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Assessment of the residential space of a pre-industrial city. The example of Wrocław/Breslau in the 16th and 18th centuries

Abstract

Social inequalities in cities had their spatial dimension already in pre-industrial times. The quality of living space in a historic city was influenced by various factors, such as distance from the city centre, proximity to infrastructure, access to water, trade routes, markets, as well as unfavourable or oppressive neighbourhoods. The value of the properties depended on their function, the structural condition of the buildings, the size of the structures and the plots.

In this paper, we proposed a method to evaluate and valorise the residential space of a pre-industrial city based on an assessment of its use value. We carried out an exemplary analysis on the example of Wrocław, a medium-sized city in Central Europe. We used historical, archaeological, iconographic data and geospatial analyses developed in a geographic information system environment. We carried out the evaluation within individual factors for a city divided into building blocks for two periods – around 1550 and around 1750.

By comparing the results for these two periods, we attempted to trace the changes that occurred as a result of the city's development and historical events. The overall picture allowed us to create a characterisation of residential space across the city. We verified the method by comparing the results obtained with data from tax records. The result obtained is consistent with knowledge of the spatial distribution of wealth in the city, indicating that the model can be applied to the analysis of other cities where tax records have not been preserved.

Key words: scoring method, historical geographic information system, housing space

Introduction

The urban space is a changing over time and heterogeneous structure shaped by its inhabitants, while at the same time exerting an influence on the community living there [1], [2]. The zoning of urban space began with the formation of urban structures and the dynamics of change depended on the growth rate of the centre. In the course of the city's growth, prestigious as well as degraded areas, inhabited by a poorer population, emerged within the city. The problems of social inequality are an aspect frequently addressed in the current economic literature, also concerning contemporary cities, and are based on different methodological approaches [3]. One aspect of inequality is its

spatial dimension, which is clearly visible in medium and large cities. It could take different scales, from a house to the neighbourhood. It also had different faces, such as marginalisation, exclusion and gentrification [4], [5].

Social stratification in the pre-industrial city was reflected in both material and intangible culture, including the form of a house. The bourgeois house was considered an attribute of belonging to an urban community [6]. However, already during the period of the formation of the charter town in Central Europe, a house was also a tool for displaying the ambitions and financial capabilities of the townsmen. Studies taken by architecture and art historians often focus on the outstanding and most prestigious elements, beyond the standard of habitation [7]–[9]. On the other hand, the results of archaeological research contribute information about the quality of life in different parts of the city but are often only able to address the architecture and interior design to a limited extent [10]–[12]. Very rarely is it possible to capture an aggregate picture of the housing conditions of the entire urban community.

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Subject and aim of the research

This paper addresses the problem of validating the residential space of a historic city on the basis of analysis of architectural elements and their spatial relations. The basic assumption adopted in the presented model is the existence of residential space of various quality within the city. The differences in quality are related to the way space is developed, the distance from the focal points of the city, the availability of infrastructure and the presence of positive and negative neighbourhoods. It was assumed that some elements of urban space increase the value, others decrease it, and some are neutral. The object of interest is the “non-public” space, built up with bourgeois houses and their facilities. Public squares and streets, gardens, cemeteries, as well as religious and public buildings, manufactures without a residential part and fortifications were excluded from the subject of the study, however they were treated as elements affecting the residential space [13].

In the case of positive impacts, there was an amplification effect – a prestigious building made its immediate neighbourhood more prestigious and increased its value. On the other hand, a troublesome neighbourhood – due to perceived negative aspects, such as noise, unpleasant smell or “negative symbolic and moral connotations” – caused a decrease in the comfort of living in the area, and consequently reduced the value of nearby properties.

This attempt at valorisation is intended to provide a better understanding of the historic city space, its structure and the dynamics of change. The study presented here seeks to identify the zones of the city preferred by the higher social strata, as well as those necessarily chosen by the poorer.

State of the research

Space valorisation is a tool used today in planning and management. It is understood as an assessment of the possibility of a given spatial unit to fulfil a specific function: residential, agricultural, industrial or recreational, taking into account selected characteristics of space [14]. Valorisation methods are also used to assess the natural values and tourist attractiveness of regions. So far, spatial valorisation methods have not been used in historical studies.

Among the valorisation methods used in the assessment of the natural environment and spatial planning is the scoring method [15]. This method makes it possible to assign a point value (quantitative) to individual qualitative characteristics (diagnostic variables). Summing up the points for individual features allows for a synthetic evaluation of a given spatial unit in terms of its attractiveness, as defined from the research point of view. The synthetic value may be based on a system of weights taking into account the value of the dominant factor or it can be modified in the case of a specific variable.

The theoretical basis of this study is inspired by elements of the holistic model of real estate appraisal [16]. This model assumes that each heterogeneous good is

characterised by a set of consumer- and producer-relevant characteristics that are relatively homogeneous. It therefore requires determining which factors were decisive in the perception of the living space and impact its value. In doing so, we consider “value in use” as defined by Adam Smith, akin to its utility, and ability to satisfy needs [17]. The factors we take into account in the case of modern property valuation are different from those that were relevant in past epochs. In order to identify them, historical studies were necessary.

The evaluation of the space of a historic city, unlike the methods used in planning, is verified by confrontation with written and material sources, and aims to match potentially obtainable data, for example in the course of future archaeological research. This links it to the sociotopographic method, which is the study of past urban society and its spatial structures [18], [19]. The basis for research on urban sociotopography are historical sources, primarily various types of tax registers, rent books, documents of purchase and sale transactions, inventories, wills, but also iconography, historical cartography and material sources. The sociotopographical method, however, does not undertake value judgements and does not allow extrapolation to areas about which the sources are silent.

Inspired by the above methods, an attempt was made to develop a model for valuing the city’s living space in different periods of time. Its result is a presentation of information from different types of sources in a spatial context. The method is easy to modify, making it possible to create similar summaries for other centres and different historical periods, ignoring differences in monetary systems.

Description of the method

The main features that characterised the property and could influence its value were identified on the basis of analyses of source material, iconographic representations, historical, cartographic and archaeological documents. The factors were grouped into categories: location, technical and economic aspects. Due to the specific layout of the pre-industrial city, enclosed by a ring of town walls, which constitute the impassable boundary of the municipal law, it was decided to select basic fields that correspond to the blocks of buildings. The block of buildings was defined as urban development complexes separated by traffic routes or other boundaries, watercourses or city walls. This division resembles neighbourhood structures [20]. This also facilitates the interpretation of the obtained results. In the case of cities with a subdivision of about one hundred building blocks, such an analysis would be sufficiently informative. However, the existence of significant size differences between blocks can be a problem. In some cases, it may be justified to combine smaller blocks or to subdivide exceptionally large blocks in order to standardise the size of the basic unit. Building blocks occupied by public buildings were eliminated from the assessment.

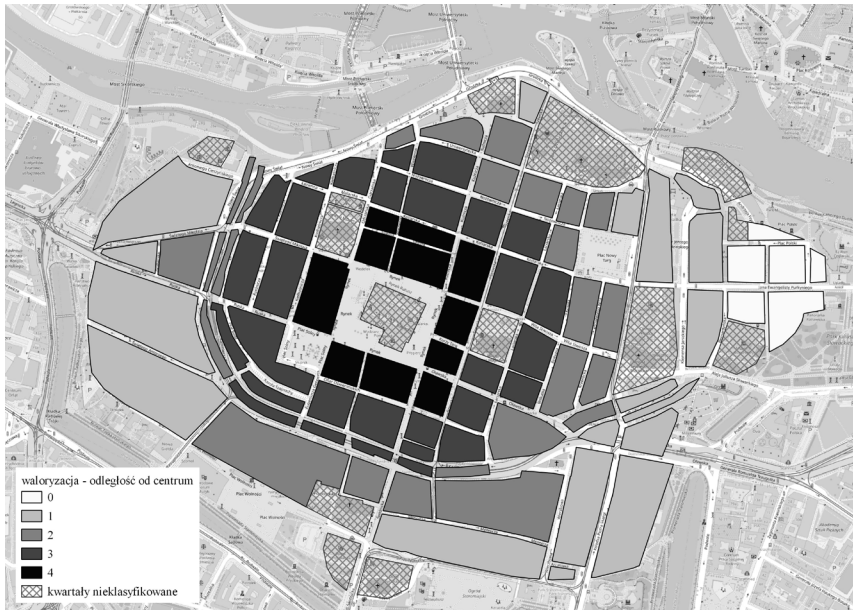


Fig. 1. Wrocław around 1550. Distance of individual quarters from the centre, scale divided into five categories (elaborated by M. Legut-Pintal, M. Grosel)

II. 1. Wrocław około 1550 roku. Odległość poszczególnych kwartałów od centrum, skala według podziału na pięć kategorii (oprac. M. Legut-Pintal, M. Grosel)

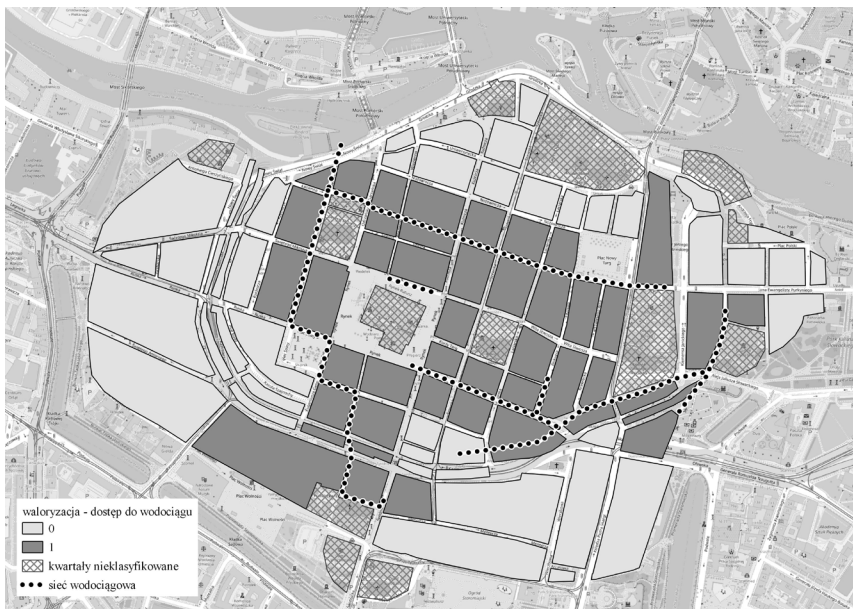


Fig. 2. Wrocław around 1550. Quarters with access to municipal waterworks (elaborated by M. Legut-Pintal, M. Grosel)

II. 2. Wrocław około 1550 roku. Kwartaly z dostępem do wodociągów miejskich (oprac. M. Legut-Pintal, M. Grosel)

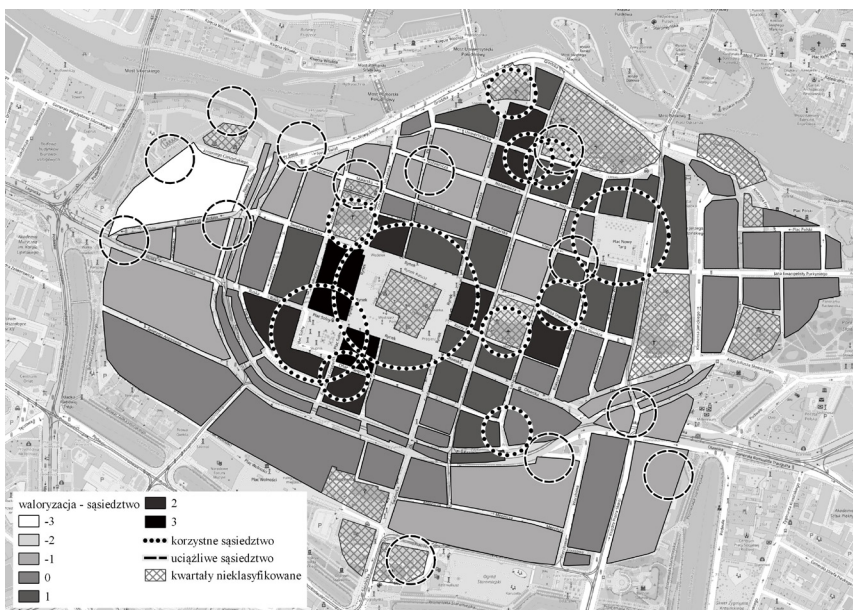


Fig. 3. Wrocław around 1550. Map of good and bad neighbourhoods - colour intensity corresponds to a point scale (elaborated by M. Legut-Pintal, M. Grosel)

II. 3. Wrocław około 1550 roku. Mapa korzystnego i uciążliwego sąsiedztwa – intensywność koloru odpowiada skali punktowej (oprac. M. Legut-Pintal, M. Grosel)

Wrocław – case study

The spatial structure of left-bank Wrocław was a result of a multi-stage process [21]. The central part of the urban layout consisted of a rectangular square around which a grid of approximately perpendicular streets was delineated. The densely built-up area was surrounded by a defensive wall and a moat. By a deed of 1261, the area outside the walls was incorporated into the town. In 1263, the New Town was founded. In the years 1299–1345, the enlarged city was included in a new perimeter of the city wall. At the end of the Middle Ages, the area surrounded by the ring of fortifications covered nearly 100 ha. The structure of this area survived almost unchanged until 1807.

In the case of Wrocław, we do not have a source allowing us to determine the variability of real estate prices in the pre-industrial period. Mateusz Goliński examined the social topography in detail and showed the transformations of urban space in the Middle Ages [18]. However, it does not reach deep into the modern period. Tax registers from the Baroque period are the most informative source about the assets of property owners but linking them to specific properties is difficult [22].

Historical plans and vedute provide insight into the architectural and spatial structure of the city. Most of them represent the city's residential district only symbolically and cannot be treated as historical sources [23]. However, there are plans of Wrocław characterised by great detail: Weihner's plan from 1562, known mainly from a 19th-century copy, the Vroom-Gross plan and the Hayer plan. Among the reliable ones is Werner's drawing plan from around 1750. In many places, however, the plans have been simplified, and residential buildings, as the least interesting, were treated schematically by the authors. Complementary data for the study of urban space are brought by historical-architectural research and studies in the history of urban planning [21], [24]–[26]. Large-scale rescue archaeological excavations in city centres have often allowed the recognition of structure and development dynamics of entire building blocks [27], [28]. The results of the architectural and archaeological investigations allowed for in-depth studies of the quality of material culture on selected plots.

Elements of urban space have changed over time, for example due to new developments, degradation of the urban fabric or disasters. The results of the analysis will be more accurate the shorter the time slice for which we acquire a set of data. However, we assume that, apart from certain violent events, such as war damage, fires and the subsequent reconstruction of the city, the response time to change is relatively long. Hence, it seems that collecting source material from a longer period of time, for example, 30–50 years, of which it is known that there were no violent events affecting the change in the structure of the city, will not result in significant distortions on the scale of the entire centre. The determination of the time period for which the data will be comparable should be considered sep-

arately for each surveyed city, as it may depend on the dynamics and specifics of its transformation. In order to carry out the analysis on the example of Wrocław, two moments were selected: around 1550 and around 1750. The first was documented on a 1562 Weihner view plan and represents a city at the end of the Middle Ages, still having some unbuilding reserves for further development. The second representation of the city around 1750 is in Friedrich Bernhard Werner's panorama. It shows Wrocław at a time when building reserves were exhausted and it was necessary to increase the height of buildings .

Residential blocks were assessed in all identified categories, creating tables of attributes. The source of input data included the mentioned iconographic documents, historical socio-topographic analyses [18], documentation from archaeological and architectural studies, and their compilations [24], [26]. Due to the presence of different types of variables, the point range was determined for each variable separately (see below). Analyses and cartographic materials were developed in a GIS environment. The overall assessment consisted of the sum of partial ratings. Blocks that received the highest cumulative ratings were considered the most attractive for habitation, while those with the lowest ratings were deemed the least attractive.

Analysis results – Wrocław around 1550

1. Distance from the city centre

This distance for Wrocław was defined as the distance of the centroid of the building block from the central point of the main market square. In order to assess a five-point scale was applied using Jenks natural breaks classification method. The highest score was given to areas near the market, the lowest to those furthest from the centre (Fig. 1). The most peripheral zone was located in the New Town. Significant distances from the market were also characteristic of sectors located in the outer city, in the vicinity of the outer gate of Mikołajska Street and the gates of Świdnicka, Sakwowa and Oławska. The building blocks located in the northern part of the Old Town, within the inner perimeter of the walls, near the castle and near the Piaskowa Gate, were also characterised by a relatively large distance from the centre.

2. Access to clean water

The course of the city's water supply system in the 16th century was mapped based on historical and archaeological sources. At this time investments were made to bring clean water to the plots. A system of water pumps (Wasserkunst) was modernised, pumping water from the Oder and Oława rivers into ceramic waterworks. In the mediaeval period, clean water could be drawn directly from the canal of the Oława, the former city moat. However, in the 16th century, its cleanliness deteriorated, and the proximity to the river ceased to be an advantage. The plots adjacent to the water supply were considered to have access to water and were given a score of 1, the others were given a score of 0 (Fig. 2).

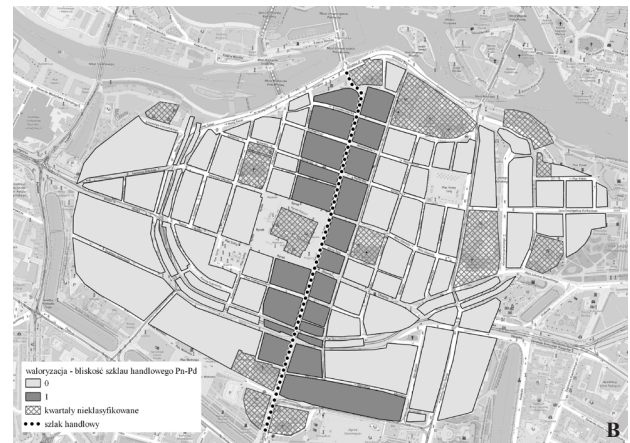
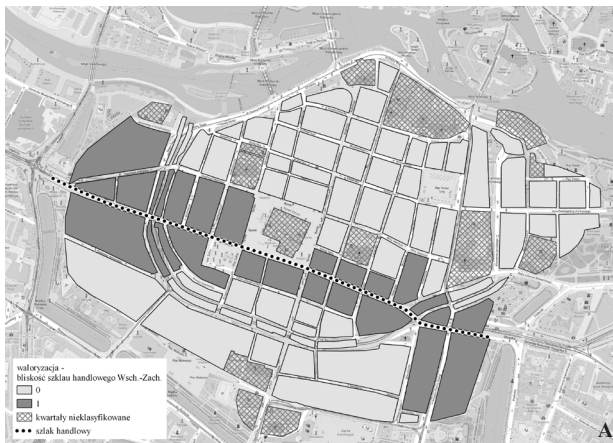


Fig. 4. Wrocław around 1550. Proximity of the trade route: A – east-west route, B – north-south route (elaborated by M. Legut-Pintal, M. Grosel)

II. 4. Wrocław około 1550 roku. Sąsiedztwo szlaku handlowego: A – szlak wschód-zachód, B – szlak północ-południe (oprac. M. Legut-Pintal, M. Grosel)

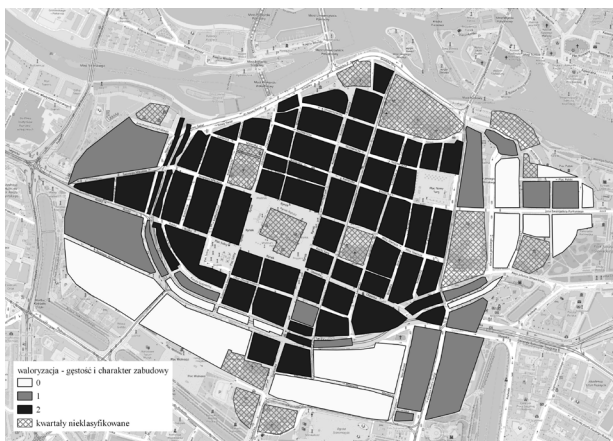


Fig. 5. Wrocław around 1550. Density and character of development – dark quarters mean compact development, light ones indicate a significant share of green areas (elaborated by M. Legut-Pintal, M. Grosel)

II. 5. Wrocław około 1550 roku. Gęstość i charakter zabudowy – ciemne kwartały oznaczają zwartą zabudowę, jasne wskazują na znaczny udział terenów zielonych (oprac. M. Legut-Pintal, M. Grosel)

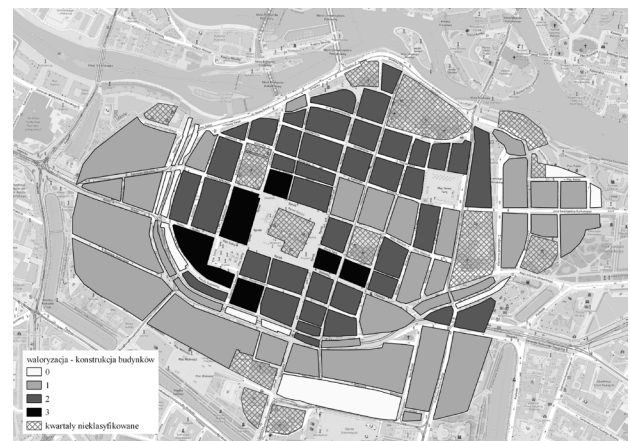


Fig. 6. Wrocław around 1550. Quality of residential buildings – the intensity of colour means an increase in the quality of buildings, from wooden to multi-story brick buildings (elaborated by M. Legut-Pintal, M. Grosel)

II. 6. Wrocław około 1550 roku. Jakość zabudowy mieszkalnej – intensywność koloru oznacza wzrost jakości zabudowy od drewnianej po wielokondygnacyjne budynki murowane (oprac. M. Legut-Pintal, M. Grosel)

3. Good and bad neighbourhoods

Based on historical sources, a catalogue of elements influencing the perception of neighbourhoods was identified. A favourable neighbourhood was associated with the proximity of one of the market squares. The influence of the market extends to all blocks near the market. The prestige of the neighbourhood was also enhanced by the seats of the authorities and the residences of the elite. In the middle of the 16th century, Wrocław there were a few ducal houses of the Dukes of Brzeg, Oleśnica and Opole, as well as spectacular residences of the bourgeois elite.

The facilities generating impacts that diminished the value of space included: hospitals, shelters and prisons were excluded, sick and poor people gathered. Large production plants such as municipal slaughterhouses, foundries or tannery clusters generated burdensome impacts, including noise, smell, fire hazard.

The map shows points that may have both a positive and negative impact on the value of neighbouring buildings. Favourable influences increased the score by 1, and unfavourable influences decreased it by 1. In the case of an apartment block that has several factors at play, the points add up (Fig. 3).

4. Proximity to the trade route

Wrocław was intersected by two main trade routes: the east-west route known as Via Regia, connecting Kiev to Western Europe, and the north-south route leading from the Bohemia to Greater Poland and Pomerania. The arrangement of these routes inside the city walls underwent changes. During the period of interest, the main course of the east-west route connected the Oławska Gate and Mikołajska Gate. The north-south route connected the Świdnicka Gate and the New Oder Gate, near the impe-

rial castle. These routes intersected in the southeastern part of the market square. A parallel thread of the route running from south to north through the Sakwowa Gate and Piaskowa Gate was removed with the elimination of the Sakwowa Gate. The proximity of the trade route was suitable for commercial premises and for people engaged in merchant traffic, including inns and beer brewing. Having property near it should be considered positive from the point of view of income opportunities. The building blocks adjacent to the trail received 1 point, the others 0 points (Fig. 4).

5. Density and character of plot development

Dense development occurred within the boundaries of the inner town, within the first city walls and along the main roads leading out of it. Homestead development characteristic of the suburbs was found in the New Town and in the southern part of the outer city, along the outer city walls. On the basis of the degree of development of the plot and the proportion and nature of green space within the plot, the following categories corresponding to the scores were determined (Fig. 5):

- 0 – undeveloped area constitutes more than half of the building block's area (vegetable gardens, orchards, farm character), suburban type of development,
- 1 – continuous development, developed area constitutes 25–50%, there is free space for development (building reserve),
- 2 – continuous development – indicating that the buildings on the street frontage are connected in all four sides within the building block; undeveloped area constitutes less than 25% of the sector, no building reserve, there may be greenery with features of a decorative garden, courtyards surrounded with buildings.

6. Building construction

Due to the parameters of building construction that can be determined from the sources, four categories were distinguished for the assessment of individual building blocks (Fig. 6):

- 0 – predominantly low-rise buildings (one or two storeys), numerous timber-framed buildings (main and outbuildings), numerous shingle roofs;
- 1 – brick buildings (two or more storeys), single outbuildings and half-timbered buildings, also occasionally with shingle roofs;
- 2 – all brick buildings, two or three storeys, tile roofs;
- 3 – all brick buildings, three, four storeys or more, tile roofs, there are buildings with prominent prestige features (for example, with attics, decorative gables, arcaded courtyards).

The Weihner plan clearly differentiated the construction of buildings, including roof coverings. Zones of inferior wooden buildings, potentially vulnerable to fire, were not only found in the peripheral area furthest from the centre by the walls. Buildings of flimsy materials occurred in large numbers along the inner moat, in the area formerly occupied by the fortifications, which was parcelled out in the mid-14th century. Some of these, on the

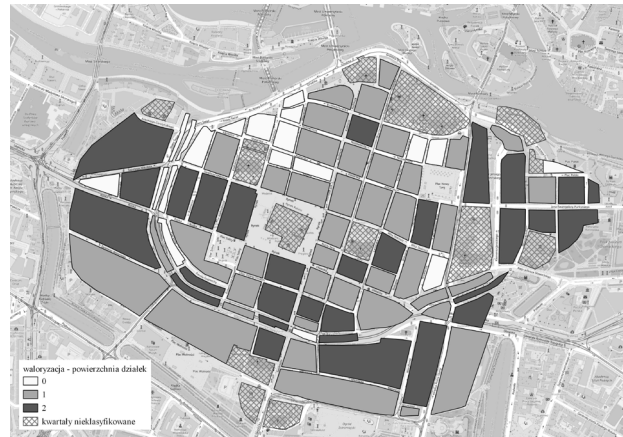


Fig. 7. Wrocław around 1550. Assessment of the average plot area – a low rating was marked in white (it was obtained by plots with too small and too large an area) (elaborated by M. Legut-Pintal, M. Grosel)

Il. 7. Wrocław około 1550 roku. Ocena średniej powierzchni działki – niską ocenę oznaczono białym kolorem (uzyskały ją działki o zbyt małej oraz zbyt dużej powierzchni) (oprac. M. Legut-Pintal, M. Grosel)

west and east sides of the town, were occupied by small plots of land without facilities inhabited by poorer craftsmen. In the south-central part, wooden buildings formed the hinterland of the richer patrician plots. Only in a few sectors within the inner city were there isolated outbuildings covered with shingles. The most prestigious buildings, characterised by architectural ornamentation: attics, bay windows, rich gables, portal and façade decoration. They were located, with few exceptions, around the Market Square and Solny Square.

7. Average plot area

The average plot area in a building block was calculated by dividing the area by the number of plots or front buildings. In Wrocław, no linear relationship was found between the average plot size in a building block and its development. It seems that both very small plot size and very large plot size were not desirable. Plots that were too small indicate a small house area and lack of facilities, while plots that were too large most often indicate empty space – a building reserve or homestead character of the development. Plots of average and slightly above average size were considered optimal. Plots were divided into five categories using the Jenks natural breaks method and then assigned a point scale (Fig. 7):

- 1 point – very small plots,
- 0 points – small plots,
- 1 point – medium plots,
- 1 point – large plots,
- 0 points – very large plots.

Overall assessment

A synthetic picture of the attractiveness of residential space was created by summing up the scores for individual building blocks. It was noted that the concentric model is dominant in the distribution of space quality in the city, with distance from the centre being crucial to the prestige

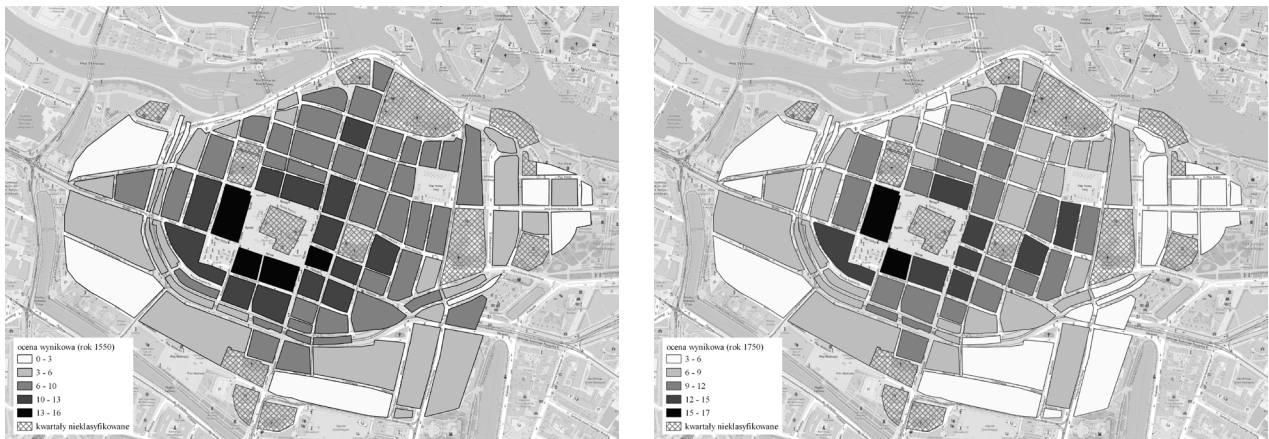


Fig. 8. The synthetic assessment of residential space for Wrocław in 1550, and in 1750 (elaborated by M. Legut-Pintal, M. Grosel)

II. 8. Zestawienie syntetycznej oceny przestrzeni mieszkalnej dla Wrocławia w 1550 i 1750 roku (oprac. M. Legut-Pintal, M. Grosel)

of the location. It was also possible to note sectors that break out of this model, indicating the importance of other factors such as plot size, quality of development, neighbourhood and proximity to commercial routes.

Analysis results – Wrocław ca. 1750

In order to determine the usefulness of the indicated method in the study of the dynamics of change within the city, an analogous procedure was carried out for data from Wrocław circa 1750. Due to the need to adapt the model to changing cultural norms, as well as the availability of other sources, it was necessary to adjust some parameters. Some of the factors examined remained unchanged, for example distance from the centre, the course of trade routes. Some factors lost their importance, like access to the water, which became common during this period. Location of new developments, such as the forced labour house and military casemates associated with the construction of the fortress, and the elimination of others: the relocation of hospitals, the transfer of the imperial castle to the Jesuits, the loss of the status of princely residences, affected their neighbourhoods. These factors, together with the emergence of new trends and the availability of plots of land, have also resulted in a change of preference in the location of the palaces of the elite. The evaluation of the criteria of building density and construction was verified, observing an overall increase in the density and quality of buildings across the centre.

Results of the comparative analysis

Although there were no dramatic changes within the city walls of Wrocław during the period under study, the synthetic assessment of Wrocław from around 1750 differs in several aspects from the one two centuries earlier (Fig. 8). The overall score of individual blocks increased, especially in terms of the density and quality of housing, which corresponds to the increase in population. The zone of higher ratings has also moved further outwards from the centre, covering even the areas directly bordering the fortifications, which is related,

among other things, to the inclusion of large plots of land in the outer city in residential developments. The decline in the assessment of residential space in some sectors can be linked to the negative effects of new developments, including those associated with the construction of the Prussian fortress.

Verification of the method

The state of preservation and compilation of historical sources for Wrocław makes it impossible to create a map of property values around 1550 and around 1750 based on transaction price data. However, the preserved tax records allow the property tax value to be assigned to property owners on individual streets [22]. Unfortunately, according to the source it is not possible to assign them to individual properties. The analysis of this material does, however, make it possible to approximate the zones with the highest and lowest tax-paying owners. The juxtaposition of the picture obtained by the scoring method with the tax sources from 1564 and 1726, confirms the observations regarding the economic zoning of the town.

However, slight differences indicate the existence of factors that have not been identified and taken into account in the model, e.g., location of places with a bad reputation, destruction of real estate. The observed differences may result from both model imperfections and a different tax calculation methodology, which included all property owned by the owner, not just a selected property.

Discussion

The factors used in the above model and their evaluation can be discussed. We assume that the catalogue of attributes may vary depending on the specific characteristics of an area. The assessment of the attributes and their weights should also be carried out with adaptation to the spatial, economic, social and cultural conditions of the city in question. Where access to water has been widespread, it will not affect property values; where it has been rationed, it will be a significant factor.

The extent and intensity of the impact of factors is difficult to estimate, for example the spread of adverse odours in a town, the extent of the impact of a market square or a trade route. For some attributes, their influence on the assessment depends very much on the adopted valorisation objective. The same neighbourhood, from the point of view of residential comfort, may be perceived as favourable or oppressive. From the point of view of the value of the property, which can provide an additional source of income, for example from renting the premises, the impact of such a neighbourhood is positive. If we take into account, for example, the noise generated by traffic and tavern-goers, then from the point of view of the quality of habitation such a neighbourhood would be negative. Hence, patrician families preferred streets away from the main thoroughfares for their residences.

Other factors that influenced the use value of individual properties were impossible to determine on the scale of the entire centre. In the case of Wrocław, we have no way of determining the residential area of the buildings, which appears to be a fundamental component of valuation for real estate. However, it can be considered that this characteristic is correlated with values such as location, building density and building construction – primarily the number of storeys. It can be assumed that in this case the multi-dimensional nature of the analysis compensates to some extent for the lack of this information.

The choice of a basic unit in the form of a building block may have an impact on the overall model. This choice is dictated by practical considerations and facilitates analysis, there is no need to exclude streets, squares and public buildings from the area of the unit. However, the problem of different sizes of units arises. In the case of Wrocław, there is a clear difference between the regular building blocks of the inner city and the large blocks of the outer city. In other centres, these differences may be even greater. With large sectors, we may have to deal with significant inequalities within a building block, which will be averaged out and not visible in the aggregate model. Written sources show that the tax assessment value for plots located on two streets in the same block may have differed significantly. A solution to this problem could be to divide quarters into smaller units or to take artificial subdivision units, for example, a grid of squares or hexagons, but this may lead to a reduction in the clarity of the results.

Conclusions

The simplified space assessment method used in the above example provides a way to visualise processes that have so far been presented descriptively and intuitively. It can also complement historical studies based only on tax sources. The method will find application both in studies of the dynamics of transformation and in comparative analysis between cities. In the comparative analysis of pre-industrial cities, it is necessary to take into account the diverse source base for research and the possibilities of its elaboration. For many cities, especially those in Central Europe, archive documentation is often preserved fragmentarily, having been destroyed during wars and fires. In the case of large European centres, the data are often so numerous that their compilation exceeds the capabilities of research teams. The possibility of a wider application of the model to other cultural conditions requires adjusting the set of attributes or expanding the number of categories. Different elements may be relevant depending on climate, environmental conditions, and cultural context.

In the course of further research, we plan to develop and refine the methodology for comparative studies of cities. The advantages of the model include conducting dynamic analyses, the possibility of modifying the model in the event of acquiring new data, as well as using it to create visualisations. We believe that the proposed approach can also be adapted and applied to the evaluation of contemporary cities in terms of their historical value. It is worth emphasising the potential of using geographic information system tools to analyse the structure of a historical city, rather than just illustrating historical data [29].

The undertaken problem of assessing the residential space of a pre-industrial city does not exhaust the problem of wealth inequality within the city. This is because both the lowest strata of society, who did not own property – the poor, renters, and the richest strata, who owned several properties in the city, properties outside the cities or in several cities, escape from the analysis. The picture could be complicated even within a single property, owners, servants and tenants of varying wealth status resided. Many elements of property status are elusive in spatial analysis and require in-depth sociological and historical studies.

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Streszczenie

Ocena przestrzeni mieszkalnej miasta przedindustrialnego. Przykład Wrocławia w XVI i XVIII wieku

Nierówności społeczne w miastach miały swój przestrzenny wymiar już w czasach przedindustrialnych. Na jakość przestrzeni mieszkalnej w mieście historycznym wpływały różne czynniki, takie jak odległość od centrum miasta, bliskość infrastruktury, dostęp do wody, szlaków handlowych, targowisk, a także niekorzystne lub uciążliwe sąsiedztwo. Wartość nieruchomości zależała od ich funkcji, stanu konstrukcyjnego budynków, wielkości budowli i działek. W artykule zaproponowaliśmy metodę oceny i waloryzacji przestrzeni mieszkalnej miasta przedindustrialnego opartą na ocenie jej wartości użytkowej. Przeprowadziliśmy analizę na przykładzie Wrocławia, średniej wielkości miasta w Europie Środkowej. Wykorzystaliśmy dane historyczne, archeologiczne, ikonograficzne i analizy geoprzestrzenne opracowane w środowisku systemu informacji geograficznej. Ocenę w ramach poszczególnych czynników przeprowadziliśmy dla podziału na kwartały dla dwóch okresów – około 1550 roku i około 1750 roku. Porównując wyniki dla tych dwóch okresów, podjęliśmy próbę prześledzenia zmian, jakie zaszły w wyniku rozwoju miasta i wydarzeń historycznych. Ogólny obraz pozwolił nam stworzyć charakterystykę przestrzeni mieszkalnej w całym mieście. Metodę zweryfikowaliśmy, porównując otrzymane wyniki z danymi z ewidencji podatkowych. Uzyskany wynik jest zgodny z wiedzą dotyczącą przestrzennego rozkładu bogactwa w mieście, co wskazuje, że model może być zastosowany do analizy innych miast, w których nie zachowała się dokumentacja podatkowa.

Słowa kluczowe: metoda bonitacji punktowej, historyczny system informacji geograficznej, przestrzeń mieszkalna