HOUSING ENVIRONMENT 37/2021 PRZESTRZEŃ, ARCHITEKTURA, NATURA / SPACE, ARCHITECTURE, NATURE e-ISSN 2543-8700
DOI: 10.4467/25438700SM.21.031.15130

AGATA KANTAREK*, IVOR SAMUELS**

Housing as a mediator between the public and private realms; a comparison between housing tissues in Krakow and Oxford

ABSTRACT:
This paper traces how very different patterns of historical development of two cities have impacted on their housing tissues as they have evolved over the last 200 years. Using cases from Krakow and Oxford, a selection of urban tissues will be investigated in relation to the way the housing unit, whether house or apartment, relates to the public realm of the city. The chosen cases exemplify the difference between English cities, predominantly of terraced, semidetached or single houses, and Continental European cities which have predominantly evolved as apartment tissues. This difference is emphasized by recent figures showing the different proportions of house types in European countries. The way these tissues have evolved in relation to broader social and political contexts is discussed. Finally the argument is brought up to date by considering ways the concepts of modernism and recent global forces are imposing similar patterns of development in both cases. The authors in addition to their academic affiliations have had considerable practical experience in the field of housing in their respective contexts.

Keywords: public and private, urban regulation, positive and negative space, superblock, terrace, urban block

1. Introduction

There is no doubt that housing builds cities if only because housing is the single biggest urban land use. The form of cities is a powerful determinant of the form of its housing and this paper will examine sample tissues in the contemporary space of Oxford and Krakow from the point of view of different types of housing form with respect to their public and private realms. While the focus of this study is the current form of housing, "the structure of the city can be comprehended only within its historical continuity"[1], it is therefore necessary to start with a brief historical review of the chosen cities which establishes the context for the more detailed investigations.

The two cases, Oxford and Krakow, were chosen because, although differing n size they are similar in other respects. They were both established in the Middle Ages and developed at the confluence of a number of rivers and were circumscribed by land subjected to flooding. Both incorporated smaller settlements at a later date although those of Krakow were much bigger and more established towns. They were and still are the homes to important and ancient universities which have influenced their growth patterns. Today both cities remain important centers of higher education and research. In Krakow, there are 130,000 students (17% of the city's population); in Oxford 50,000 (about 30% of the city's population). Oxford and Krakow are also cities attractive for tourists. Oxford is visited annually by 7 million tourists[2], and Krakow by over 14 million[3]. They are both located in regions which have experienced economic growth over the last two decades, unlike other less favored parts of England and Poland and they both continue to be subject to development pressures. Today Krakow is five times the size of Oxford which has 150000 inhabitants and the way their respective housing areas have evolved is very different. These differences are the topic of this study.

Although Oxford can be considered special because its centre is dominated by extensive university buildings whose form is derived from monastic institutions it also includes areas based on a medieval urban block structure with burgage plots. Later extensions demonstrate land subdivisions and housing types representative of different periods of English urbanism.

Krakow is an example of a city that grew up as a group of several smaller centers, dominated by the chartered city in the Middle Ages which developed to form an agglomeration with smaller centers, some of which were also planned. After WWII the urban form of Krakow was dominated by the social realist city of Nowa Huta and extensive areas of modernistic housing estates. Today its structure is a mosaic of a variety of urban tissues.

The structure of housing in Oxford and Krakow differs in terms of the percentage of the number of people living in single and multi-family buildings. This is a reflection of the situation in their countries. According to Eurostat statistics, in Poland, 43% of residents live in flats, while in the UK only 14%[4]. "The city dwellers of Britain live by tradition (…) in houses. Their

*Anna Agata Kantarek, Full Professor, D. Sc., Ph. D., Arch, Faculty of Architecture, Cracow University of Technology, https://orcid.org/0000-0003-2422-3797, mail: anna.kantarek@pk.edu.pl
**Ivor Samuels, AADipl. M.Sc. MRTPI Regd. Architect, Honorary Senior Research Fellow, Urban Morphology Research Group, School of Geography, University of Birmingham, Great Britain, https://orcid.org/0000-0002-7881-8975, mail: ivor.samuels@googlemail.com

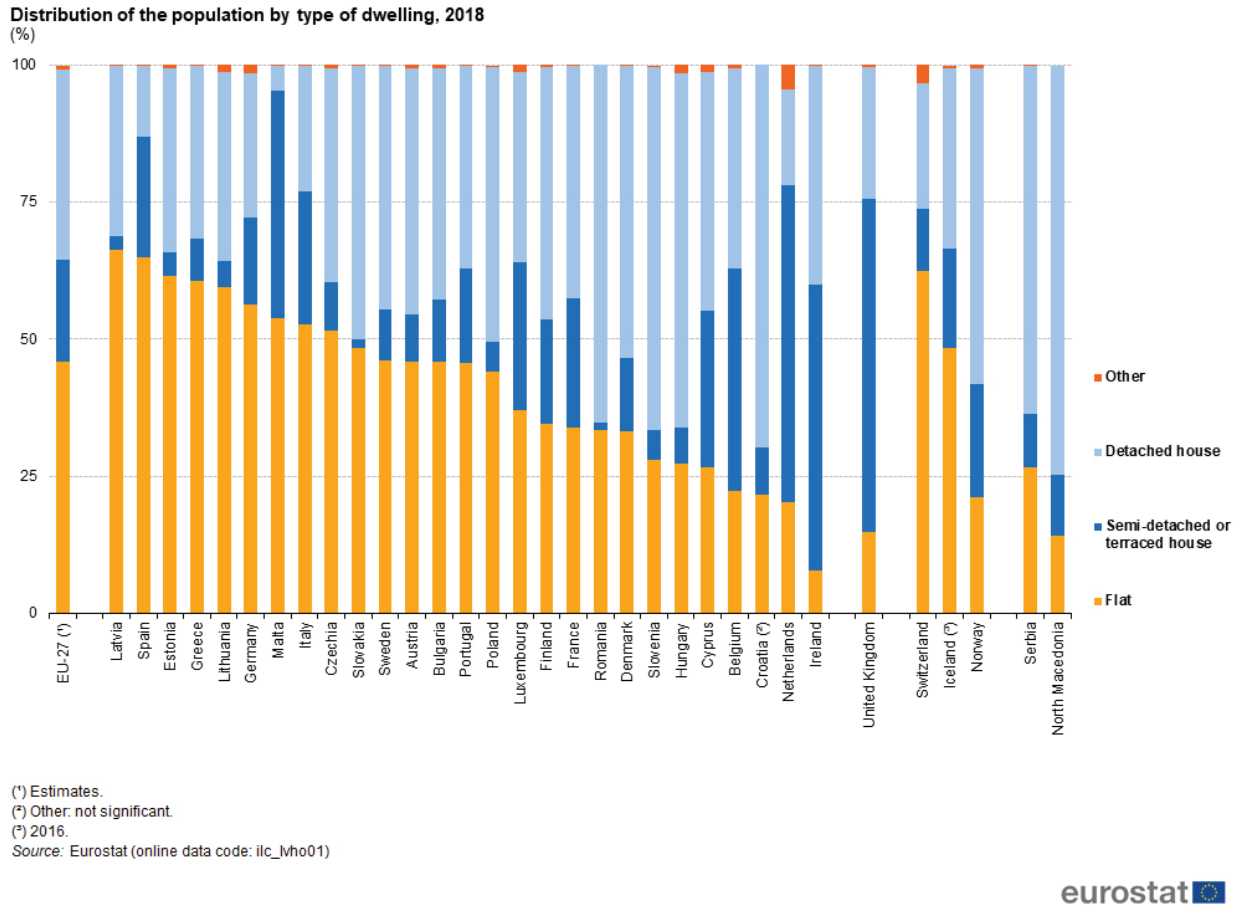

Fig. 1. Distribution of population by dwelling type, 2018 (Eurostat, 2018) https://ec.europa.eu/eurostat/statistics-explained/index.php?title=File:Distribution_of_the_population_by_type_of_dwelling,_2018_(%25)_LCIE20.png

counterparts on the continent of Europe occupy flats."[5]. This observation is supported by European statistics (Fig. 1).

2. Methods

Mmethodologically, the research is divided into the following phases:

- the historical background is examined to understand how housing in the cities of Krakow and Oxford has evolved and how its form has been determined by their history and topographical factors .
- the selection and description of those determining factors which have driven the form of housing development *(the regulatory system e.g. plans or codes, land ownership systems* and *the structure of the development industry)*
- a description of several chosen cases through the examination of contemporary housing tissues in these two cities. Concepts of XX century urban design convey the range of possible configurations between both volume and void, and the public and private nature of open space. Modernism by denying the traditional form of the city based on streets, squares and urban blocks opened an experience of wide open and large spaces in relation to human scale.
- searching for the types
- Several factors were taken into consideration: type of the origin of urban form, land parcelling system, three dimensional space types and functions and uses.

3. The historical background - the evolution of housing in Oxford and Krakow

3.1 The evolution of housing in the city of Oxford (Fig. 2)

Oxford is located on a gravel terrace surrounded on three sides by rivers and low lying flood plains which have constrained its development. Although it lay on a Roman route which crossed the River Thames at what is now one of its suburbs, it is first mentioned as a town in the 10th century[6]. Until the end of the twelfth century it grew as a trading centre of this based on local agriculture at a junction of land routes and navigable rivers, hence its name[7]. Within the medieval walls along a regular layout of streets, dwellings were built on long narrow plots; a form typical of English urban development of that period which has been extensively documented[8]. The plots were owned and the houses built by the burghers of the town. They were entered directly from the street and had a back yard. Some examples type of plot can still be seen in the city centre.

At the end of the twelfth century following a period of economic decline the institutions which were to

form the university began to grow in economic importance[9]. Their built form derived from their origins as monastic institutions. They still dominate the historic centre while the land holdings of the colleges which surrounded the city were important, and still are significant, in determining the form of Oxford's housing outside the medieval walls. Apart from some temporary earthworks erected during the Civil War (1642-51) when it became the Royalist capital of England, Oxford never had permanent defenses beyond the line of the medieval walls. Unlike most of its Continental contemporaries, its post medieval growth was never constrained by defensive systems which had to be continuously extended and rebuilt as the town grew and military technology evolved.

Oxford grew predominantly in a northerly and southerly direction from the walled town along routes which followed a gravel ridge which was free from flooding. This growth along routes was constrained by natural features and land ownership and not by defensive considerations. It enabled relatively low density housing to be built outside the walls. In the seventeenth century these dwellings took the form of narrow frontage terraced houses of a dimension similar to the medieval dwellings. Again there was an entrance directly from the street. In the eighteenth century this was in the form of larger terraced row houses and later as detached and semidetached dwellings. The introduction of basements enabled the main floors to be elevated thus providing a degree of privacy from the street.

Fig. 2. Oxford - general layout of the chronology of urban housing structure as existing: A - Castle and Old City, B - central part with the predominance of single-family housing and school and university buildings, C - housing zone (with a majority of single-family homes) (by Anna Agata Kantarek)

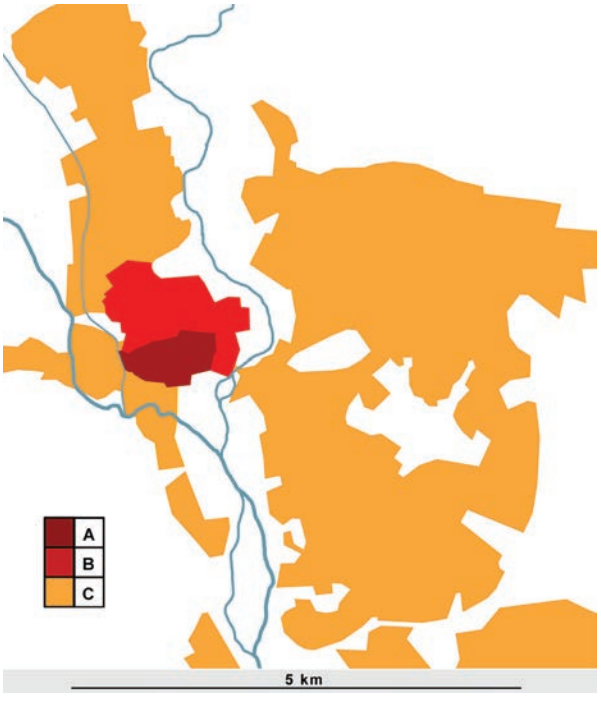

Fig. 3. Oxford - types. Plans: a b - old city urban block and university structure types (O1, O2) - Queens College; c d - terrace type (O3) - Bainton Rd., e f - terrace type (O3) Hayfield Rd (Google Earth, photos by Ivor Samuels)

With the construction of the Oxford Canal linking the city to the industrial Midlands and the arrival of the railway in 1844, suburbs housing industrial workers were also constructed. A number of very small villages were progressively incorporated into to the city including Cowley which was to become the site of the large Morris motor car factory which required the provision of affordable housing for its workers[10].

Workers housing of the nineteenth and early twentieth century followed the same arrangements while houses for the better off began to introduce a small semiprivate space in front of the house. A still higher status resulted in semidetached and detached houses being built, depending on the builders' assessment of the market potential. The eminent town planner Thomas Sharp described this expansion in his post war proposals for Oxford where he laments that the effect of the once "small and crowed city rising sheer on its patch of gravel above the surrounding water meadows" was under threat of being submerged by suburbs which might be part of "any other town in the kingdom"[11].

While earlier regulatory systems were mainly concerned with preventing the spread of fire, in 1877 Model Bylaws were introduced. As well as ensuring the provision of sanitary facilities and the minimum size of rear yards, they controlled the construction of the dwellings, for example by specifying window sizes. Adequate space in front of the dwellings was achieved by specifying street widths. These houses all had their own private entrances from the street and each tissue directly reflected the social status of the owners. Workers' terraces have front doors opening directly off the public street while those of the more affluent have

some sort of semiprivate space (a space which can be seen from the street) in front of the entrance. All the houses had private back gardens or yards. They exemplified English houses as described by Muthesius[12] and Edwards[13] and the evolution of the plan forms has been described in detail by Brown and Steadman[14]. A major impact on the form of the city, in particular on housing, has been brought about by the introduction of the Oxford Green Belt. This policy, was first proposed in 1958 but was only implemented in 1975, with the intention of controlling urban growth in the County of Oxford. Covering 660square kilometres it affects all the five surrounding District Councils as well as the City itself[15]. It has enabled these rural and predominantly politically conservative councils to halt the spread of Oxford which is tightly contained by its legislative boundaries. These councils have used their planning powers to support the Green Belt with the resulting conservation of much of the surrounding natural landscape . However the difficulty of finding land for new housing has resulted in the increase of house prices within Oxford so that they are among the most expensive in England relative to incomes. A recent City Council report citing the Office for National Statistics noted that the median house price in the city was 12.55 median earnings compared with a ratio of 7.83 for the whole of England[16].
The restrictions on building have resulted in lower density family houses being constructed in towns beyond the Greenbelt. This has produced problems of congestion brought about by workers commuting into the city along inadequate transport networks. The response by the city has been to build higher density apartment blocks on the edge of the city which are a departure from the single family houses which were such a major characteristic of the last century of development.

3.2 The evolution of housing in the city of Krakow (Fig. 4)

Krakow is located on sloping land along the Vistula river and its smaller tributaries around the Wawel Hill which has been the centre of settlement since prehistoric times. The first traces of settlement date from before 220,000. years ago[17]. Gradually these dispersed settlements began to concentrate around the Wawel Hill (8th century) followed by the appearance of the first chartered structures.[18].
The further stages of the urban development Krakow are defined by M. Motak as[19]:

1. The Krakow settlement complex before 1257. The establishment and development of an organic urban layout,
2. Post-charter Krakow 1257-1335. An orthogonal structuring of the urban layout,
3. Krakow and the successive post-charter towns 1335-1850. Urban development along a north-south direction,
4. The Krakow Fortress and Greater Krakow 1850--1949. A radial-concentric development of the urban layout,

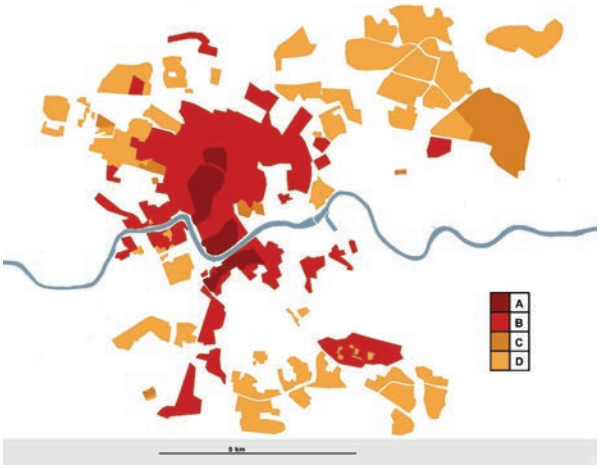

Fig. 4. Krakow - the general layout of the chronology of urban housing structure as existing: A - Historical city cores (Kraków, Kazimierz, Podgórze), B - Positive urban structure prior to 1945, C - Socialist urban structure related to housing, D - Modernist urban structure related to housing (by Anna Agata Kantarek)

5. Nowa Huta and the great expansion of Krakow 1949-1988. Urban development along the east-west direction,
6. Further development of Krakow after 1988. A stabilisation and intensification of the urban layout.

It should be emphasized that the urban development of Lesser Poland in the Middle Ages was based on chartered cities. Krakow is the biggest of the system of chartered cities built in Lesser Poland over several centuries. Between the XIII and XVII centuries, 284 cases of chartered towns being established can be identified, although some of them did not survive[20].
The main chartered city (Cracovia) from 1257 (according to the Magdeburg Law) has an outstanding geometry with a 200x200 m main market square and urban blocks on a 100x100 m grid (approximately 80 m for the urban block and 20 m for the street)[21]. This urban block system resulted in a typology of tenement houses formed by the streets with different forms of outbuildings[22]. The gable house fronts demonstrate a hierarchy of streets[23]. In chartered Cracovia we can also see small, back streets (now mainly built up) which serviced the plots. Rear and side buildings were developed on the plot, very rarely making a connection between the plots and passages. The urban block structure outside the old city (Cracovia, Kazimierz, Kleparz and others) was similar but with different sizes of plots and buildings. Over the centuries the Krakow agglomeration was expanded by adding small or large structures of nuclei (mainly of a planned character). Smaller complexes called *juridics* were private settlements while the larger ones (Kleparz, Kazimierz, Dębniki, Podgórze) were chartered towns.[24].
To sum up, the first three stages of Krakow's development were related to the creation of both the urban organism and its structure based on urban blocks with the burgher tenement house type and over time, also noble palaces as the main types of residences. This was accompanied by a more modest form of housing, including outbuildings, within the plots.
Throughout its history, Krakow was surrounded by successive defensive systems which functioned until

Fig. 5. Krakow - types. Plans: a - Cracovia old city urban block type (K1), b - Nowa Huta superblock type (K2), c - traditional street pattern type (Starowiślna St.) (K1), d - modernistic housing estate type (Jagiellońskie Es.) (K3) (Google Earth)

a century ago and which prevented urban expansion until the next system was built. This forced housing to be dense with high buildings. Development outside these defensive lines was prohibited since it would have offered cover to an attacker. Following the construction of new defensive lines, the obsolete walls and ditches became parks or boulevards, a pattern repeated in many European cities e.g. Paris, Vienna. The creation of the Krakow fortress (1846-1854) tightened the restrictions of spatial development of the city[25].

It was only the plan of Greater Krakow from 1910 and Poland's independence in 1918 that allowed for a more dynamic development of the city. Until WWII housing development was mainly developed as a system of streets/urban blocks defined by regulatory plans with the parcelling of plots and tenement houses. The structure was implemented through urban blocks divided into plots with buildings along the street line.

The loosening of the urban block structure, in line with the typologies proposed by modernism, was carried out in Krakow in the interwar period. Examples of this are, among others, the housing complex of the Military Quarter Fund (1929) and the workers' housing estate in Dębniki (1935)[26]. The logic of the form of a residential building results here from the functions of apartments and the internal transportation system, and not from the plot subdivisions.

After WWII, Poland came under the influence of Russian communism[27]. This meant, *inter alia*, nationalization of the land which allowed extensive modernist housing estates to be built. The first years of the period 1949-1989 were those of socialist realist urbanism, the main achievement of which is Nowa Huta[28]. Initially implemented as a separate city and intended for the families of employees of a newly established steel plant, it presents a typology of superblocks with wide streets (e.g. 60 m) and a secondary layout of access streets inside the superblocks. Most of the entrances to buildings are located inside superblocks, resulting in the reduction of local activity on the streets.

From 1956, housing developments in Krakow were mainly implemented in the form of Modernist housing estates. Their negative space[29] is fundamentally different from the traditional urban block complexes of the city. Multifamily residential buildings associated with the structure of housing estates are predominantly free-standing, long building blocks (*la barre*) or towers[30]. These modernistic housing estates became the dominant form of urban building with the networks of transit and transportation systems defining large superblocks but without a building line along the streets. Street sections started to be undefined, not only because of lack continuous building fronts but also because of the absence of active frontages caused by entrances, commercial ground floors etc[31]. Political changes after 1989 allowed the anarchic privatization of land and the new forms of development that have emerged very often depend on these hazardous patterns of tenure[32]. Contemporary architecture has to adapt to the requirements of the mosaic of ownership boundaries, which is the result of pre WWII historical divisions as well as the effects of expropriation and nationalization of land during the communist period. The form of these multi-family buildings is usually free-standing on separate plots with minimal links to the neighboring plots[33].

Today Krakow's structure is a mosaic of different kinds of historical structures with urban infill of different characters with a confused layout due to historically complicated plot ownerships and the absence of enforced urban planning regulations. The absence of a masterplan for urban development created (through the bottom-up structure) an uncoordinated addition of separate developments and a high degree of spatial disorder. To summarize, in the overall scale the layout of development is based today predominantly on a hierarchy of roads and separate often incidental fragments of the city with dense residential buildings on separate, disorganised plots with minimal exposure to sunlight and random, irrational connections to the public space system. This produces a great deal of lost space that disrupts orientation and generates dangers, as well as hinders the economic use of space and the rational construction of pedestrian networks.

4. Determining factors

Three factors were chosen as dominating the process of urbanization: *the regulatory system e.g. plans or codes, the land ownership system* and *the structure of the development industry.*

4.1. The current regulatory system e.g. plans or codes

United Kingdom The recently adopted National Planning Policy Framework (Ministry of Housing Communities and Local Government, *National Planning Policy*) emphasizes design quality and the need to deliver

housing in the face of an acute shortage in some locations and rising prices. It also stresses the need to retain green belt boundaries and take into account those neighborhood plans which have been adopted. These are the result of localism policies introduced in 2011 which has seen these plans prepared by local communities often with minimum professional input. These demands on the planning system are set in a context of planning staff having been reduced by 15% between 2006 and 2016 and a process of de-regulation which has resulted in the average size of the British new home being the smallest of 15 Europe Countries[34]. The emphasis on localism and the absence of planning across local authority boundaries has resulted in a mismatch between planning and the way people live their lives by working and living across these boundaries.

Poland Poland has no Master Plan as a basic tool of urban development. The current law[35] is theoretically based on a document called *Study of conditions and directions of planning development* which contains a general spatial policy of Municipalities but is not a local law. This study is obligatory but *Local Area Developments Plans* (as a local law) are not[36].

That is why the main tool which is used today is the *The decision on the conditions of development and land use (WZiZT)*. It is an administrative decision made on the basis of a subjective analysis in a bottom-up process. This decision does not have to follow *the Study* and often contradicts its principles.

The result is that since the adopted planning system prevents the development of cohesive urban space[37], development progresses from the bottom-up i.e. *plot-by-plot*[38].

4.2. Land ownership system

United Kingdom A significant English difference in comparison with most European countries was the enclosure of the medieval open-field system of dispersed land ownership and strip cultivation. This process started in the seventeenth century and resulted in most land outside towns being the property of large landowners. This pattern of land ownership facilitated urban expansion by allowing different sized parcels of land to be bought or leased from a landowner by small builders who in their turn sold or leased the new homes they built.

It should be noted that with the dissolution of the monasteries in 1536 their land was appropriated by private landowners. These included the Colleges of Oxford University which still own a great amount of land around Oxford. It was road regulations and property boundaries which primarily determined the form of housing layouts.

Currently a limited number of large housing developers either own land or have options to buy land once planning permission for development has been given. They have been accused of “land banking” i.e. deliberately delaying the release of land for building in order to maintain high prices for their dwellings so that land ownership has became a major issue in national politics[39].

Poland The political system in Poland after WWII sought to transfer the private assets of citizens to common and state ownership[40]. This was particularly true for land ownership and real estate. The results varied depending on the location and function of the areas and buildings. The expansion of Krakow based on large residential housing estates was carried out on amalgamated plots expropriated from private individuals.

After 1989, when the reprivatization process began, some of the plots returned to the hands of the original owners. Currently, this has produced a real mosaic of ownership. In Krakow there are currently 18 types or status of property[41] belonging to natural and legal persons: State Treasury, Krakow Municipality, Township, County and Lesser Poland Viovodeship and their derivatives.

In the face of a lack of management systems for the consolidation and transformation of resources and the characteristics of urban law, this means that development is based on random ownership relations and an absence of their consolidation in urban space.

Fig. 6. Krakow - types. Photos: a - Cracovia old city urban block (K1) (by author 1), b - Nowa Huta superblock (K2) (by author 2), c - traditional street pattern - Starowiślna St. (K1) (by author 1), d - modernistic housing estate - Jagiellońskie Est. (K3) (by Anna Agata Kantarek)

	type of the origin of urban form	land parcelling system		3D space types		functions and uses	
HISTORI CAL PATTERNS	organic or planned (chartered)	generated street systems	the grain of plot ownership - from the defined set of repeatable one family plots to system of ownership of flats with common open space around (with additional scale from fully accessible space to gated)	the spatial scale of open spaces and volumes (on average)	from a positive to a negative type of space	ground floor activities related to volumes (entrances, services)	functions of open space
OXFORD							
O1 Old City (plots, multifamily)	organic within walls	wider main routes to city gates linked by narrower streets	urban blocks with plot system and row houses on the edge of street	two- three floors street section 12-20 m block 40x70	positive space	entrances from the street, existing ground floor services	workplaces related to housing, recreation, gastronomic gardens
O2 University	planned in existing context	inserted into-existing street system	inner court with controlled entrance from street an urban block	3 floors, street section 12-20 m blocks vary 70x70 m -200x 200 m	positive space	entrances and services predominantly opened to the inner court	workplaces related to housing, recreation, greenery
O3 terraces	planned	new street layouts linked to existing roads	urban block with plot subdivision for one family houses (from row to detached) on the edge of the street	2-4 floors, street section 12-20 m blocks vary 50x60 m - 70x200 m	positive space	entrances to houses from the street, existing ground floor services of different accumulation	private rear gardens - recreation, greenery, housework front space - entrances, car, greenery,
KRAKOW							
K1 Cracovia Old City urban blocks	chartered (planned)	hierarchy of streets with the almost same width (streets leading from the city gates to the market square to service path in the urban blocks)	urban blocks with plot system and row houses on the edge of street	200x200 m grid (approximately 85x85m urban block with 10m street width) predominantly 4 floors	positive space	entrances from the street, existing ground floor services	workplaces related to housing, recreation, gastronomic gardens
K2 Nowa Huta superblocks	planned	hierarchy of roads in the radial system of the district and the inner system of service roads within the superblocks	urban superblocks of multifamily houses (situated on the edge of the street) on open and accessible space without private ownership of the ground	50-60 m width of main streets; Centrum C - up to 6 floors, superblock surface - 3,3 ha	positive space	entrances to flats mostly form inner space of the superblock, ground floor services accessed from the street, buildings related to education and housing also situated in the inner space	inner block space - service roads, service space, greenery, recreation, additional buildings and plots: schools, kindergardensport, housing
K3 modernistic housing estate	planned	hierarchy of roads in the large system of superblocks of housing estates and a system of service roads within the estates	urban superblocks of multifamily houses (situated out of street line) on open and accessible space without private ownership of the ground	30-80m m width of main streets; Jagiellońskie Housing Estate - 5 and 11 floors, surface - 18 ha	negative space	entrances to flats mostly from open space of the estate, ground floor services predominantly situated in free standing pavilions without strict relation to the street,	inner block space - service roads, service space, greenery, recreation, additional and plots: schools, kindergardensport,

Table 1. Important features of presented historical types (by authors)

OXFORD		KRAKOW	
historical patterns	contemporary cases	historical paterns	contemporary cases
O1 Old City (plots, multifamily)	no cases, only infills	K1 Cracovia Old City urban blocks	no cases, only infills
O2 University	C1 Foundry House	K2 Nowa Huta superblocks	C3 121, Mogilska St.
			C4 6-14, Cystersów St.
O3 terraces	C2 The Waterways	K3 modernistic housing estate	C5 12-16, Krowoderskich Zuchów St.

Table 2. Historical types and contemporary cases (by authors)

4.3. The structure of the development industry

United Kingdom Within the development industry it is the housing market which has the greatest impact on the urban environment and peoples' standard of living. In the UK it is dominated by six large house builders, and of these it is reported that in 2016 the three largest, while having obtained planning permission to build over 200,000 houses, built only 40,000 while increasing their profits by between 34% and 45 % per annum. This is against an identified need for over 250,000 houses per annum, a level which had been achieved in the 1980s, when small and medium sized builders constructed two thirds of all new dwellings, whereas in 2016 they built less than 25%[42].

Poland There are over 6,000 developers in the primary market in Poland. There were 6526 developers in Poland at the end of 2000[43]. The subject of their activities is mainly housing – 87.11 % of demand concerns flats and houses[44]. This has resulted in a fragmentation of the labour market and offers.

5. Searching for the types

5.1. The factors taken into consideration

We can clearly identify the predominant historical types that are relevant in identifying contemporary cases regarding the relation between the built volume and open space. They are: old urban city blocks, university arrangements and terraces in Oxford (Fig. 3) and old city planned urban blocks, Nowa Huta superblocks and modernistic housing estates in Krakow (Fig. 5, 6). It is important to note the main elements that were considered significant when selecting the types. Considered chronologically they can also be analyzed according to several characteristics (Tab. 1):

- type of the origin of urban form (organic or planned/chartered).
- land parceling system (generated street systems, the grain of plot ownership - from the defined set of repetitive single family plots to a system of ownership of flats (apartments) with common open space around (with an additional scale ranging from freely accessible space to gated)
- 3D space types (the spatial scale of open spaces and volumes, from a positive to a negative type of space[45])
- functions and uses (ground floor activities related to volumes - entrances, services), functions of open space)

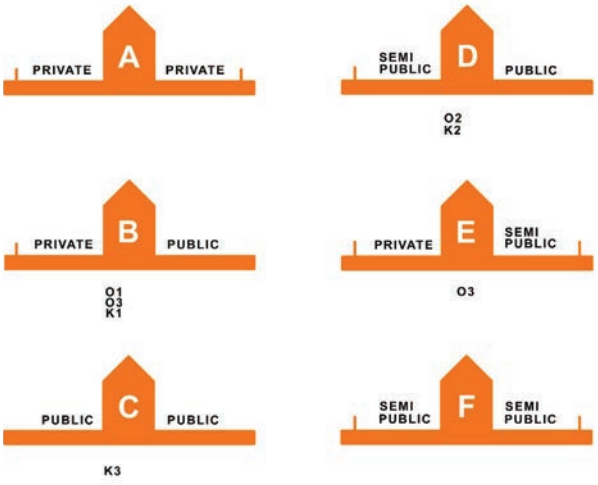

Fig. 7. Different kinds of open spaces around housing (by Anna Agata Kantarek)

The scale of the private/public relationship is considered against the background of the above features (Fig. 7).

5.2. The contemporary housing tissue

Buildings can be considered as volumes, which are surrounded by a variety of open spaces which can be analyzed according to a scheme that refers to the different degree of public access to this open space. With the adoption of three types of open spaces - private, semipublic and public, the following possibilities are shown (Fig. 7):

- A private - private
  This example applies to single-family houses, detached on a separate plot. Usually a fence determines the extent of the private space.
- B private - public
  The building is located between the public zone and a separate, private plot.
- C public - public
  The public space completely surrounds the building.
- D semipublic - public
  The building is placed between the public space and the space available to the group of users. This applies to more than one or multi-family buildings.

- E semipublic - private
  This is a situation of a "double" separation when a building complex is separated from the public space and its disposition is based on a common space for a given group of users, and individual houses have separate plots.
- F semipublic - semipublic
  This situation concerns multi-family houses on a separate plot.

The figure (Tab. 2) shows a summary of the most important historical types and contemporary examples.

5.3. Case presentations

The selected cases are presented in Table 3.

6. Conclusions

With respect to the observation that housing builds cities, the cases of Krakow and Oxford demonstrate the truth of this assertion. By far the greatest areas of both these ancient cities consist of housing. This is especially true of Oxford with its large areas of single family housing. But the opposite assertion that "Cities Build Housing" is equally true, in the sense that it is the natural setting, the history and the agents of change which, during their evolution, have determined the form and location of the housing areas.

Firstly the natural setting, in both cases being next to important rivers can be identified as significant for their establishment and the earliest forms of both cities were determined by sites where it was possible to build on higher land safe from the seasonal flooding of these rivers. Where this factor has been ignored, floods have occurred with increasing frequency.

Secondly the history of the very different requirements for defense allowed, in the case of Oxford, for

C1, Foundry House, Oxford (Fig. 8)

This development of 188 private apartments for sale in five storey staircase access blocks over a single storey semi-underground car park was completed in 2008 by a partnership between the landowner and Berkeley homes, one of the biggest British house builders. The land had been occupied by an iron foundry established in 1825 in the Oxford suburb of Jericho. With the decline of manufacturing in Britain the company, Lucy's, had diversified into property development finally abandoning the factory in 2001. The land had been previously owned by St John's College.

A new semiprivate piazza opens onto the Oxford Canal which was completed in 1790 to link the industries of the Midlands to London via the river Thames. The site is bounded on its other sides by a disused but protected churchyard and the rear gardens of the nineteenth century terraced house s of an adjoining street. It replicates the way university colleges were inserted and grew within the blocks of the medieval city. The original gates of the factory have been retained and although there is no permanently controlled public entry they are clearly a deterrent so that it is an example of a Privately Owned Public space (POP). Apartments in this complex are marketed as being in a gated community which is obviously perceived as advantageous for sales.

C2, The Waterways, Oxford (Fig. 8)

This area of housing was developed between 2000 and 2006 by a large house builder, Berkeley Homes, on an area of wetland between a railway line and the Oxford Canal. It was previously occupied by industries and includes flooded pits from where clay was excavated to make bricks for the nineteenth century expansion of Oxford. A shortage of housing land in the city, partly due to the enforcement of its greenbelt, resulted in rising house prices so that it became financially feasible to drain this land and render it suitable for building.

There is a range of two, three and four storey houses either semidetached or arranged in terraces of row houses. They are of traditional construction in a variety of styles derived from eighteenth century Georgian and ninetieth century types. They are all of narrow frontage (5- 6 meters) and bear a remarkable resemblance to the types found in the expansions of the City of Oxford in the eighteenth and nineteenth centuries. The narrow frontage enables the builder to locate the maximum number of house possible on the land available and it has resulted in some of the larger single family houses being organized on four floors. The major change from the historic inherited tissue has been the necessity to accommodate car ownership. In order to provide space for two cars per household the once semiprivate front gardens of the earlier types have been replaced by private car parking spaces.

C3, 121, Mogilska St., Krakow (Fig. 9)

121, Mogilska St. - it is a small superblock on six floors with apartments and shops on one side of the block ground floor. Without underground parking it has space for cars around and in the interior of the block. The inner court has some planting and a playground.

The building area is approximately 2400 m2. It defines the side of Mogilska St. with parking in front of the building and is not separated from the noisy street. It is not fenced and fully accessible for pedestrians and to a limited extent for cars.

C4, 6-14, Cystersów St., Krakow (Fig. 9)

6-14 Cystersów St. was built from 2006. It is a superblock which forms part of a street building line. Along the edge of the street there is a transparent fence with the building set back approximately 1.5 meters. There are no shops on the street. The level of apartments is slightly raised and the inner court is accessible for inhabitants only. There is access for cars to the inside of the block with entrances to the underground parking. The whole building is approximately 4000 m2 in area with 278 apartments.

C5, 12-16, Krowoderskich Zuchów St., Krakow (Fig. 9)

This dominant urban form of three high towers was built as two investments at different periods. Each has a different architectural style.

The first complex - 12, 14 Krowoderskich Zuchów St., built in 2001, consists of two residential towers (15 floors, app. 600m2 and 500 m2 of building area)) in a rectangular layout, with underground parking with shops in a three storey podium. The shops are set back from the street line. The plot is fenced but fully accessible for pedestrians and at the rear there is limited space for cars.

The second complex consists of a single tower built in 2011 - 16, Krowoderskich Zuchów, St., called Torre Verona. Its form is more complicated and bigger with a plan in the form of a T with rounded corners. It has 15 floors with a floor area of approximately 1000 m2. It also has underground parking and spaces for cars around the building. Like the previous example, it is fenced and accessible for pedestrians. Part of the ground level parking at the rear of the plot is controlled.

Situated on the axis of the main street of a modernistic housing estate and higher than the surrounding buildings (up to 11 floors) these two complexes form a dominant and important landmark being, at the same time part of an important transportation node with tram and bus termini located nearby.

Table 3. Cases presentation (by authors)

continuous expansion beyond its medieval walls at a relatively low density while in Krakow the need for successive lines of defense obliged a higher density to be constructed within these barriers.

In Oxford there is a remarkable continuity in house form with narrow frontage, single family row houses providing the dominant model for nearly five centuries. The major modification has not been to the buildings but to the semipublic and private spaces associated with them as an increasing car ownership has had to be accommodated. The semiprivate front spaces, a place for the personalization of each dwelling by the planting of small gardens, have been increased in size and transformed into car parking with a consequent reduction in size of the rear private gardens.

In Krakow the succession of traditional structures was broken by the communist decision to build Nowa Huta conceived by Ptaszycki, one of its team of architects, "as the first city without cramped courtyards and dark hovels"[46]. This social realist city was followed by the introduction of the negative space of the modernistic housing estates and superblocks. The domination of different kinds of open space has replaced the traditional compact city core. In the face of these examples, another question can be asked about the prevailing tendencies today in building housing environments in Oxford and Krakow.

Oxford is having to intensify its new housing stock through an increase in the scale of developments and the introduction of multifamily housing (Fig. 10) replacing the terrace houses (O3, B, E typess) based on the traditional urban block structure (O1, B model) (http://www.bartonparkoxford.com). In the case of Krakow, gated communities are the most common model. This, of course, provides a sense of security (not always consistent with the reality) for the residents and often leads to the enclosure of common property even in situations that seem to be traditional in terms of the relation of building forms and generally accessible public space (Fig. 10).

The diagram of a gated community is certainly a case of F - buildings with flats are placed into the space available for a group of inhabitants (semipublic). The question is from what elements of the historical types this arrangement can be derived?

Firstly, from the model A. It is certainly a model not associated with the city, but with the landscape, the village, and the suburban area.

Secondly, from the D model. It refers to the space used by a certain group of residents more than the family.

Thirdly, from the C model, because they show a high homogeneity of the space surrounding the buildings.

It is arguable that these differences in form between the two cities are being eliminated by the rising forces of globalization. In Krakow gated housing is being built with its precedents being monasteries and barracks, while in Oxford under the pressure of land shortages and rising prices, apartment buildings are starting to replace single family houses and these are sometimes in gated developments for which historic precedents lie in the colleges of the University.

ENDNOTES

[1] Djokić, *Morphology and Typology*, 112
[2] https://www.oxford.gov.uk/info/20124/economy/454/economic_statistics
[3] As in 2019 https://www.krakow.pl/aktualnosci/235436,26,komunikat,ponad_14_milionow_turystow_odwiedzilo_krakow.html
[4] Eurostat https://ec.europa.eu/eurostat/statistics-explained/index.php?title=File:Distribution_of_the_population_by_type_of_dwelling,_2018_(%25)_LCIE20.png
[5] Edwards, *The design of suburbia*, 5
[6] Chance et al., *City of Oxford*
[7] Ashdown *Oxford*
[8] Conzen, *Alnwick, Northumberland. A study*
[9] Hoskins, *The Medieval Period*
[10] MacCannell, *Oxford Mapping*
[11] Sharp, *Oxford Replanned*, 49
[12] Muthesius, *The English terraced house*
[13] Edwards, *The design of suburbia*, 5
[14] Brown and Steadman, *Small House Plans*
[15] Land Use Consultants, *Oxford Green Belt*
[16] Oxford City Council, *100 years of council housing*
[17] Żaki, Archeologia Krakowa , *Encyklopedia Krakowa*,
[18] Bąkowski, *Dzieje Krakowa;* Borowiejska-Birkenmajerowa, *Kształt średniowiecznego Krakowa*; Encyklopedia Krakowa; Krasnowolski, *Lokacyjne układy urbanistyczne*; Krasnowolski Urbanistyczno-architektoniczne przekształcenia
[19] Motak, *Outline of the history*, 3
[20] Kiryk, *Miasta Małopolskie w średniowieczu,* 18-19; Nitz, Medieval towns with grid plans; Lichończak-Nurek, ed., *Kraków, europejskie miasto prawa magdeburskiego*
[21] Krasnowolski, *Lokacyjne układy urbanistyczne*
[22] Jamroz, *Mieszczańska kamienica krakowska*; Jamroz, Gotycka kamienica krakowska, Łukacz Średniowieczne domy lokacyjnego; M. Łukacz, Geneza ukształtowania się; M. Łukacz, *Przemiany przestrzenne krakowskiej*
[23] Caniggia and Maffei, *Architectural composition and building*
[24] Bąkowski, *Dzieje Krakowa;* Motak, *Outline of the history;* Encyklopedia Krakowa,
[25] Tobiasz, *Fortyfikacje dawnego Krakowa*; Bogdanowski, *Warownie i zieleń Twierdzy Kraków*,
[26] Kantarek, *Tkanka urbanistyczna. Wybrane zagadnienia*;
[27] Lebow, *Unfinished Utopia*; Hatherley, *Landscapes of Communism*
[28] Biedrzycka et al., *Nowa Huta - architektura i twórcy miasta idealnego;* Juchnowicz, Nowa Huta; Juchnowicz, Nowa Huta-przeszłość i wizja; Wyrozumski *Narodziny Nowej Huty*;
[29] Alexander et al, *A Pattern Language. Towns, Buildings*
[30] Chmielewski et al., *Modernizacja osiedli*; Jeżak, *Wielokryterialna analiza dziewiętnastu osiedli*; Kobylarczyk at al., *Diagnoza funkcjonalno-przestrzenna osiedli*; Szczerek, *Rola rewitalizacji osiedli mieszkaniowych*; Nowakowski, *Sto lat planowania*; Szczerek, Loss of Potential: Large-Panel; Jagło, *Nowa Huta 1949+*
[31] Samuels and Kantarek, Streets are not enough, 74-81; Kantarek and Samuels, Nowa Huta , Krakow Poland, 1104-1114
[32] Kantarek at al., From rural plots to urban, 155-157
[33] Kantarek, *Tkanka urbanistyczna. Wybrane zagadnienia*; Włodarczyk, *Modernizm 1956-1970*
[34] Evans and Harwich, *Unaffordable Housing, Fables and Myths*
[35] Ustawa o planowaniu https://isap.sejm.gov.pl/isap.nsf/download.xsp/WDU20030800717/U/D20030717Lj.pdf
[36] Ryser et al., *International manual of planning practice*. Naming of plan types in English differs, see: Commin. *The Baltic Spatial* or Reimer et al., *Spatial Planning*
[37] Ziobrowski, Spatial Planning in Poland
[38] Kantarek, *Mass Housing Estates. Poland*
[39] Halligan, It's time to get building; Minton, *Ground control*
[40] Gacka-Asiewicz (ed.), *Historia ustroju;* Katner, State Ownership and Private Ownership, Reimer et al., *Spatial Plannig*; Swadźba, System gospodarczy Polski
[41] MSIP KRAKÓW
[42] Perkins, The housing crisis will not be solved
[43] 6671 and 95 in Krakow, according to https://rynekpierwotny.pl/deweloperzy
[44] https://www.morizon.pl/blog/rynek-nieruchomosci-w-polsce-statystyki/
[45] Alexander et al, *A Pattern Language. Towns, Buildings*
[46] Lebow, *Unfinished Utopia,* 30

REFERENCES

[1] Alexander, Christopher and Sara Ishikawa, Murray Silverstein, Max Jacobson, Ingrid Fiksdahl-King, Angel Shlomo. *A Pattern Language. Towns, Buildings. Construction*, New York: Oxford University Press, 1977.

[2] Ashdown John and Hassall Tom. Oxford In Rodwell, Kirsty (Ed.) *Historic towns in Oxford shire*, Oxford, Oxford: Archaeological Unit,1975.

[3] Bogdanowski, Janusz. *Warownie i zieleń Twierdzy Kraków*, Kraków: Wydawnictwo Literackie, 1979.

[4] Borowiejska-Birkenmajerowa Maria. *Kształt średniowiecznego Krakowa*, Kraków: Wydawnictwo Literackie, 1975.

[5] Brown, Frank and Steadman, Philip. "The analysis and interpretation of small house plans:

[6] some contemporary examples", *Environment and Planning B: Planning and Design*, vol 14, (1987): 407-438.

[7] Caniggia, Gianfranco and Maffei, Gian L. *Architectural composition and building typology: interpreting basic building*, Firenze: Alinea Editrice, 2001.

[8] Chmielewski Jan Maciej and Mirecka Małgorzata. *Modernizacja osiedli mieszkaniowych* , Warszawa: Oficyna Wydawnicza Politechniki Warszawskiej, 2007.

[9] Conzen, Michael R.G. *Alnwick, Northumberland. A study in town-plan analysis*, London: Institute of British Geographers, 1969.

[10] Djokić, Vladan. Morphology and Typology as a Unique Discourse of Research, Belgrade: *Serbian Architecture Journal*, 2009/1 p. 107-130, 2009.

[11] Edwards, Arthur M. *The design of suburbia: a critical study in environmental history*, London: Pembridge Press, 1981.

[12] *Encyklopedia Krakowa*. Warszawa, Kraków: Wydawnictwo Naukowe PWN, 2000, 288-299, 2000.

[13] Evans, Alan W. and Olivier, M. Harwich. *Unaffordable Housing, Fables and Myths*, London: Policy Exchange, 2005.

[14] Gacka-Asiewicz, Aneta (Ed.). *Historia ustroju i prawa Polski w pigułce,* Warszawa, Wydawnictwo C.H. Beck, 2014.

[15] Gilbert, Edmund W. The growth of the city of Oxford. In Martin, A.F. and Steel, R.W. (Eds.) *The Oxford region; a scientific and historical survey*, Oxford: Oxford University Press, 1954.

[16] Hatherley, Owen. *Landscapes of Communism. A history through buildings*, London, Allen Lane,. 2015.

[17] Hoskins, William G. "The Medieval Period" In Martin , A.F. and Steel, R.W. *The Oxford Region ; a Scientific and Historical Review*, Oxford: Oxford University Press, 1954.

[18] Jagło, Paweł. *Nowa Huta 1949+,* Kraków, Historical Museum of the City of Krakow, 2013.

[19] Jamroz, Józef S. *Mieszczańska kamienica krakowska*, Kraków: Wydawnictwo Literackie, 1983.

[20] Juchnowicz, Stanisław. „Nowa Huta", *Architektura,* (1986/1): 67-72.

[21] Juchnowicz, Stanisław. "Nowa Huta-przeszłość i wizja. Z doświadczeń warsaztatu projektowego in Nowa Huta-przyszłość i wizja". Kraków: *Studium muzeum rozprosznego*, Biblioteka Krzysztoforska, 2005.

[22] Kantarek, Anna A., Krzysztof Kwiatkowski and Ivor Samuels. "From rural plots to urban superblocks" *Urban Morphology*, vol. 22, no. 2 (2018): 155-157.

[23] Kantarek Anna A. *Tkanka urbanistyczna. Wybrane zagadnienia*, Krakow: Wyd. Politechniki Krakowskiej, 2019.

[24] Katner, Wojciech J. "State Ownership and Private Ownership. Legal Aspects of Privatisation in Poland" In Bostyn Frank, Boytsun Andriy (Eds.) *Ownership and Privatisation in Poland. Governance Implications of Poland's Accession to the European Union*, Garant, (2002): 61-70.

[25] Kiryk, Feliks. *Miasta Małopolskie w średniowieczu i czasach nowożytnych,* Krakow: Avalod, 2013.

[26] Kobylarczyk, Justyna and Schneider-Skalska Grażyna, Haupt Patrycja, Racoń-Leja Kinga, Sumlet Wojciech, Tor Paweł. *Diagnoza funkcjonalno-przestrzenna osiedli: Olsza II i Ugorek, cz. I i II*, Kraków: Wydawnictwo Politechniki Krakowskiej, 2015.

[27] Krasnowolski, Bogusław. *Lokacyjne układy urbanistyczne na obszarze ziemi Krakowskiej w XIII i XIV wieku*, Kraków: Wydawnictwo Akademii Pedagogicznej, 2004.

[28] Land Use Consultants. *Oxford Green Belt Study*, Oxford , Oxford County Council, 2015.

[29] Lebow, Katherine. *Unfinished Utopia; Nowa Huta, Stalinism and Polish society, 1949-56*, Cornell University Press, 2013.

[30] Lichończak-Nurek, Grażyna (Ed.) *Kraków, europejskie miasto prawa magdeburskiego 1257 1791*, Kraków: Muzeum Historyczne Miasta Krakowa, 2007.

[31] Łukacz, Marek. "Średniowieczne domy lokacyjnego Krakowa", *Technical Transaction*, 7-A, (2011): 67—98.

[32] Łukacz, Marek. „Geneza ukształtowania się najczęściej realizowanego typu kamienicy krakowskiej", *Wiadomości Konserwatorskie* 14 (2003): 11—20.

[33] MacCanell, Daniel. *Oxford, Mapping the City*, Edinburgh: Birlinn Limited, 2016.

[34] Minton. Anna. *Ground control. Fear and happiness in the twentieth-first-century*, London: Penguin Books, 2012.

[35] Motak, Maci,ej. *Outline of the history of the urban development of Krakow* Kraków: Wyd. Politechniki Krakowskiej, 2018.

[36] Muthesius, Stefan. *The English terraced house*, New Haven: Yale University Press., 1982.

[37] Nitz Hans J. "Medieval towns with grid plans and central market place in east-central Europe: origins and diffusion in the early-thirteenth century" *Urban Morphology* 5.2 (2001): 81-102.

[38] Nowakowski, Maciej and Barbara Bańkowska. *Sto lat planowania przestrzeni polskich miast (1910-2010)*, Warszawa: Oficyna Naukowa, 2013.

[39] Reimer, Mario and Panagiotis Getimis, Hans Blotevogel. *Spatial Planning systems and practices in Europe. A comparative perspective on continuity and change*, London, New York: Akademie fur Raumforschung und Landesplanung, Routledge, 2014.

[40] Ryser, Judith and Teresa Franchini (Eds.) *International manual of planning practice* (International Society of City and Regional Planners – ISOCARP, Hague), 2015.

[41] Samuels Ivor and Anna A. Kantarek. "Streets are Not Enough: The Introverted Block as a Neglected Type" *Focus*: Vol. 15: Iss. 1, Article 16, (2019): 73-81.

[42] Sharp, Thomas. *Oxford Replanned* , London: Architectural Press for Oxford City Council, (1948).

[43] Swadźba, Stanisław. "System gospodarczy Polski w latach 1918-2018" *Optimum. Economic Studies* 1(95), (2019): 19-31

[44] Szczerek, Eliza. "Rola rewitalizacji osiedli mieszkaniowych w kreowaniu ciągłości i komplementarności przestrzeni publicznych współczesnego miasta" (unpublished PhD thesis*,* Instytut Projektowania Urbanistycznego Wydziału Architektury Politechniki Krakowskiej) Kraków, 2017.

[45] Szczerek, Eliza. "Loss of Potential: Large-Panel Housing Estates – Czyzyny Case, *IOP" Conference Series: Materials Science and Engineering* 471, 2019.

[46] Tobiasz, Mieczysław. *Fortyfikacje dawnego Krakowa*, Kraków: Wydawnictwo Literackie, 1973.

[47] Włodarczyk, Małgorzata. *Modernizm 1956-1970 w Krakowie. Dziedzictwo. Przykłady. Uwarunkowania.* Kraków: Stowarzyszenie Architektów Polskich, 2019.

[48] Wyrozumski, Jerzy (Eds.) *Narodziny Nowej Huty*. Kraków: Towarzystwo Miłośników Historii i Zabytków Krakowa, 1999.

[49] Ziobrowski, Zygmunt „Spatial Planning in Poland" In Teixeira J., *A Centary of Spatial Olanning in Europe*, Bruxelles: Osman Publishing, ECTP-CEU, (2013): 241-247.

[50] Żaki, Andrzej. "Archeologia Krakowa: niektóre problemy naukowe i konserwatorskie" Warszawa: *Ochrona Zabytków* 8/4 (31), (1955): 244-251.

ONLINE SOURCES

[1] Bąkowski Klemens (1911) Dzieje Krakowa, Kraków, Spółka Wydawnicza Polska w Krakowie, 1911 https://polona.pl/item/dzieje-krakowa,ODMzOTYzMQ/8/#info:metadata (accessed July 24, 2021).

[2] Commin. The Baltic Spatial Conceptshare (n.d.) *National Glossary POLAND.Central Polish spatial development and planning term,* Baltic Sea Region, INTERREG III B https://www.yumpu.com/en/document/read/38247798/national-glossary-poland-central-polish-spatial-commin/25 (accessed July 10, 2021).

[3] Chance Eleonore, Colvin Christina, Cooper Janet, Day, C.J. Hassall Tom, Jessup Mary and Selwyn Nesta (1979) *A History of the County of Oxford: Volume 4, the City of Oxford*, In Crossley Alan and Elrington C. R. (Eds.) London, *British History Online* http://www.british-history.ac.uk/vch/oxon/vol4 (accessed August 8, 2021).

[4] Eurostat (2018) https://ec.europa.eu/eurostat/statistics-explained/index.php?title=File:Distribution_of_the_population_by_type_of_dwelling,_2018_(%25)_LCIE20.png (accessed January 14, 2021).

[5] Halligan Liam, It's time to get building (2016) https://liamhalligan.com/2016/11/07/interview-sajid-javid-its-time-to-get-building/ (accessed December 14, 2020).

[6] http://www.bartonparkoxford.com (accessed December 14, 2020).

[7] https://rynekpierwotny.pl/deweloperzy (accessed July 28, 2021).

[8] https://www.morizon.pl/blog/rynek-nieruchomosci-w-polsce-statystyki/ (accessed December 14, 2020).

[9] Jamroz Józef Stanisław (1955) Gotycka kamienica krakowska, In *Ochrona Zabytków* 8/4 (31), 221-236 file:///C:/Users/ATA/AppData/Local/Temp/Ochrona_Zabytkow-r1955-t8-n4_(31)-s221-236.pdf (accessed July 24, 2021).

[10] Jeżak Janusz et al. (2011) Wielokryterialna analiza dziewiętnastu osiedli zabudowy blokowej położonych na terenie gminy miejskiej Kraków, Instytut Rozwoju Miast, Kraków

[11] http://krakow.pl/data/rewitalizacja/27322_0.pdf?_ga=2.215553175.1493373292.1627118847-698447205.1627118846 (accessed July 24, 2021).

[12] Kantarek Anna Agata (2016) Mass Housing Estates. Poland. What next?, unpublished presentation In Habitat III – Regional Meeting, Europe, Prague, Czech Republic https://docplayer.pl/44898869-Mass-housing-estate-poland-what-next.html (accessed July 10, 2021).
[13] Kantarek Anna Agata and Samuels Ivor (2017) Nowa Huta , Krakow Poland: old urbanism, new urbanism ? In *Conference proceedings ISUF 2017 Valencia*, http://ocs.editorial.upv.es/index.php/ISUF/ISUF2017/paper/viewFile/6463/3550
[14] Krasnowolski Bogusław (2008) Urbanistyczno-architektoniczne przekształcenia miast małopolskich od doby lokacyjnej po współczesność jako wyraz przeobrażeń funkcjonalnych, In *Kultura i Polityka*: zeszyty naukowe Wyższej Szkoły Europejskiej im. ks. Józefa Tischnera w Krakowie, 4
[15] https://bazhum.muzhp.pl/media/files/Kultura_i_Polityka_zeszyty_naukowe_Wyzszej_Szkoly_Europejskiej_im_ks_Jozefa_Tischnera_w_Krakowie/Kultura_i_Polityka_zeszyty_naukowe_Wyzszej_Szkoly_Europejskiej_im_ks_Jozefa_Tischnera_w_Krakowie-r2008-t-n4/Kultura_i_Polityka_zeszyty_naukowe_Wyzszej_Szkoly_Europejskiej_im_ks_Jozefa_Tischnera_w_Krakowie-r2008-t-n4-s9-33/Kultura_i_Polityka_zeszyty_naukowe_Wyzszej_Szkoly_Europejskiej_im_ks_Jozefa_Tischnera_w_Krakowie-r2008-t-n4-s9-33.pdf (accessed July 24, 2021).
[16] Łukacz Marek (1992) *Przemiany przestrzenne krakowskiej działki lokacyjnej do połowy XVII wieku,* unpublished PhD thesis, Cracow University of Technology, Krakow.
[17] https://repozytorium.biblos.pk.edu.pl/redo/resources/32597/file/suwFiles/LukaczM_SredniowieczneDomy.pdf (accessed July 24, 2021).
[18] Ministry of Housing Communities and Local Government, *National Planning Policy Framework,* London, UK Government Publications, 2021. https://www.gov.uk/government/publications/national-planning-policy-framework--2
[19] (accessed August 10, 2020).
[20] MSIP KRAKÓW (City System of Spatial Information) https://msip.um.krakow.pl (accessed July 26, 2021).
[21] Oxford City Council, 100 years of Council Housing in Oxford , Oxford City council , 2020
[22] https://www.oxford.gov.uk/news/article/1636/100_years_of_council_housing_in_oxford (accessed June 10, 2021).
[23] Perkins Anne (2018) The housing crisis will not be solved by curbing speculation alone, The Guardian https://www.theguardian.com/commentisfree/2018/aug/28/housing-crisis-not-solved-speculation-alone-ippr-land-prices (accessed December 14, 2020).
[24] Studium uwarunkowań i kierunków zagospodarowania przestrzennego Miasta Krakowa (2014) https://www.bip.krakow.pl/?id=48 (accessed December 14, 2020).
[25] Szkolnictwo wyższe w województwie małopolskim w roku akademickim 2019/2020
[26] https://krakow.stat.gov.pl/opracowania-biezace/informacje-sygnalne/edukacja/szkolnictwo-wyzsze-w-wojewodztwie-malopolskim-w-roku-akademickim-20192020,1,14.html (accessed August 17, 2021).
[27] Ustawa o planowaniu https://isap.sejm.gov.pl/isap.nsf/download.xsp/WDU20030800717/U/D20030717Lj.pdf (accessed August 17, 2021).
[28] www.krakow.pl
[29] https://www.krakow.pl/aktualnosci/235436,26,komunikat,ponad_14_milionow_turystow_odwiedzilo_krakow.html (accessed August 17, 2021).
[30] www.oxford.gov.uk
[31] https://www.oxford.gov.uk/info/20124/economy/454/economic_statistics (accessed July 10, 2021).