Types of housing estate – German nomenclature and systematics on the example of Wałbrzych agglomeration settlements

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Abstract
The term housing estate (Wohnsiedlung, osiedle mieszkaniowe) appeared in the press and professional literature at the beginning of 20th century. Analysis of the German terms, initially of a cultural and geographical nature, used then in the emerging professional architecture-related language, reveals what factors were considered to be the most important in deciding on the characteristic traits of the housing development. In most cases, the nomenclature and typology were based on experience from Berlin and the largest German cities. The local specificity based on research into the characteristics of an ‘experimental’ region (i.e. the developing Wałbrzych (Waldenburg) agglomeration) may highlight not only issues related to the perception of the terms of housing estate types but also their design solutions, and in some cases, also the origins of new architectural concepts.

Keywords: architecture of 19th, architecture of 20th, town planing of 19th, town planing of 20th, housing estates, Wałbrzych
1. Introduction

Industrial development typically involved the expansion of cities. Workers coming to the emerging industrial districts boosted the demand for small cheap apartments. Economic mechanisms triggered speculation on the housing market. For example, in England, row buildings were built by speculators called jerry builders. Over time, the problem of housing for workers became a social problem for the state. The solution was the emergence of new housing complexes, which were soon to become known as housing estates.

The term **housing estate** (*Wohnsiedlung*) appeared in the press and professional literature at the turn of the 20th century. It was applied to housing single or multi-family developments. Its distinguishing feature is the fact that it was most often intended for residents of similar property status, or even for some specific professional group. Similar needs and financial possibilities resulted in a certain unification and typification of buildings, which was not a design intention but an effect of construction methods and techniques. Analysis of the German terms used then in the emerging professional architecture-related language, initially of a cultural and geographical nature, reveals what factors were considered to be the most important in deciding the characteristic traits of the development. These terms have appeared since then in general and thematic encyclopaedias and dictionaries. In most cases, the nomenclature and typology were based on experience from Berlin and the largest German cities, the places where certain types of architectural and urban solutions were born. The local specificity based on research into the characteristics of an ‘experimental’ region, i.e. the developing Wałbrzych (Waldenburg) agglomeration may highlight not only issues related to the reception of the terms of housing estate types but also their design solutions, and in some cases, also the origins of new architectural concepts.

In the previous study on the Wałbrzych housing estates (Ludwig, 2010: 560–578), the author drew attention to this problem. This article is intended to be an attempt to juxtapose the nomenclature of the housing estates’ systematics appearing in the original projects of housing complexes from the Wałbrzych area and their presentations in the local literature with that which is generally used in German studies and common use (Siedlung, 1934; Siedlung, 1932; Siedlung (Städtebau), 2018).

Initially, the residential buildings built on the territory of the Prussian state, and then those built on the German state were defined in terms of ownership structures and mechanisms of its creation as patronage estates, communal, spontaneous and speculative developments and referred to as **Colonie**, **Siedlung**. In the next stage, attention was drawn to functional differences of the estates and their role in the scope and the emerging city structure. Housing estates were divided into intra-urban, suburban and rural developments. Even before the first war, **residential districts and villa estates** (*Ortsteil*, **Stadtteil**, **Villenkolonie**, **Villensiedlung**) were distinguished (Villenkolonie, 2020).

In the interwar period, the main focus was on building **suburban settlements** – **Vorstadttische Kleinsiedlung** (Brunnert-Bestian, 1985). **Settlements for farm workers and peasant workers** were also established – **Landarbeiterbebauung**, **Wirtschaftssiedlung**. It was only in the 1920s that designers began to introduce a nomenclature and systematics that were based primarily on formal criteria. The terms of **row housing estate** – **Reihenhaussiedlung** (Guttler, 2002; Stark, 1996; Reihenbau, 1932) and **flat (low and middle) development** – **Flachbausiedlung** (Flachbau, 1930) appeared, as opposed to **high-rise housing estate** – **Hochhausbebauung**, **single-family housing estate** – **Kleinsiedlung** (Brunnert-Bestian, 1985), **Eigenheimsiedlung**, **suburban housing estate** – **Stadtrandsiedlung** (Ahrends, 1932).
2. Spontaneous and speculative development — patronage estates

The term housing estate derives from the original term of an estate (Siedlung) analogous to the settlement, i.e. a place where residents were settled in new areas. In this sense, this term, related to agricultural settlements e.g. Frederician settlements Klein Masselwitz and Groß Masselwitz\(^1\) (Adamska, Eysymontt, 2017: 34), was used in German until the end of World War II (Siedlung, 1934). The estates designed for skilled workers from distant areas were of a special character. From the Middle Ages, qualified manufacturers were brought in to the Sub-Sudeten region to develop the spinning and weaving industry. Independent weavers’ settlements began to form in many towns or within their vicinity. The owners of the properties established new colonies and settlements themselves and, after the edict of 1742, the government also did. Neu Salzbrunn was founded in 1609, Neu Konradthal in 1709, an estate in Ober Waldenburg before 1723 and in Weiss Stein in 1748–1750\(^2\) (Richter, 1926: 42, 90, 99, 100). In the second half of the 18th century and the first half of the 19th century, settlements near greater manufactories and mechanized plants began to be built, e.g. in Zillerthald and Hohen Zillerthal\(^3\) in the years 1838–1840; a settlement of Tyrolean weavers (Donat, 1887: 27 et seq.). At that time, mining settlements started to be established in the vicinity of the mines, in the area of Wałbrzych, Boguszów and Nowa Ruda, e.g. Colonie Neukrausendorf\(^4\), around 1765, Heinrichs- and Bärenground, colonies in the 1880s founded by the Czettritz family (Kleinwächter, 1937: 11; Ludwig, 2010: 41–46).

Housing complexes – Arbeitersiedlung Fabrikkolonie, which were built near industrial facilities, may have belonged to the owner of the plant, may have been created as a result of savings and construction funds or may have been built by speculative construction companies. They were either designed for all workers of the industrial plants or for a selected group of the higher staff. The housing development that was spontaneously built at that time had a street-based form. It was created along roads leading to mines and industrial facilities or streets running along mines and factory sites, usually already existing and connected with older traffic systems, the course of which was determined by topographic conditions. Another type of urban planning from the turn 20th century are the complexes set up along the streets perpendicular to the main communication route, forming a kind of quarterly development, connected with the older spatial layout of the village.

The planned complexes were associated with patronage activities. Initially, these were urban layouts designed on the basis of the simplest barracks scheme, in the most reduced form, limited to the regular multi-family street-based developments. This is how the first patronage mining estates were shaped (Zechenkolonie, Siedlung Eisenheim in Oberhausen, 1846, Siedlung Stahlhausen in Bochum, 1858 and Westend in Essen, 1861), the urban solution proved to be convenient and was applied in slightly changed forms for three decades (estates from the 1870s in Neu-Westend Nordhof and Baumhof in Essen). Later projects, created after the Franco-Prussian War and the creation of the German Empire, were enriched with central squares, parks, playgrounds and market places (as in the case of the settlements in Essen from the 1870s to 1890s: Arbeiterkolonie Schederhof, Kronenberg, Alfredshof, Altenhof) (Kastorff-Viehmann, 1981: 103–123; Stemmrich, 1981).

Urban complexes called West and Öst Ends were a special kind of urban development. These terms were derived from London districts, which were a model for the similarly named settlements of Essen and Berlin (1860s). They also had functional and formal overtones. The first term was synonymous with

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1. Now: Maślice Male and Maśliece Wielkie settlements near Wrocław.
the elegance and high culture of the district and its greenery. The second was rather pejorative as it was applied to the eastern poorest districts of London and then partly also to Germany (Westend, 1935).

In the area of Wałbrzych, mining housing estates were built as a continuation of the developments in a given location. They were not described with a separate term and were treated as a part of localities – of Altwasser, Weissstein, Dittersbach. At first, they were simply defined as houses – Vierhäuser, Zehnhäuser (Richter, 1926: 128; Kleinwächter, 1937: 49; Arbeiter-Fürsorge, 1904; Ludwig, 2010: 76–83, 124–130).

They had no specifically planned layout. Then, in contrast to the most often equally spontaneous urban developments, the towns were given the name inherited from the settlement, i.e. the place where the residents were settled – settled in new areas (Siedlung, similar to settlement). Until the end of the nineteenth century, and even in the early twentieth century, there was also the term colony (Kolonie, Colonie). The name is given to both hamlet settlements and complexes of farm buildings; their distinguishing feature is their relationship with one founder or one place of employment. Such building complexes connected directly to the plant can also be referred to as Anlage (Bahnschacht Anlage) in very broad terms.

Patronage estates were built on a regular basis as they were in other parts of Germany. They were constructed from the 1860s as courtyard houses, along streets or as terraced houses e.g. a complex of buildings – Arbeitshäuser at the Segen Gottes mine in Stary Zdrój (WAP IV/258, 1912), and the largest of them were arranged as barrack developments with squares with greenery like Kolonie Bahnschacht (M.G., after 1889; M.G., 1900; Rooge, 1925: 92, Ludwig, 2010: 139–145).

Also, cooperatives owned by mines and municipalities established similar housing complexes (e.g. Kolonie Neu Weissstein) (WAPVIII/384; APWK, AgBK, 29; Waldenburger Wochenblatt, 1905, 22.03: 24, 8.02: 3). The terms of western and eastern districts were also used in the Wałbrzych area. The eastern district – Colonie Öst End was and remains the poorest part of Sobięcin. The complex of buildings West End (WAP VIII/385; APWK, Akta m. Wałbrzych, 1967: 556;
Ludwig, 2010: 150–165) was erected as buildings owned by the cooperative of miners; they did not have the character of villas and resembled the districts of London or Berlin only due to the presence of greenery and the vicinity of a forest.

3. Residential areas and villa districts (Ortsteil, Villenkolonie) in the planned city development

The state tried to regulate chaotic territorial development and changes in urban structures by means of appropriate laws. The Genossenschaftsgesetzes – law of 1868 was the first to be passed, laying down the rules for the establishment of housing cooperatives (Baugenossenschaften). In that same year, the first cooperative of its kind had already been created in the country, in Silesian Wrocław: Bau-Spargenossenschaft zu Breslau (Schlesische Zeitung, 1868; Grzegorczyk, 2012: 36). Another example is the first national construction law, Fluchtliniengesetz (Law on Regulatory Plans) of 1875 (Preußisches Fluchtliniengesetz, Straßen- und Baufluchtengesetz, 1875). Then, the law on the protection of the landscape of villages and picturesque surroundings was adopted. It imposed the obligation to design buildings in accordance with the requirements of the local ordinances (Ortsstatut) (Gesetz gegen die Verunstaltung von Ortschaften, 1907; Weißler, 1907: 575–577; Speitkamp, 1996: 287 et seq.).

At the beginning of the 20th century, the creation of new residential districts for the most intensively developing centres began. From the beginning, two directions appeared: the creation of a quarterly district (Ortsteil, Stadtteil) and the creation of a villa estate (Villenkolonie). The first of these originated from the concept of neo-Baroque urban planning, the main theorist of which was Joseph H. Stübben. Over time, it was enriched with ideas stemming from Art Nouveau. All large cities were enriched by such housing complexes. In addition to the quarter development, they were enriched with alleys and squares (e.g. Kölner Neustadt, 1888, J.H. Stübben). The second direction is the
designing of the villa estate in the spirit of Art Nouveau. It was also inspired by English concepts of a “garden estate” and E. Howard’s *Tomorrow* published in 1898 (Howard, 1898) with its practical equivalent, R. Unwin’s textbook (Unwin, 1909). The suburbs and independent garden-city layouts (Castex, Depaule, Panerai, 1977: 45 et seq.) from 1904–1925 were designed as functionally and spatially separated planned housing complexes. In Germany, attempts were made to create garden--cities (Hellerau, 1906). However, above all it resulted in the special designing of garden districts with villas and detached, single and multi-family housing complexes in greenery. They formed street layouts along gently winding lanes around green centres with architecture in line with the ideas of the Landhaus. The distinguished villa colonies usually had a uniform, carefully designed form (Mariethal in Hamburg, Villenkolonie Lichterfelde in Berlin).

These concepts were also repeated in Lower Silesia, where suburban *garden estates* (*Garten Siedlung*) were planned. The design principles were partly introduced by the development of cities with villa districts (the extension of the housing estate in Wrocław – Kleinburg8 from 1872–1900) (Tomaszewicz, 2019: 65–87). In the second decade, the investments directly referred to and

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**Fig. 5.** New Town in Wałbrzych: Neustadt. View. MWH 2579, Waldenburger Bergland, Blick auf Waldenburg-Neustadt (postcard, ca. 1920)

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**Fig. 6.** The plan of the New Town in Wałbrzych in the 1920s. Fragment of a plan without scale: M.G. (Muzeum Górnicze w Wałbrzychu currently „Stara Kopalnia”), Übersichts­riss Blatteinteilung für das Grubenbild der Steinkohlenfelder, 1:12 500, ca. 1925
evoked the idea of Howard in the following terms: Gartenstadt Bischofswalde, designed in 1908–1911 by Conrad Helbig and Gartenstadt Carlowitz from 1911, according to Paul Schmitthenner’s concept in Wrocław (Kononowicz, 2017: 19), and Gartenstadt Neisse near Nysa (Neisse, 1922: 37) and Gartenvorstadt Liegnitz in Legnica, built from 1911 by the municipal company Gemeinnützige Baugenossenschaft Gartenstadt Liegnitz (Störtkuhl, 2007: 12, 60).

The New Town – Neu Stadt in Wałbrzych, 1904 (Ludwig, 2009, Ludwig, 2010: 208–227), originally called Neuer-stadtteil (M.G., 1906), is a typical quarter district, in the layout of which, probably for the first time, Stübben included some Art Nouveau ideas.

In the Wałbrzych agglomeration, villa districts were also planned. The development of Szczawno was also designed in the form of two housing estates of this type in 1907 and 1915 (APW 1/13104: 239; Ludwig, 2010: 228). The areas in the vicinity of the spa town were attractive and a large part of the plans were realized in the form of private villas and multi-family buildings in the form of Landhaus for sale or rent. A similar district planned in Neuehäuser Viertel in 1912 was not developed (WAP, AgWG, 394: 24 and 389–393).

4. Housing estates of early modernism

As early as the late 19th and early 20th century, the first officially planned housing estates began to be built on the basis of statutory provisions and in accordance with commissioned architectural designs, thanks to the state financial support offered through banks and collaboration with cooperatives. Since then, the term Wohnsiedlung has become widely used.

A modernist solution for a large residential unit can be found in the use of stripe housing arrangements, initially with extended quarters, then a series of free-standing blocks divided by green areas with facilities in which services were rendered. There were also plans like Neoclassicism developments with roundabouts or, more often, urban crescents. Such projects for terraced housing estates (Reihenhäuser Siedlung) were initially single-family estates, then they were inspired in Germany by the English heritage admired by Muthesius (Muthesius, 1904: 60 et seq.) to intensify multi-family housing development. The idea was received with enthusiasm during the expansion of the Ruhr district, e.g. in Margerethenhohe garden estate form 1910 of Georg Metzendorf and in the form of multi-family buildings, designed after the Great Berlin contests Tempelhofer Feld project from 1910 by Herman Jansen, Schöneberg from 1911 by Bruno Möhringg, Treptow from 1914, Reinickendorf from 1919 and Charlottenburg from 1919 by H. Jansen (Kastorff-Viehmann, 1981: 103–140; Klaus, 1977; Stemmerich, 1981; Buschmann, Biecker 1985; Piccinato, 1974: Fig. 10).

In the Wałbrzych region, such settlements started to be established on the initiative of the local administration only in 1919 after the First World War. The Hartebsuch Siedlung, designed in its original version by Jansen himself, is an example of a consistently applied stripe development in urban planning enriched with additional composition elements (APWK, ASMG, [21]: 6; Wiszner, Rogge, 1928: 9; Rogge, 1925: 91; Rogge, 1930: Fig. 3; Effenberger, 1926, H. II: 10). The second estate from that period on the slope of Gleisberg in Wałbrzych planned in 1921, had a crescent layout (Ludwig, 2010: 265).
5. Housing estates after World War I – small suburban and out-of-town settlements (*Kleinsiedlung*)

After the First World War, when power in Germany passed into the hands of social democrats, the government’s program included improving the living conditions of workers and low-level officials. In addition to efforts to improve working conditions, the program for housing construction became an equally important element of the government’s social policy. In view of the alarming housing situation, a program for the development of a wider range of construction activities was launched. It was clear that only the launch of a loan system with government support could produce significant results.

Immediately after the war, the authorities developed a concept of developing housing by means of building small housing estates (*Kleinsiedlung*), with home gardens, propagated in Germany by Hermann Muthesius, which was consistent with the ideas already developed in Silesia (*Siedlung*, 1934; Damschke, 1931; Lemmer, 1931; Wohnungsfürsorgegesellschaften, 1932; Muthesius, 1918). Two types of

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*Fig. 8. Houses on Oczki Street in the housing estate on the slope of the Gedymin Hill; Hartebusch *Siedlung*. Southern facades. MWH 2507 (archival photography from the late 1920s)*

*Fig. 9. Housing estate on the slope of Park Mountain; Gleisberg. Hatched buildings existing in 1935. Fragment of the development plan of parts of Wałbrzych prepared at the municipal office. No scale (source: APW IV/262, 1:5000, Stadtbaumeister Pägel, 1935)*
promoted housing estates were distinguished – the rural type with large gardens (Wirtschaftsheimstätten) and the urban detached-house estates with a small vegetable gardens (Wohnheimstätten). The plans were to be implemented by means of appropriate legal acts which enabled the activation of economic and social mechanisms for the construction of workers’ housing estates. Housing societies and trust funds were established to finance housing investments in cooperation with government banks. As early as 1918, the Landtag introduced a law establishing municipal cooperatives (gemeinnützige Baugesellschaften) under the control of regional centres (Wohnungskursorgegesellschaften) (Tafuri, 1980: 251).

One of the first attempts to develop the typology of urban housing estates was made by Ernst May, who published projects of housing complexes developed within the framework of the activities of two construction companies Schlesisches Landgesellschaft and “Schlesisches Heim” (Schlesische Heimstätte) in the first years after the First World War. The first urban development projects of the “Schlesisches Heim” company (probably as early as 1919), like the Schlesisches Landgesellschaft concerned agricultural or semi-agricultural settlements (Landarbeiteriedlung, Wirtschaftsiedlung). Schlesisches Landgesellschaft designed and built out-of-town residential estates. In a very short period of three years, including two years during the war (1917–1920), 170 housing estates were designed and initiated. Most of these were to be comprised of single-family buildings, mainly semi-detached and terraced buildings, in the form of both complexes of over a dozen buildings and large estates for several thousand inhabitants. The urban and architectural program of the estates was initially run by E. May alone, who also outlined a general vision for them (May, 120c). The two designed types of new housing estates mainly differed in the size of the plot of land, ranging from 300 to 500 m² in suburban housing estates for civil servants and workers (Vorstadttische Kleinsiedlung) (Brunnert-Bestian, 1985), and from 1,500 to 2,500 m² in housing estates for agricultural workers. The urban and architectural concepts were to draw inspiration from the layout and development of Silesian villages. He proposed complexes of scattered, street-based and oval developments, i.e. those concentrated around a square with greenery (Strassensiedlung, Angersiedlung, Streusiedlung), which were dependent upon the possibilities and requirements of the terrain and landscape. The simplest settlements in the composition are rows of several houses set along the road. They were situated on either one or both sides of the street. In most cases, these were agricultural complexes or intended for people who were only partially employed in industry, i.e. quite large houses built on large plots with accompanying farm buildings. Another idea was to create groups of buildings around an inner square (Angersiedlung). This type of housing estate was designed to imitate oval villages with houses surrounding a communal meadow. However, the smallest estates were much more like a farmhouse with buildings surrounding the farmyard. They were the legacy of the Unwin concepts of street enclosures which were also used as built-in nest elements in the structure of larger dispersed (Streusiedlung) or street-based housing estates (Strassensiedlung).

Fig. 10. Project of the housing estate in Dobroszyce; Juliusburg (source: May, Siedlungspläne, „Schlesisches Heim“, Jg. 1, H. 2, 11)
Fig. 11. Centred and enclosed places (source: Unwin, fig. 279)

Fig. 12. Housing estate at the factory in Dzierżoniów; Reichenbach im Eulengebirge (source: Effenberger, H. II, 74)

Fig. 13. Housing estate by military barrack in Prudnik; Neustadt O/S (source: Effenberger, H. II, 73)
Fig. 14. Project of housing estate by military barrack in Prudnik (source: May, *Die Siedlung Neustadt O/S*, Jg. 4, Juli 1923, H. 7, 151)

Fig. 15. Houses arrangement around a green (source: Unwin, fig. 278)

Fig. 16. Housing estate in Ząbkowice Śląskie; Frankenstein. View of the building. Design in 1920 (source: Sonderheft der Schlesischen Landgesellschaft, „Schlesisches Heim“, 1920, no page; May, *Siedlungspläne*, „Schlesisches Heim“, Jg. 1, H. 2, 12)
May gained his first project experience working on the development of the Wałbrzych agglomeration. He worked on his urban planning theories, drawing on the knowledge gained from Raymond Unwin in London and the observations made during the designing and construction works in the area of Wałbrzych. He proposed then for the first time the urban and architectural solutions for suburban estates and extension of street-based settlements, Strassensiedlung in Lassig and Klein Siedlung Ober Salzbrunn – Sandberg (May, 1920b), a winding mountain street Melchior Siedlung and Klein Siedlung Dittersbach also called Neueheuser Siedlung (May, 1920a) and larger dispersed housing estates Streusiedlung Stadtsparksidlung (Rogge, 1925: 93–95). Similar
projects were designed by May’s collaborators and continuators Ernst Piertusky in Siedlung Reussendorf\textsuperscript{15}, Theo Effenberger in a design in a competition for an unrealised housing estate Neue Salzbrunner Siedlung\textsuperscript{16} and local creators of the master Dähmel from Podgórze (projects and extension of housing estates). In the second half of the 1920s, quite large settlements were also made, which could be classified as housing estates around a square Angersiedlung Friedenhof Siedlung\textsuperscript{17} (Ludwig, 2010: 280–300, 357–367).

\textsuperscript{15} Rusinowa.
\textsuperscript{16} In Nowe Szczawno.
\textsuperscript{17} The housing estate at Piast Street in Biały Kamień.
6. Large housing estates of the interwar period

Apart from the form of a small suburban housing estate (Vorstadttische Kleinsiedlung) developed from the end of the war, two types of the interwar settlements were created as defined in the urban planning theory at the end of the nineteen-twenties (Siedlung, 1934; Siedlung 1932): terraced housing estates (Reihenhauser Siedlung) (Guttler, 2002; Stark, 1996; Reihenbau, 1932) and low-rise housing estates (Flachbausiedlung) (Flachbau, 1930). In the terraced housing estate, medium-high buildings were allowed (up to three or four storeys with an attic, Mittelbau). As their name suggests, these were terraced buildings, grouped along the streets. Flat estates had low-rise (up to two floors with an attic, Flachbau) and medium-rise buildings, so they were usually extensive. Their layout combined elements of terraced houses and scattered development of suburban housing estates. In German literature, Siedlung Neu-Jerusalem in Berlin (1923/1924, Erwin Anton Gutkind) is most often cited as the prototype solution for such a settlement. However, priority is given to Wrocław. Shortly after the war, three large housing estates of this type were built on the outskirts of Wrocław: Pöpelwitz project from 1919, designed by Theo Effenberger, Zimpel from 1919 by Hermann Wahlich and Paul Heim and Eichborngarten from 1919 by Paul Heim\textsuperscript{18} (Effenberger, 1926, H. I: 26–42; Zabłocka-Kos, 1998: 135–137;
Siedlung Zimpel, 1920). Also in the Wałbrzych agglomeration is the first large low-rise housing estate, which was designed earlier in 1920 by Ernst Pietrusky in Sobiecin (APWK, AgS, 545; Effenberger, 1926, H. II: 8, 68; Protokoll, 1920: 14; Schlesischer Wettbewerb, 1920: 19).

The end of the nineteen-twenties brought a global economic crisis and a government crisis in Germany. As a result, the housing programs collapsed and the urban planning methods were subjected to revision. The new policy of the parliament – austerity and deflation – which was pursued from 1929, resulted in the cutting of significant state funds allocated for subsidising housing construction (Tafuri, 1980: 280). Among other strategies, in 1927, “Deutsche Bauhütte”, set up on the initiative of M. Wagner and operating in Berlin and later in the province, was reorganised and taken over by the Deutsche Wohnungsfürsorge-Aktiengesellschaft für Beamte, Angestellte und Arbeiter (“DEWOG”), founded in 1924 from syndicated funds (Baugenossenschaften, 1929; Der erste Wohnungsfürsorgetag, 1926: 332; Schneider, 1979: 15). Other local cooperatives followed suit. However, Schlesische Heimstätte survived until 1942 (WAP I/16490-16501, 1931–1942). “DEWOG” had a significant share in residential investments in the Wałbrzych area. However, Deutsche Land- und Baugesellschaft GmbH Berlin (DLB) operating the governmental funds gained the greatest importance. Simultaneously, legislation on housing issues was reformed. In 1925, a draft law on the spatial development of towns and municipalities was drafted and passed in the following year. It obliged competent bodies to work out arrangement plans (Flächennutzungsplan) and development plans (Wirtschaftsplan) (Schneider, 1979: 15–16). In 1928, the new law Wohnheimstättegesetz was drafted, and it was passed in 1930, while the new law on housing areas was accepted in 1933 (“Gesetz über die Erschliessung und Bauschaffung von Bauland”). This made it necessary to revise the development plans (Wirtschaftsplan) for residential areas and to define new forms of development.

The main focus was on the construction of terraced houses with very small flats, or single-family housing estates with very small houses. Functionalism brought rationalisation in planning. It was additionally strengthened by the government’s recommendations for strict adherence to standards of insolation and ventilation of apartments (APW I/16164, Schneider, 1979: 28–30; Tafuri, 1980: 269). The housing business was supervised by the organisation Reichsforschungsgesellschaft für Wirtschaftlichkeit im Bau- und Wohnungswesen, which was set up for that purpose. The residential building had to be oriented in accordance with the compass points, and the individual objects were located at a suitable distance from each other on the basis of their heights. In view of these premises, it was impossible to introduce street enclosures, or create development quarters or urban interiors surrounded with architectural walls.

The housing estate became a system of parallel, well-orientated buildings or series of residential building strips. As Tafuri aptly put it, designing housing estates became the “ideology of the plan” at that time (Tafuri, 1973: 48 et seq.). With time, in literature, due to the composition of the plan, such complexes started to be called linear settlements (Zeilenbausiedlung) (Tafuri, 1973: 301–338; Castex, Depaule, Panerai, 1977: 184 et seq.; Benevolo, 1979: 558). The first solutions appeared just after the war Siedlung Alte Heide in München designed by Theodor Fischer and Siedlung Georgsgarten in Celle form 1925 by Otto Haesler. The first housing estate to implement the all functionalist postulates was a housing estate in Dammerstock which was designed by Groupius and his collaborators in the years 1928–1929. Intensively promoted, it quickly drew particular attention of architects, for example, in the Polish architectural magazine “Dom, osiedle, mieszkanie [House, Housing Estate, Apartment]” it was presented as early as 1929 (Ausstellung, 1929, Dom, osiedle, 1929, z. 9: 21 et seq.). Also in 1928 in Wrocław Fritz Behrend and Heinrich Knipping presented, according to similar principles, a design concept for the Klein Tschansch housing estate (Zablocka-Kos, 1998).
In Wałbrzych, in a very short time of two years and at enormous costs, especially for the levelling of the terrain, a functionalist housing estate Postberg Siedlung, also called Laxenberg Siedlung\(^\text{20}\), of prestigious importance for the city was established (APW I/16370; Die Bergmann-, 1931; Umsiedlung von 260, 1931).

Other arrangements – Hindenburg Siedlung, Konradsthaler Siedlung, Fellhammer Grenze Siedlung that were partially adapted to the local topography were created in Biały Kamięń, Nowe Szczawno and Górný Sobięcin.

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\(^{20}\) Part of New Town in Wałbrzych.
Typical catalogue blocks (Reichhäuser, DLB) were used in these housing estates.

The most modern, almost extravagant, project of Rading with extremely long blocks with narrow passages and flat roofs, was not realised (Siedlung Idahof Bad Salzbrunn, 1930, Adolf Rading) (WAP I/16369: 167, 175, 212, 242).

Fig. 27. Terraced buildings. Typical catalogue blocks (Reichhäuser, DLB) in housing estate by „Mieszko” shaft; Melchior Siedlung, Kulmitzstrasse in archival photographs from the end 1920s (source: Neubauten im..., 4)

Fig. 28. Frontage of Krakowska Street in Sobięcin Górny (Oberhermsdorf) with “house-blocks” (photo by author)

Fig. 29. Housing estate in Sobięcin Górny. Project version from 1931. Situation plan. Reproduction without scale (source: APWK, Akta gminy Sobięcin, 543, Siedlung reichseigener Wohnungen in, Verhandlungen mit der Land-u Baugesellschaft, s. 238, (without description), Nieder Hermsdorf, 29. 4.(19)31)
At the end of the 1920s, inspired by the United States, plans for high-rise housing estates (Hochhausiedlung) also emerged, sparking a dispute over both landscape and functional issues. In Germany and Silesia, this idea failed to win the support of either state or local administration. Five and six-storey buildings were erected in urban districts. In the region of Wałbrzych, there was a strong opposition to multi-storey buildings of over four floors. The provisions of general and local development plans obliged the designers to use low-storey or at most medium-height three-storey buildings.

7. Single-family housing estates in times of great crisis

The idea of single-family house settlements (Eigenheimsiedlung) with gardens and farm facilities that could supplement the diet of the poor began to return at the end of the 1920s due to the effects of the great world crisis. Starting from
1931, the recommended type of housing estate was an estate of detached houses that were extremely small and modest (construction cost of up to 3,000 RM) equipped with a large plot of land, ranging from 600 to 5,000 m² called *Wirtschaftssiedlung, vorstädtische Kleinsiedlung* (Schneider, 1979: 111; WAP, *AgBK*, 29; Behrend, 1932). The largest complexes of this type developed according to government guidelines were called *Eigenheimstätten*. Since such investments required larger areas, they were usually located on the outskirts of the city, hence the name – *Stadtrandsiedlung, Vorstadtsiedlung*. The municipality’s task was to find land for development and plan a resettlement action. In 1931, the government allocated 50 million RM for houses for the unemployed (Ahrends, 1932; Siedlung, 1934; Żaczyński, 1932).

The resettlement action in the suburbs, especially of the unemployed, covered all the larger cities of the Reich. All such estates were planned similarly, with parallel or peripheral streets with 50-70 identical semi-detached houses. Depending on the size of the area, the housing estate consisted of one or more such units, forming a carpet system, for example, Siedlung Marienfelde, Buch.

![Image](https://doi.org/10.37705/TechTrans/e2020019)

**Fig. 32.** Housing estate by „Ida” shaft on the slopes of Niedźwiadki; D.A.F.-Grenzland Siedlung. View from the ring road (photo by author)

**Fig. 33.** Plan of housing estate by „Ida” shaft on the slopes of Niedźwiadki; D.A.F.-Grenzland Siedlung from 1937. Fragment of a plan without scale (source: M.G. 1937)
The estates in the suburbs of Walbrzych are relatively small. Initially, they were built with individually designed houses like in Idaschacht Siedlung\textsuperscript{21} from 1930–1933 (APWK, A. Podgórze, 104). Typical projects for semi-detached houses of the cooperative Nationalsozialistische Schlesische Siedlungsgesellschaft m.b.H. Breslau (N.S.S.G.) (Type 11 b) (Es entstanden, 1934) in Vorstadttische Kleinsiedlung Ober Waldenburg from 1933 and Stadtrand Siedlung Seitendorf\textsuperscript{22} from 1931-1933 were then applied (APWK, ZPBW, 71).

8. Housing estates of the Nazi period

In 1934 the centralisation of housing estate construction management (Siedlungsordnungsgesetz) was imposed and in 1936 a new ordinance on controlling the developments. According to the new regulations the character

\textsuperscript{21} Walbrzych Górny.

\textsuperscript{22} Walbrzych Górny, Poniatów.
of the development was to be defined in the design by the introduced types: small housing estate (*Kleinsiedlung*), residential complex (*Wohngebiete*), service complex (*Geschäftsgebiete*) and industrial area (*Gewerbegebiete*) (Schneider, 1979: 17–25; Gesetzgebungskompetenz, 2020). Starting from 1934, the small housing estates (*Kleinsiedlung*) were established with government funds. A new term *neighbourhood settlement* (*Anliegersiedlung*) appeared. This was a response to both sociological and urban planning considerations of the 1920s, especially C.A. Perry’s concept of the *neighbourhood unit*. This term, sometimes replaced by the term *housing unit*, began to dominate in architectural literature. During this period, party state-wide organisations, especially the “Deutsche Arbeit Front”, were involved in the construction of apartments (Grunberger, 1977: vol. 1, 99, 246, 259, vol. 2, 6 et seq.). They focused on building large independent workers’ dwellings called *Arbeiterswohnungsstätten, Reichsheimstätten*.

In the second half of the nineteen-thirties, housing complexes were established for propaganda purposes for carefully selected residents; the construction work was often supported by the community e.g. Mustersiedlung Ramsersdorf from 1934 designed by Guido Harbers, Braunschweig-Mascherode from 1936 and Reichssiedlung Rudolf Heß in Pullach bei München from 1936–1938 by Roderich Fick (Schrotteler-von Brandt, 2014: 210). The largest settlements in the form of new towns near large industrial plants included single-family and multi-family housing systems and service centres like Salzgitter Hermann-Göring-Stadt from 1937 and Stadt des KdF Wagens from 1938 (Schneider, 1979: 29–90). Moreover, homogeneous residential complexes, often without a centre, forming the “carpet” development like “Am Sommerwald” at Pirmasens from 1932–1937 were also created (Benevolo, 1979: 565).

Funds from state and party organisations were allocated to multi-family housing complexes with small flats (approx. 40 m², at a price below 3,500 RM) for rent (*Volkswohnungen*) according to the Ordinance of 1935 (*Not. u Behelfwohnungen*) (Sethmann, 2006; Schneider, 1979: 16–25; APW I/16232, 16261, 16262). Housing estates and groups of complementary developments under the Act of 1933 (*Gesetz über Aufschließung von Wohnsiedlungsgebieten*) were erected by municipalities and housing cooperatives mostly based on projects from government catalogues. Such buildings were planned on a large functionalist estate *Volkswohnungsanlage Berg am Laim* in 1936–1939 (Haerendel, 2009: 317–320), or as complementary developments, which sometimes took on complex forms of housing estates in large cities e.g. in Berlin at Roedeliusplatz in district Lichtenberg from 1936 projected by Willy Schmitz from GEHAG, Grazer Damm in Schöneberg from 1938, on the extended housing estates from the 1920s at Togo- and Müllerstraße in Wedding by Paul Mebes and Paul Emmerich, or “Grüne Stadt” between Greifswalder und Kniprodestraße in Prenzlauer Berg from 1938 realised by GSW (Dhonat, 2007).

The growth of the strategic importance of the Wałbrzych region for the state during the Nazi era, especially in the period just before and after the war, changed the housing problem of the region into an issue of the highest importance for the state. This became particularly evident after 1936, when according to the assumptions of the four-year plan (*Vierjahresplanes*), the government provided significant funds for the construction of apartments and houses for workers from mining and production branches supporting the arms industry (Schneider, 1979: 18,25; Teut, 1967: 147 et seq.). In this way, the largest carefully designed housing estate with food production facilities (*Stadtrandsiedlung*) was created in the Wałbrzych agglomeration during the Nazi times – D.A.F-Grenzland Siedlung, also called “Glückauf”, Dr. Ley-Siedlung form 1935 (APWK, ASMW, [35], Umfangreiche, 1934; Gefundenes, 1935; Mittelschliesen, 1935; Volskischen, 1935). The planned in 1936 large independent housing complex Ortschaft Liebichau was not realised.

23 Lubiechów.
In the Wałbrzych agglomeration, an action was also carried out to develop suitable free spaces within the town. The problem of building intensification, especially important in the region of Wałbrzych where there was a shortage of building areas, was addressed by the government that initiated the action of flats for common people (Volkswohnungen). In 1935, plans for Wałbrzych were developed, which involved the introduction of complexes of free-standing buildings, most often located on long parallel streets, filling the areas between the existing buildings (APW VI/262). Similar plans for the large settlements of Sobięcin Dolny and Górny were made by Pietrusky (APW I/16312). As a result of designing such large settlements, general development plans were drawn up (Wirtschaftsplan) in 1936 (APW I/16581, 16301; APW IV/264). Starting from 1938, considerable government funds were assigned for the purposes of the supplementary developments (APW I/16289, 16372, 16291). Several carefully planned housing estates were designed. This type of housing complex was known as Siedlung Hartau (Vom Wohnungs, 1938; APW VI/219). It was based on a catalogue design of terraced houses on a slope (Hangbebauung). The distinctive residential complex was established in 1937 and 1938, to the north-east of Nowe Miasto Siedlung an der alten Ziegelei (Neubauten wachsen, 1939; APWK, ASMW). The two-storey buildings were erected along the street and around the square and were connected by brick gates. The staircases were placed in highly protruding risalits, supported with massive columns in the ground. Thus, the buildings gained a character referring in part to Romanesque forms and wooden.
folk architecture. Rustic inspirations are also confirmed by the sgraffito decoration used on the facades, which depicted work on the land and scenes from folk tales. Additionally, intervention estates with the cheapest partially wooden single-family small housing estates were built: Am Vorwerksbusch in Wałbrzych (APW I/16262), Klein Siedlung Gottesberg also called Breiten Hau (Vom Wohnungs, 1938; APW IV/352), Adlesbachstrasse Siedlung in Szczawno (ASz, 65/61).

In accordance with the idea of shaping a new society, the action of expanding the industrial basin of Wałbrzych (Szczawno, Sobięcin, Boguszów), undertaken at the beginning of the 1940s, was controlled by the state authorities. Similar to
other housing complexes of this type shaped in the spirit of Nazi totalitarianism, the estates had a characteristic geometrical layout and were intended to cover a large area assumed from the very beginning (WAP I/16311; APWK, ASMW, [24]; APW IV/189). The monotonously delineated perpendicular streets, not following the traits of the terrain but rather designed to complement the existing buildings in the most efficient manner, were to be built up with typical blocks of flats. These forms of transformation and expansion of towns were outlined in the official plans of the party, as reflected in the Reichheimstättenamtes, urban-architectonic exhibitions of exemplary solutions in 1936, the governmental developments in 1938 in Frankfurt am Main and National-Sozialistischen Bundest Deutscher Technik in 1941 in Stuttgart (Schneider, 1979: 119). As in many other towns in the Wałbrzych area, these projects were not implemented.

9. Summary

In the popular as well as in the professional literature of the period in question (1850-1945), an extensive nomenclature was used to describe the types of housing estates. In most cases, these are descriptive terms and are not always precisely defined. They are often of a regional character, probably due in large part to the way in which local offices operated. State legislation initially focused on regulations to protect the urban landscape. It was only after the First World War that the focus on social and economic problems began. On the basis of these emerging functionalist premises, design theories for residential buildings, city districts and housing estates began to be formulated. A systematic nomenclature appears in planning records from the second half of the 1920s. It was then that interest in both urban and architectural solutions of residential construction complexes grew. Nomenclature and systematic categories, defined over time in textbooks and encyclopaedias, were created. Their creation was influenced by the experiences of the most important artists and theorists, especially the precursors mentioned in the text: Stübben, Muthesius and Jansen. Not without significance for the above considerations is the fact that many of them created projects for Wałbrzych and one of the protagonists of the early modernist housing estate design, Ernst May, started his activity in the Wałbrzych area. Their architectural concepts were inspired by traditional building principles, the functioning of local communities and the needs of residents, while taking into account serious financial constraints. From the end of the nineteen-twenties, as the centralisation of the German state increased, the importance of regional centres declined. Both the legislative initiative and the project theory were placed under the supervision of the authorities in Berlin. This was characterised by rationalism and, over time, subordination to ideology.

The nomenclature and systematics created in such a historical process as that described above also proved not to be fully adequate over time and was updated. Some of the terms and typologies have become obsolete. On the other hand, many of them turned out to be extremely apt, and the design choices are also highly appreciated after years. What poses a problem is translation into other languages. The inadequacy of the terms is due to the different development of forms in architecture and urban planning in other countries. We probably need to accept this imprecision and complement the terms used in relevant literature with the terms originating from the history of German housing estate development.
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Streszczenie
Termin osiedle mieszkaniowe (ang. housing estate, niem. Wohnsiedlung) pojawił się w prasie i literaturze fachowej na przełomie XIX i XX w. Przyglądając się stosowanym w języku niemieckim nazwom, początkowo o charakterze kulturowym i geograficznym, a następnie w powstającym języku fachowym – architektonicznym, można zauważyć, jakie czynniki uznawano za najistotniejsze w stanowieniu o charakterze zabudowy. W większości wypadków nazewnictwo i typologia były oparte o doświadczenia z Berlina i największych miast niemieckich. Specyfika lokalna oparta o badania na podstawie charakterystycznego regionu „doświadczalnego”, jakim była rozwijająca się aglomeracja wałbrzyska, mogą naświetlić kwestie recepcji nazw typów osiedli, ale i ich rozwiązań projektowych, a w pewnych wypadkach także genezy nowych koncepcji architektonicznych.

Słowa kluczowe: architektura XIX w., architektura XX w., urbanistyka XIX w., urbanistyka XX w., osiedla mieszkaniowe, Wałbrzych