion on composition by elements cannot be limited to the formal structure alone, that is, to the structure responsible for keeping the parties together; these must be submitted to an analytical study to show their origin and value.

The term 'value' is taken in its Latin attribute of *valere*, meaning to have efficacy about certain things' purposes. In the context of architectural elements, 'value' refers to the meaning and significance these elements bring to the overall design of the *Siedlung*. Each aspect, whether a road, a building, or a green space, contributes to the narrative of the *Siedlung*, making it more than just a collection of structures but a cohesive and meaningful urban environment. The 'value' of these elements lies in their ability to enhance the functionality, aesthetics, and symbolism of the *Siedlung* architecture.

The primary elements constituting the 'architectural fact', a term that describes architecture's tangible and observable aspects, are deduced from the selection within an existing repertoire. This repertoire of types, which May consolidated over the years, serves as the basis for selecting and arranging these primary elements in the *Siedlung* architecture[1] and applied to Frankfurt

1. For a complete discussion of how the idea of a plan is formed, *Siedlung* and *Anger*, see Chapter 1, *Three Ideas for (re)composing the City*.

under the modern banner to bind them to their 'own time'. The architect demonstrates, starting from the experience of *Das Neue Frankfurt*, the desire for a simplified language where the simplicity gives itself the sense of resolved complexity, resolved into stereometric, pure and typified volumes[2].

Architectural definition of the elements

The elements of the composition must be distinguished according to their different level of architectural definition, that is, according to their characteristic of being, themselves, a composition of architectural units. By schematising the discussion, we can individuate:

the first elements, further irreducible;
complex elements, assembled from primary elements.

The importance of these architectural units is twofold. On the one hand, they are elements of a higher unit, and on the other, they play an autonomous role in which they become the true protagonists of the design process.
The analysis of the *Siedlung* Römerstadt, a significant example of the *Siedlung* architecture, and the subsequent breakdown process allowed us to identify the following complex elements.[3]:

1. The main road /*Anger*
2. The residential street
3. The public facilities
4. The commercial activities
5. The tall building
6. The low building
7. The public green

Primary elements

The complex elements identified are, in turn, the result of the assembly of primary, typical elements. This assembly process involves selecting and arranging these primary elements to define the character and placement strategy of the complex aspects. Based on these assumptions, we can state that:

1. The main road contains, in addition to the route, cycle paths, sidewalks, public spaces and greenery suitable for its dimensions;
2. The residential road is built across the alignment, the sidewalks, public spaces and greenery appropriate to its scope;

2. Radio interview, Berlin, 1966; see also: Zanchettin Vitale, *Come diventare Moderni*, in *Casabella*, April 2001, n° 688, pp. 84-91.

3. See Chapter 3, A *method for composing the Siedlung.*

3. The tall house consists of two types: the line house and the house with adjacent blocks, including the private spaces of relevance;
4. The Martin School represents the collective building Elsaesser is made up of different educational spaces;
5. The services are attributable to the commercial activities located on the ground floor of the linear building designed by Carl Hermann Rudloff along Hadrianstrasse;
6. The lower house is composed, in its basic structure, of a particular sequence that goes from the Vorgarten (front garden road), at the entrance, from the house itself to the "Migge" garden;
7. The public greenery enclosed in the Nidda Valley is characterised from the vast open areas along the river and inside the *Siedlung* with the ramparts.

Below, starting from *Siedlung* Römerstadt's re-proposal, we proceed with the separate analysis of each element as a primary and complex type to deduce the instances of which they are bearers within the project.
At the same time, the application of the identified design method, which is based on the analysis and categorisation of primary and complex elements, is compared to the other examples of the Niddatal: Praunheim and Westhausen. This comparison allows us to understand the consistency and adaptability of the design method across different projects[4].
The analysis essentially becomes the story of the individual elements, following a standard plot - a *file rouge*, a term used to describe a recurring theme or element necessary for understanding the text: the Siedlung. This *file rouge* is the narrative thread that ties the analysis of individual elements together, providing a comprehensive understanding of the *Siedlung* architecture.

4. See Chapter 3, A *method for composing the Siedlung.*

The main road/Anger

Element analysis

The main road, known as the *Anger*, is not merely a physical structure but a collective space that forms the heart of the *Siedlung* Römerstadt. Its unique features, meticulously chosen by Ernst May, underscore its pivotal role in the architectural narrative and its profound historical significance. This historical depth invites the audience to respect and admire the road's role in shaping the *Siedlung* Römerstadt[1].

Complex Element

Ernst May's meticulous design of the main road, which serves as a canvas for the character of the elements grafted onto it, is a testament to his architectural prowess and vision. This design approach, a hallmark of May's work, adds depth and complexity to the *Siedlung* Römerstadt project, inviting the audience to appreciate the intricacies involved.

The backbone of the *Siedlung* Römerstadt is the Hadrianstrasse, a critical road that runs through the main road/*Anger*. This road, designed with meticulous attention to detail, not only serves as a physical structure but also as a medium for orienting oneself within the urban structure. Its design adequacy to the theme of the *Siedlung* Römerstadt is a testament to its significance in the architectural narrative.

Moving in the spaces of the *Siedlung*, as in those of the city in history, inevitably, one must refer to the road. The element encounters all the other components and allows the connection between them, underlining the significance of the route in the urban context and making it a fixed scene of man's life. This description invites the audience to feel the impact of the road on the community and its role in defining the urban context and public life.

This load-bearing structure emphasises the distribution system hierarchy of typological concatenation and spatial sequence attributable to a narrative mechanism. It simultaneously represents an exact distribution system of the parts and the plot of the urban tale and the memory.

The route

The route of the Hadrianstrasse, which in the general plan of 1927 begins along the road *In der Römerstadt* and continues towards the town of Ginnheim, represents the fulcrum of the composition.

1. See Chapter 2, *The context*.

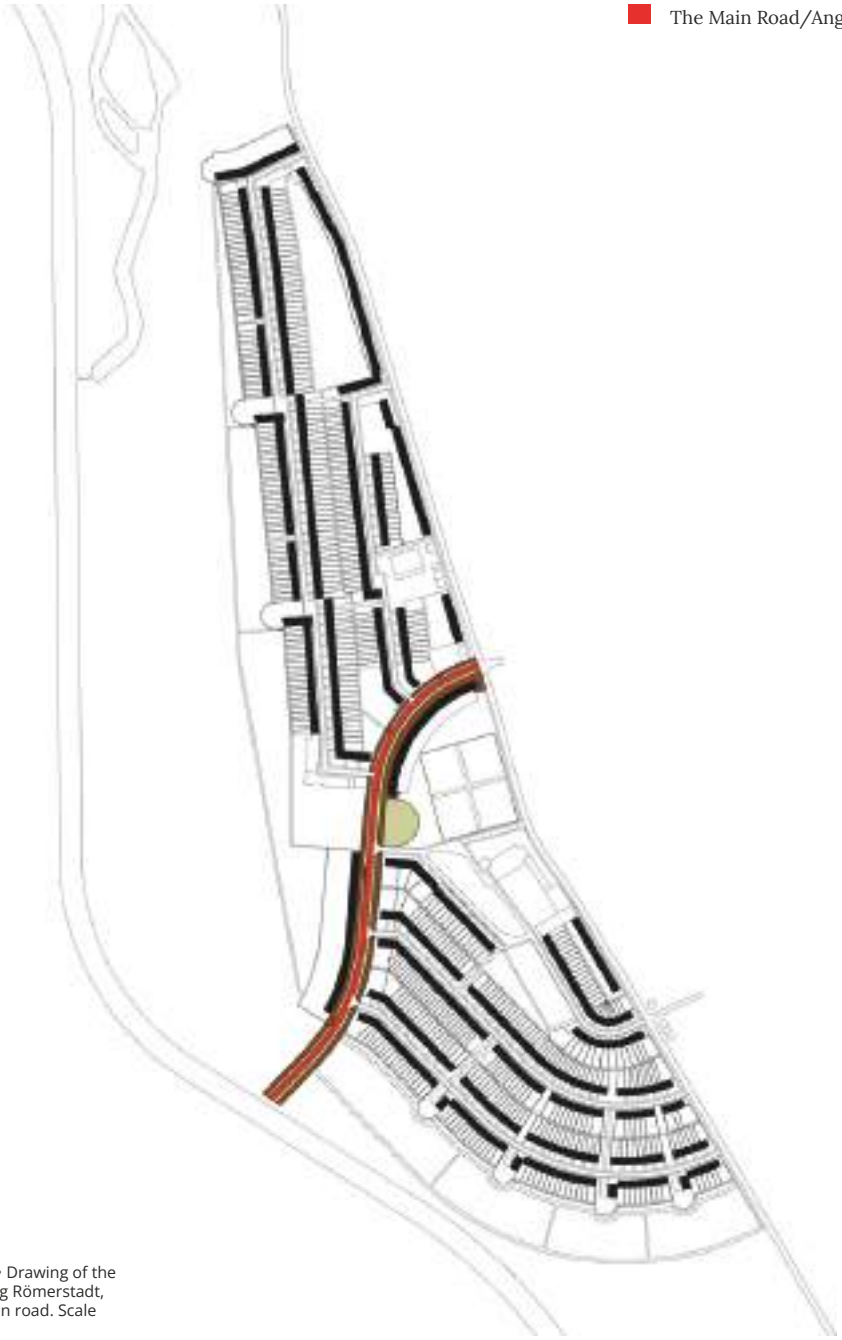


Fig. 56 • Drawing of the Siedlung Römerstadt, the main road. Scale 1:5000.





Fig. 57 • Römerstadt, view towards Hadrianstrasse. Watercolor by Hermann Treuner, Frankfurt, 1929.

Fig. 58 • Photo Hadrianstraße towards "in der Römerstadt" 1935.

The narrative of the *Siedlung* Römerstadt's development begins with the encounter of C. H. Rudloff's building in a line, 'the ship' (fig. 58), the first sign of urban development. This is followed by the apartment houses of the same architect, which hint at a future development of the existing Roman road as a significant traffic route, adding depth to the project's historical context. The sinuous route descends towards the Nidda, meeting other suitable protagonists: commercial activities, schools and tall buildings' heads, which lead to residential streets, a tale adequately exposed by the watercolours of H. Treuner (fig. 57).
Public life intersects with private life, a mechanism typical of the urban context, which becomes a fixed scene of man's life. Römerstadt still keeps this scene alive today, only from the atmosphere's point of view: the *Stimmung* of Hadriastrasse remained in the inhabitants' memories after the highway construction that cut the settlement in two parts[2].
From the aerial photos, we can understand the road section and the precise role of the backbone of the settlement. Other helpful information is provided in fig. 61, where the building is shown in line F. Schuster, and the heads of the ranks created through buildings a block, necessary to deal with the public character of the street, which refers to the street's function as a public space, and indispensable references, real 'doors' to the residential 'neighbourhoods', highlighted by a bright Mediterranean red. The continuation of the journey to Ginnheim finds no conclusion, leaving the general connection plan unfinished with the city centre of Frankfurt.

Prime elements
A section near Hadrianstrasse, according to the drawing present in L. Migge's plates, allows you to identify and analyse the prime elements (fig. 59):

the roadway;
the public green areas;
pedestrian sidewalks.

Through their character, these elements identify the road as prominent and easily recognisable as the city's central place.
The roadway, 8 meters wide, itself reveals the hierarchical relationship within the assembly process of the *Siedlung* Römerstadt. This relationship is further underlined by the presence of slender and monumental tree species, including the cypresses positioned on the opposite side of the buildings in line, almost as if to complete a hypothetical front urban. This design feature, a hallmark of May's design

2. The controversial issue concerning the project of the Rosa-Luxenbourg Straße road, long debated at the end of the 1950s, saw the defeat of E. May's proposal, aimed at saving the formal structure of the settlement by providing for the construction of a tunnel—extensive summary of the facts in Seidel, F. (2008). Ernst May: Städtebau und Architektur in den Jahren 1954-1970. Doctoral thesis TU-München, Munich.

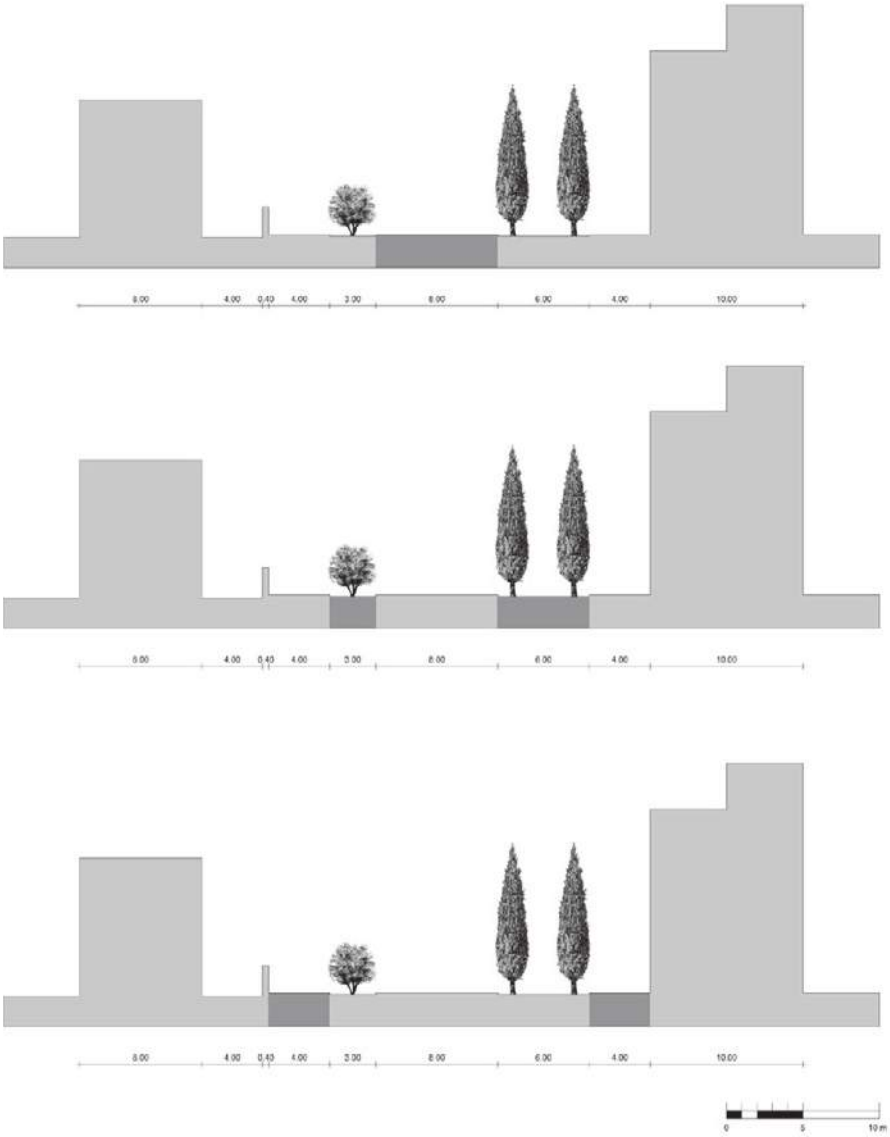


Fig. 59 • Cross-section drawing of Hadrianstraße: the roadway, the green strips, and the sidewalks.

principles, not only enhances the road's aesthetic appeal but also contributes to the overall spatial organization of the *Siedlung* Römerstadt. In the greenery project, a key aspect of the *Siedlung* Römerstadt's design, entrusted to Leberecht Migge and well-illustrated from the panel drawn up in 1927, you can see at the bottom of it, between the sections, the D, referring precisely to Hadrianstrasse. This project, a testament to Migge's landscape design prowess, integrated the road seamlessly into the surrounding greenery, enhancing the road's aesthetic appeal and its role as the city's central place[3].

Migge elaborates on an elegant and refined structure, which he cannot find equal, not even in the most imposing and massive one, designed along the street *in der Römerstadt*. Here, he underlines the importance of the route, adopting a double row for both sides of the path.

The same strategy aimed at underlining the main road's importance is adopted in other cases, such as in the *Siedlung* Höhenblick from 1926-27. Finally, the depth of the sidewalks also contributes to defining the dominant position of Hadrianstraße in dimensional relation within the Römerstadt road system.

The main road/Anger in the Niddatal project

The same formal structure, which originates from the *Anger* as a critical element for the typological concatenation, is repeated with equal character in the Nidda Valley projects. This formal structure, a hallmark of Ernst May's design principles, is a key element that ties the Nidda Valley projects to the *Siedlung* Römerstadt, showcasing the architectural continuity and principles across different projects. Chronologically, the first intervention, Praunheim, also at the formal and not just substantial level, recalls tradition and the first settlements developed by May in Silesia (fig. 60). In Römerstadt, yes identifies with the curved path that descends towards the Nidda e with the height differences present (fig. 56). At the same time, Westhausen becomes a straight axis dominated by the typification and seriality of line and block buildings, a key architectural character that defines the road's role in the *Siedlung* Römerstadt's design (fig. 61).

Initially, the spatial organization of the *Siedlung* Römerstadt was characterized by the concatenation of several spaces, each with its unique character and dimension. These spaces were linked by the path of the *Damaschkanger*, a key element in the road system of the *Siedlung* Römerstadt. In this context, Hadrianstrasse maintained two equidistant fronts, allowing itself only a short dilation at the cemetery. However, in the satellite-linked to Hausen (Westhausen), the supporting axis stiffens, not allowing for possible exceptional or particular 'events', highlighting the road's role in maintaining the spatial order and hierarchy of the *Siedlung* Römerstadt.

3. The topic of green design and landscape study in New Frankfurt, especially in Römerstadt, was recently addressed in Haney, D. (2010). *When Modern Was Green: Life and Work of Landscape Architect Leberecht Migge*. London: Routledge.



The Main Road/Anger

Fig. 60 • Drawing of the Siedlung Praunheim, the main road. Scale 1:5000.

Fig. 61 • Drawing of the Siedlung Westhausen, the main road. Scale 1:5000.

The residential street

Element analysis

The 'secondary' circulation system, a term in urban planning, refers to the road network that serves as a link between the main road and the residences. This system is closely tied to the *Anger*, a central open space in the *Siedlung*, and plays a pivotal role in urban planning. The way it facilitates the connection between the main road and the residence significantly influences the design and character of the residential streets, which are composed of the ranks (fig. 62).

Complex element

The residential street system is, therefore, made up of a mesh organised to serve the housing that was made up of low buildings. They can be found in the western part of Hadrianstrasse two routes follow the east-west direction, Im Burgfeld and Mithrasstrasse; in the eastern one, there are the streets An der Ringmauer, Im Heidenfeld and Am Forum, according to the north-south direction. May considers 'mobility', a term in urban planning, as one of the key factors influencing the construction of the contemporary city. Research conducted in this direction leads to a substantial coincidence between the hierarchy of the streets and the definition of the parts of the city, highlighting the importance of efficient and well-planned street systems in urban development.

In the history of urban planning, the differentiation of roads has often corresponded to the differentiation of metropolitan areas. This is also evident in Römerstadt, where the Hadrianstrasse supports the residential units in line, a block next to each other, and the public building. The residential streets, of smaller capacity, support the row houses (fig. 62), showcasing a unique design and composition that inspires and appreciates the urban planning techniques used.

Aerial photos from 1929 provide a fascinating historical context for the residential streets in Römerstadt, making their study of absolute interest. Their connection with the history of urban planning and the history of composing the city deepens the understanding of their evolution, sparking a sense of curiosity and intrigue in the audience.

If, in fact, in the western part, compared to the *Anger*, the traffic routes undergo misalignments, underlined by small common

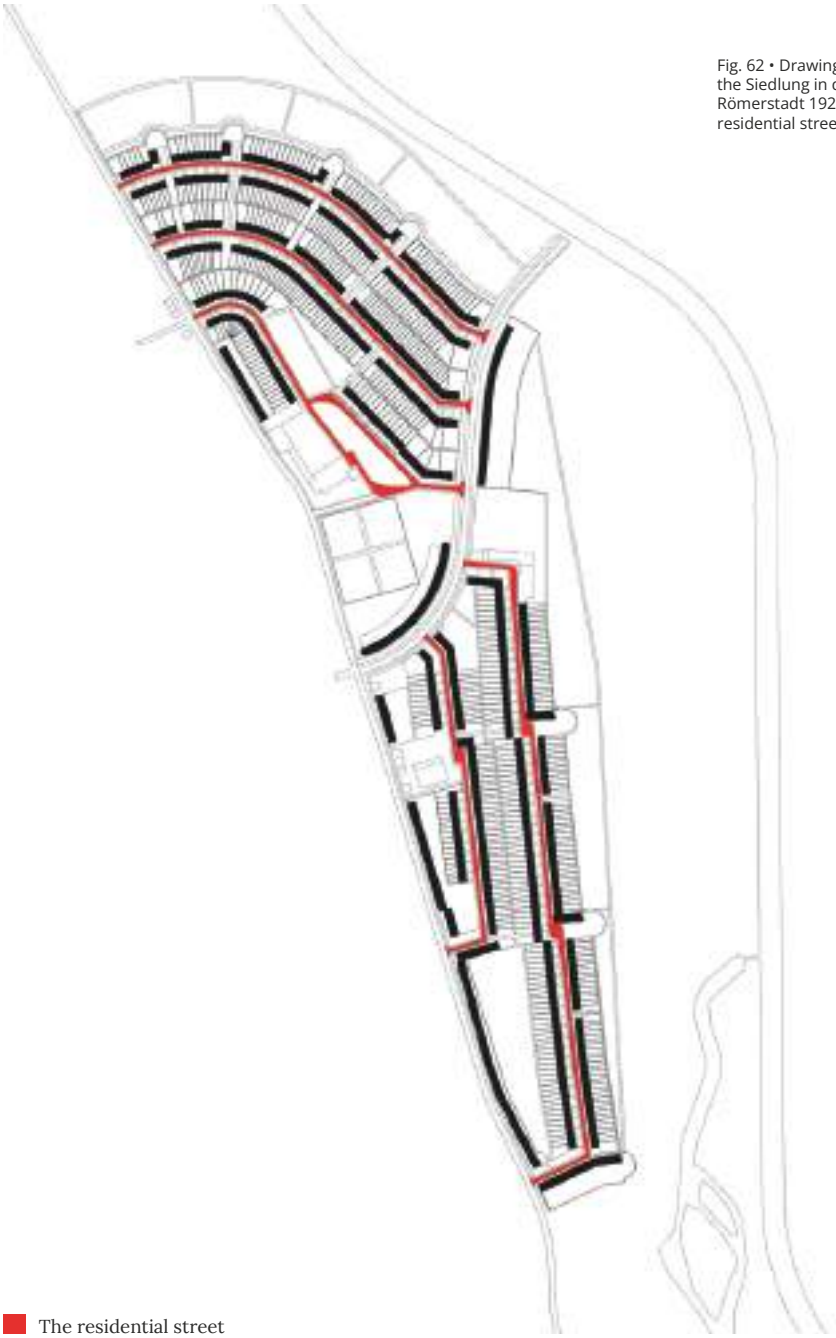


Fig. 62 • Drawing of the Siedlung in der Römerstadt 1927, the residential street.

spaces, the eastern part shows a curvilinear trend. Both the design techniques recall examples of tradition, where the search to cancel central perspectives or axes particularly long and serial, the desire for surprise and discovery is replaced by the next point, of a new "fixed scene"[1]. The experience of the city is not just about the elements and spaces that compose it but also about the 'character' they convey through architecture. 'Character' in this context refers to the unique identity and atmosphere of the city, which is a crucial aspect of urban planning. It shapes the perception and identity of the city, influencing its development and design.

Prime elements
A cross-section, in this case, corresponding to the street Im Burgfeld, allows you to locate and analyse the prime elements that constitute the residential street (fig. 63):

the roadway;
the sidewalks.

The unique character of these elements, the roadway and the sidewalks, identifies the residential road, making it easily recognisable, identifiable, and hierarchically proportionate to the main one, sparking curiosity about its design and function.
The 5-meter roadway is constantly repeated on all streets with access to the dwelling areas. This is further underlined by the presence of small tree species, which give rhythm to the *Vorgärten* (front yard) sequence. Again, referencing the greenery project entrusted to Leberecht Migge and well-illustrated from the table drawn up in 1927, the sections "E" and "F" can be seen at the bottom and "A" are intended for the definition of this element.
Finally, the depth of the sidewalks also contributes to defining the dominant position of Hadrianstraße in dimensional relation within the Römerstadt road system, varying between 2.2 m on the north side of the road and 1.2 m on the south side (fig. 64).

The residential street in the Niddatal project
The same strategy, aimed at underlining the characteristics of the residential street, i.e., its recognisability, remains almost unchanged in the three *Siedlungen*, as does the need to follow the cardinal points as orientation. In Praunheim, one must refer in particular to the expansion relating to its second phase, the one located west of the Altes Hofgut (fig. 65). In Westhausen, the element "residential road" is proposed again starting from the application of the fourth diagram, maintaining, as mentioned, known dimensions (fig. 66).

1. See Chapter 5, *Analogies for a comparison.*

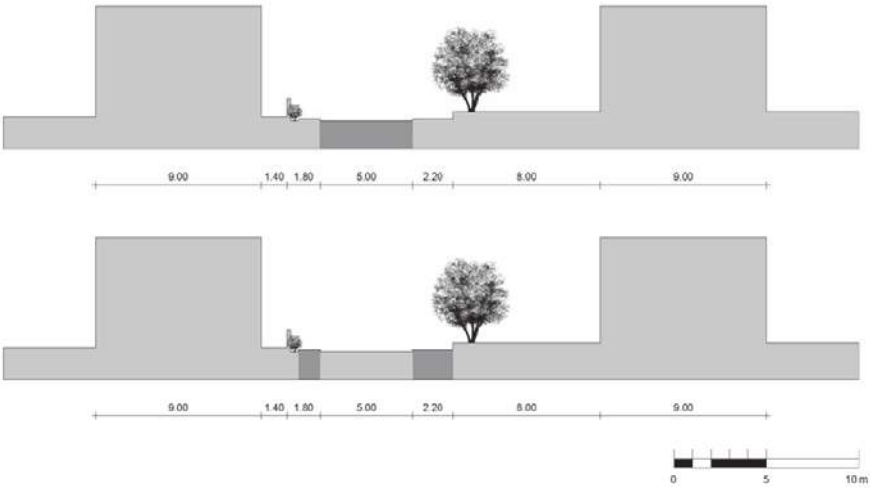




Fig. 63 • Cross-section drawing of the street "Im Burgfeld": The roadway and the sidewalks.

Fig. 64 • Photo of the "Im Burgfeld" street towards Praunheim, 1930.

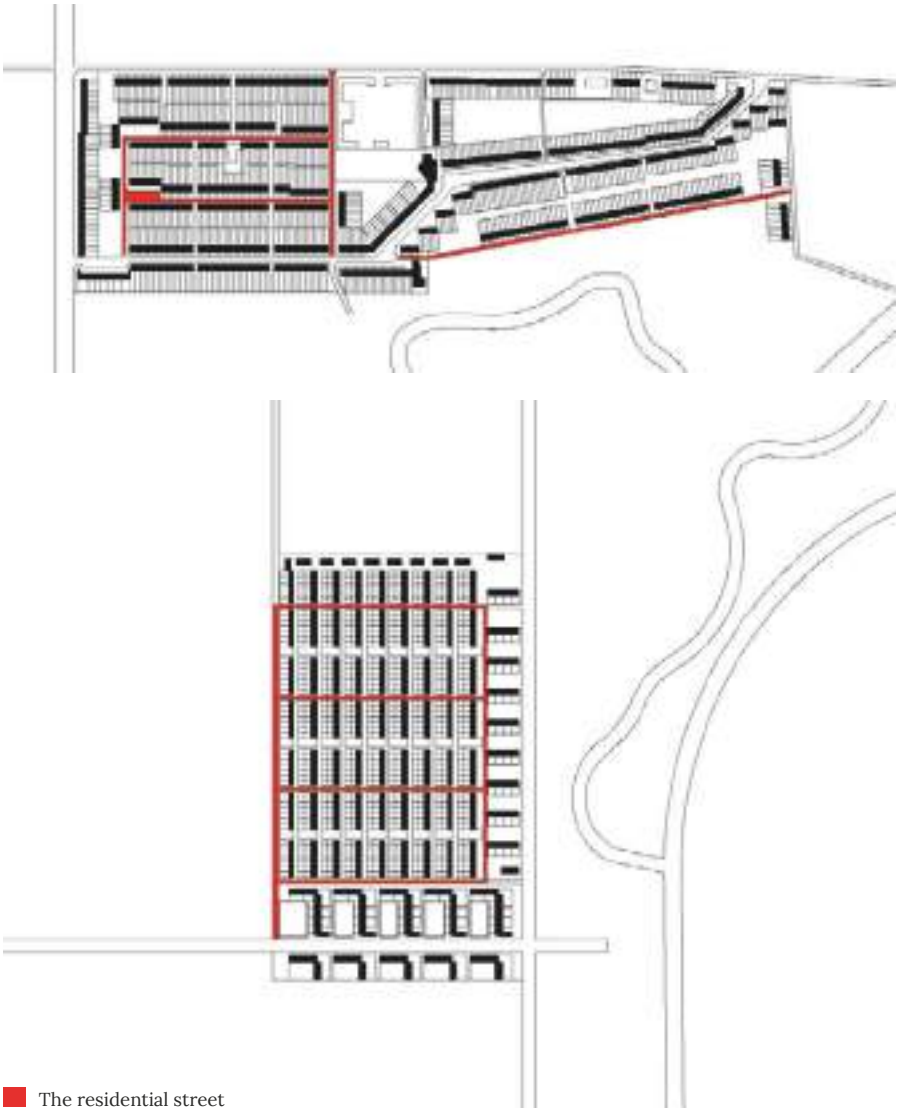


Fig. 65 • Drawing Siedlung Praunheim: the residential street.

Fig. 66 • Drawing Siedlung Westhausen: the residential street.

The public facilities

Element analysis

Complex Element
The two buildings, strategically aligned along Hadrianstraße, serve as key architectural elements in the *Siedlung*. They adapt to the road path, and the school of M. Elsaesser and W. Schütte represents a critical community function, which is further emphasized by the presence of the large clock on the front and its position barycentric concerning the complex (fig. 67).
This type of school, known as *Freiflächeschule*, differs from other projects in the Neues Frankfurt. It takes on the characteristics of a genuinely collective building, reflecting the urban concept that prioritizes the integration of public spaces and community functions in Römerstadt (Mohr and Mülller, 1984, p. 300).
The school, strategically and thoughtfully placed to harmonise with the terraced houses on Im Burgfeld, stands as a testament to *Siedlung*'s meticulous design principles.
The classrooms are arranged east, lit in the morning, and have a magnificent view of the Nidda, reiterating the theme behind the design of the entire settlement and the relationship with the context (Mohr and Mülller, 1984, p. 184).

Prime elements
The school consists of an L-shaped body of classrooms and a gym. In the isometry of the project, the presence of the nursery, the body of a factory parallel to Hadrianstrasse, divided into two floors above ground (fig. 68), is recognisable.
Towards the south, beyond the central recreational green space, there are the fields and study gardens of the *Reformschule*, present in all schools of this type in Frankfurt.

The public facilities in the Niddatal project
This element is declined in the three cases examined according to modes and characteristics representing different functions.
Ernst May's architectural-political utopia, a visionary concept,

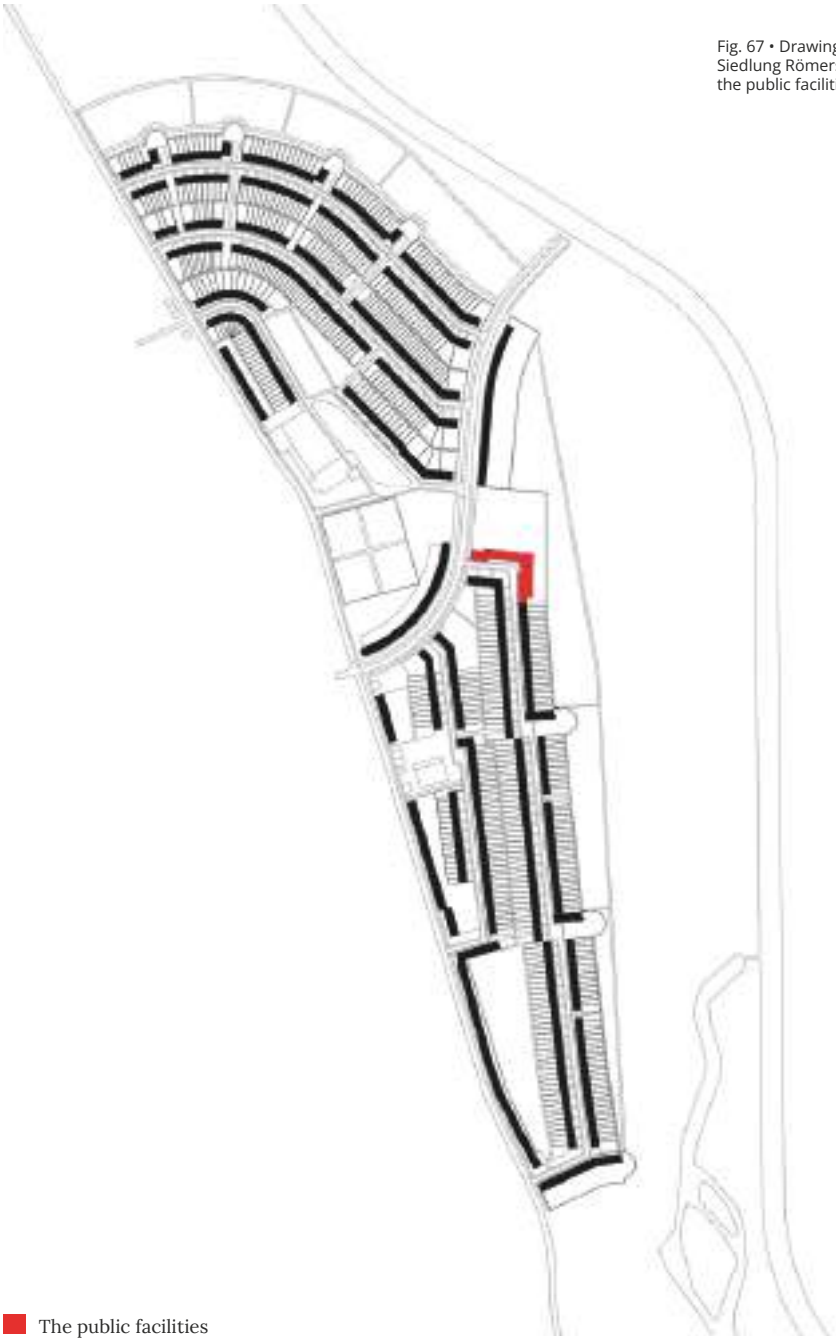


Fig. 67 • Drawing of the Siedlung Römerstadt, the public facilities.

played a pivotal and profound role in shaping the Niddatal project. It envisages the establishment of self-sufficient satellite nuclei with vital community services, a vision that resonates even today. The school of M. Elsaesser comes to occupy composition as a fundamental and central part, right at the intersection between the two arches that build the curved path of Hadrianstrasse. This happens along the *Damaschkanger* to the House of People at the visual intersection of two central perspectives.
In Westhausen, the failure to build the initial proposal leads to the consequent revision of the collective buildings, up to their complete absence, symbolically identified, as previously said, by the laundry common.

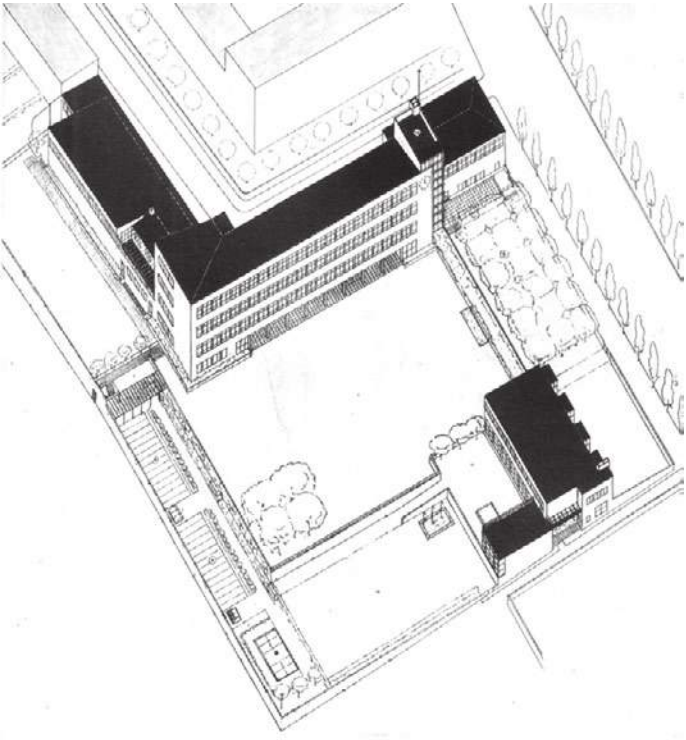


Fig. 68 • Isometry of the School of M. Elsaesser, 1928-29.

The commercial activities

Element analysis

Complex element

The two buildings in line along Hadrianstraße, a nod to the Gothic-mercantile city, stand as a testament to the *Siedlung*'s remarkable historical adaptability. They have gracefully transitioned through different eras, serving the same function: a residence seamlessly integrating commercial activities. As seen in fig. 69, this unique architectural feature invites a deeper exploration of the *Siedlung*'s evolution, inspiring urban planners with its innovative approach.

Made to a design by C.H. Rudloff, May's collaborator, the linear building demonstrates a sculptural character, which suggests an expressionist reference (Risse, 1984, p. 277). The short sides are rounded and closely resemble the shop buildings of E. Mendelsohn; Tafuri underlines this fact as "an adoption irony of elements of the Reklamarchitektur" (Tafuri, 1980, p. 258).

On one hand, *Siedlung*'s architecture, as expressed in the work of C.H. Rudloff, clearly references expressionism. His short and rare writings, as noted by Mohr and Müller (1984, p. 193), provide further evidence of this. On the other hand, the design of the commercial spaces in the *Siedlung* reflects a search for a recognisable and modern form. This search, driven by a desire to create functional and aesthetically pleasing spaces, has not only inspired but also challenged urban planners and architectural designers to think innovatively about commercial spaces in new cities.

The *Siedlung*'s urban design, characterized by its clear, pure, and crystallized forms, is not merely a product of architectural vision. It is also a reflection of the community's urban interpretation, a testament to their significant influence and profound sense of belonging in the *Siedlung*'s development. This fosters a sense of community and shared vision among architectural historians and urban planners, enriching their understanding of the *Siedlung*'s unique architectural context.

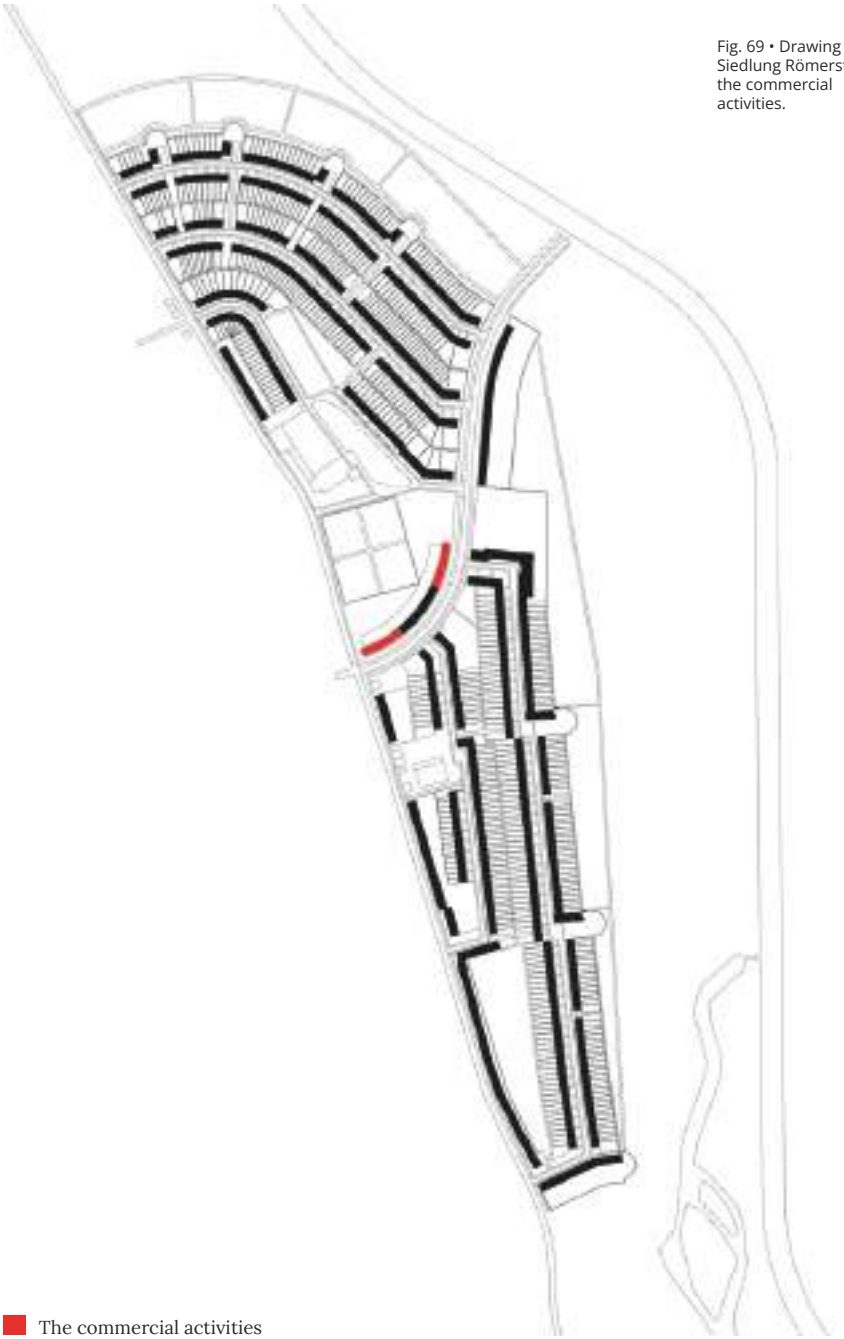


Fig. 69 • Drawing of the Siedlung Römerstadt, the commercial activities.



Fig. 70 • Photo of the Rudloff building with commercial activities at the ground floor, 1935.

Prime elements

Along the ground floor of the "ship", there are six shops, two of which are more prominent, placed at the heads, defining the urban character of Hadrianstraße as a public space (fig. 70).

It is interesting to observe that the corner solutions of the first master plans of Römerstadt were at the crossroads with the existing Roman road. This strategic placement was a practical solution to the *Siedlung*'s spatial constraints and a reflection of the planners' foresight and anticipation of future expansion. This continuity of services noted in anticipation of an expansion of the *Siedlung* is a testament to the *Siedlung*'s dynamic and forward-thinking design.

The facilities in the Niddatal project

Comparing the other *Siedlungen* of the Nidda Valley reveals a different conjugation of the element. In Praunheim, this is in the nodes between the row house blocks, almost becoming a flexible joint component between converging axes. While not yet clearly defined by expressionist features, this unique architectural feature is a distinct characteristic of Praunheim's urban design. This comparison allows for a deeper understanding of *Siedlung*'s architectural context and unique position within the Nidda Valley.

In these places, there are usually shops and services which, in the construction of the second phase, are placed along the Ludwig Landmann Straße.

The characters mentioned above are found on the main road in the *Siedlung* Westhausen: low-rise buildings facing the *Anger* with rounded-shaped buildings (fig. 72).



Fig. 71 • Drawing of the Siedlung Praunheim: the commercial activities.

Fig. 72 • Drawing of the Siedlung Westhausen: the commercial activities.

The tall building

Element analysis

Complex element
There are two types of tall buildings in the *Siedlung*: the linear and the block. These buildings, whether single or combined, include private spaces and are meticulously designed to be adequate to their dimensions, showcasing the precision and thoughtfulness of the architectural design.
The architectural relationship between the blockhouses and the *Anger*, a central public space in the *Siedlung*, is a captivating narrative in urban design. This relationship takes on a purely dimensional aspect when approaching the main street from the residence (fig. 73). The change in building height and chromatic tone signifies a new event. In the second scenario, the block buildings are essential elements in the urban design, providing a straightforward narrative when walking along the main road.
In addition to these buildings at the head of the row houses, two identifiable linear buildings, with a sinuous flow, in perfect adhesion with the route towards Nidda: the one to the south designed by the architect F. Schuster, a key figure in the New Frankfurt period, and the other to the north by C.H. Rudloff, another influential architect of the time (fig. 74).

Prime elements
Having identified the complex elements, proceed to confer each of them the respective constituent parts:

- The block building, designed by E. May and collaborators, is a rhythmic element on the bastions, almost to highlight its architectural strength and, in other cases, combined in rows. At the distribution level, they provide a stairwell to serve two apartments per floor, and the collective green space is usually located in front of the house, the *Vorgarten*, leaving one at the back of the private gardens, dedicated to family sustenance;
- F. Schuster's linear building reveals a closed street front, with only the windows for the stairwell at full height, an

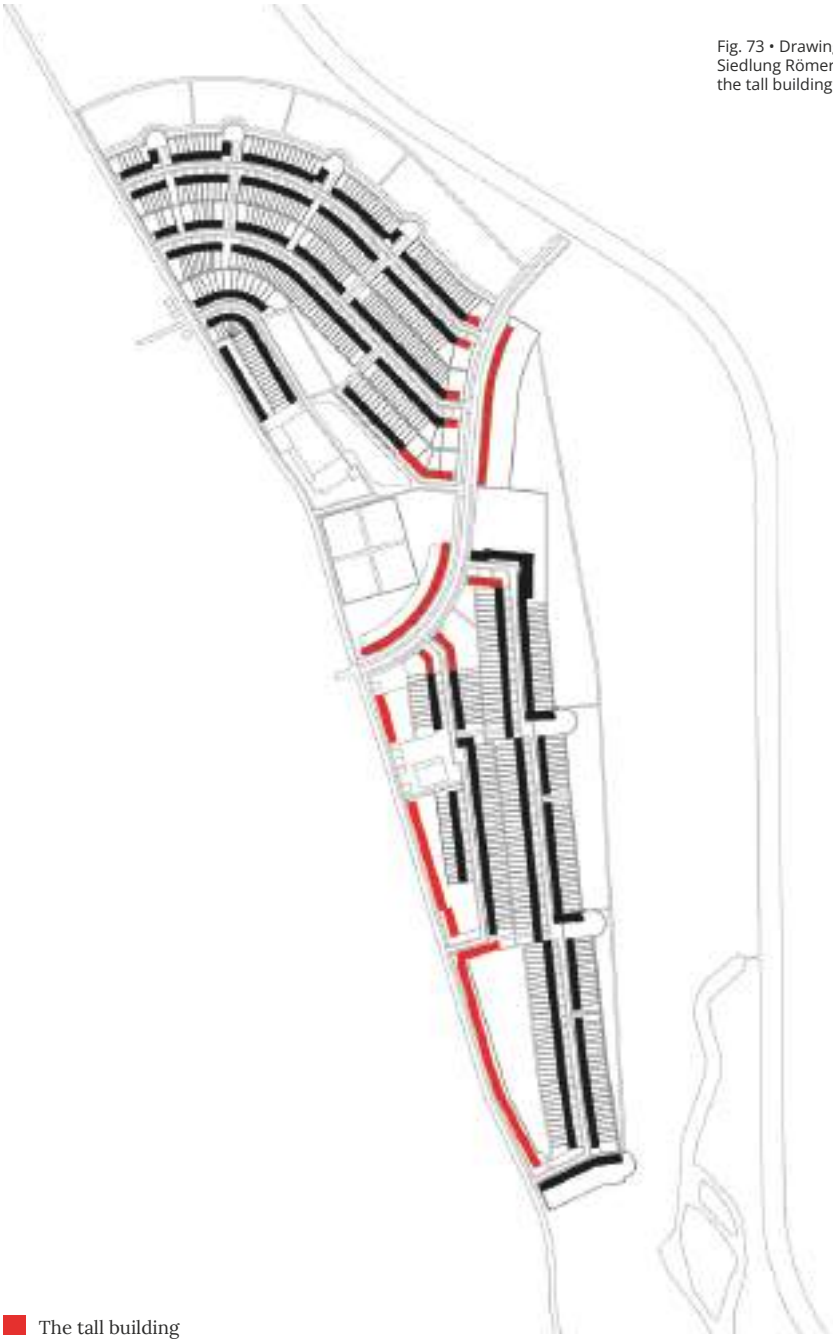


Fig. 73 • Drawing of the Siedlung Römerstadt, the tall building.

element characteristic of this type of building in the New Frankfurt period. In contrast, on the front towards Nidda, he proposes again the stylistic features already partly seen in the Berlin *Siedlungen* of Bruno Taut or Otto Haessler in Celle. C.H. Rudloff proposes, as mentioned, an element that is part of the composition, but at the same time with a high expressionist degree, which in the overall architectural language choices of Römerstadt, ends up being a sort of "Panzer Schiff" docked in the wrong port.

The tall building in the Niddatal project

Row houses identify the high buildings in Praunheim articulated on three levels with roof gardens (fig. 75). The volumetric articulation already seen in Bruno Taut's Hufeisen *Siedlung* is enriched by the possibility of using the flat roof, a type of solution being tested at the same time as Höhenblick.

The study and redesign of the Westhausen projects allow linear buildings to be identified as "tall houses." The north side of the road, characterised by an "L" shape, delimits public green spaces and contains commercial activities. The buildings are arranged transversally to each other to the *Anger* (fig. 76), a fact that recalls the comb-like arrangements typical of the *AngerSiedlung*.



Fig. 74 • Picture of the Siedlung Römerstadt, the tall building.

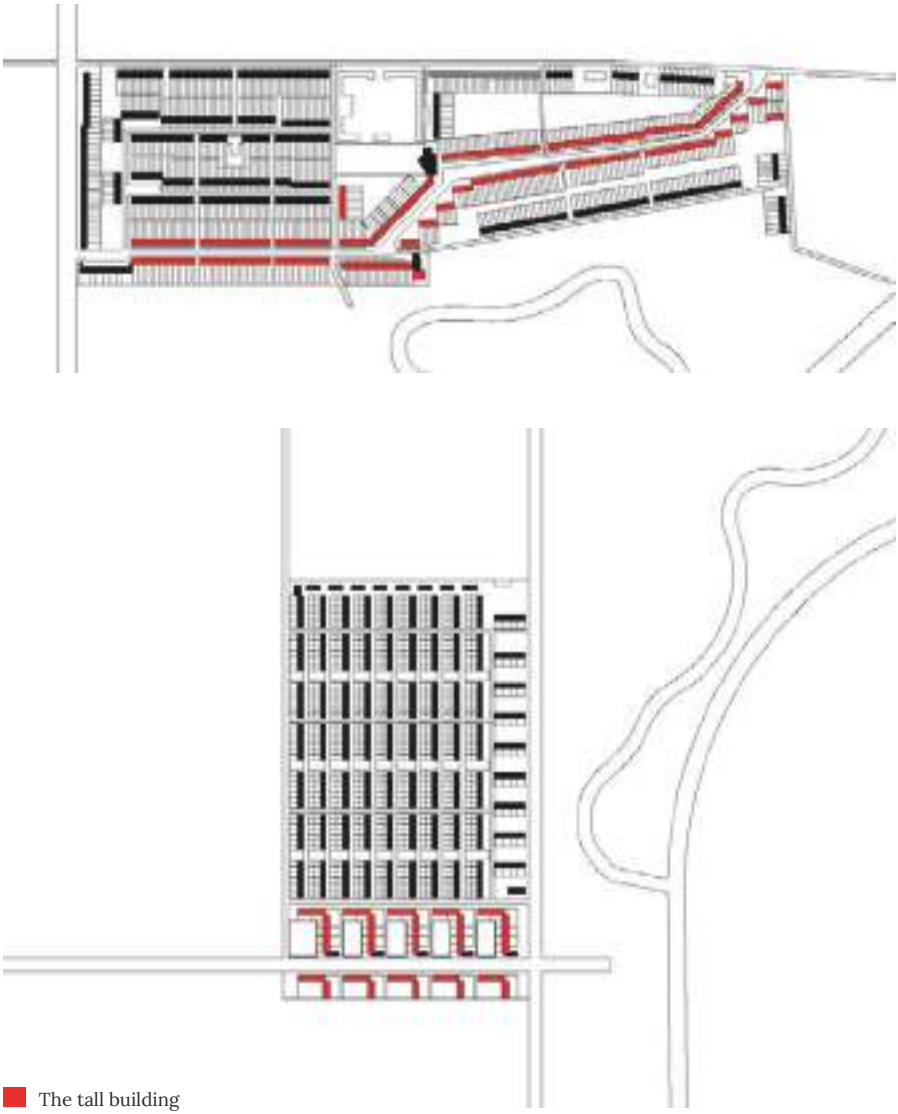


Fig. 75 • Drawing of the Siedlung Praunheim: the tall building.

Fig. 76 • Drawing of the Siedlung Westhausen: the tall building.

The low building

Element analysis

> "... in anticipation of a change of house ... it just had to be done packing your suitcase" (Hilberseimer, 1927, p. 19).

Complex element
The low building, a cornerstone of *Siedlung* architecture, is not just a structure but a testament to historical evolution. It is an amalgamation of single residential units (fig. 77), a concept that defines residential blocks and is the formal outcome of applying the fourth diagram developed by E. May. This diagram, a crucial tool in comprehending the evolution of the low building, delineates the key architectural elements and their interrelationships, providing a blueprint for the design and construction of these structures from the nineteenth century to the Modern Movement.
The *Siedlung* architecture stands as a testament to the collective efforts and shared vision of numerous architects. This is evident in the pages of the Deutsche Bauzeitung magazine in 1931, an article by C.H. Rudloff, where he provides a floor plan of Römerstadt. The designers of the various terraced houses are highlighted, including Rudloff himself, who, as May's collaborator, built the homes along the streets "Am Forum", "Mithrastraße", "in der Römerstadt", and "Im Burgfeld", with the Blattner (A) studio and the Schaupp studio (D).
Define the rules relating to dimensions, which differ only depending on the north-south orientation (north = 6x9 m; south = 5.3x9 m) and the architectural language to be used. The Stadtrat of Frankfurt entrusts the design of the compositional elements to collaborators or professionals. Each architect's recognition is based on a few precise details, especially regarding the entrance solution and the positioning of the openings on the fronts.

Primary elements
The complex element "low house" is made up of precise primary elements, resulting from its analysis (fig. 78):

the *vorgarten*;
the entrance;
housing;
the garden;
the landscape.

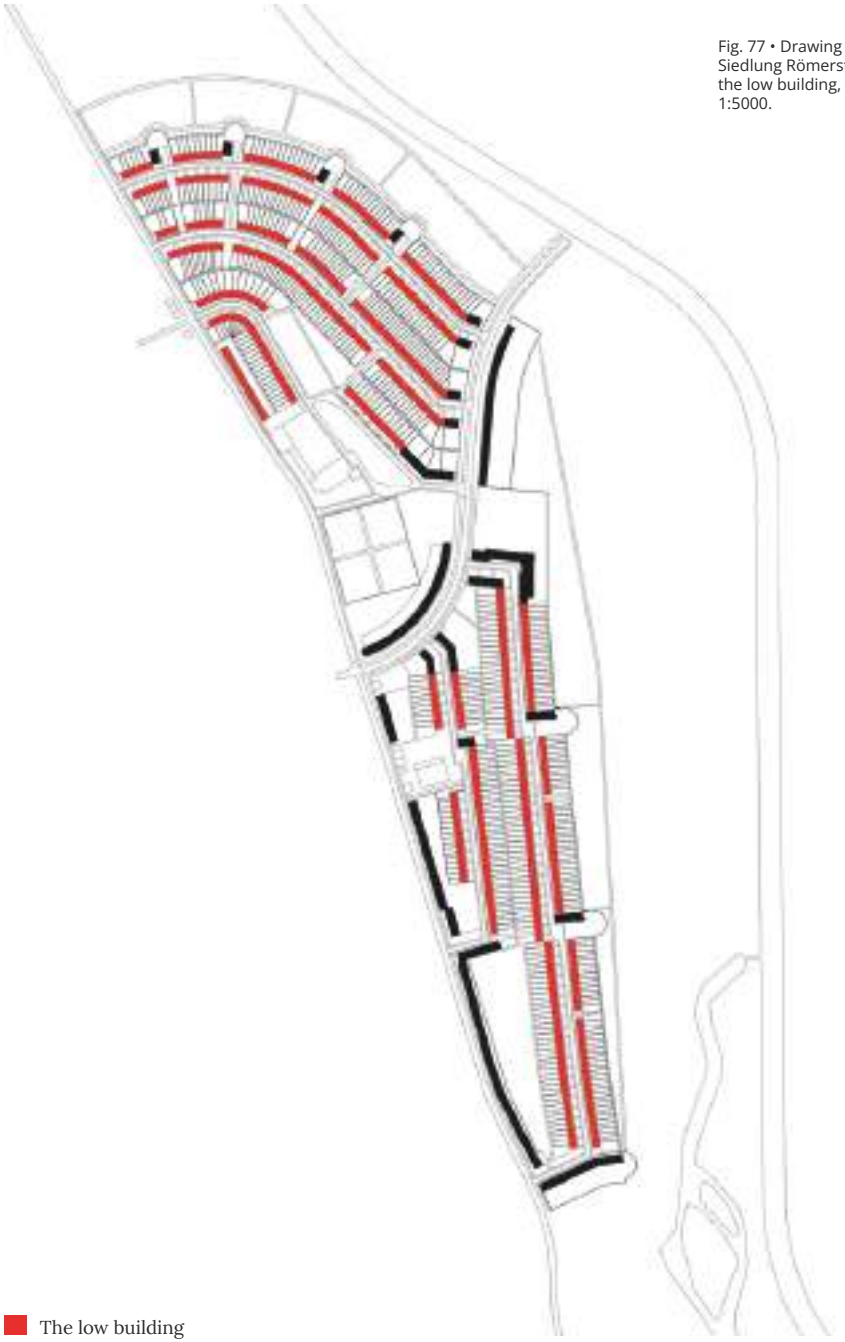


Fig. 77 • Drawing of the Siedlung Römerstadt, the low building, scale 1:5000.

The *vorgarten*, a key element in the design of the low building, has different depths depending on the street view: the rows facing south have a band of greenery just 40 centimetres deep; because it is a garden of larger dimensions, at the entrance, it would be completely exposed to the north and therefore scarcely sunny. The ranks on the other side of the road have 8 meters of greenery on the front, of which only a part is owned, i.e. 40 centimetres next to the threshold. This design feature, which incorporates green spaces into the urban fabric, was vital to the Siedlung architecture, promoting a healthy and sustainable living environment.
The entrance, a crucial element in the low building, varies in the form of its constituent elements but not in their number. It assumes actual and plastic connotations and exciting variations on the topic. The entrance, often a focal point of the low building, was designed to be welcoming and functional, reflecting the principles of the *Siedlung* movement. The tradition of the terraced house in terms of its morphological and distributional characteristics is perfectly respected in Frankfurt, thus making modern solutions comparable to modern in history, to a sort of logical continuation in the wake of tradition, of how it has always been built[1]. The only differences between the plants drawn lie in size, as already mentioned, but also in the different exposition: the south-facing houses, type "A" (5.30x9 m), have the kitchen towards the street and a large living room with a dining area towards the Nidda; the houses facing north, type "D" (6x9 m) have the study towards the street and the 'Frankfurter Küche' with the dining room towards private garden. The Frankfurter Küche, a compact and efficient kitchen design, was a crucial innovation in the Siedlung architecture, reflecting the movement's focus on functional and practical design. The private garden maintains a constant width of 21 m. It is based on a precise design developed by L. Migge, thus becoming an architecture designed and connected via walkways to the *Siedlung* system.

The low house in the Niddatal project
When comparing the low house in the Niddatal project with other *Siedlungen* in the Nidda Valley, we discover intriguing variations in the construction systems adopted, adding a layer of richness and diversity to our analysis: traditional brick system, present in Römerstadt and in part of the first section of Praunheim, or with prefabricated elements[2]. The plans of the rows no longer undergo variations depending on the orientation, north or south, but remain similar to type "D" and type "A" of Römerstadt. It should be remembered that the Westhausen houses, initially planned as single-family units on two levels, are divided into two homes between the ground floor and first floor[3].

1. See Chapter 5, *Analogies for a comparison*.

2. See Chapter 2, *The context*.

3. See Chapter 2, *The context*.

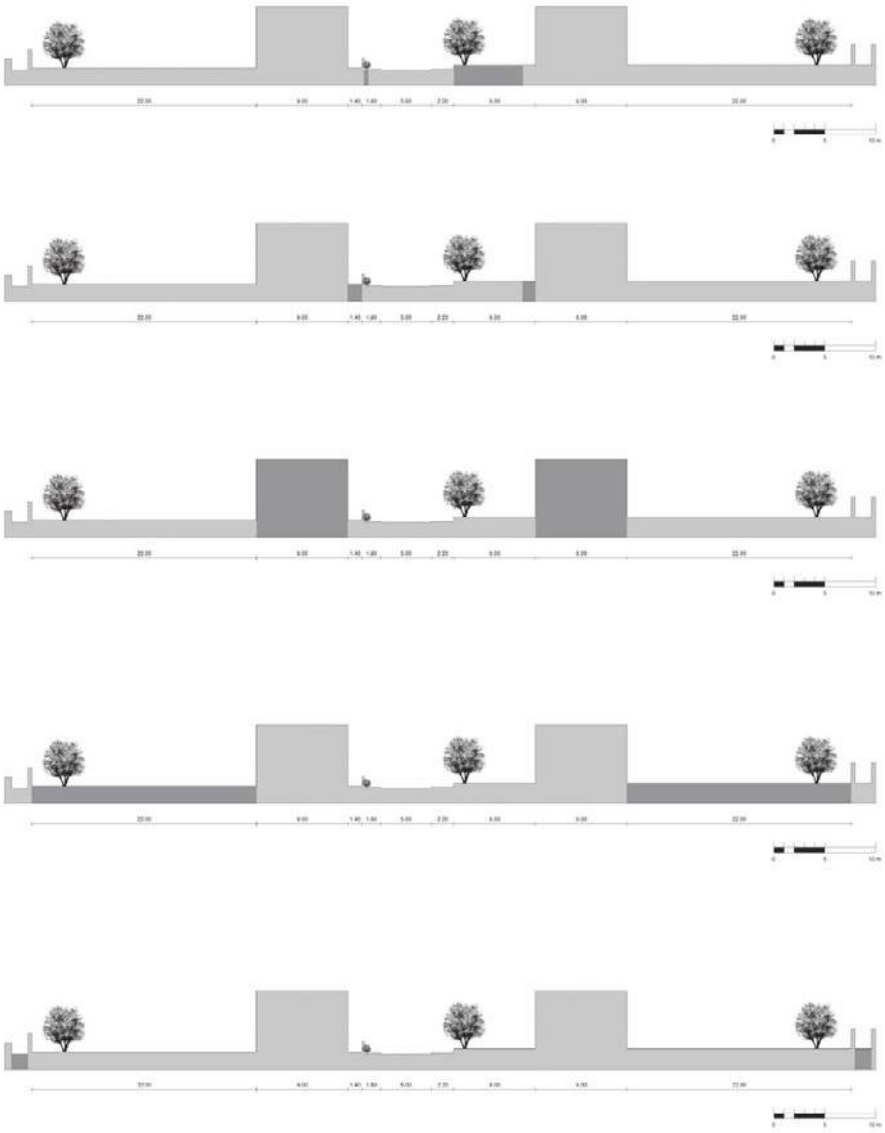


Fig. 78 • Cross-section drawing of the low building along the street "Im Burgfeld": front garden, entrance, dwelling, garden, passage.

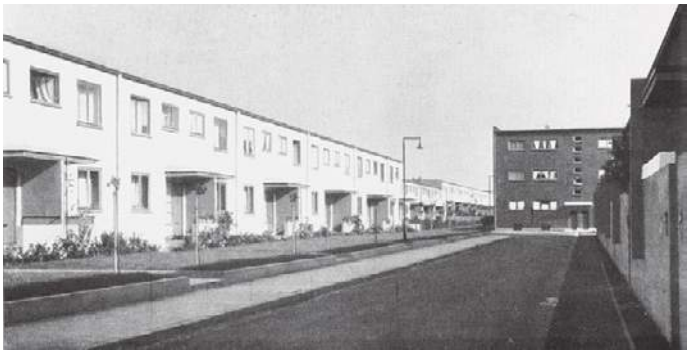


Fig. 79 • Photo of the row houses, type “A” on the right and type “D” on the left in “Im Burgfeld”.

Fig. 80 • Redrawing plan view of the house type “A”, on the street Im Burgfeld.

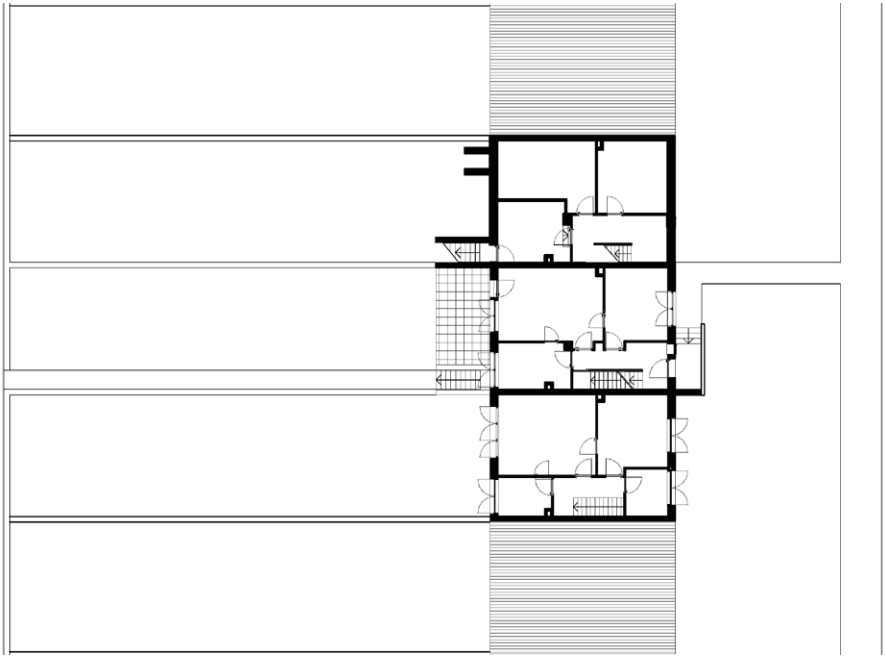
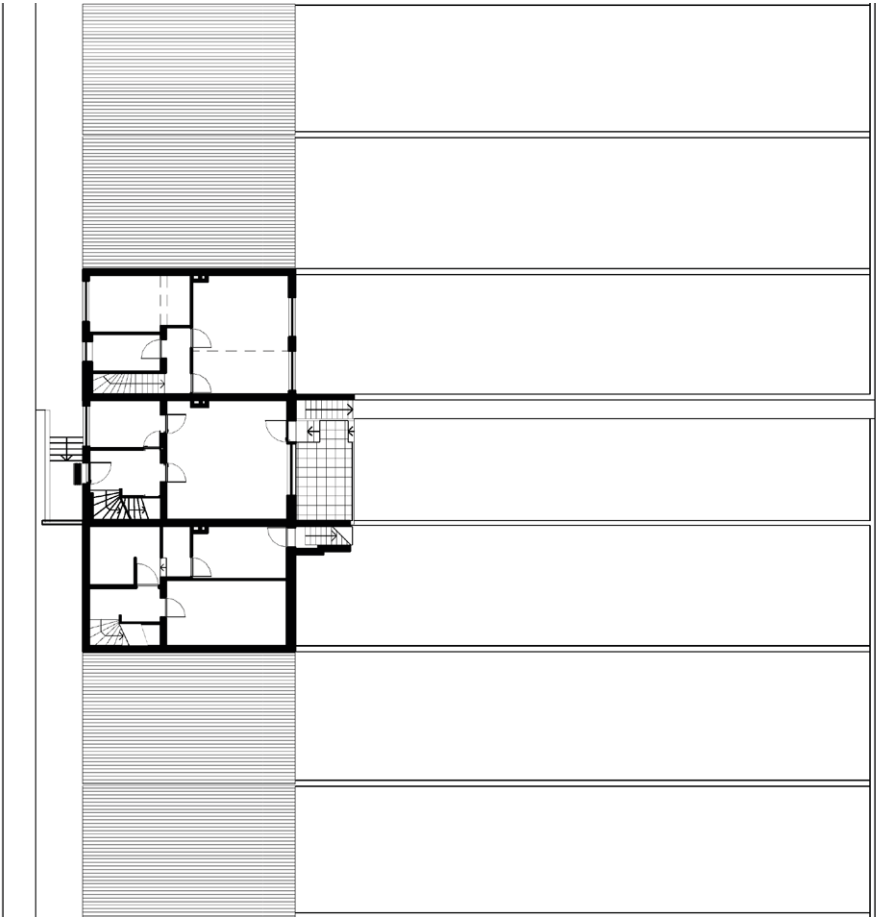


Fig. 81 • Redrawing plan view of the house type "D", on the street Im Burgfeld.



The public green spaces

Element analysis

Complex element
Public space, as conceptualised in the Neues Bauen, is not just a green area or a park immersed in the countryside but a significant element that enhances the quality of urban settlements (fig. 82).
The Niddatal, a shared area in the *Siedlungen*, plays a pivotal role in the 'new way of life' these settlements represent. The redesign of the settlement highlighted the prominence of private gardens on the public surface. The extensive uncultivated lands around the Nidda River provide opportunities for recreation and socialisation for the inhabitants of Römerstadt.
From a territorial perspective, *Siedlungen*'s design is unique and reflects an innovative approach. It positions them as wings of a vast green square, a design philosophy known as "building an urbanised crown". This spatial relationship to the theme of the Großstadt underscores the importance of urban elements in the design of these settlements, marking a significant departure from traditional urban planning[1].

Prime elements
The transformative power of Nidda Valley Park is genuinely remarkable. This is evident in its inception, which involved rectifying the river's path to prevent frequent flooding and allow for more efficient land use in the surrounding areas. This inspiring transformation showcases the potential of urban design to create sustainable and functional spaces[2].
Subsequently, the land to be used for vegetable gardens is identified and assigned to each private individual house unit, the design of which is up to the architect Leberecht Migge. At the same

1. *"[...] Beim Niddatal-Projekt werden die Seidlungen Praunheim, Römerstadt e Westhausen in noch stärkerem Maße als 'Platzwände jener große Räume der moderne Großstadt' über die produktive Nutzung der Grünflächen und ihrer Funktion für die Großstadt an diese angebung"* (Mohr e Mülller, 1984, p. 168).

2. See Chapter 2, *The context*.

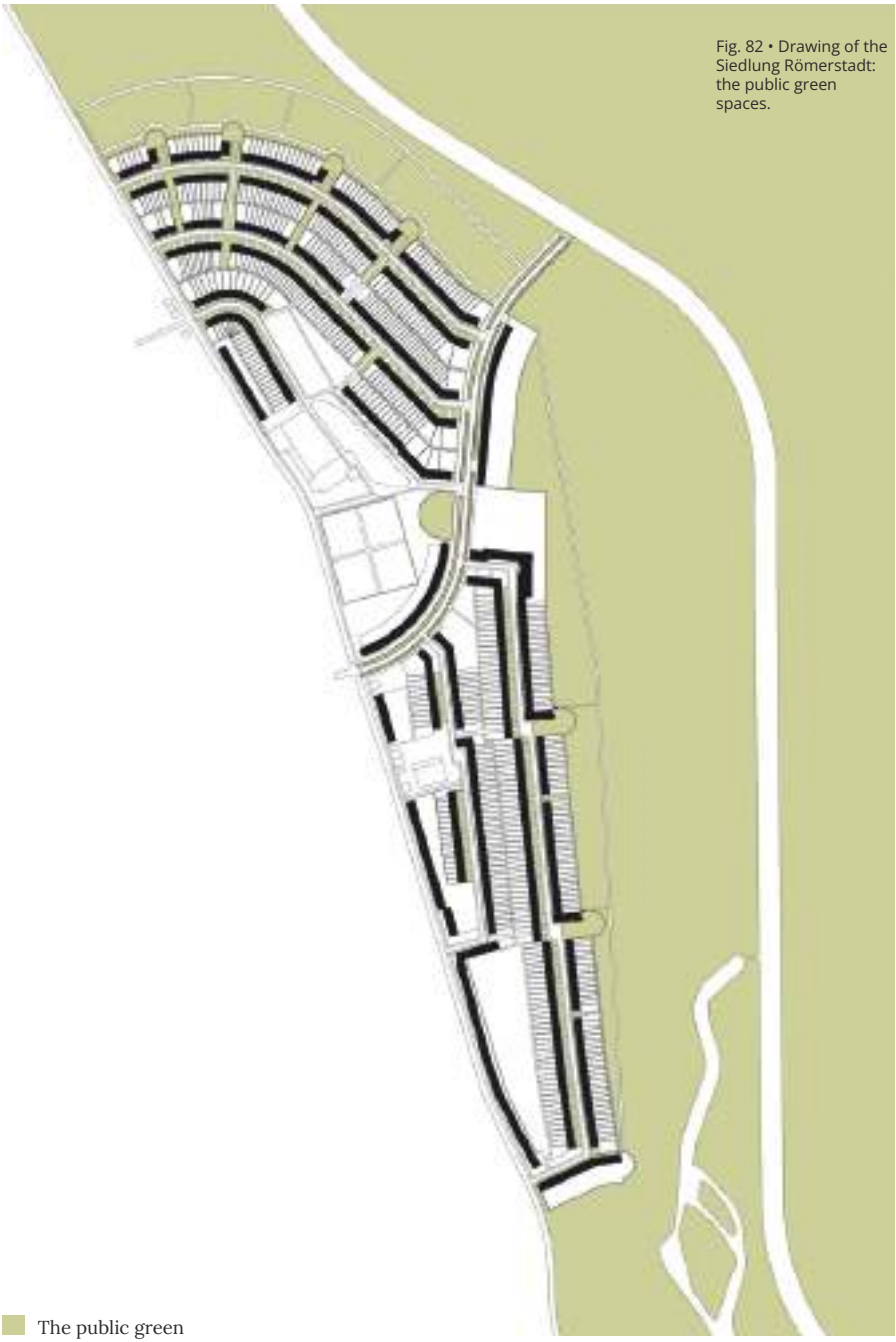


Fig. 82 • Drawing of the Siedlung Römerstadt: the public green spaces.



Fig. 83 • Photo of the public greenery in the Niddatal towards Römerstadt, 1930.

time, the paths and the arrangement of the greenery public are followed by M. Bromme.
Public spaces, such as the bastions and strips of greenery, are not just pathways to other areas. They serve as fundamental elements in the design of the entire settlement, contributing significantly to the overall urban environment. Their strategic placement and design enhance the aesthetic appeal and functionality of the *Siedlung*, making them integral to its unique character.

The public green in the Niddatal project
The general plan of 1927 and the subsequent one of 1930 show, as mentioned, the design of the vegetable gardens and green areas of the Niddatal.
Römerstadt completely overlooks the river (fig. 83), while Praunheim, with the project relating to its first phase from 1926-27, follows the route of the Nidda (fig. 84).
Some photos of Westhausen from the time show a visually distant relationship with the surrounding park and the water path (fig. 85).

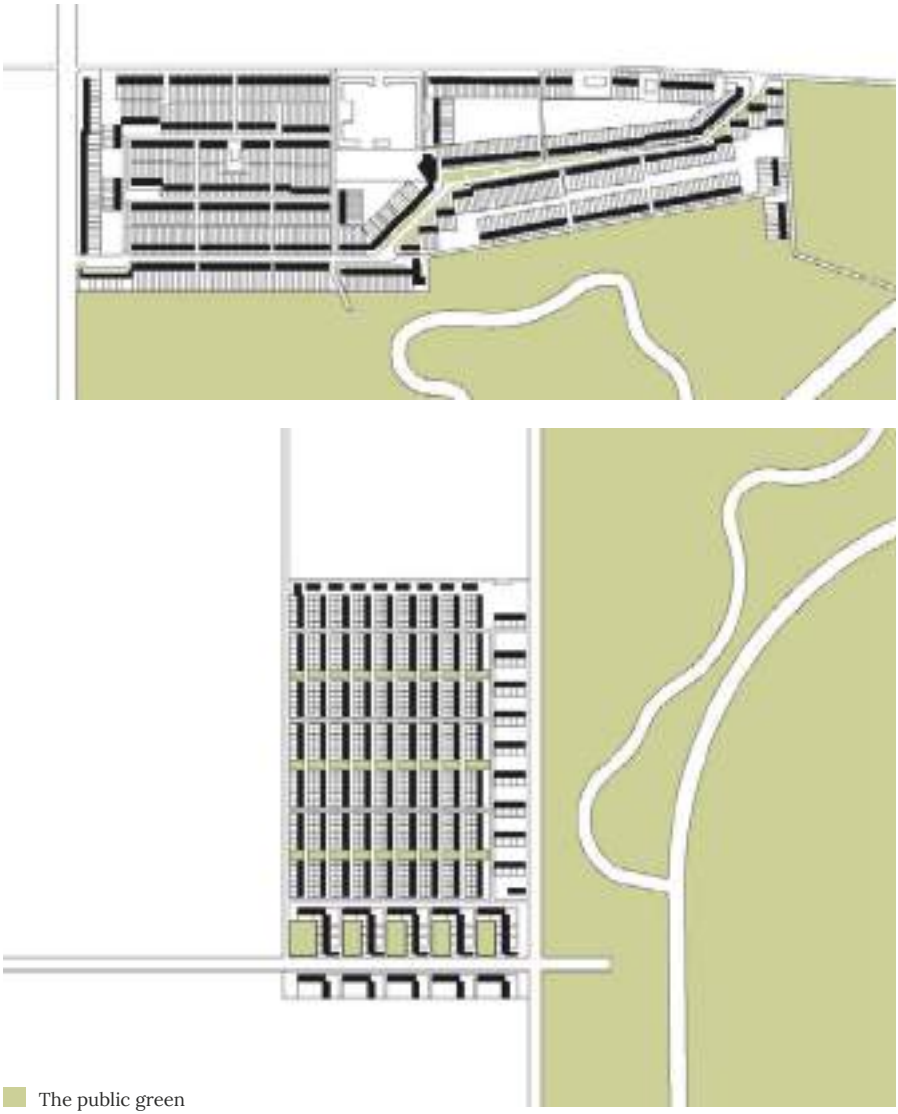


Fig. 84 • Drawing of the Siedlung Praunheim: the public green spaces.

Fig. 85 • Drawing of the Siedlung Westhausen: the public green spaces.

Analogies for comparison: Ernst May, Jacobus Johannes Pieter Oud, Walter Gropius, Bruno Taut

The work of Ernst May

Römerstadt as reference

In the previous chapter, the similarities between the *Siedlung* Römerstadt and the other settlements of the Niddatal were analysed, with the intent of explaining the methods of applying a particular formal structure.

The objective is to understand if and how this structure, dominated by the *Anger* (a term used by May to describe a central public space in his designs), was transformed, adapted, or even abandoned during the architect's work. This exploration of the evolution of May's designs will surely intrigue the audience with his innovative and adaptive approach, sparking their curiosity and engagement.

The research process is meticulously conducted, mirroring the steps used for Römerstadt. It begins with thoroughly examining the *Siedlungen* through contemporary documents, tables, plans, and photos. This systematic dissection of the primary components, the true protagonists of the story, leads to the identification of the formal structure, instilling confidence in the audience about the accuracy of the findings.

The projects under consideration trace the stages of a work that spans a century of architectural events, all driven by a unique social task: low-cost construction for the low-income classes. This is a testament to Ernst May's unwavering social consciousness and commitment to societal progress, inspiring the audience with his dedication to making a positive impact.

The large amount of work carried out on settlements between Wroclaw and the Federal Republic of Germany coincided with a necessity to establish selection criteria. Between these, the availability of material to reconstruct the story stands out, and the possibility of redesigning the constituent elements with adequate precision is also evident. Through this process, the following cases have been identified:

1. Breslau, *Siedlung* Leobschutz (1922)
2. Frankfurt, *Siedlung* Bruchfeldstrasse–"Zick-Zackhausen" (1926-27)
3. Magnitogorsk, *Wohnquartale* Magnitogorsk (1932)
4. Mombasa, *Siedlung* Port Tudor (1952-56)
5. Wiesbaden, *Siedlung* Parkfeld (1959-70)

The first settlements in Wroclaw reveal a relationship that is still very close to the experience of English garden cities. These consist of single or double houses on lots, from the language of rural architecture, surrounded by greenery; they are willing, though, according to a design built around a central public space: *Anger*[1]. With the *Siedlung* Bruchfeldstraße, you return to Frankfurt again, focusing on a block within the urban fabric and reinterpreting this building system's history in crucial modern terms.
From 1930 to 1933, Ernst May worked in the Soviet Union, combining the well-known model of the *Trabantestadt* (a term used to describe a city with a central core and surrounding satellite towns, a model that emphasises decentralisation and self-sufficiency) with that of the 'city for nuclei' (a concept of urban planning where the city is developed in small, self-contained units that can be easily replicated, a model that promotes community and social interaction) concluded and serially repeatable along a hypothetical rectilinear path.
The shattering of the dreams of authentic socialist architecture leads the architect to a drastic choice: leaving Europe for the African adventure. Here, too, May finds a way to apply, for example, an urban development project, the 'satellite system' (a concept where the city is developed in small, self-contained units that can be easily replicated), which is declining but the individual entities according to the idea of reunited residential blocks around a communitarian space.
The return to the Federal Republic of Germany in the 1950s caused the page to revert to satellite design. The plan's idea does not change, but it does change the settlements' founding idea, which follows the path of the *Stadtlandschaft* (a concept of urban planning where the city is surrounded by greenery), a concept already expressed by Rudolf Schwarz in 1949 (Schwarz, 1924).

Breslau: Leobschütz Siedlung

In 1919, Ernst May was hired by the *Schlesische Landgesellschaft* , a company that built settlements in Silesia through state funding. This company played a significant role in developing low-cost housing in the region, and May's work with them was instrumental in shaping his approach to architecture and urban planning. [2]For almost five years, in addition to following the issues of the magazine *Schlesische Heim*, he worked on the definition of the first *Siedlungen* projects in the city and on the development of the *Trabantenskonzpet* (city concept for satellite nuclei), which was fully applied during the planning experience in Frankfurt.

1. See Chapter 1, *Three ideas for (re)composing the city*.

2. Ernst May's settlements in Silesia are treated exhaustively from a typological point of view in Marletta Alessandro's thesis, "Innere Kolonisation" in Germany: Ernst May and the Schlesische Langesellschaft in Breslau (1919-1925), Iuav degree thesis, tutor prof. Marco De Michelis, A.A. 1988-89.

Siedlung Leobschutz (1922)

Ernst May's design approach, relating to the '*Siedlung*' (a term used to describe a housing settlement), is provided from the first issues of *Schlesisches Heim*, particularly in the article *Siedlungspläne* (May 1920, pp. 11-13). Specifically, two *AngerSiedlung* are presented, that of "Hirschberg" and that of "Frankenstein", which are both built around a small central square, enclosed by single-family houses, almost as if to predict, on a small scale, the application of this system to more extensive interventions[3].

Continuing along this direction, you come across the *Siedlung* Leobschutz from 1922, built around a 'barycentric public space' (a term used to describe a public space located at the centre of a settlement). Willing on a ridge that slopes down to a small stream, like revealing the level curves present in the plan, it is attested along one of the routes coming from the centre of Wroclaw, taking on a 'satellite' character, given its proximity to the existing town of Leobschütz.

The choice of this project reflects the desire to understand the initial experiments on the application of the *Anger* concept. This name appears, among other things, in the published planimetric drawing. A further element of interest is the formal similarity that the buildings facing the watercourse to the south have with the bastions of Römerstadt[4]. This approach towards a particular place and landscape is experimented with in Silesia and then concretised in Hesse.

The components

Once the settlement has been retraced, are identified the existing compositional parts (fig. 87):

1. The main road/*Anger*
2. The residential street
3. The tall building
4. The public facilities
6. The low building
7. The public green

Substantially, the elements do not change compared to those found in the Niddatal projects; the public facilities remain to be defined. According to the description provided by May of

3. The building typologies of the *Siedlung* Leobschütz are similar to those used to compose the *Siedlung* Goldstein of 1919-20: *RentenSiedlung Goldschmieden - der Schlesischen Landgesellschaft bei Breslau, in Wasmuth Monatshefte*, Verlag Ernst Wasmuth, Berlin 1919-1920, pp. 143-151.

4. For a complete examination and analysis of the *Siedlungen* in Wroclaw, from the first examples to the most famous creations: Henderson Susan, *The work of Ernst May*: 1919-1930, doctoral thesis, Columbia University, 1990.

Siedlung present in *Schlesisches Heim*, these are located around the *Anger* (May 1923, pp. 193-194).
The ground and first-floor dwellings, intended for two families, represent the tall building, while single or double houses identify the lower building on the lot (500-1000 m^2 plots).
Public green spaces are found as traditional "paving" of the *Anger* and in the strip of land sloping towards the water.

The formal structure
The *Anger*, which in the examples of the Nidda Valley takes on the characteristics of the main passing road, recognised as a place collective, in Leobschütz focuses on an open space: the square. Services and public buildings overlook it (that one administrative office and the school located on the sides of the gardens) and most likely also the commercial activities, as previously mentioned. The sides along the *Anger* are closed by houses on two levels, not isolated but placed together in such a way as to build a continuous front on the square. These elements of the composition, with their presence and precise location, adequately testify to the community and ordering function in the *Siedlung* ensemble.
The intention to conclude the settlement through the "high" constructions, like a fence, is clear; a fence that, in Römerstadt and the other *Siedlungen* of the Niddatal project, is staged, not only through the height of the buildings but also thanks to the disposition of these. On the one hand, the formal structure still reveals all its closeness to the English experience of garden cities: as regards the formally completed design, with the typical central square defined by public buildings, for residences made up of double and single homes immersed in the countryside, and not yet grouped. On the other hand, however, you don't have to forget the application of *Anger*, which becomes the backbone of the settlement, onto which the compositional parts are grafted.
In essence, we are faced with an evolution of the British experience in a German key or the garden city revisited according to the experience of the *AngerSiedlung*[5].

Frankfurt: Bruchfeldstraße Siedlung
Ernst May's architectural story is inextricably linked to Frankfurt, from its origins to the built examples, true icons of the *Neues Bauens*.
The plan's application for constructing the *Trabantenstadt* is based on something other than satellite nuclei. Still, it envisages continuing the building activity already underway in 1925[6], with interventions in areas within the city.
The *Siedlung* Bruchfeldstraße is part of the general reorganisation

5. See Chapter 1, *Three Ideas for (re)composing the city*.
6. See Chapter 1, *Three Ideas for (re)composing the city*.

and recomposition plan of the Niederrad district, occupying an entire block on its own. As in the Niddatal projects, a group of trusted collaborators contributes to the design: Herbert Böhm for the general system; Carl H. Rudloff for tall and public buildings; Ferdinand Kramer for the interiors; Max Bromme for the study of public spaces and landscaping.
The interest here is aimed at the particular formal structure of an autonomous "Berlin" closed block equipped with services and then to the specific choice of positioning a body of water internally, which recalls the natural context in which Bruno Taut confronts it at the GroßSiedlung Britz of 1925-1931.
Precisely, together with the latter, he found himself working under the direction of the Berlin *Stadtrat* Martin Wagner in the elaboration of house projects built with prefabricated elements (Jeaggi, 1924, pp. 26-32).
The reference to the German capital and its peculiar urban planning character is subsequently expressed in the *Siedlung* Bornheimer Hang (1926-1930) through the revival of a particular urban block solution: the *Reformblock* (Wolfgang, 2006). In the space, defined by linear low buildings along the boundaries, the row houses and the public facilities are inside, shaping the city's architecture.

Siedlung Bruchfeldstraße - "Zick-Zackhausen" (1926-27)
As mentioned, the *Siedlung* plan considered the preexisting subdivision, which precluded the possibility of giving the residential area a unitary design (fig. 88).
The homogeneity of the whole was achieved through the use of identical and repeated elements, both in the building plans and landscape. From a typological point of view, most buildings are in line or a block next to each other, except the single-family row houses on two levels positioned along the Donnersbergstraße and the corner towers.

The components
Once the urban block has been redesigned, the parts that compose it are identified (fig. 89):

1. The tall building
2. The public facilities
3. The commercial activities
4. Public green spaces

The elements that appear do not differ much from those found previously. Anyway, given the completed structure of the project, the absence of a main road/*Anger* and a residential one is evident. The tall building is represented here by the dwellings on the ground and first floors, intended for two families; the school

complex identifies the collective building. The public green area, however, is the area left free between the private gardens, the design of which follows the particular Zick-Zack shape of the buildings.

The formal structure

In the eastern part of the *Siedlung*, south of the Bruchfeldstraße, the urban block can be recognised by its characteristic Zick-Zack shape. This shape considers the pre-existing roads in the east-west direction, and to obtain better lighting, it was chosen for this part of the neighbourhood as the "saw" arrangement of the elements that make up the row of buildings. These elements include six houses on three floors with roof terraces (May 1930, pp. 116-121) and propose the complexity of a slightly earlier project created in Brussels by the architect Victor Bourgeois: the *Cité Industrielle* (Wichert, 1926-1927, pp. 209-210).

This is not a purely symbolic resemblance but rather a formal and substantial one, deduced from the study of the material preserved in the archive of C. H. Rudloff. Alongside the drawings for the *Siedlung* Zick-Zack Hausen, photos and sketches of the Belgian settlement appear[7], as well as an exciting project that appeared in the pages of *Schlesisches Heim* (Rudloff, 1924, p. 459).

As regards the formal structure, the block represents an example of an autonomous complex element, where the prime elements of the *Siedlung* are assembled to form a piece of the city formally completed. Zick-Zack Hausen is nothing more than a city within a city, around a green space characterised by the presence of the water basin, collective buildings, and services. Along the axis of symmetry, on one side, the shared laundry room and the radio system are located centrally, as is the nursery. In contrast, on the other, on the sides of the entrance, the business is located.

Compared to Römerstadt, the articulation of the hypotactic formal structure is missing, linked to the *Anger* as a concatenation element, represented by the main road. Here, the architect instead wanted to underline the adequacy of the intervention concerning the urban place and its continuation in the wake of the city in history.

Magnitogorsk: the territorial unit

May's trip to Russia began in 1930 with some of his closest collaborators. He hoped to build entirely new cities and expand existing ones, such as Moscow (May 1931, p. 117).

Correct planning provides for the clear separation of industry from residential neighbourhoods, the rationalisation of traffic, the systematic organisation of green surfaces, and the conversion of block buildings to terraced ones (El Lissitzky, 1969, p. 150). Thus, the general principles of the socialist city's internal

7. The legacy of C.H.E. Ridloff is archived in the at the Ernst-maygesellschaft.

structure are explained fundamentally differently from those of capitalist cities.
If the latter were dominated by trade and private property, the foundation of the Soviet Union was always and only the economic production, both in the form of the *Kombinat* (industrial complex) and the form of the rural *Kolkhoz*.
The May Brigade works throughout Russian territory, participating in competitions, such as Magnitogorsk, or being directly assigned by the government, which provides a special train to reach all the chosen places.

Wohnquartale Magnitogorsk (1932)
Ernst May and his team developed two settlement systems over three years in Russia: the "ribbon" city and the satellite city. Magnitogorsk falls into the first type of city, where the architectural definition of residential units, starting from a precise road network, involves constructing a large repeated urban block, which takes on the role of a complex element constitutive of the city. This complex element connects to the others through traffic roads and includes large interior free spaces surrounded by shared greenery.
On the pages of *Das Neue Frankfurt*, in n. 7 of 1931, Ernst May also provides an essential reference for understanding new urban forms, namely Miljutin's book (1921), *Relative Problems to the construction of the socialist city*, while criticising the solution of the latter proposal for Magnitogorsk, as it did not hold account of the orographic characteristics of the territory (Monistiroli, 1999, p. 139). The city's structure tends to configure the individual's residential units as intermediate elements between the collective unit and the traditional residential complex, where one can see an interpretation of the typical Soviet *kombynat* (Tafuri, 1964, pp. 66-80).

The components
Numerous drawings regarding the planned territorial units in Magnitogorsk are present in the literature. This research was decided to study the version of which a detailed description remains, made by Margarete Schütte-Lihotzky. Based on that reconstruction, the following elements were identified (fig. 91):

1. The main road
2. The residential street
3. The tall building
4. The public facilities
5. The commercial activities
6. Buildings for work
7. The green space

The territorial units, located along the main road, are divided into autonomous entities, identified by the presence of commercial activities, a collective building and linear housing blocks. In addition to the streets, residential elements, such as the *kolkhoz* and the *kombynat*, appear for the first time at work. The public greenery extends for the entire territory, not allowing private digressions.

The formal structure
The compositional system can be traced back to the idea of the linear city, in which entrance roads branch off perpendicularly from a road axis to the territorial units, along which the homes are aligned and the green areas that contain the services (Minoli, 1999, pp. 200-217). Designed as autonomous organisms capable of welcoming up to 8,000 people to 10,000 inhabitants, these units were strictly controlled and built in the general system and individual homes. Regarding residence, typologically attributable to residence alone house in line, this only includes accommodation facing along the axis East West. An inevitable comparison appears to be that of the *Siedlung* Hellerof by Mart Stam, designer and May of Magnitogorsk. The points of contact concern both the sequential system, based on the reiteration of the same tall building, and the architectural definition of the identical (fig. 90), with the addition of the corner terrace, a sort of trademark of *Das Neue Frankfurt*. The formal structure joins the main road from which the residential streets lead to the "sub-units" branch off. Each of these is, in its own proper time, determined by the functional assembly of thematic areas:

the residential area identified by the blocks on multiple levels;
the area of commercial activities and collective buildings.

The commercial activities and collective buildings are located along the main road, giving it that character already seen for the *Anger* of a central public place in the settlement. To increase its value, the arrangement of the *kombynat* and the collective farms, located at the entrance to the units, also contributes.

Mombasa: Port Tudor Siedlung
In January 1934, Ernst May reached Africa after four years spent in the Soviet Union, in controversy with the political power, which had suddenly banned all avant-garde currents (Minoli, 1999, p. 214). Almost inactive until 1940, he initially dealt with agriculture, purchasing coffee plantations. After a brief period of imprisonment, he returned to his activity as an architect and urban planner[8].

8. Also of particular interest is the research work of Dr Eckhard Herrel, one of the founders of the "Ernst-May-Gesellschaft" (http://www.ernstmay-museum.de/), which relates to the story of the Architect of Frankfurt in Africa (Herrel, 2001).

Siedlung Port Tudor (1952-56)
The port city of Mombasa, Kenya, saw rapid growth at the beginning of the 1950s, and its economy and population reflected this. The first "social housing projects for Africans" consisted of houses in a row on three floors (Herrel, 2001, p. 120). Shell, the multinational oil company, offered the architect of Frankfurt the opportunity to re-propose the well-known concept of *Siedlung* outside the urban core. It commissioned the May & Partners studio to design a settlement for 5,000 workers.
The intervention area is identified west of Mombasa, near Port Tudor. Once again, we are confronted, therefore, with a context outside the city; once again, we are talking about the application of the well-known *Trabantenstadt* concept. But if a precise response corresponds to a plan idea or the town by satellite nuclei, the less similar way appears to decline the satellite from the point of view of its formal structure, especially when compared to the *Siedlung* Römerstadt.
Decentralisation, avoiding the massing of large numbers of workers in the city, and moving this migration towards small centres equipped with services and institutions beyond adequate hygienic conditions are still discussed.

The components
The redraw of the general plan of the *Siedlung* project Port Tudor allowed the identification of its compositional parts (fig. 93):

1. The main road
2. The residential street
3. The tall building
4. The public facilities
5. The commercial activities
6. The low building
7. The public green spaces

The two main roads along the north-south direction, located at the edges of the master plan, become supporting axes for the residential streets, which lead to the other compositional pieces overlooking the ample space of central green.

The formal structure
The "African neighbourhood" settlement model, calculated for 5,000 inhabitants, is surrounded by a ring road. In the centre is a large green area, overlooked by the agglomerations, divided into eight formally completed groups.
These consist of housing characterised by apartment houses on three floors (a and b) and terraced houses on two levels (c), interspersed with private vegetable gardens (m) and equipped with a

social centre (d). The types of housing studied closely resemble the experiences of the 1920s, with particular reference to the results of the II CIAM congress in Frankfurt (May 1929):

type I-Ia-II, apartment houses for small families;
type III-IIIa, terraced houses for large families;
type IV, the expandable single house.[9]

The composition ends with the public facilities and commercial activities placed on the short sides to close and conclude the ample collective space. These include the shopping centre (j), the hospital (f), the high school (h) and the nursing school (g).
Römerstadt, with its iconic medieval city profile, which recalls the overall views of Matthäus Merian, seems not to be found here more answers. The main road becomes the external route to the entire *Siedlung*, from which the access roads depart individual settlements. The primary services are located at the edges of the large central square, a genuine everyday moment of composition, a public place for the community. The prime elements remain unchanged, in their general sense, but the way changes arrange them and, above all, the generating aspect of the neighbourhood changes. We no longer talk about the road as the path of the sequence hypotactic, but of the median public space, which is very close recalls the way of composing used by Mies van der Rohe and Ludwig Hilberseimer in Detroit in the "Lafayette Park" project.

> "Here, too, the central space is the representative place of unity residential, a place that belongs to the city but where the spaces are never closed compared to an ancient square. We could say that it is the same principle of construction of a modern square: a large, green void, a place of contemplation, a place of points of view on the parts that overlook it" (Neri, 2008, pp. 121-171).

The description of the Harar neighbourhood in Milan is well suited to becoming a general principle, essentially an actual urban composition based on a central public court.

Wiesbaden: Parkfeld Siedlung
Since 1954, May has returned to Europe and dealt with major *Siedlungen* projects under the motto *Wohnklima* (Seidel, 2006, p. 9). This definition includes the dictates of new settlements: insertion into the landscape, better ventilation and sunshine

9. During his stay in the Soviet Union, a vigorous debate had opened in Germany on the projects of expandable houses; in particular, the concepts expressed by Martin Wagner are taken up here (Wagner, 1932, p. 32).

conditions, provision of schools, kindergartens, and playgrounds, as well as adequate connections to places of work.
These starting points are the same as those that May has always followed, worked with, and operated in urban planning. Once again, the discriminating factor is found in a particular way of setting the formal structure of the *Siedlung*.
The *Anger* of Niddatal is here adapted to a particular way of composing the settlement in the landscape.
The genuinely innovative concept is found in the *Stadtlandschaft*, in the organic architecture of the landscape. In this case, residential islands made up of apparently freely arranged buildings are inserted into the greenery of a neighbouring park.

Siedlung Parkfeld (1959-70)
In 1959, Erns May participated in and won the competition for the new general plan of Wiesbaden in Hesse. Part of the plan included the design of a *Siedlung* on the land overlooking the park of the ancient Biebricher Castle.
The settlement is built along a central axis called "Straße am Parkfeld", which connects the two existing traffic arteries from north to south. A road runs parallel to this residential that connects the individual residential groups.
These groups present a wide assortment of housing typologies, with a notable increase in tall houses: those in line, six/seven floors up to the twenty-two-floor "tower" building. The multi-storey building became the hallmark of May's interventions during the period spent in the Neue Heimat, culminating in the assignment entrusted to Alvar Alto for the *Siedlung* Neue Vahr in Bremen[10].

The components
The elements are also identified for this latest project on which the project is based, starting from their identification (fig. 95):

1. The main road
2. The residential street
3. The tall building
4. The public facilities
5. The commercial activities
6. The low building
7. The public green spaces

10. E. May's *Siedlungen* in the Federal Republic of Germany are widely and exhaustively treated in Seidel Florian, Wohnklima. *Siedlungsplanungen* Ernst May in den Jahren 1954 - 1970, emg, Frankfurt, 2006; Seidel Florian, Ernst May: Städtebau und Architektur In den Jahren 1954-1970, doctoral thesis TU-München, supervisor prof. Ingrid Krau and Prof. Winfried Nerdinger, Munich, 2008.

As mentioned, the settlement is structured around the main road, on which other elements are also placed similarly in Römerstadt. We start with public buildings: a primary school, a secondary school, an evangelical church, a Catholic church, and a kindergarten. The services are represented by the centre commercial located next to the tower building and the shops on each residential block. Finally, the low house is divided into 133 units and two levels.

The formal structure

The continuity with Römerstadt is expressed in the layout of the elements concerning the central axis, the "Straße am Parkfeld" (fig. 95). On it, as seen, the primary services are arranged, the collective spaces, as well as being a collector of residential streets. The tall tower building symbolises the settlements and the new real estate market.

An interesting comparison between the first projects in Silesia and these latest examples clarifies how the compositional method has evolved or how this evolution essentially translates into the architectural language of the elements rather than in the references for the master plan.

The *Siedlung* Ober-Salzbrunn, mentioned in the second chapter as a memory of the Prussian *AngerSiedlungen*, returns to Wiesbaden clearly and intelligibly. They join the main road/ *Anger* in sequence with a series of similar public spaces in wedges that insinuate themselves into the park's greenery.

An adequate *mixitè* between an architecture immersed in the relationship with the countryside and the continuous proceeding in the wake of a tradition, of a method consolidated over time.

However, new elements in the *Siedlung* Parkfeld distance it from the Niddatal projects. The drawing formally concluded in Römerstadt, Praunheim, and Westhausen is contradicted by the landscape's open placement of the buildings.

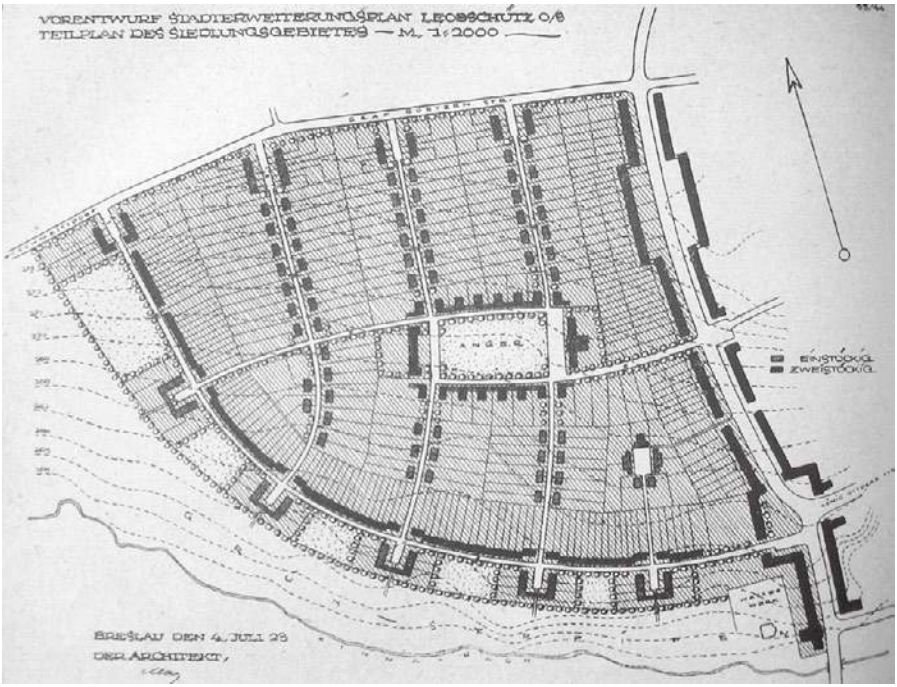
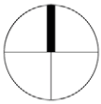


Fig. 86 • Master plan of the Leobschütz settlement, 1923.





1. The main road /Anger
2. The residential street
3. The tall building
4. The public facilities
5. The low building
6. The public green spaces

Fig. 87 • Redrawing of the Siedlung Leobschütz, identification of the components, 1923 project.

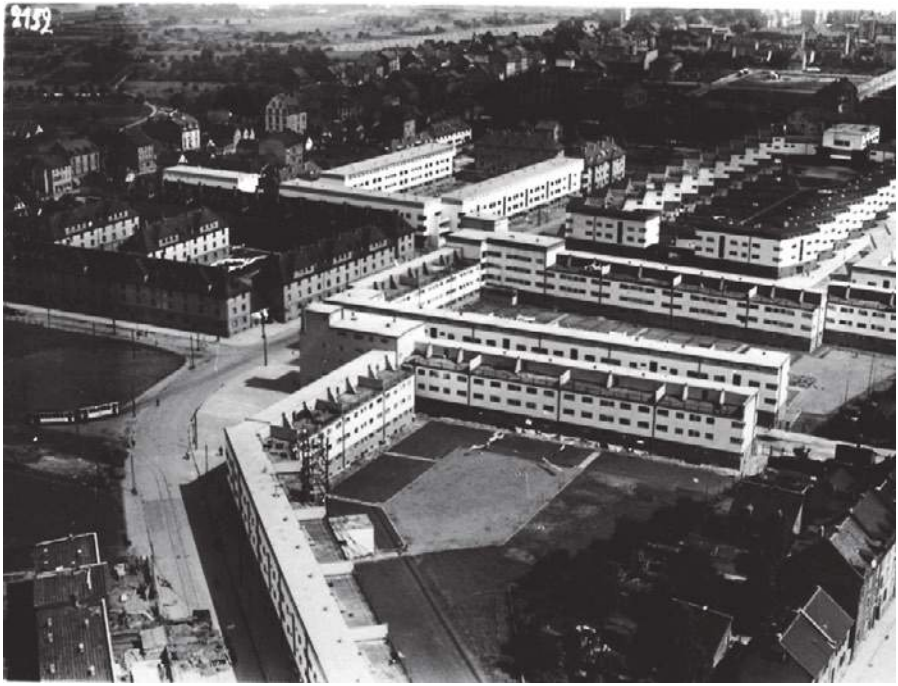


Fig. 88 • Aerial photo Siedlung Bruckfeltraße, 1927.

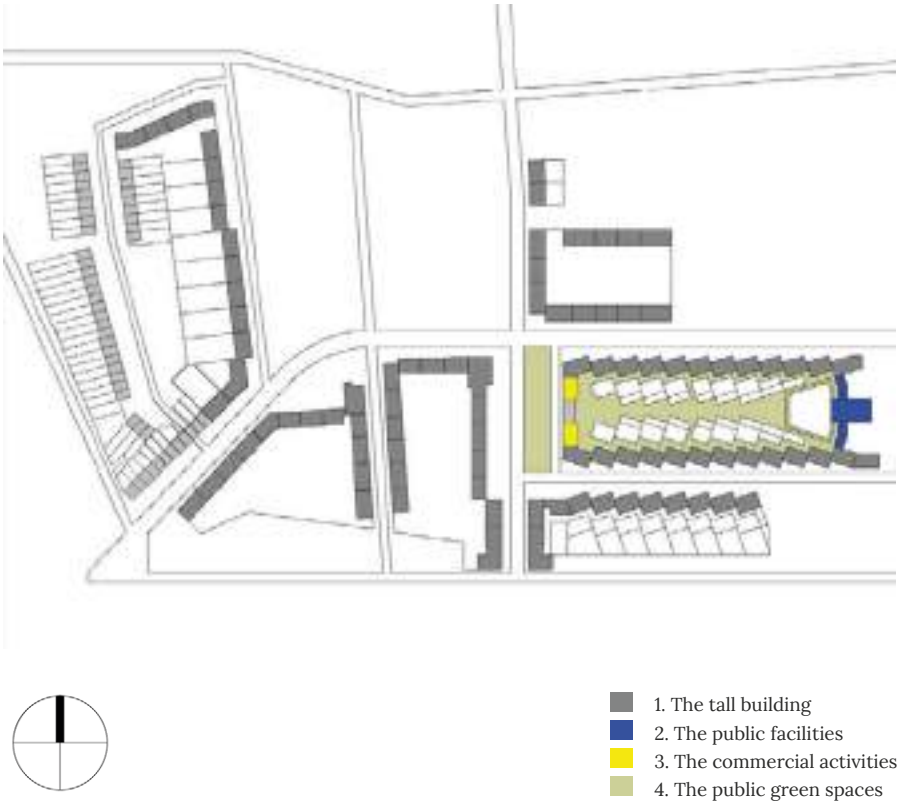
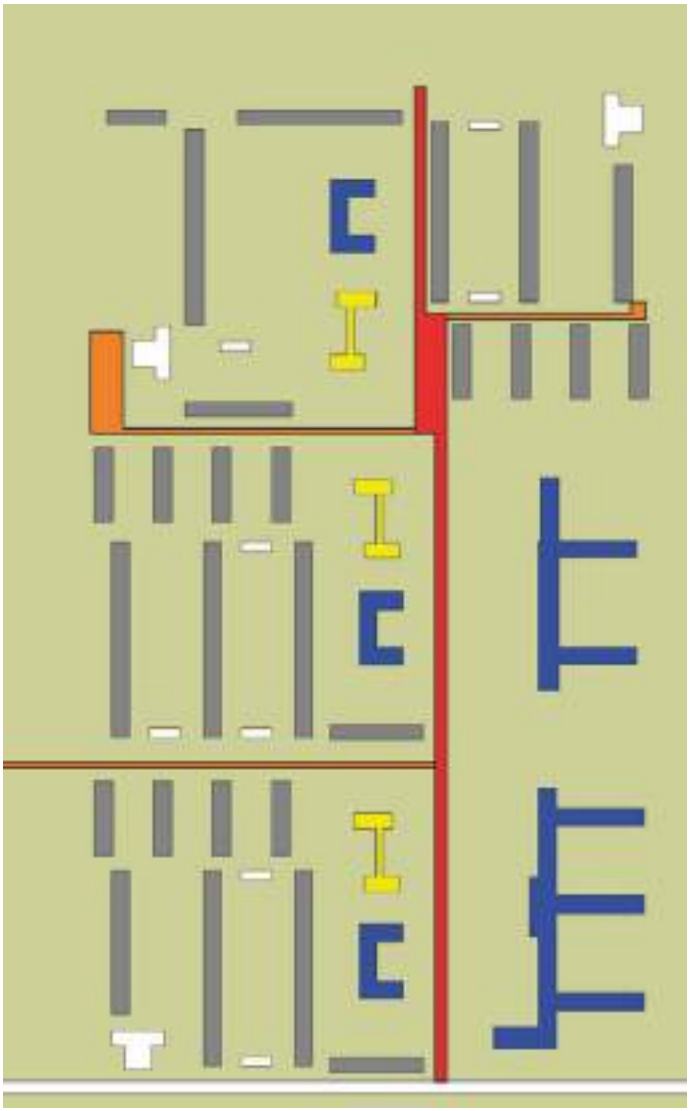


Fig. 89 • Redrawing of the Siedlung Bruckfeldstraße, identification of the components, 1926 project.



Fig. 90 • Photo of the construction of Magnitogorsk, 1930.

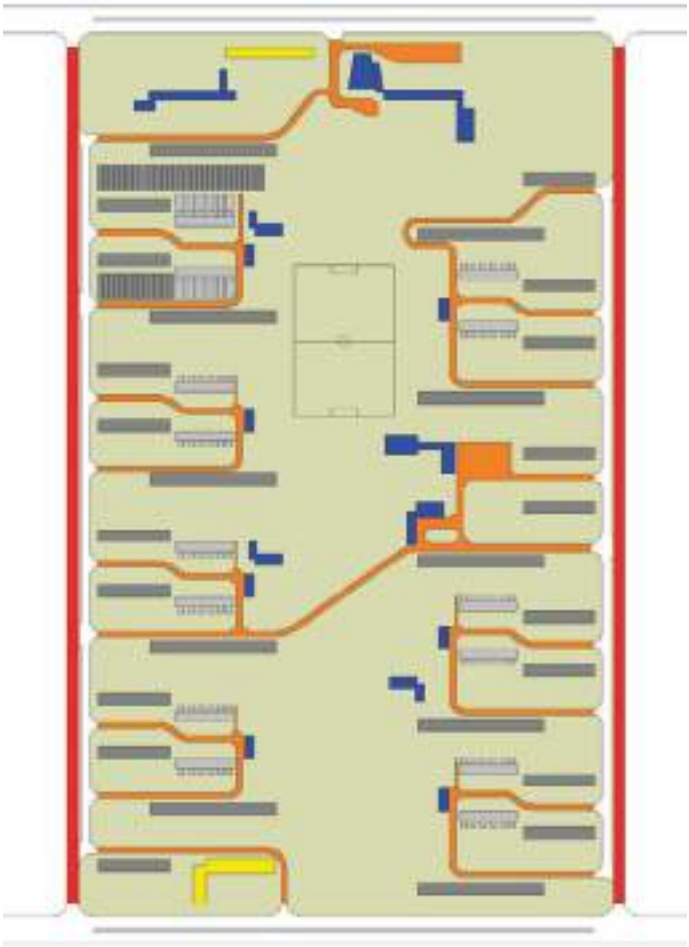


1. The main road
2. The residential street
3. The tall building
4. The public facilities
5. The commercial activities
6. The low building
7. The public green spaces

Fig. 91 • Redrawing of the Magnitogorsk territorial unit, identification of the components, 1932 project.



Fig. 92 • Views from the green area towards the elementary school and the different residential typologies of the Port Tudor satellite, 1952 project.

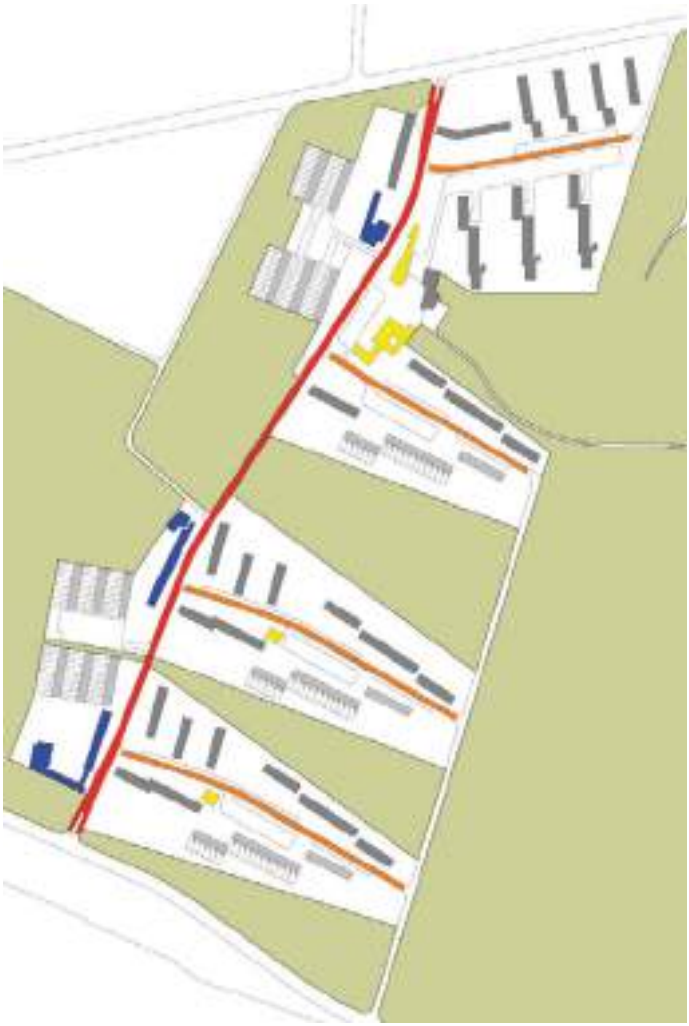


1. The main road
2. The residential street
3. The tall building
4. The public facilities
5. The commercial activities
6. The low building
7. The public green spaces

Fig. 93 • Redrawing of the Siedlung Port Tudor, identification of the components, 1953 project.



Fig. 94 • Aerial photo Siedlung Parkfeld, Wiesbaden 1965.



1. The main road
2. The residential street
3. The tall building
4. The public facilities
5. The commercial activities
6. The low building
7. The public green spaces

Fig. 95 • Redrawing of the Siedlung Parkfeld, identification of the components, 1959 project.

Three pivotal case studies: J.J.P. Oud, W. Gropius, B. Taut

European declinations

This chapter continues the work that started in the previous chapter, which analysed the similarities between *Siedlung* Römerstadt, a significant urban housing project, and other projects chosen from May's job. Now, we are trying to understand if and how this structure, dominated by *Anger*, can be found in other contemporary architects and their projects, thereby tracing the influence of the *Siedlung* Römerstadt on European urban development in the 1920s and 1930s.

The research methodology mirroring used for Römerstadt is a testament to our commitment to thoroughness. It commences with the meticulous redrawing of the *Siedlung*. It then delves into historical documents, tables, plans, and photos, dissecting its primary components – the true protagonists of history. This process culminates in the identification of the formal structure.

The cases examined here represent a cross-section of *Siedlungen*'s European projects between the 1920s and 1930s, linked to the German world and other European experiences like the Dutch one.

One selection criterion adopted concerns the possibility of recognising their primary elements, constituting the composition and making it traceable to a clear and intelligible system. Based on this premise, three cases are analysed:

Jacobus J. Pieter Oud, *Siedlung* Kiefhoek 1925-1927, Rotterdam.
Walter Gropius, Hufeisen *Siedlung* 1925-1930, Berlin.
Bruno Taut, *Siedlung* Törten 1926-1928, Dessau.

Another discriminating element in the choice of examples is linked to the contacts between Ernst May and the architects involved in the research: Oud, a Dutch architect, studied at the Technical University of Munich together with the architect from Frankfurt; Gropius, a German architect, and Taut, a German architect and urban planner, worked together with May under the direction of Martin Wagner in the group of work and study for the design of affordable housing to be mass produced.

After the trips to Holland, the visits to the *Siedlungen*, and the publication of the project in the first issue of *Das Neue Frankfurt* from Kiefhoek, Oud's close collaborator, Mart Stam, was invited to design the Hellerhof settlement.
In 1929, Walter Gropius was entrusted with building the *Siedlung* Lindenbaum in Frankfurt, and his name appears several times at the bottom of published articles. It also remains alive in its relationship with Taut, as evidenced by the fact that May wrote the introduction to his book *Die neue Wohnung. Die Frau als Schopferin*.

Rotterdam: Kiefhoek Siedlung
Oud's contact with design assignments on a public scale began with his activity at the municipality of Rotterdam.
The controversy over the theoretical assumptions of the 'De Stijl' artists, a Dutch artistic movement that advocated for pure abstraction and universality by a reduction to the essentials of form and colour, in particular with Van Doesburg, on the conception of architecture, which compromises artistic purity for its constitutive link with the social, for its social utility, leads to a highly Loosian affirmation: "The monument can only be an exception" (Polano, 1977, pp. 42-50). This controversy and its impact on architectural design principles are significant in this research as it influenced the work of architects like Oud, Gropius, and Taut.
The first interventions in Rotterdam must be read from this perspective: *Siedlung* for the community, under the prophetic slogan "light, air and colour," a concept that emphasises the importance of natural light, ventilation, and vibrant aesthetics in urban housing design, forerunner of the "light, air and sun" of Frankfurt, a similar concept that focuses on the use of natural light, ventilation, and solar energy in urban housing design.
In the Netherlands, the tradition of the urban block was being experimented with, offering the most complete example of its rationalisation (Panerai *et al.*, 2004, p. 151). This is achieved by implementing a clearly defined and legible hierarchy of streets through the unitary composition of the façades, the richness of the corner solutions, and the arrangement of the internal spaces. The relationship between architecture and the city is, therefore, fundamental. By critically analysing the existing urban morphological structure, one evaluates the capacity of its people's typical elements to respond, with renewed shapes, to the need for modern spaces (Gazzola, 1990, p. 97) (fig. 96).

Siedlung Kiefhoek
Formal elementarism (Tafuri, 1988, p. 166) denounced in the southern area of Rotterdam from the architecture of Oud becomes an exciting example of the application of the instances of modernity. In 1929, showcased at the II CIAM in Frankfurt a

typology of a row house as an example of *Existenzminimum*, divided into a small duplex (4.10 m wide), and becomes the basic module through which we build this piece of the city (Barbieri, 1896, p. 187). The determination of a renewed urban residential typology, limited in size, is nothing other than an in-depth analysis and improvement of some fundamental types identified in cities' historical experience. The building type is understood here as an element of the town's architectural composition (Grassi, 2008, p. 135).

The components
The reading of *Kiefhoek*, from the point of view of its formal structure,starts first of all with the analysis of the compositional elements (fig. 97). In this case, the following parts were identified:

1. The main road
2. The public facilities
3. The commercial activities
4. The low building
5. The public green spaces

The road, undifferentiated in its path in terms of the dimensions of the primary components, roadway and sidewalks, denotes a change in inflexion in character when it meets the commercial activities located on the south side at the main gate. The laconic sequence of terraced houses creates an ensemble enriched by refined details, such as corner solutions with curved terraces, an apparent reference to specific figures also found in the Neue Frankfurt. In the general plan, you can also read about the common spaces resulting from the layout of the buildings.

The formal structure
Regarding the arrangement of the identified parts, the overall design originates from the awareness of the block Dutch urban, departing from the concept of *Anger*, a German term for a 'central' place, understood not literally but symbolically. The church takes on the characteristics of a point of reference in the homogeneity of the city, a rational and intelligible city. There aren't other tall buildings to amplify the character, and the shops are enigmatically positioned on a crossroads.
An interesting comparison with the *Siedlungen* of Niddatal can be carried out at the level of the almost non-existent *Vorgärten* in Rotterdam, but more generally in Dutch examples, which are widely built and designed like fundamental architecture.

Berlin: Britz Siedlung
Talking about the Berlin *Siedlung* "Britz" means considering this liquidation regarding the situation in which it occurred,that is,

about the Greater Berlin Plan of 1920 and later general to the problem of residence in the German capital.
At the basis of the master plan is the problem of the Großstadt, or the Big City, with a metropolitan character, within which the *Siedlung* idea represents a model that is anything but autonomous or separate. The autonomy, due to its very distinct position among the residential models, becomes an indissoluble bond with the urban context in which it is inserted:

> [...] "All I maintain in this regard is that the *Siedlung* in an urban situation like that of Berlin represents an attempt at mediation, conscious, of two different spatial conceptions of the city, and this does not mean supporting that such a position cannot be valid. On the contrary, we cannot recognise conditions of legitimacy to the theses and experiences that place *Siedlung* in the city as an element separate from the city itself or without worry about the relationships that exist between it and the city" [...] (Rossi, 1974, pp. 11-20).

Aldo Rossi describes *Siedlung*'s value, urban character, city-within-a-city status, and history.
After the first social housing interventions, such as Stadtbaurat of Magdeburg (1921-24), where he applied the "barn style" (Taut, 1977, p.28), Taut works in Berlin, first on the Falkenberg settlement (1913-15), then at Britz (1925-30), ending with Zehlendorf (1926-32), "an undisputed protagonist of architectural events Germans between 1910 and 1930, animator of the European debate, emblematic and controversial" (Dal Co, 1980, pp. 26-36).
Bruno Taut was an architect in close contact with E. May, with whom he shares the experience, already mentioned, of the working group for affordable houses derived from the assembly of prefabricated elements (Jaeggi, 1984, pp. 26-32).

Hufeisen Siedlung
The general plan of the settlement was drawn up in 1926 by Martin Wagner and Bruno Taut (fig. 98), under the promotion and the control of GEHAG (Gemeinnützige Heimstätten-, Spar- und Bau-Aktiengesellschaft) (Hoch-Slodczyk, 1984, pp. 33-46), the company carried out with the participation of the trade unions, at the helm of the which includes Martin Wagner himself (Collotti, 1970, pp. 8-15). This favourable situation, however, was sometimes not enough to overcome the initial distrust:

> "At the same time as us, he was building another company,a *Siedlung* about the size of ours, with another architect, and both facing each other, facing each other, on the edge of a wide street: the other with sentimental romanticism, pointed

gables, overhangs and sloping roofs, very expensive, ours with flat roofs and our maximum simplicity so as not to involve too high costs. The city council [...] had fallen so in love with the romanticism of those buildings that it ordered our roofs to be modified" (Taut, 1977, pp. 26-34).

Taut recalls the difficulties initially encountered in convincing the authorities and the clients of the new language of architecture and the fundamental principles for realising the GroßSiedlungen according to standard and standardised types.
The flat roof appears to be a disruptive element in terms of construction costs and practicality relative to the construction of linear buildings. However, this roof required harmonious shaping of all other aspects of the building.

The components
The drawing of the plan relating to the second proposal of 1925-26 for the Britz allows us to rediscover the elements that constitute the settlement (fig. 99):

1. The main road
2. The residential street
3. The tall building
4. The public facilities
5. The commercial activities
6. The low building
7. The public green spaces

The number and type of components that intervene in Berlin essentially do not change compared to the *Siedlungen* of the Niddatal project. The definition of the central road/axis concerns the will to set up the work of assembling the pieces according to a particular spine.

The formal structure
Surrounded by a green ring, the settlement extends in the direction north-south from Parchimer Allee to Stavenhagener Straße, enclosing the collective central space, which adapts to existing orographic conditions: a characterised natural basin by the presence of a body of water. This connects, in an axial sequence, with another space built from continuous fronts, derived from the assembly of row houses with the characteristic rhombus shape (*Hüsung*). The sequence ends on the western side with the collective building that has not been achieved: the school.
The structure of the settlement is based on the identification of this supporting axis of symmetry, along which, therefore, the pieces of the city are inserted in sequence: the services at the

ends, the collective building, the high house, and the central square. The green square becomes the founding element, the generating place of the settlement, reiterated in different shapes and characters according to a compositional method that closely resembles the layout of the first English garden cities.
This attitude is found, as seen previously in Ernst May, in the first projects of the 1920s in Silesia, which mix Anglo-Saxon elements with German elements. The most striking case is the one discussed in the first chapter, the project for the Woischwitz satellite: a concatenation of spaces, places, and public buildings along a central axis culminating in collective buildings.
On the residential streets, which branch off from the horseshoe (*Hufeisen*), the housing units are assembled on three levels to which they will be indebted, from the point of view of figurative language and, in detail, the first *Siedlungen* of Niddatal. In Höhenblick and Praunheim, May prefers *Satteldach* (pitched roof). The pure and straightforward *Flachdach* (flat roof) is an icon of Modernity. As for the tall house, this, in addition to building space around the body of water and having a solid enclosure value for the settlement, becomes significant in two examples, among other things published on the pages of *Das Neue Frankfurt*. It deals with the building on Fritz Reuter Allee with the so-called "red front" by Bruno Taut and on Stavenhanger Straße and Parchimer Allee with the white façades of Martin Wagner.

Dessau: Törten Siedlung
After moving to Dessau (1925), the Gropius studio elaborates plans for the rigidly rationalised production of residential houses. In 1909, the same architect addressed the theme of the low-cost and mass-assembled house through standardised elements for the first time at Peter's studio Behrens, following the typified housing program of mass to be proposed to Emil Rathenau, president of the AEG of Berlin (De Benedetti, 1988, p. 267). However, Gropius demonstrates double inexperience in constructing Dessau Törten, either on a compositional or technical level. His inexperience is repaid with ferocity criticism of his work and severe errors in execution.
Compared to Bruno Taut, Gropius shows a profound position on the housing problem, the cultural controversies of the time, and experimental work conducted inside the Bauhaus. It is a fundamental need for connection with industry, in line with the political culture of the Deutscher Werkbund, in perfect antithesis compared to a commitment to positive involvement in urban reality.
Until 1928, Gropius appears alien to that interest in the city,which is fundamental in rationalist *Siedlungen*'s experience. Only the diagrams on the evolution of the block and the population density about the height of the buildings place the fundamental problems of mass residential construction(Schwarting, 2010).

Siedlung Törten
In 1926, a project for an established neighbourhood was presented from 60 single-family homes, which, by the building law issued in 1920, was financed by a public loan.
The municipality chose an area near the village of Törten, a city suburb, for the construction. The homes, equipped with a garden for cultivation, all develop around the cooperative warehouse: to the west, they are arranged in rows that are open radially; to the east, along concentric arches.
Before the start of the work, a plan is also defined for the organisation of the construction site, and a timetable similar to the railway one is established to guarantee the perfect sequence of the different work phases.
The construction elements are produced at one end of the construction site: special machines produce the rapid concrete beams armed with a chain of work carried out along an "axis of manufacturing". This axis conditions the *Siedlung* system,as the direction of the crane tracks determines the layout parallel to the double row of houses.
On the pages of the magazine *Wasmuth Monatshefte*, it appears in 1929, an interesting comparison of the construction of the *Siedlung* Törten and the *Siedlung* Heuberg in Vienna by Adolf Loos. Both work on the succession of load-bearing spine walls to which the beams of the adjacent floors cling (Zechlin, 1929, pp.70-78). The adoption of Taylorism and the rationalisation of production in the construction of large residential neighbourhoods is necessary back to the research developed under the direction of Martin Wagner, who in 1924 brought together Gropius, Taut and May in a work collective to create "type houses" for a future prefabrication.

The components
The elements are also identified for this latest project on which the project is based, starting from its redesign (fig. 101):

1. The main road
2. The residential street
3. The tall building/commercial activities
4. The low building
5. The public green spaces

The components present do not include the collective building, giving the settlement a purely residential character. The tall house for apartments, divided into four levels, presents on the ground floor the only commercial activity: cooperative food. The streets, hierarchically indistinct between main ones and residential, are lined with two-story townhouses with gardens.

The formal structure

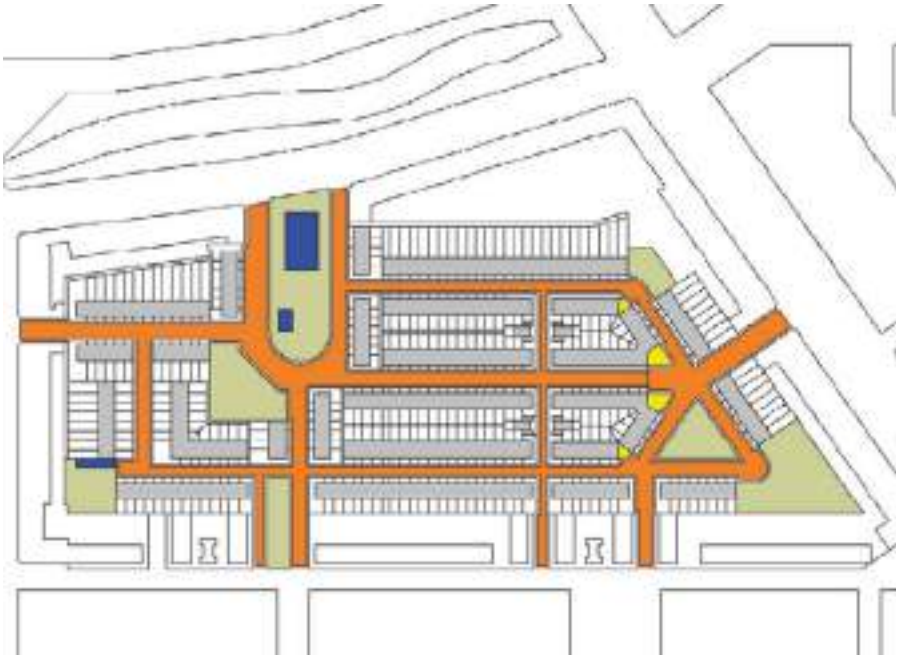
The main road's composition recalls the *Anger*: passing traffic flanked by public greenery with a zigzag trend. Along the course, a triangular square foresees the presence of the consumption co-operative, a café, and a few shops, all gathered in the tall building. However, some differences cannot be associated with May's projects. One concern is the view of the terraced house on the main road, which undermines its character as a public place.

As previously mentioned, the arrangement of the paired rows followed the track of the cranes, which ran along the main streets parallel to the internal pedestrian streets. In the general drawing, three concentric vehicular roads are identified, directly connected to the Dessau-Leipzig state road.

The prefabricated procedure, the partial study of characters typologies of the accommodation and the volumetric articulation are in line with the research carried out at the Bauhaus, which makes elements their own functional and technical pretext for the architectural language,strongly characterised by the mechanical nature of the work.



Fig. 96 • Aerial photo of the Siedlung Kiefhoek, Rotterdam 1929.



1. The residential street
2. The public facilities
3. The commercial activities
4. The low building
5. The public green spaces

Fig. 97 • Redrawing of the Siedlung Kiefhoek, identification of the components, 1925 project.



Fig. 98 • Aerial photo
Siedlung Britz, 1929.



1. The main road
2. The residential street
3. The tall building
4. The public facilities
5. The commercial activities
6. The low building
7. The public green spaces

Fig. 99 • Redrawing of the Siedlung Britz, identification of the components, 1925-26 project.



Fig. 100 • Historical map of Frankfurt am Main 1860-1880.





1. The main road
2. The residential street
3. The tall building/commercial activities
4. The low building
5. The public green spaces

Fig. 101 • Redrawing of the Siedlung Bruckfeldstraße, identification of the components, 1926 project.





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Fig. 21: Master plan Siedlung Kreuzburg, 1922. MAY ERNST, *Bericht über die Tätigkeit der Bauabteilung der Schlesischen Heimstätte im Jahre 1921*, in *Schlesisches Heim*, n° 1, 1922, p. 14.

Fig. 22: "Vision for the Future". Opera Square, Frankfurt, 1925. www.aufbau-ffm.de

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Fig. 24: Photo "House for an average family" by E. May, Wroclaw 1924. MAY ERNST, *Schlesisches Heim*, Breslau, n°8, Auguts 1924, p. 282.

Fig. 25: West elevation house of E. May, Wroclaw 1925. HARTMUT FRANK, *Heimatschutz und typologisches Entwerfen. Modernisierung und Tradition beim Wiederaufbau von Ostpreußen 1915-1927*, in *Moderne Architektur in Deutschland 1900 bis 1950. Expressionismus und Neue Sachlichkeit*, di Vittorio Magnago Lampugnani und Romana Schneider, Stuttgart, 1994, pp. 119.

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Fig. 31: Map of May's Siedlungen, Frankfurt, 1930. AB-Gesellschaft, *Die Wohnung für Sie!*, Frankfurt am Main, 1930.

Fig. 32: Master plan of the Niddatal project, Frankfurt 1930. MAY ERNST, *Fünf Jhare Wohnungsbautätigkeit*, in *Das Neue Frankfurt. Montaschrift für die Fragen der Großstadt-gestaltung*, Frankfurt am Main, n° 2-3, 1930, p. 31.

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Fig. 97: Redrawing of the SiedlungKiefhoek, identification of the components, 1925 project. Michieletto Manlio.

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Fig. 99: Redrawing of the SiedlungBritz, identification of the components, 1925-26 project.Michieletto Manlio.

Fig. 100: Historical map of Frankfurt am Main 1860-1880. ZECHLIN HANS JOSEF, *Siedlungen von Adolf Loos und Leopold Fischer*, in *Wasmuth Monatshefte*, n° 2, 1929, pp. 70-78.

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Radio interview with Ernst May

Berlin 1966

Herr Professor May, wer sich vor 40 Jahren über deutsche Stättebauen Städtebau hätte informieren wollen, der wäre wahrscheinlich nach Berlin gefahren, hätte sich vielleicht die Dammersdamals Stocksiedlung in Karlsruhe von Gropius angeschaut, aber mit Sicherheit wäre er nach Frankfurt am Maein gegangen und hätte sich in Stadtbauamt mit Herren Prof. M. in Verbindung gesetzt, wie stellt sich das heute für Sie dar, was war das Revolutionäre uand dieser Tätigkeit von 1925 bis 1930 und welche Konsequenzen, würden Sie sagen, ergeben sich daraus für den Staadtbau von 1966?

Ja an die Siedlung Römerstadt, das bedeutendste Projekt der so genannten „Niddatal-Projektes" insgesamt, die ich damals gebaut habe, zeichnet sich dadurch aus, dass die Einzel Baukörper kubisch gehalten sind, und eine moderne Form einnehmen, und dass die ganze Masse der Bauten als Einheiten geplant worden ist, von einer Gesellschaft hingestellt und auch in Einguss einem Guss gebaut mit Gärten, und so weiter, dass verschiedene Farben angewendet worden sind, verschiedene Höhen, dass man auch auf die die Form der Stadt Wert gelegt hat, wie ich überhaupt betonen möchte, dass die Siedlung Römerstadt zwar die funktionellen Eigenschaften einer modernen Siedlung besitzt, aber durchaus auch auf die Form Rücksicht nimmt, möchte ich erinnern, Sie ist in einem HangGelände gebaut und hat durch Staffelung, durch Orientierung mit Einzelfaktoren, hat sie eben eine klare Gliederung erhalten, die eben die Formen des Ganzen bestimmt, das man die Sache leicht übersehen kann, und also weißso weit ich weiß, es gibt keine zweite Römerstadt, die Römerstadt ist eine Römerstadt, und das, glaube ich, unterscheidet sie von vielen Siedlungen, die später entwickelt worden sind, die die Form für sich völlig negieren und nur noch durch Kontraste, und so weiter versuchen, einigermaßen ein Leben in die Stadt zu bringen.

Wobei gerade durch diese Betonung der Form noch eine Absetzung der Siedlung gegenüber der Landschaft möglich ist im Gegensatz zu unserem heutigen.

Ja ja, ja wohl, die Eingliederung der Siedlung in die Landschaft ist eine erste Belegung Bedingung gewesen damals bei dem beim Bauen der Römerstadt und die ganze Niddatal- Siedlungen sind aufgebaut mit einer engen Verbindung zwischen Landschaft und Architektur.

Professor May, your profound and extensive contributions over four decades to the evolution of German urban planning, particularly your pioneering efforts in Berlin, your insightful analysis of Gropius' Siedlung Dammerstock in Karlsruhe, and your transformative partnership with Prof. H. Meyer in Frankfurt, are truly remarkable. Could you elaborate on the specific paradigm shifts in urban planning between 1925 and 1930, such as the transition from conventional urban design to functionalism and their lasting impact on urban planning up to 1966?

Yes, the Siedlung Roemerstadt, or the renowned project known as "Niddatal", which I was designing at the time, presents innovative cubic and designed buildings in a modern form and the entire mass of buildings. It was conceived as a unified entity to foster a new society, incorporating parks, gardens, and other amenities. This is why we employed different colours and heights to create the shape and value of a single city. Above all, I would like to underscore this aspect because the Siedlung Römerstadt embodies the functional characteristics of a modern Siedlung, such as efficient space utilization and integration of amenities, while maintaining a strong urban form. The Siedlung is constructed on and across slope terraces. The orientation of each sector achieves a precise and clear composition, which defines the shape of the whole, making it easily comprehensible at a glance. As you are aware, there is no other Römerstadt. Römerstadt is a Römer-Stadt, and this, I believe, sets it apart from many Siedlungen, which were subsequently designed to reject the unified form and instead, through contrasts and other methods, attempt to bring life to the city in a certain way.

Given Siedlung's design's emphasis on form, how could it maintain a meaningful relationship with the landscape, especially in contrast to contemporary planning practices?

Indeed, the meticulous integration of the Siedlung into the landscape was a fundamental principle guiding the construction of Römerstadt and all Siedlungen in Niddatal. These settlements were designed carefully to maintain a harmonious relationship between the natural environment and the architectural structures. However, this was not without its challenges. Could you elaborate on some of your challenges and how you overcame them, Professor May? This would testify to our deep commitment to environmental sensitivity in urban planning, and the complexities we face in balancing human needs with the preservation of our natural surroundings.

Transcription and translation by Manlio Michieletto



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Anteferma Open Book

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