Living Space in A City - Selected Problems of Shaping Modern Housing Complexes in Cracow- A Multiple Case Studies: Part 1- The Case Study of Urban Villas

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Abstract. In the publication, the author - in the context of the global increase in population numbers - synthetically characterises the situation of the population of Poland and the development of Polish cities, as well as that of apparent - or, as others would have it - relative deurbanisation. Cracow - the second Polish city in terms of size, a metropolis that, along with its peripheral areas, including those residents of nearby communities who gravitate towards the city, and who have recently moved in here - is a metropolis that has an over a million inhabitants. The city, burdened with the "disease of deurbanisation", is a fitting field for the observation of phenomena that cause this process. The quality of the housing environment being offered in new complexes of multi-family buildings that are being built within the administrative limits of the city, especially including those in large, so-called "developer" complexes, as well as apartment prices, can affect the problem of urban sprawl in the city to a significant degree. The goal of the research that was performed was to analyse the offer of shaping the housing environment that has been expanding in recent years, and which constitutes an attractive alternative to living outside of the city's limits. Low density multi-family residential buildings that are being built in the administrative borders of cities - not only within their peripheral areas, but also on sites closer to the downtown area - so-called Urban Villas - are a form of the built environment that makes it possible to obtain housing environment qualities that are close to ideal - living in a house with a small garden - and can, thanks to moderate apartment prices and good transport accessibility, influence decisions regarding the selection of a place of residence. The complexes of Urban Villas in Cracow that were selected for analysis as a part of the multiple case study confirm this thesis - the apartments being offered as a part of them are relatively quickly finding buyers who search for good living conditions - such as peace, quiet, security, good contact with nature, comfortable circulation solutions - both in terms of public and individual transport, in addition to good relations with the necessary services. The results of the author's research and observations make it possible to state that this "new offering" in terms of housing is becoming a product that is sought by residents who wish to preserve good relations with the city.

1. Introduction
The twenty first century has been called the "Century of Cities" since the year 2007 when the population of cities exceeded 50% of that of the entire world. The urbanisation coefficient is, of course, highly varied in different countries. [1] The percentage share of city residents in each community that inhabits the Blue Planet is different and ranges from 40% in Africa, 48% in Asia, 75% in Europe - in European Union member states, 82% in North America to 93% in Japan. In countries of the European Union,
urban communities in Belgium make up 98% of the population of the country, in Germany - 92%, while in Poland only 62%.\(^1\)

From among the different types of human habitats, the city stands out by the fact that it provides its inhabitants with the possibility of meeting their existential needs through a developed infrastructure of various services, as well as public infrastructure - associated with, among other things, education, healthcare and culture, the necessary technical infrastructure and providing - to a significant degree - employment. However, one of the basic functions of a city is, undoubtedly, the creation of appropriate conditions for housing. Synonyms of the term *housing* include: *living* (somewhere - auth. note), *dwelling*, *to have a dwelling*. In Poland, the number of cities rose over the sixty-year period between 1950 and 2010 from 748 to 908 and later to 925 cities in 2015. In 2000 the population of cities reached its highest level and amounted to 23 670 300. In 2015 our cities were inhabited by 23 166 400 people, which is 503 800 less people. An increase in the number of residents was only registered by some cities from the group of small and medium-sized cities - by a combined 153 100 people. Polish cities counted among large ones - with populations in excess of 200 000 residents - lost 656 900 residents in that period (2000-2015), with as much as 1 128 400 people less than in 1990, when the number of city residents was the highest and reached a value of 8 775 000 people.\(^2\)

The population of Poland during this period - despite a period of a decrease in birth-rate - slightly increased.\(^3\) The country's population in 2000 was 38 253 955 people - and increased over 15 years to 38 437 239 people, which means that it increased by 183 284 people. This increase is probably associated with population migrations and an influx of immigrants (e.g. from Ukraine), although lately it was also due to a registered increase in birth-rate.\(^4\) The decrease in the population of Polish cities should also be associated with the process of population flight from cities - the urban sprawl and an apparent urbanisation or suburbanisation - along with the phenomenon of affluent and medium-income population groups moving outside of the borders of cities into neighbouring communities, in which the market and real estate developers offer lower prices for buildable plots and property.\(^2\) It is also there that city "fugitives" expect the possibility of satisfying their residential needs to a better and fuller extent - in a single-family house with a small garden - which still remains the dream of most Poles and occupies the leading positions in the residential preferences of our society.\(^4\) These tendencies are linked with the past housing shortage in cities in post-war Poland of the communist period and the still unsatisfied quantitative and qualitative needs that refer to the currently built housing environment despite the dynamic development of the real estate development market and other forms of social and municipal housing or structures that are being built by private developers to satisfy their own needs.

**What housing conditions are offered by modern built housing complex projects in Poland? To what degree do they meet the expectations of residents?**

This is an extraordinarily complex problem, requiring expansive comparative studies and analyses that would allow us to formulate conclusions based on statistical data taking into account the degree of the occurrence of specific qualities. However, it appears that it is possible to narrow the territorial scope of the observations down to a single city - Cracow, as well as a number of selected housing complexes with diverse typological qualities - in order to make an attempt at answering the questions that have been asked. Grażyna Schneider-Skalska writes about the quality of the urban living environment in Poland.\(^5\)

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1 UN Report: World Urbanization Prospects 2014; Population Division, DESA – Department of Economic and Social Affairs [in:] http://urbnews.pl/raport-onz-world-urbanization-prospects-2014/; retrieved on 11.02.2018

2 *Rocznik Demograficzny* 2016, Tab. 7., p.88; https://stat.gov.pl/obszary-tematyczne/roczniki-statystyczne/roczniki-statystyczne/rocznik-demograficzny-20163.10.html; retrieved on 11.02.2018

3 op. cit. *Rocznik Demograficzny* 2016, Tab. 1., p.73; retrieved on 11.02.2018

4 CBOS – Centrum Badania Opinii Społecznej, *Jak Polacy mieszkają, a jak chcieliby mieszkać* [in:] Komunikat z Badań BS.120/2010; http://www.cbos.pl/SPISKOM.POL/2010/K_120_10.PDF; retrieved on 30.08.2017; a combined 43% of society favours this form of housing (41% single-family house with a plot/garden, 2% row single-family house, semi-detached house); 40% apartment block in a residential housing estate; 9% townhouse; 7% multi-family house with a plot/garden; 1% - other.
Since the dawn of history cities have been established as spatial and legal structures, meant to provide their residents - the local community - with favourable conditions for effective work through protection from external threats. [4] The appropriate spatial (the location of a city, city walls and moats), organisational (city watch) and legal (city rights) solutions that were used then served this idea, which was at the same time a concept of "excluding" some for the good of others. This idea of "exclusion", or, as some others want it, guarantees of security, is currently often used in new housing complexes that are being built by private developers in most cities in Poland. Can this tendency be regarded solely negatively - as many critics of modern processes of the shaping of urban tissue would currently have it? To what degree does the scale of building complexes, a location's context, the qualities of the housing environment being created and the will of users justify the success of this tendency?

2. Low density multi-family residential buildings

Multi-family residential buildings being built in Cracow in the context of existing single-family buildings in areas of the city marked by the MNW symbol on the Spatial Structure - Directions and Conditions of Development sheet contained in the Spatial Development Conditions and Directions Study of the City of Cracow [6] - called the Study 5 in the following part of the text - provide an opportunity for obtaining a high quality housing environment. In this type of multi-family buildings, urban villas constitute a special offering in terms of the quality of the housing environment. [5] Small enclaves of residential buildings usually placed in the peripheral areas of a city among low density buildings make it possible to feel comfort that is similar to living in single-family buildings - in a dream house with a small garden. This comfort is provided through the cameral scale of buildings, good contact with nature thanks to saturating the area with greenery, which dominates in the perception of the surroundings in low height built environments. We will find such conditions in many complexes of new buildings being offered on the original market in residential development projects being built by the private sector.

2.1. Urban Villas at Czarodziejska Street 6

One interesting example of a modern housing complex that offers housing environment conditions in multi-family buildings that are similar to those being achieved in single-family buildings, which are still considered optimal and desired by the residents of cities, is an enclave - cameral in scale - located in Cracow - Dębniki, a complex of urban villas at Czarodziejska Street 14-20. It has been placed on a plot with a surface area of 50,0 ares, located on the southern side of the Vistula River, close to the Vistula boulevards (Tyniecka Street), as well as in the direct vicinity of expansive areas of structured park greenery - between Dębniicki Park (around 4,80 ha) located to the east of the complex and near Park Globalnej Edukacji (Global Education Park in English, around 3,0 ha) located to its western side and linked with the greenery complex near the XX Higher Seminary of the Salesians. The residential complex, which was opened for use in May 2015, is located around 150 - 200 metres away from the Vistula River and at a distance of 300 metres in a straight line from the historical monastic complex of the Norbertan Nuns, located on the opposite side of the river. The four buildings that have been situated amid greenery - urban villas - are four storeys high, with the uppermost ones being slightly recessed. An effect of slightly lower buildings has been achieved thanks to this. The bright facades have been finished with stone cladding - natural limestone and plaster. The large glazing of the windows and doors that lead to the balconies and expansive terraces on the uppermost storeys have been opened to the surrounding greenery. The buildings, with a compact floor plan that almost encloses itself within the

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5 Single-family residential buildings with a character of urban villas in the western area of old Dębniki • Residential building height in areas of low density single and multi-family residential buildings (MNW) up to 16 m; [in:] Amendment to the Spatial Development Conditions and Directions Study of the City of Cracow – of the 9th of July 2014.; https://www.bip.Cracow.pl/?mmi=48; retrieved on 15-01-2018
6 Authors: Pracownia Architektoniczna BAZUKASTUDIO ; http://bazukastudio.com; retrieved on 30.08.2017
shape of a square, form a combined 11,50 ares of building footprint. Along with the paved surface of the access road and pedestrian paths with a surface of 10,50 ares, they occupy around 44% of the entire area of the plot. The biologically active surface area is around 28 ares - which is 56% of the area of the plot.  

The apartments situated on the ground floors of the buildings have expansive terraces/gardens with an area of 74,00 m² - 196,00 m². The 3 and 4-room apartments on the first and second floors also have terraces with an area of 22,00 m² - 52,00 m². Large - two-level apartments featuring 3-6 rooms for 3-4 people located on the second and third floors have large terraces on the second level, with a surface area between 113,00 m² - 134,00 m², surrounding the apartment from three sides. The total useable floor area of all apartments in the four urban villas is 724,00 m². This makes it possible to determine the gross area standard per resident, which is 55,5 m², as well as 1,84 m² of gross land area per 1 m² of useable apartment floor area (called PUM in Polish - powierzchnia użytkowa mieszkań - transl. note).

### Table 1

| Number of Apartments | Apartment Type | Number of Rooms | Number of Residents | Floor Area of Apartments in M² |
|----------------------|----------------|-----------------|---------------------|-------------------------------|
| 1                    | 1              | 1               | 1-2                 | 38,00                         |
| 4                    | 2              | 2               |                     | 37,00 – 59,00                 |
| 8                    | 3              | 3               |                     | 79,00 – 158,00                |
| 11                   | 4              | 4               |                     | 134,00 – 142,00               |
| 3                    | 6              | 4               |                     | 150,00 – 204,00               |

The surface area of greenery per resident in this complex is around 31 m². If we remove the terraces near the apartments located on the ground floor, which constitute a private space (around 830 m² - with varying degrees of "greening") - then we can conclude that there is around 22 m² of semi-private greenery per resident, which is being used jointly by all the residents of the complex. If we compare the biologically active surface area and the surface area of semi-private areas to the useable floor area of apartments, then we will obtain indices of 1,03 m²/1 m² of apartment floor area and 0,72 m²/1 m² of apartment floor area, respectively. The residents can also use a large garden, whose maintenance is made easier by an irrigation system using rainwater gathered in underground tanks. All the buildings have been fitted with elevators, which on the one hand meets the postulate of a "house without barriers", while on the other it increases the comfort of use of residents and their guests to a significant degree.

The residents have at their disposal an expansive garage situated beneath the buildings, meant for the parking of 43 cars (over 1,5 parking spaces per apartment), including 5 spaces with dimensions that make it possible for them to be used by disabled persons. An additional storage area has been provided for each of the apartments - a so-called resident storage room. Complexes of these rooms are also situated in the garage, near the stairwells. The garage connects all the buildings underneath the ground, making it easier to access the rooms meant for bicycles and strollers that are located there as well.

The urban villa complex that has been described creates a high quality urban housing environment - and although the undoubtedly higher standard of apartments with an appropriate functional layout than in other built projects - which is particularly worthy of highlighting - as well as a high standard of fitting and finishing the buildings, apartments and common areas is conducive to the sensation of a high level of comfort - then the basic quality here is a large amount of common green space, which makes it possible for residents to rest and have contact with nature within the housing complex. We will not find these qualities in many of the other built housing projects discussed in this publication. Many of Cracow’s residents would surely like to live here - however, the apartment prices in this enclave are the deciding factor in enabling one to make use of this offer. The urban villa complex situated at Czarodziejska Street 14-20, surrounded by single-family residential buildings, is characterised by a

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7 Developer: Czarodziejska Sp. z o.o. Sp. K.; www.czarodziejska.com/pl/apartamenty/; retrieved on 30.08.2017
cameral, human scale in terms of buildings. The size of the villas is similar to that of the nearby buildings, blending into the context of the site through the climate of its architecture as well. The urban villas - located in a garden - are fenced off, just like all the other villas in their vicinity. A safe space was thus established, dedicated to a specific social group. The complex blends into the context of the site through this solution as well - proving that a proper scale, location and manner of solving an urban housing environment can make it possible to build a so-called "gated complex" with positive qualities. This housing complex is a special offering due to its location in a downtown area, surrounded by villa buildings inside park greenery. The urban villa complex on Czarodziejska Street was designed and built in accordance with the precepts defined in the Study for the area of unit no. 17 - Zakrzówek - Pychowice, which is adjacent to unit no. 5 - Stare Dębniki (Old Dębniki in English) (Figures 1.a-c).

A number of additional urban villas - apartment buildings offering similar housing conditions - are being built in this region, near Park Dębnicki, as a part of infilling the existing structure of buildings. It is a complex of seven three-storey apartment buildings called Park Avenue Apartments, which has been under construction since 2015. 8 53 apartments have been designed in these buildings, with surface areas ranging from 70 to 200 m² at a price starting from 12 000 PLN/1 m². The comparatively high apartment prices are associated with the comfort being offered, as well as their location in areas of the city centre. In the area of the exclusive single-family buildings of Wola Justowska - unit no. 19. new three to four-storey urban villas - Apartamenty Morelove 9 (Peach Apartments in English - transl. note) are being built in the vicinity of two already existing buildings (in an MN area - assigned for single-family buildings). The complex is composed of three 3-4 storey buildings with apartments with a floor area between 40,0 - 83,0 m², being offered at a price ranging from 9 200 - 12 500 PLN/1 m². The attractive modern architecture with light, openwork forms and the cameral scale of the complex that blends in well into the context of existing buildings, hidden behind the escarpments of the Rudawa River, as well as creating common recreational space, make it possible to positively grade the quality of the living environment in this enclosed housing complex. (Figure 1.d)

2.2. Urban Villas in the Imperial Stawowa Residence complex in Cracow.10

Stawowa Residence – is a cameral enclave located in the north-western part of Cracow in district IV - Prądnik Biały, on the western side of Jasノgoska Street and to the north of Stawowa Street, on a plot with a surface area of around 1,0 hectares. In the immediate vicinity of the complex, on its eastern side, there is a large, two-storey building - Karcher Center Cracow - while from the north and west it is surrounded by areas occupied by extensive single-family buildings and partially by farm fields - which will surely be subjected to further development pressure and will be used to develop buildings with a similar typology. The building complexes being discussed here are being built in areas that do not have a local spatial development plan in force - but remain compliant with the regulations of the Study for this area. 11

Stawowa Residence is a complex of seven four-storey houses - with the uppermost storey partially receded into the centre of the buildings or hidden in the complex forms of their crowning, or under the material camouflage of lightly slanted roofs and the fragments of the walls that form their continuation. The good quality of modern architecture - austere in its expression, light and blending in with the surroundings thanks to the openwork forms of the frames that make up the structure of the terraces or those of glass corners deserves to be highlighted. The small surface areas of open common green areas,

8 Developer: Echo Investment; https://rynekpierwotny.pl/oferty/echo-investment-sa/park-avenue-apartments-Cracow-debniki-6593/; retrieved on 20.01.2018
9 Developer: Éco Park S.A.; https://noweinwestycje.pl/inwestycja/apartamenty-morelove-7585/; retrieved on 20.01.2018
10 Developer: Imperial Capital Sp. z o.o. SPK; authors of the design: Archi-pro Studio Projektowe; construction from 2017 – to the end of 2018; www.imperialstawowa.pl/imperial-residence-stawowa/; www.urbanity.pl/malopolskie/Cracow/residence-stawowa/ retrieved on 12.01.2018
11 Existing single-family buildings assigned for maintenance and infilling with the possibility of conversion into low density multi-family residential buildings, permitting services at the local and supralocal level; MNW building height - up to 13 m; [in:] op. cit. Spatial Development Conditions and Directions Study...Unit: 42; Name: Pasternik; https://www.bip.Cracow.pl/?dok_id=63717; retrieved on 15-01-2018
along with the private areas of backyard gardens produce an impression of comfortable contact with nature. The enclave, despite a somewhat peripheral location, is well tied with municipal public transport - a number of bus stops at a distance of 500 - 1000 m.

Figure 1. Cracow Czarodziejska Street 14-20

For individual modes of transport, the existing road infrastructure also creates good accessibility conditions. Access is also provided by bicycle roads. In the vicinity - at a distance of around 600 - 1500 m, there are big box stores - Galeria Bronowicka, OBI, Makro-Cash and Carry, LIDL. There are also education services in existing buildings located in a good or acceptable access isochrone - a kindergarten and a high school within a distance of 500 m, a primary school around 1000 m away, although one should consider the fact that the accessibility of these services can be limited due to the area that they cover. 112 apartments have been placed in the complex, with a combined surface area of 5898 m². In addition, 134 parking spaces located in garages beneath the buildings and over a dozen temporary parking spaces on the surface. All of the buildings have elevators. Around 40% of the apartment structure is composed of 2-room apartments (36.0 - 45.0 m²), around 40% of 3-room apartments (47.0 - 62.0 m²) and around 20% of 4-room apartments (67.0 - 77.0 m²). This enclave of buildings creates comfortable living conditions for its residents, within an architecture that has a cameral scale. It is to be expected that this complex is going to be inhabited by around 250 - 300 residents, which yields a gross land surface standard of around 33,0 m² per resident and around 1,7 m² of gross land area per 1 m² of useable apartment floor area. (Figure 2.a)

2.3. Urban Villas at Seven Wishes Housing Estate - in Cracow

In the immediate vicinity of the previously described Stawowa Residence urban villa complex - between Stawowa and Sosnowiecka Streets, Seven Wishes Housing Estate has been built - composed of twenty-two four-storey buildings with their uppermost levels hidden in attics. All buildings have elevators installed. In this complex, erected in the years between 2014 and 2016, around 360-390 apartments were built, with a surface area of 9 000 m² (useable apartment floor area), which can be inhabited by 700 - 900 residents. The architecture is modern in its expression, referring to the tradition of single-family

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12 Developer: Eko Park S.A.- Grupa Zasada; www.osiedle7zyczen.pl ; retrieved on 13.01.2018
building forms, featuring good colour and material solutions. The site has been landscaped with much care. This urban villa complex has been built on a plot with an area of around 3.2 ha. The apartments on the ground floors have backyard gardens, while those located higher have expansive terraces. Commonly used open green areas comprise around 27 ares. (Figure 2.b) The next new stage of the construction of this estate - composed of seven buildings, with a height of four storeys as well, with the uppermost one hidden in attics behind broad terraces - is being built to the south of Sosnowiecka Street. This complex occupies an area of around 1.0 hectares. The developer claims access to services and public transport options as in the previously described complex.

3. Conclusion – Urban Villas – an evaluation of the quality of the housing environment

The residents of the urban villa complexes that have been described, particularly of those located in suburban areas, highlight peace, quiet and good housing conditions for families due to comfortable access to structured recreational greenery on the grounds of the complex, as well as in the immediate area - in open areas - as important advantages. Another significant quality in the opinion of the residents is the fact of being provided safety through control of the access to the grounds of the housing complex (gated community, monitoring). The majority of low density multi-family residential building complexes being built on the outskirts of cities meet this condition. However, it should be stated that this postulate is usually met in a manner that is not compliant with the guidelines of the Study, which assumes that areas assigned for the construction of low density multi-family residential buildings will be built up with complexes of these buildings near either existing or newly designed streets and squares,
which - along with their accompanying greenery - will be publicly accessible. Thus, the establishment of small enclaves of buildings, fenced off and secure, with small internal access roads and greenery commonly used by the residents - should be accompanied by an offer of public spaces in the form of stores, services or green squares accessible from the streets, built at the point of contact between the enclosed and public space. It can also be observed that despite the compliance of many of the built projects that have been discussed with the guidelines of the Study, the lack of local spatial development plans leads to a situation in which plots that are purchased by developers are being built up without desired compositional and functional relations with the entire area. The developers of building enclaves of various sizes that are being built across large areas claim access to the same commercial or educational services that exist in the area that is being discussed, as well as those located in adjacent areas, at times at a distance of 1500 - 2000 m or more. The lack of an appropriate coordination of these functional and compositional aspects can lead to a lowering of the qualities of the housing environment that is being created. This is how an "urban space without qualities" - as Sławomir Gzell [6] called it - is created, a space that appears due to the dispersion of the traditional city. However, it should be stated that the enclaves of low density multi-family residential buildings that are being built on the outskirts of cities - urban villa complexes - are an alternative in terms of a high quality housing environment that is both interesting to users and favourable to the city, one that can aid in limiting the phenomenon of urban sprawl and the intensification of the use of areas that have already been urbanised.

The table included below makes it possible to compare the housing conditions and cost of apartments in urban villa buildings in Cracow, in comparison to selected built projects of high-density multi-family buildings situated in downtown areas.

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