

BUILDING OF THE ELECTRIC COMMUNTER RAILWAY AS A DETERMINING FACTOR IN THE DEVELOPMENT OF SUBURBAN WARSAW

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Introduction

In the second half of the nineteenth century, Warsaw was the largest city in the Russian Partition and constituted an important economic and military centre. However, the territorial development of the city was substantially limited by the double ring of fortifications built in the 1880s¹. The scarcity of building terrain increased land speculation – population density reached 250 people per one hectare². Every square metre of ground was exploited to the maximum, resulting in extremely crowded buildings, tiny courtyards and lack of green spaces³. The poor health conditions in Warsaw encouraged residents to search outside in the suburbs for better places to live. Thus the city grew outside its boundaries, usually through the parcelling out of those landed estates whose owners had financial difficulties. Small suburban settlements sprouted up, often without planning permission, on the grounds of former folwarks (great farms). The first of these were “resorts” to which the residents of Warsaw came to rest and spend the summer. The permanent inhabitants of these places were either artisans, tradesmen or, more rarely, small farmers. In later years, some factories were also built.

Overexploitation by the partitioning powers and the devastation of World War I considerably weakened Poland’s economic position. The industrial potential of the Warsaw region fell to the level of the 1870s. After independence was regained in 1918, reconstruction of the country

began (in ruins were “several hundred larger and smaller towns, several thousand villages, and, within them, 850 thousand buildings”⁴). When the building ban relating to the fortress belt was raised in 1916, the regions neighbouring with the city could be developed. The considerably extended administrative area of the city⁵ created the opportunity for a modern Warsaw with a more loose urban layout, green areas and “hygienic forms of building”. The municipal authorities turned to the architects’ association asking them to outline an urban vision of the future capital. The concept of a future plan of Warsaw, titled “Initial sketch of a regulatory plan for Great Warsaw”, was prepared by Tadeusz Tołwiński and his team. The outline plan of Warsaw drawn up in 1916 was a complex analysis of the possibilities for urban development and an ambitious vision of creating a modern city⁶.

The inclusion of the agricultural land surrounding Warsaw within the administrative boundaries of the city and, first and foremost, the passing of the agrarian reform law expropriating landed estates (for suburban areas these were lands in excess of 60 hectares), intensified the parcellation process around Warsaw. The old “summer resorts”, for lack of housing in Warsaw, gradually became permanent year-round complexes. At the same time, more and more new settlements, often termed “garden cities” were being built. Former farm and horticultural land was quickly disappearing under housing settlements which merged with the suburbs of Warsaw, forming the initial stage of future settlement belts.

¹ Only wooden (no stone or brick) buildings, standing on a low foundation, could be located near the forts. Special permits were needed. The ban on building outside the boundaries of the city was only lifted in 1916.

² Excluding town squares and gardens – 500 people, and in the city centre density reached 1000 people per hectare. 800 000 people lived within an area of 40 km², however, two thirds of this territory was occupied by extensive military sites, railways, the valley of the Vistula, cemeteries, parks and greens.

³ S. Różański, *Warszawa II Rzeczypospolitej 1918-1939*, Warszawa: Instytut Historii Polskiej Akademii Nauk, vol.1, 1968.

⁴ I. Drexler, *Odbudowanie wsi i miast na ziemi naszej*, Lwów – Warszawa – Kraków: Wydawnictwo Zakładu im. Ossolińskich 1921, s. 5.

⁵ In 1916 Warsaw had an area of about 40 km², in 1938 r. – 135 km².

⁶ D. Kłosek – Kozłowska, *Ochrona wartości kulturowych miast a urbanistyka*, Warszawa: Oficyna Wydawnicza Politechniki Warszawskiej 2007, p. 68.

1. Influence of the Warsaw Railway Junction on the growth of housing in the suburban zone of Warsaw

The construction of the Warsaw Railway Junction in the middle of the 19th century, apart from creating a network of domestic and foreign connections, also solved the problem of transport between the city and its suburbs. The first railway line was opened in 1845. The “Warsaw – Vienna Iron Road” connected Warsaw with, among others, Zagłębie Dąbrowskie (western Lesser Poland). In 1862 the line to Petersburg through Białystok and Vilnius was opened⁷. Two train stations – the Vienna and the Petersburg station – built on two sides of the Vistula river, were connected by means of an “iron horse road”. The horse tramline was about 6 km in length and served primarily to transport goods and, sometimes, passengers⁸. Then followed the Terespol line⁹, connected in 1876 with the Vienna line¹⁰. Because the Petersburg and Terespol railways had wide gauge tracks, a circular line (with a bridge near the Citadel) joined them with the standard gauge railway. In 1877 the Nadwiślańska line was built and in 1903, on the left bank of the Vistula, the line to Poznań¹¹. The last stage of railway construction carried out before World War II was the line between Warsaw and Radom. Since its completion in 1934 the shape of the Warsaw Railway Junction has remained basically unchanged¹². (il. 1).

A special role in bringing the suburban area just outside Warsaw nearer to the city was played by the narrow gauge railways which began to be built at the end of the 19th century. These railways were one of the few public institutions which were independent of the Russian authorities. People living in the suburban areas of Warsaw often petitioned for new narrow gauge lines which would pass through their

recently built settlements. Then, in turn, wherever the rail line did run and a new stop was located, the surrounding land would be quickly parcelled out and new housing sprang up.

The first line to be opened was the Wilanów Rail Line. Its route led from the Belweder turnpike, along the “royal” road, called the Wilanów highway (now Belwederska street), through the rural areas of Lower Mokotów and Czerniaków to Wilanów, then on to Klarysew and Konstancin, and on through Chylice to Piaseczno¹³. The next narrow gauge line to be built was the Grójec Railway running from the Mokotów turnpike through Piaseczno to Grójec¹⁴. To the east of the Vistula river, the Jabłonna Railway was built. The first section from Jabłonna to Most station near Kierbedź Bridge was opened in 1900 and a year later the line reached Wawer¹⁵. Praga district also had a line running to Radzymin through Marki (Kolej Marecka). Its first section from Targówek to Pustelnik, opened in 1897, was originally served by a horse-drawn train.

In 1920, the “Siła i Światło” (Power and Light) company was formed, partly financed by British capital. It initiated the construction of the first electric railway, the most modern at that time. The route of the Electric Commuter Railway (EKD) led from Warsaw to Grodzisk, with a branch to Milanówek (1936). The end stop in Warsaw was located in Marszałkowska Street. In 1932, a branch line running from Szczęśliwice to Włochy was built – with a stop next to the present PKP station. In 1927, the consortium “Siła i Światło” became the main shareholder of the “Electric Railway Warsaw – Młociny – Modlin” company which from 1929 ran the Warszawa Gdańska – Łomianki – Palmiry line. Despite the term “electric”, this line was never electrified. It was built mainly for strategic purposes (transport of weapons), so it ran far from residential

⁷ Unlike the Warsaw – Vienna line, it had the Russian track gauge (1525 cm).

⁸ This line had the Russian gauge, which for many years determined the track gauge of Warsaw tramlines – M. Krajewski, *Dzieje głównego dworca kolejowego w Warszawie*, Warszawa: PWN 1976.

⁹ It reached Brześć in 1866 and then Terespol which had a connection with Moscow.

¹⁰ The two lines joined up near the Warszawa – Towarowa train station, where a group of Russian gauge rails were laid.

¹¹ The line connected Warsaw with Kalisz and Poznań, through Błonie and Łódź Kaliska.

¹² *Krótką historia kolei w Warszawie, historia PKP*, www.warszawa1939.pl

¹³ In the first half of the 20th c. the railway was extremely popular; in 1910 it had over a million passengers - B. Pokropiński, *Kolej Wilanowska*, Warszawa: WKŁ 2001.

¹⁴ The train ran according to a regular schedule to Piaseczno from October 1898 and a branch line to Góra Kalwaria was opened in 1900. After building a by-pass of Piaseczno, the line went on to Gołków and further, reaching Jasieniec and Grójec in 1912-1914 and, in 1920, Brzostowiec and Nowe Miasto (1924) - B. Pokropiński, *Kolej Grójecka*. Warszawa: WKŁ 2002.

¹⁵ At the request of local inhabitants, the line was extended as far as Karczew (1914) and on to Struga and Zegrze (1916 r.) - B. Pokropiński, *Kolej Jabłonowska*. Warszawa: WKŁ 2004.

areas and had very little passenger traffic. There were also plans to build a rail bridge across the Vistula to connect this line with the Nadwiślańska route but the crisis of the 1930s caused these projects to be abandoned.

Railway lines, apart from bringing profits to their owners, answered the needs of Warsaw's population, facilitating access to nearby holiday resorts and the outlying suburbs of Bielany, Czerniaków, Mokotów, etc. where people went to enjoy the fresh air and charms of nature.

2. Spatial development of housing estates situated along the route of the Electric Commuter Railway – planned settlements

EKD¹⁶, the most modern electric commuter railway, opened on December 11th 1927, played a specific role in the development of the suburban settlements. Along its route, planned estates, termed “garden cities” began to spring up, from Włochy to Podkowa Leśna. At the same time, parcellation of nearby folwarks accelerated.

Initially the line was to run across the Młochowskie Forests, which would have been beneficial for Nadarzyn, as the town had no direct connection with the capital. However, the project fell through because the owner of the land, Duchess Radziwiłł refused to sell the needed lots. As a result, talks began with Stanisław Lilpop, the owner of the Brwinów estates, and the building of a fast railway and modern “garden city” - Podkowa Leśna - were agreed upon.

Work began in Komorów and proceeded in two directions – towards Warsaw and towards Grodzisk Mazowiecki¹⁷. The first suburban settlement, built at the same time as the EKD line, was Podkowa Leśna. Its beginnings date back to the 1870s when, in part of the Wilhelminów folwark, belonging to the Lilpop family, a summer resort called Stanisławów was created. The settlement of Podkowa Leśna¹⁸ appeared in 1909. A plan for the new garden city was drawn up in 1925 by Antoni Jawornicki, the well-known

urban designer. The axis of the urban layout was the EKD railway line with three train stops: the main one next to the local road which cut across the town, and two symmetrically located stops in the east and west parts of the town. The centre of the settlement was situated on the north side of the rails, around the main station where radially running streets met, cut across by circular transverse roads. To the south of the rails, this arrangement was only partly continued, with two arc-shaped streets (Modrzewiowa, Pocztowa), which then straightened out and became the framework of further rectangular sections. On the south side of the station a large plot of land was left empty, with a church and commercial buildings to be situated along its edge. Built over sections of the town were interspersed with strips of forest and recreational areas (Fig. 2). The plan made excellent use of existing topography, adapting the roads which already connected Podkowa with nearby villages and towns. The survey plans of the settlement prepared in 1926 and 1927, based on Jawornicki's design, introduced changes in some of the streets, outlined the shape of a future park with sports house, playing grounds, tennis courts and characteristic elliptically shaped paths¹⁹. Despite the economic crisis and the coming of World War II, most of the plan for the settlement was implemented and by 1939 most of the houses and villas had been built. In those times, Podkowa Leśna was the most luxurious township in the vicinity of Warsaw. After the war, the town preserved its character as a “garden city”.

In 1928, at the same as Podkowa Leśna, construction began on the “garden city” of Włochy. The land was purchased from the Koelichen family (owners of the estate and brickworks). The parcellation plan was prepared by the architect Franciszek Krzywda Polkowski and the surveyor Prof. Henryk Kotyński. It foresaw the laying out of lots for housing and public buildings, the creation of green squares, parks and an industrial district. Fast access to Warsaw was provided by the Warsaw-Vienna and EKD railways (the latter reached Włochy in 1932). The Develop-

¹⁶ The nationalization process of the EKD joint stock company began in October 1947. In 1951 it was placed under the administration of the District Management of State Railways in Warsaw and renamed Warsaw Commuter Railway (WKD).

¹⁷ The builders introduced the most modern technology. The electric railcars and unpowered passenger cars were purchased in England and were capable of travelling at the dizzying speed of 70 km/h.

¹⁸ Some sources state that the first plan of the settlement was drawn up in 1913 by Tadeusz Tołwiński, however, there are no records to prove this. B. Wróblewski, *Podkowa Leśna Miasto – Ogród do 1939 roku*, Podkowa Leśna: Wyd. Towarzystwa Przyjaciół Miasta - Ogródu 2003.

¹⁹ G. Grątkowski, *Architektura Podkowy Leśnej*, Podkowa Leśna: Towarzystwo Przyjaciół Miasta – Ogródu, 2002.

ment Plan for the town of Włochy, prepared by Marian Sychalski, was approved in 1938. However, the plan was only partially realized, owing to the Depression of the 1930s and the war and, in later years, building continued in a haphazard fashion.

In 1930, the Garden-City Komorów was created. In 1827, the folwark of Komorów covered an area of about 840 acres and had 17 farm houses in the village of Komorów²⁰ and 45 in the village of Sokołów, with about 60 inhabitants altogether²¹. The Komorów folwark was part of the estates belonging to Count Władysław Ostrowski, confiscated after the November Uprising of 1830. From 1908 the Komorów estate was first leased and then owned by Jozef Markowicz who initiated the creation of the garden-city. Initially, Komorow was a summer resort, like many of Warsaw's suburban settlements. Towards the end of the 19th century, several wooden holiday homes were built and summer visitors also found rooms in the local farmhouses. The first part of the estate to be divided up lay to the west, in the direction of Helenów and was covered by pine forest. The so-called "Folwark Komorówek" lay along the main road to Warsaw and the Nadarzyn road. Before the First World War, the settlement of Komorów was connected to Pruszków station on the Warsaw-Vienna Line by means of a horse-drawn tram. The route was closed down once the EKD station opened.

The Garden-City Komorow, later known as Komorów-Wille to distinguish it from the village of Komorow, was founded on the basis of an approved parcellation plan prepared in 1934 (Il. 3). The estate was parcelled out to cover the owner's considerable debt in the Agricultural Bank. The lots were sold on condition they would only be used to build homes on (a stipulation made in the notary deed of sale). The average size of a lot was 1100m². The plan also included space for a park, a church, a school and sports grounds. All this land, as well as the lots allocated for streets, was transferred to the new town free of charge. In the north part of the settlement, land was reserved for the construction of a branch rail line in the direction of the Młochowskie Forest. The framework of street layout constituted two roads

running perpendicularly to the railway tracks with a park and school lying between them, and a church next to a semicircular place. The projected railway line decided on the direction of parcellation (at a 45° angle to the main streets). Within the triangular piece of ground, a large semicircular place was planned, probably to be surrounded by commercial buildings. The parcellation of farther parts of the Komorów estates, on both sides of the EKD tracks, meant that the town centre gravitated towards the station, where it remains today, while the semi-circular "square" never attained its intended function as the town's central public space (il. 3).

Next to Komorów lay the "garden city" settlement of Ostoja Pęcicka, which arose on the land of Countess Jadwiga Potulicka and Antoni Marylski-Łuszczewski, part of the estates of kolonia Pruszków, kolonia Pęcie, kolonia cegielnia Pruszków. The first plan was drawn up by the architect D. Olański in 1927 and, in 1929, a situation plan was made by the surveyor Józef Betnarski²² (il. 4). The settlement was to be built along the EKD line and was to have a commercial district with a market and abattoir to the west of the tracks and a residential district to the east with a park, church and school. An elliptical road would run around the whole complex with smaller streets laid out crosswise. 380 lots of 750 to 2200 m² were parcelled out for one-family houses, but the economic crisis, quarrels among the owners – shareholders, competition created by other settlements and lack of civic amenities meant that not all the land was sold and the intended spatial layout was not fully realized, especially when it came to commercial features.

Another settlement situated along the EKD line was Michałowice, which arose when the Michałowickie estates belonging to Countess Grocholska were parcelled out to pay back loans from the Land Credit Society. Two settlements were created: Michałowice and Nowe Grocholice, the latter lying a short distance from the Warsaw – Kraków road, near Raszyn. The axis of the Michałowice settlement was to be a green avenue running crosswise to the road which led from the EKD station to Nowe Grocholice. Alongside, the plan envisaged a square,

²⁰ Folwark Komorów had two kinds of village: rent paying - Sokołów and serf - Komorów. When serfdom was abolished in 1864, Komorów did not belong to the estate.

²¹ *Słownik Geograficzny Królestwa Polskiego i innych krajów słowiańskich*, vol. VI, Warszawa 1886, p. 312.

²² R. Wojtkowski, *Miasto ogród Ostoja Pęcicka*, in: S. Gzel (ed.) *Idea Miasta – Ogródu a tereny zieleni Warszawy*, Warszawa: Oddział Warszawski SARP, 2002, p. 16.

a church and a school, and large sports grounds. The first inhabitants already began to settle here in 1934 and by 1939 about fifty houses had been built. After the war, building continued in accordance with the parcellation plan, though the green avenue and sports grounds remained in the planning stage. (il. 5).

3. Development of “spontaneous” settlements situated along the Electric Commuter Railway (EKD)

Increased growth of housing estates along the EKD line took place after the Second World War. After the Warsaw Uprising, when the city was evacuated and then razed to the ground, much of the population emigrated to the suburbs. The Decree of 1945, nationalizing real estate in Warsaw, meant that many families who were deprived of their property found it easier to find housing on the outskirts of the town. At the same time, the rebuilding of Warsaw and the need to supply the extensive state economy with low qualified workers caused an influx of rural population into the city, both from nearby villages and from further afield. However, in 1954 a decree was passed which limited the possibility of acquiring permanent residence status in Warsaw by new arrivals, thus creating a suburban development boom. There was a rise in the amount of individual housing, including illegal building²³. Makeshift homes were built on empty lots without any architectural or town plans, often in places unfavourable for building, without infrastructure and where the only criterion was the availability of a plot of land. Such a state of affairs, which Jan Minorski termed spontaneous building²⁴, was extremely detrimental to the development of suburban zones, both from the point of view of town planning and protection of the environment. Population growth in these areas, together with limited availability of housing and insufficient technical and service infrastructure caused degradation of living conditions in the towns and settlements around Warsaw, while the mixing of various social groups led to loss of the ties between residents which had existed in the interwar period²⁵.

In the post-war years, before individual transport became widespread, the greatest spatial development of settlements around Warsaw could be observed in areas situated along railway lines. The process was and continues to be most active in the areas along the Electric Commuter Railway EKD (today WKD).

The farm land lying along the railway line, especially around the train stations, was already being converted into building lots in the 1930s, while the agricultural divisions and field margins served as the basis for future town streets. In the 1970s, the “spontaneous” settlements crystalized into suburban settlements (e.g. Kanie, Otrębusy, Nowa Wieś, Owczarnia). The transformation process occurred in stages, with a time shift depending on the distance from Warsaw (more distant areas are at the 1970s stage, for instance Owczarnia is at present going through a similar process as Kanie in the 1980s).

The process of transformation of settlements along the EKD line can be divided into four phases:

- Phase I (1928-1939) – secondary parcellation of farm lots into building lots. The first land to be divided up is that lying nearest to the EKD station. An outline of the new streets appears. If the old farmstead village lay at some distance from the designated train stop, then the centre of gravity of the new settlement would form around the station, away from the original village.

- Phase II (1945-1960) – further parcellation of agricultural land into building lots near the train station. More buildings appear and the old dirt roads which served as access roads to fields become the framework of future streets.

- Phase III (1960-1989) – consolidation of the new street system based on all the farm roads leading to the fields. Crosswise streets connecting the old farm roads are laid out. The street grid forms spontaneously and is rather haphazard. The spatial layout of the settlement is shaped by former ownership and divisions of farm land. Parcellation of further lots takes place in circles, creating a compact, concentric arrangement with the centre near the train stop. There is a scarcity of land for commercial services. The settlements are monofunctional - individual

²³ J. Cegielski, *Dziki budownictwo na obszarze strefy podmiejskiej Warszawy w latach 1950-1960*, Warszawa: PAN, no 5 (24), 1963.

²⁴ J. Minorski, *Formy samorządowego zagospodarowania przestrzennego w pasie przejściowym pomiędzy wsią i miastem*, Warszawa: Komitet Architektury i Urbanistyki PAN 1964.

²⁵ R. Cendrowska, *Warunki życia ludności w strefie podmiejskiej Warszawy*, Warszawa: Oficyna Wydawnicza PW 1998.

family housing. The remaining land from the initial parcellation of folwarks is farmed.

- Phase IV (1989 – the present day) – Parcellation for building purposes of farm land lying at a greater distance from the station. Fields are parcelled out transversely with narrow private access roads. New parcellation is “radial” and outside the area of the original parcellation plan – one or several *lany* (fields of roughly 17-20 hectares) are parcelled out, while fields in between continue to be farmed. New buildings, unconnected with farming, are scattered about and do not form compact layouts.

4. The transformation process of “spontaneous” settlements situated along the Electric Commuter Railway (EKD) – as exemplified by Nowa Wieś, Kanie and Owczarnia

The EKD line ran through the farm lands of several folwarks with many villages. The history of some of them, both of the rent paying and serfdom type, reached back to medieval times (il. 6). The construction of a railway linking these areas with Warsaw caused an influx of new inhabitants unconnected with farming – at first holiday-makers, then the upper middle class (bankers, industrialists) and workers who commuted to their workplaces in Warsaw and Pruszków. Villages located near the railway line gained a new opportunity to develop. Gradually, the agricultural economy was displaced by housing functions as residential zones arose along the railway line. (il. 7)

One of such villages is Nowa Wieś Warszawska²⁶, lying by the WKD line, about 20 km from Warsaw. The village existed since the 18th century and belonged to the Helenowskie Estate. In 1827 it comprised 19 peasant cottages and over 500 acres of land (523 *morgi*)²⁷. As a result of two parcellations of the estate by Count Potocki (in 1900 and in the 1920s), the village grew, so that in 1910 it had 80 cottages and 600 inhabitants. The pre-war WIG map from 1933²⁸ shows a typical single axis village with compact layout, with houses standing along the road which connected the Helenów Folwark with the Silesia road (now the so-called Katowice

road), perpendicular to the Warsaw road. (il. 6). The planned EKD line cut across the main street of the village on the south-east side, and here the train station was located.

The village grew in stages and, in the first phase, as a result of parcellation and creation of many agricultural lots, new farm houses were scattered about the fields. A road leading in the direction of “Komorów Garden - City” was built on both sides of the rail tracks, with single houses situated along it. (il. 7)

Looking at the first topographical maps made after the war²⁹, we can see the further growth of the village around the WKD train station (phase II). New houses were built on the agricultural lots, grouped to the east of the “old” village, along roads leading towards the prestigious Komorów settlement. The dirt tracks served as the framework for the future network of town streets. To the west, wetland meadows and pastures around the Zimna Woda brook were a barrier for development. (il. 8)

In the 1970s we can observe the third phase of development and the gradual transformation of a farming village into a settlement with suburban housing. Główna (Main) Street (along which the 18th century village had been built) remained the most important street of the town, joining the main Warsaw road with the WKD train station. The new street grid, based on the old dirt tracks, was consolidated. New streets appeared with houses built on long narrow lots parcelled according to the old divisions of farm land. The area in the middle of such quarters were left empty, which left large pieces of land with no access (il. 9). Lots were so narrow that houses had to be sited on the property line. The first attempts were made to parcel out long lots by laying out private access roads from the main road. The first lots to be parcelled out were those bordering on the Komorów settlement. Here streets were also laid out in accordance with the earlier ownership divisions of farm land. In the 1990s Nowa Wieś developed quickly due to its convenient connections with Warsaw (WKD and the voivodeship road, now, from Pruszków, a two-lane road) and the neighbourhood of Komorów (a settlement with high social status) and

²⁶ Today, the village lies in Pruszków district, Michałowice commune.

²⁷ *Słownik Geograficzny Królestwa Polskiego i innych krajów słowiańskich*, vol.. VII, Warszawa 1886, p. 198.

²⁸ Topographic map by the Military Geographical Institute, scale of 1:25000 in 1933, sheet P 40 S 31 F.

²⁹ Map of Pruszków District made towards the end of the 1950s, scale of 1:25000, Zarząd Topograficzny Powiatu Pruszkowskiego, Warszawa 1961.

Pruszków (jobs, schools). The village gradually lost its rural character. New detached, semi-detached and terraced housing appeared. In spite of pressure from rapid development, no new street layout plan has as yet been prepared. Long, privately owned strips of farm land are parcelled out as building lots with a comb-like street scheme. Streets and lots have insufficient parameters for harmonious development. Quarters surrounded by detached single-family homes standing along the streets are left with empty spaces in the middle, without any access. (il. 10)

Similar phases of spatial development can be observed in the structure of Kanie Helenowskie, lying about 27 km from Warsaw. The old village of Kanie had a compact layout with two roads forming a "Y" shape. The first building complex took shape on the north side of a local road running from Warsaw to Grodzisk, near the manor in Helenów (il. 6) From here, three dirt tracks ran radially in the direction of Otrębusy and Nadarzyn (these roads later became the basis for the street layout of present day Kanie). When the EKD line and station were built, the houses of the old village found themselves on the periphery of the new layout, which became concentrated around the station. The reparation plan for the estate from 1935 (il. 11) shows the "checkerboard" pattern of property divisions, with fields stretching perpendicularly to existing dirt tracks (the whole complex has several directions of parcellation). In the first phase of the process of transforming this rural area into an urban settlement, reparation of the old agricultural lots took place and new building lots were created. New roads were laid out on both sides of the railway by the train station in Kanie, parallel to the tracks and on the north side by the Nadarzyn road, and rectangular lots, which could become building lots in future, were marked out at right angles to the roads. At the west end, parcellation continued up to the border with the village of Otrębusy. Buildings began to crop up along the newly planned streets (il. 12).

In the second phase of development, after the war, a topographic map of the region³⁰ shows the outline of streets marked on the parcellation plan made in 1935. There are only a few houses on lots marked on the pre-war plan. Some farm houses have appeared further away from the railway, in the northern, typically agricultural part of the area. (il. 13).

The third phase of development, taking place in the second half of the 1960s and in the 1970s, saw the consolidation of the original street layout. Two parallel streets were laid out, following the 1935 plan, on both sides of the railway line, enabling the dividing of the larger lots from the pre-war reparation into two or more smaller lots and situating buildings on both sides of the streets. Further parcellation of agricultural lots lying near the railway took place. The first pieces of land to be developed were those lying by the old dirt tracks at right angles to the railway. Fields without access to roads remained untouched. The old farming village became a settlement as the owners, because they had access to a road, divided their long pieces of land crosswise to create a maximum number of lots appropriate for single family homes rather than farm houses. Parcellations were concentrated on the south side, as the vicinity of a forest increased the desirability of the land. Delineation of lots only along existing roads created a layout with buildings standing around the edges of a piece of land, leaving the centre empty. The owners of broader strips marked out private roads through the middle or along the edge of their piece of ground (sometimes together with a neighbour) and then divided the land crosswise to create building lots. The area of the compact pre-war village, lying on the north side of the road to Grodzisk, remained out of the way. The parcellation scheme from 1935 remained unchanged (il. 14)

A similar process can be observed in Otrębusy. The village lay next to a local road running from Brwinów to Nadarzyn and crossing the route to Grodzisk. It was a private village with a small folwark and several peasant farmhouses. Parcellation of the estate began towards the end of the 19th century. The place lay far from the railway and had a typically rural character. After the war, the remains of the estate were parcelled out and turned over to the Cooperative of Agricultural Circles (Spółdzielni Kółek Rolniczych – SKR). The area on the west side of the road to Nadarzyn was partly state-owned and partly private farm land divided into long narrow strips. Due to its wetland character, not all this area was appropriate for housing. As a consequence, the village developed in an easterly direction, towards Kanie. The existing roads, leading to the fields, served as the basis for the future street network,

³⁰ op. cit.

with houses gradually being built along them. The arc-shaped road running along the edge of the Młochowskie Forests initiated the characteristic semicircular street layout in the southern part of the settlement.

The final, fourth phase of the development, begun towards the end of the 1980s and continuing today, resulted from the pressure to reclassify farm land as building land. All available land within the administrative boundaries of the village is parcelled out as building lots. Buildings are also erected outside the compact layout of the village, creating scattered groups of houses. The parcellation leads to the greater proximity of the two neighbouring settlements - Kanie and Otrębusy, which merge into one. The basic axis is formed by the WKD line with two stations. The old rural building layout creates separate housing complexes with a different spatial arrangement than the rest of the settlement. They remain away from the centre of the urban complex which is situated along the railway line and around the stations. The streets of both villages meet up in a random way and the principles governing the layout of new housing quarters are unclear. The west side does not correlate with the east – the streets lack continuity. The community lacks separate public spaces and those characteristic features which shape an urban entity. There are insufficient building lots for public facilities and shops and services crop up haphazardly on private properties without forming any commercial centre. Considering the rural character of Otrębusy, the size of the building lots is small (600-800 m.). Moving away from the station, the houses are less crowded. The development plans for Brwinów Commune, to which Kanie and Otrębusy belong, foresee further areas allocated to housing, especially to the north, where the land has been farmed for many years. Owners are marking out narrow private roads which join an old country road that runs along the boundaries of their land, and are cutting up long strips of fields crosswise to create building lots. This building development is on the other side of the voivodeship road, away from the main settlement and is “cut off” from all the facilities necessary to meet the basic needs of new residents. Fields at the south end of Otrębusy, on the border with Podkowa Leśna, are also being parcelled out. Houses are being built along local roads, among others in the direction of Brwinów, and along the voivodeship road to Grodzisk and Skierniewice. Some building is encroaching on the

Młochowskie Forests. In the southern part of the administrative district, on the other side of the Zimna Woda brook, a local zoning plan has been drawn up for the area of the former state farm Popówek (created after the agricultural reform of 1945 and parcellation of the Popówek folwark). A network of streets has been marked out and a housing estate of single family homes is planned. There is a tendency to introduce denser parcellation in the town centre. More compact housing is being built on both sides of the rail tracks. Lots are being divided up into smaller lots. New houses are being built at the back of existing buildings with access across the grounds of the property situated nearer the street. Every possible piece of land is being built over – for instance, a lot located to the south of the tracks, previously owned by WKD, has been developed as terraced housing. On the western side, belonging to the village of Otrębusy (limited by the road leading to the Grodzisk to Nadarzyn route), a new dense network of streets has been planned with detached and terraced housing. (il. 15)

The village of Owczarnia lies 32 km from Warsaw, past Podkowa Leśna, where the EKD line forks off towards Milanówek and Grodzisk (today the stop is called Kazimierówka). In recent years the prestigious neighbourhood of Milanówek and Podkowa Leśna has made Owczarnia an increasingly attractive place to live. Its considerable distance from Warsaw meant that the parcellation fever reached Owczarnia later than Nowa Wieś and Kanie. Before the war, it was a typical farming village with a single axis street layout and dispersed building. Farm cottages were mostly located along the main road leading from Milanówek in the direction of Książnice and the Silesia route.

The first phase of development began in 1929, just after the opening of the railway, with a project to consolidate the fragmented peasant holdings. The long narrow strips of field were regrouped to create larger lots (i. 16) In the north part, near the EKD line, the road network was put in order: the old dirt tracks were joined to create a legible arrangement. Along these streets, on top of the old division of agricultural land, new lots were measured, their size indicating that they were intended as building plots. (il. 17) The parcellation in the south, farther from the railway, went in different directions, usually at right angles to existing dirt tracks and the main road. On the parcelled out agricultural lots dispersed farmstead houses were usually built. (il. 18) After

the war, in the second phase of development, until the 1960s, only a few new houses appeared in the village and farm houses were situated along the main road, most in the vicinity of the WKD station. Single farm houses were also built at some distance from the road, and connected with it by private lanes. The streets marked on the 1929 consolidation plan were built only in fragments, most remained dirt tracks. New farm houses arose on the land of the folwark (along the road) which had probably been parcelled out in 1945 (il. 10). During the following years, there were few changes in the spatial layout of the village. Several houses were built, mostly near the EKD station, but Owczarnia remained a typically farming community. (il. 20)

In the 1990s, there was increased interest in the land for building purposes. The third phase of development began the process which transformed the farming village into a residential settlement. The street grid remained as proposed in the plan from 1929. Building lots were laid out along the old streets and along newly planned private roads. Usually a strip of farm land was divided crosswise into smaller lots. The process could first be observed near the WKD station in the north, near the border with Milanówek. At present, Owczarnia is beginning its fourth phase of development in which the rural village changes its character and turns into a suburban settlement. As in the other villages, parcellation is done by individual owners, streets are laid out along the earlier agricultural divisions and some lots, too narrow to leave room for a street, are left unparcelled. In the middle of housing quarters, empty areas are left without access. The order in which houses are built is completely random. The buildings sometimes form small clusters and elsewhere are haphazardly dispersed. Detached houses intermix with lines of terraced housing. The southern part of the village has kept its rural character and fields dominate. But here too some are being parcelled out as building lots with private roads. The houses are scattered about at considerable distance from the road, one might say “out in the fields”. The size of the lots indicates that these are not farmsteads. (il. 21) In the 1970s, this was solely a farming region, with no housing. In 2006 a local zoning plan was adopted for the village of Owczarnia which, in accordance with the Study of Land Use Conditions and Directions from 1999 designated most of the old farming land for housing.

Conclusion

The rapid development of suburban Warsaw began in the second half of the 19th century. New settlements arose on agricultural land, as a result of parcellation of estates, often because their owners had financial difficulties. The first settlements – resorts, city-gardens were situated where public transport was available – in those years public transport meant trains and train stations. Among the railway lines of Warsaw, one played a special role in promoting the development of the suburbs – the most modern, at the time, Electric Commuter Railway. Near its stations, planned settlements such as Podkowa Leśna, Komorów, Michałowice arose, often designed by the foremost town planners. Their spatial structure is distinguished from among similar contemporaneous parcellations by its harmony, accessibility and rationality in terms of urban design, facilities, parameters of the building lots.

The rail also encouraged the growth of “spontaneous” settlements which arose in the vicinity of train stations without any plan, often swallowing up the old farming villages situated in the area. These settlements developed in an unpremeditated fashion, as a result of private parcellations without a development plan. Their urban layout is neither as interesting nor as considered as in the case of the those settlements which were designed “holistically”. By analyzing topographic maps and parcellation plans from different periods, one can notice a certain regularity in their development, the stages of which are shifted in time depending on their distance from Warsaw. Regrettably, one has to note a continuing tendency to dispersion in the spatial structure of these settlements. Until the 1980s, when railways lost their lead as providers of transport to the suburbs in favour of cars, the settlements of their own accord clustered around the local train station. Today, ever more distant farmland is being parcelled out – areas where it is difficult to provide infrastructure and facilities and which are condemned to use private transport rather than public.

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