TECHNICAL TRANSACTIONS | CZASOPISMO TECHNICZNE
ARCHITECTURE | ARCHITEKTURA
2-A/2016

DOI: 10.4467/2353737XCT.16.176.5787

ANNA AGATA KANTAREK*

THE URBAN VILLA PLOT AS A STRUCTURAL ELEMENT OF AN URBAN BLOCK. *VILLA URBAN BLOCK*

DZIAŁKA WILLI MIEJSKIEJ JAKO STRUKTURALNY ELEMENT KWARTAŁU MIEJSKIEGO. *KWARTAŁ WILLI MIEJSKICH*

Abstract

The paper presents the particular form of an urban block, divided into plots and built up with detached buildings. This form is derived from the single-family housing and has been adapted for multifamily housing purpose.

Keywords: Urban Block, Urban Villa, Rome, Urban Villa Block, Urban Morphology

Streszczenie

Artykuł przedstawia szczególną formę kwartału miejskiego, podzielonego na działki i zabudowanego wolnostojącymi budynkami. Forma ta wywodzi się z willowej zabudowy jednorodzinnej i została zaadaptowana dla celów zabudowy wielorodzinnej.

Słowa kluczowe: kwartał miejski, willa miejska, Rzym, kwartał willi miejskich, morfologia urbanistyczna

* Assoc. Prof. D.Sc. Ph.D. Arch. Anna Agata Kantarek, Division of Urban Spaces, Institute of Urban Design, Faculty of Architecutre, Cracow University of Technology.

1. Introduction

The analysis of an urban block as a fundamental form of the urban tissue can be carried out in many different ways. Attempts at summarising numerous efforts made in the field of urban morphology which focus on detailed case descriptions lead to the demonstration of rules governing the process of shaping of the tissue in different conditions.

This paper deals with a particular form of the urban block, which consists of detached buildings located on separate plots of land. It seeks to outline its evolution, as well as demonstrating its usefulness for shaping of the contemporary urban tissue[1].

2. Definition of an urban block

Mangin and Panerai, [18] define an urban block as a cluster of houses surrounded by streets[2], whereas Merlin and Choay, [19] define it as the smallest unit of the urban space, which is completely limited by roads[3]. Some authors narrow the definition of an urban block to the orthogonal subdivision[4].

The definition of an urban block with reference to Parisian examples erected in the period 1977–1997 is provided in Kantarek, [9, p. 59]. It contains some more detailed information pertaining to the characteristics of solutions that came into being at that time. From the perspective of the relation between buildings and the open space of the urban block, it points out to the essential relations between them, which are: the location of the body of the building at the edge of the space of the street and the interior of the plot, the degree of separation and accessibility, and the type of the open space within the block, as well as the possibilities for determining the activity on the edge of the urban block and its functional characteristics.

The properties of the form described in this definition refer to an urban block designed in Paris in the period 1977–1997; we could, however, adopt them with reference to numerous examples of urban block development. This definition does not address the issue of dividing the block into individual plots, nor does it focus on the principles governing the development of a block subdivision grid – the diversification of these conditions resulted from the character of the revitalisation measures described.

It seems that in the most general classification in seeking the features of an urban block one should consider its size, the character of the routes that limit it, the type of division of the space into plots, the forms of the development of the plots, as well as the character of the

[1] A.V. Moudon [20, p. 8] specifies 3 types of research devoted to urban form: descriptive, prescriptive for urban design, and historical – directed towards historical theories of the building of cities; the studies referred to below definitely belong to the second type, although they concentrate on the genesis of this type of urban block.

[2] p. 175.

[3] p. 409.

[4] S. Kostof [11] considers an urban block as the basic unit of the orthogonal allotment, lending character to the entire structure and the third dimension and H. Saylor [23] by an urban block means the space and buildings contained within a non-intersected perimeter of streets in the orthogonal subdivision.

open spaces (internal, external, linking spaces). Functions and their intensity, as well as the extent to which buildings and open spaces are open to the public – these are the next essential elements of such a description.

A. Borie and F. Danieul [2, p. 4, 5] propose a classification pertaining to a traditional urban tissue and present four systems for organising the urban tissue. These are: the system of roads and lots (distribution), and the system of buildings and open space (land occupancy). It is an important methodological distinction, offering broader opportunities of analyses than the model proposed by M. R. G. Conzen consisting in the division into 3 systems: roads, plots of land, and buildings.

3. Non-urban block forms

One of important questions concerning the scope of the definition of the urban tissue as an urban block is the issue of differentiation between the form of an urban block and a superblock.

Le Corbusier proposed a solution which operated with spacious urban blocks, and form resembling rescaled solutions modelled on stepped boulevard (*boulevard à redans*) developed by Eugène Hénard[5] and clusters of detached skyscrapers. The spaces defined by routes were no longer traditional urban blocks; moreover, they were to constitute a total break with the street as a corridor which strictly determined and filled the frontage of development of streets.

This gave rise to the growth of superblock developments, with the most famous examples such as Chandighar (Le Corbusier, 1950), Brasilia (Costa, 1955) and Milton Keynes (Webber, Walker, 1967), and in Poland Nowe Tychy (Teodorowicz-Todorowski, Wejchert, Adamczewska-Wejchert, 1950). Along with complexes of the *grand ensemble* type and modernist housing estates, they implement the concepts of the modernist division into functional zones (residence, work, leisure, transport) and they are executed according to *the negative space* formula (term according to Ch. Alexander).

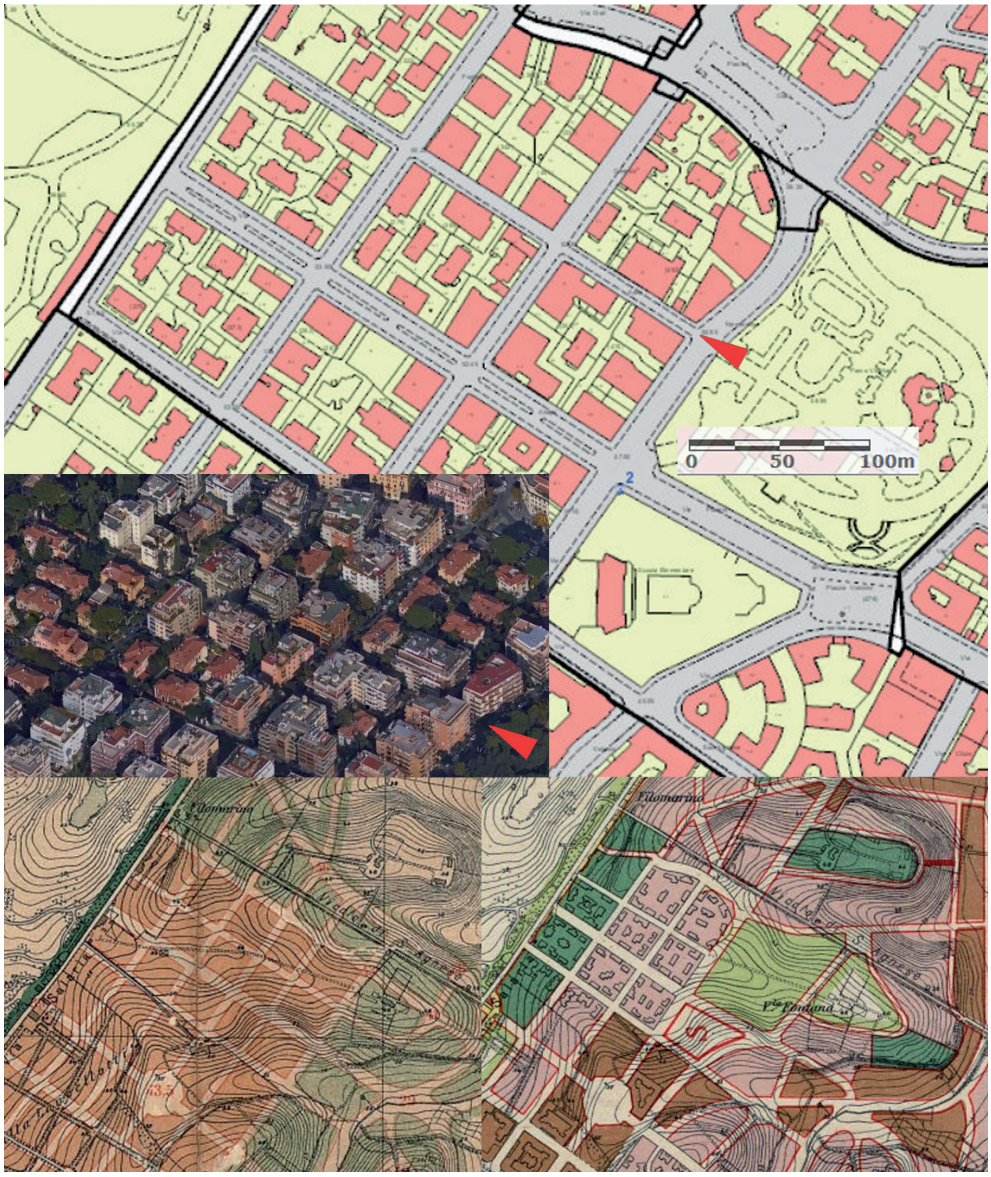
The sizes of these complexes require that an internal hierarchy is formulated with service and access roads designed according to different concepts and exhibiting different ways of separating pedestrian and car traffic. In some solutions urban blocks can constitute elements of the tissue defined in this fashion.

Another essential distinction pertains to an urban block and a maze-like, organic development, usually associated with forms of cities known from the past, and characteristic of the Islamic world.

Çatal Hüyük (Anatolia, 7400 B.C. – a city without streets, Sotira, Cyprus (4500 B.C.) – a city of partially 'agglutinated' houses, or Gournia, Crete (1600 B.C.) – these are just a couple of examples of urban organisms which were formed by the process of houses agglutination.

---

[5] Except that Le Corbusier intersected the urban blocks with transit traffic routes, intermingling private and public spaces.



Ill. 1. Via Arabia and *Villa Urban Blocks*: a – as today, plan [33], b – as today, bird eye view [31], c – as in PRG Roma 1909 [34], d – as in PRG Roma 1931 [35]

The next question refers to the organic way in which the block form comes into being. An urban block brings associations with planned activities of man and allotment systems known already from Khorsabad (700 B.C.) or Borsippa (600 B.C.), but it can also constitute an effect of densification and growth of buildings. This is observed by Ph. Panerai,

Ill. 2. *Villa Urban Blocks* – Via Arabia (photos by author)

J. Castex and I. Samuels [21, p. 158–167] demonstrating a row of buildings and a street as the fundamental ways in which a development complex is created.

R. Allain [1, p. 96n] writes that the two forms, the urban block and plot subdivision[6] are comprehensive and complex, and they define a group of buildings in relation to the concept of the city, its plot ratio, as well as relations between buildings and the open space of the street and the interior – but they have a different logic. Allain understands allotment as creating defined systems which have given rise to numerous urban organisms, as well as interventions in a smaller scale, pertaining to the new development of a small area[7].

We are also interested in the relation between the urban block and the way in which its surface area is divided into plots. An essential quality of an urban block is the fact that it constitutes a comprehensive form, a sum of smaller, often similar, structures. They in turn are a manifestation of the logic in which the plots are developed.

Eixample by I. Cerdà in Barcelona constitutes a peculiar breakthrough in thinking about the urban block. In the Author's approach, urban blocks were spaces fully composed based on buildings which were predominantly linear and which filled two street frontages, leaving the remaining two open. The interior of the urban block and the street intermingled, offering a multitude of opportunities for spatial arrangement. The concept favouring function over ownership-related division into plots of land was not implemented.

---

[6] *Îlot, lotissement.*

[7] What is important an urban tissue are made of old allotments [1, p. 97].

Ill. 3. Via Acqui *Villa Urban Blocks*: a – as today, bird eye view [31], b – as today, plan [33], c – as in PRG Roma 1909 [34], d – as in PRG Roma 1931 [35]

In France a form of transition from a block divided into plots towards a uniform type of ownership and use were HBM social housing complexes (private or public).

Allain presents mutual relations between the urban block form and the division into plots [1, p. 97–99, Fig. 30]:

Ill. 4. *Villa Urban Block* between streets Albenga/Cividale del Friuli/Ivrea/Acqui (photo by author)

Ill. 5. *Villa Urban Block* between streets Albenga/Acqui/Stabia/Mondovi (photo by author)

- *Lotissement* – spontaneous completion of the development by subsequent allotments,
- *Hygiène et circulation* – a block as an element that organises the urban tissue (with the example of Cerdà's Barcelona),
- *Immobilier et réseau* – also referred to as *l'îlot hybride* – resulting from the existing system of streets, hybrid in nature, but with intentional development of individual plots,
- *Hygiène, immobilier et réseau* – a semi-open block – comprehensive development of the space between existing streets, taking into account different functions, and without the division into allotment plots (and here an example is the HBM development in Paris),
- functionalistic system (*Fonctionnaliste*) – disappearance of the formula of a block and a proprietary plot for the benefit of functional urban planning[8].

4. Plot and urban block

A plot is one of elements of the structure of an urban block, and its the development is yet another approximation that demonstrates the multitude of solutions. The basis is constituted by large-size structures located at the edge of the street and their continuity. The tenement system of the main building and outbuildings added one by one, at the back, at the sides, in the middle, form a dense structure of many central parts of cities. Extreme cases of the plot ratio, obtained e.g. in *Mietskaserne*, Berlin, were built on the basis of more and more concentrated filled spaces of plots, with gradual limitation of surface areas of courtyards and internal open spaces.

The architecture of the centre of New York demonstrates another degree of intensity of development – in plot subdivision system a tower buildings, multiplying the use of floor area appears.

Seeking here a rule for a block consisting of buildings modelled on urban villas and divided into separate plots which does not exhibit such intense forms of development, but is based on a balance maintained between the developed and open space.

Sources of such a definition of an urban block should be looked for amongst solutions of the villa development type , characteristic of extraurban or suburban structures, and how it is adapted to downtown development.

5. Rome

Besides Genoa, [14–16], [5, p. 34–48] it is Rome that is the place where an interesting form of block development with urban villas came into being. It was based on regulatory plans and their implementation under the pressure of investors aiming at the maximisation of opportunities for intense development of plots.

[8] In this research it is not considerd as an urban block but as a superblock.

The process of Italian unification in the mid-19th century resulted in a sequence of regulatory plans (after 1865). They were developed e.g. for Florence (piano Poggi, 1865), Milan (piano Beruto, 1884), Naples (piano di risanamento, 1885), and Bologna (piano regolatore, 1889) [30].

The plan for Rome from 1909 (Piano Sanjust) [25] introduces two types of buildings: *fabbricati* and *villini*. The *villa* development remains and is classified in the area of parks and gardens.

The introduction of different types of development enables to diversify the shape of the plan.

And the specification of the development types is as follows:

– *fabbricati* – maximum height 24 m (over subsequent years this permissible height grows to 28 m in 1914 and 30 m in 1923),
– *villini* – a two-floor building with a ground floor, which maintains the distance of 4 m from the plot limits, with the maximum plot ratio of 1.4 of the total area of the plot.

General regulations were resolved in 1912. In the relation to the street, the height of the buildings can reach 1.5 of its width within the walls and 1.2 of this width beyond the walls. It was also permitted to erect houses with the height of 14 m at 8m-wide streets.

Due to the housing crisis caused by the war, a document *Regio Decreto di modifica del Regolamento edilisio del 1912* was announced, which changed the conditions pertaining to the plot ratio [26].

It was permitted to replace the type of *villini* by a new building type – *palazzine.* From then on, areas which according to the plan were allocated to *villini* could be developed more intensely. It was permitted to cover 1/4 of the plot area, maintaining the distance of 5.8 m from the plot limits. In practice, this distance did not pertain to the street frontage line and in this respect it was permitted to place buildings within the limits of the plot.

The height is 3 floors above the ground floor, the height of which must not exceed 3 m and which is designed as space for workshops. In practice, this height reached 5 floors, including a usable (also commercial) ground floor.

The width of the front is 25 m, but it was possible to obtain a permit for additional 10 m to the depth of 4 m. This form of development became very popular and constituted the basis for the development of the city.

Forms of buildings with a usable ground floor and 4 residential floors became widespread. The landscape of the city became greener due to the fact that not an entire plot was built-up.

The Fascist government and new visions for Rome sustained *palazzine* as the basic form of development, leaving *villini* as a less intense solution.

The permissible building was prescribed to be 30 m tall, until 1934, when the construction code enabled to increase it to 35 m along wider streets.

Mussolini's plan from 1931 introduced three new types of buildings, intended predominantly for residents with high incomes – *villini signorili* with the possibility of building up 1/6 of the plot, *ville signorili* with the possibility of building up 1/15 or the plot, and terraced houses – *case a schiera*.

The plan provided for a ground reserve for individual types of development, with 1260 ha assigned to *palazzine* and 1140 ha to *villini*. The plot ratio for intense development was

determined to be 500/600 residents/ha, for *palazzine* – 350/450 residents/ha, and for *villini* 100 residents/ha.

Intensification of plot development does not refer exclusively to taking full advantage of the opportunity to erect buildings, but to develop the plot itself. The minimum surface area of the plot around the building is used for a driveway, utility structures, terraces, greenery. The edge of the plot in contact with the street is also developed by placing trade and service functions there. Intensification fosters economic functional solutions, and the form of a pavilion enables to maintain greenery within the limits of the plot.

The typology established this way was confirmed by subsequent documents and implementations. The decree *Decreto interministeriale 2 aprile 1968, n. 144* [32] determined areas of intensity in relations to individual development types.

An extensive use area stands for one-family detached buildings, terraced houses, atrial and external corridor houses; a semi-intense development area stands for *palazzine* buildings, and an intense use area – tall tower buildings.

Palazzine is a 3-6-floor building with 2–6 apartments on the first floor, often with an internal courtyard. After the World War II this type of development became widespread in the suburbs and it gave rise to development complexes with closely arranged point buildings.

Another form resulting from the *palazzine* is *casa un linea*, which is a combination of at least two one-family *palazzino* with the height of 3–6 floors.

Consequence in the extension of zones of the city with a set spatial typology found its expression in the term *Città Consolidata*[9], which covers grounds developed according to the provisions of the plans from 1931 and 1962. Undoubtedly, areas built up with villini and *palazzine* created a new landscape of the city. It has a high plot ratio, maintaining a functionally and spatially attractive line of development, maximising the use of the plot and allowing to provide the building with light from 4 directions.

Art. 46 of Piano Regolatore Generale from 2008 pertaining to the development of the urban tissue in the 20th century with the typology for medium-intensity development complexes recognised the traditional type of *villini* and *palazzini* as consistent with the provisions from 1931.

For *villini* the distance of 4 m from the plot limits is accepted, and they can be built within the plot limits facing the street.

Palazzine can be located within the frontage line, with the ground floors holding service outlets.

Today, *Città Consolidata* is a huge part of the city located between the heart of the Old Rome and its modernist suburbs. Despite such strict assumptions referring to the development of the plot, as well as to the small number of possibilities pertaining to buildings, the landscape of the city is extremely diverse. The hierarchy of scales and intensities is maintained. The balance between the built-up and open space within the plot and the block enables to maintain good proportions in the perception of architecture (and its advantages), but also of greenery (and its natural values in different scales), as well as of the spatial and functional attractiveness of ground floors in the contact line between the plot and public spaces (the active edge).

---

[9] Next to the zones – Città Storica, Città da Ristrutturare and Città della Trasformazione [31].

Since the 1980s Ch. de Portzamparc propagates the idea of an open urban block[10]. His concept of such a block has lived to see several implementations (e.g. in Paris in the district of Masséna since 1995). Composing an urban block out of detached forms, simultaneously maintaining the frontage and regulation of the accessibility of the internal open space of the block – these are the rules which have governed the development of *Villa Urban Block* described above, and which were at the heart of the definitions and regulatory plans of Rome at the end of the 19th century and the beginning of the 20th century.

References

[1] Allain R., *Morphologie urbanine. Géographie, aménagement et architecture de la ville*, Armand Colin, Paris 2004.

[2] Borie A., *Denieul F., Méthode d'analyse mprhologique des tissus urbains traditionnels, études et documents sur le patrîmoine culturel*, 1984, unesdoc.unesco.org/images/0006/.../062310fb.pdf (access: 2.10.2016).

[3] Cechini D., *Principali Fasi della Trasformazione Urbana, formazione della citta' industriale XIX secolo*, http://www.cittasostenibili.it/industriale/industriale_Scheda_7.htm (access: 24.09.2016).

[4] Cechini D., *Principali Fasi della Trasformazione Urbana, formazione delle aree urbane e metropolitane XX secolo fino agli anni '70*, http://www.cittasostenibili.it/urbana/urbana_Scheda_12.htm (access:24.09.2016).

[5] Corsini M.G., *Residential building types in Italy before 1930: the significance of local typological processes*, "Urban Morphology", 1997, 34–48.

[6] de Portzamparc Ch., *Débat avec Ch. de Portzamparc*, "Ville – Architecture", 4/1997.

[7] de Portzamparc Ch., *La ville âge III*, Conférences Paris d'Architectes PA 1994, les mini PA nº 5, Ed. du Pavillon d'Arsenal, Paris 1994.

[8] de Portzamparc Ch., *La ville hors la ville*, "Projet Urbain", 3/1995.

[9] Kantarek A.A., *Paryskie kwartały. Współczesna koncepcja zabudowy kwartału w strukturze miasta*, Wyd. Politechniki Krakowskiej, Kraków 2004.

[10] Kantarek A.A., *Christian de Portzamparc – urbanista*, "Files of the Committee of Urban Planning and Architecture", Branch of the Polish Academy of Sciences/Cracow, volume XXXV, 2003.

[11] Kostof S., *The city shaped, urban patterns and meanings through history*, Thames & Hudson, London 1991.

[12] Kropf K., *Against the Perimeter Block: a Morphological Critique*, http://www.rudi.net/books/8897 (access: 24.09.2016).

[13] Ladjevardi A., *The Roman Palazzina*, http://itopiarometheeternalcity.blogspot.com/2009/05/agnes-ladjevardi-roman-palazzina.html (access: 25.06.2013).

[14] Luccardini R., *La Circonvallazione aMonte. Genova. storia dell'espansione urbana dll'Ottocento*, SAGEP Editori, Genova 2012.

[15] Luccardini R., *Albaro e la Foce. Genova. Storia dell'espansione urbana del Novecento*, SAGEP Editori, Genova 2013.

[10] *Îlot ouvert* [6–9].

[16] Luccardini R., *Carignano. Genova. Storia dell'espansione sulla collina*, SAGEP Editori, Genova 2014.
[17] Mangin D., *La ville franchisée. Formes et structures de la ville contemporaine*, Ed. de la Villette, Paris 2004.
[18] Mangin D., Panerai P., *Projet urbain*, Ed. Paranthèses, Marseille 1999.
[19] Merlin P., Choay F., *Dictionnaire de l'urbanisme et de l'aménagement*, PUF, Paris 1996.
[20] Moudon A.V. *Urban morphology as an emerging interdisciplinary field*, "Urban Morphology", 1997 1, 3–10.
[21] Panerai Ph., Castex J., Samuels I., *Urban Forms. The Death and Life of the Urban Block*, Architectural Press, Oxford 2004.
[22] Portoghesi P., *Palazzina romana*, „Casabella", 1975, 407, 18–25.
[23] Saylor H., *Dictionary of Architecture*, J. Wiley&Sons, New York 1963.
[24] http://www.cittasostenibili.it/img/Prg_storico/03_prg_1909.jpg 2.10.2016 (access: 2.10.2016).
[25] http://www.cittasostenibili.it/img/Prg_storico/07_prg_1931.jpg (access: 2.10.2016).
[26] http://www.urbanistica.comune.roma.it/pdz/mappa.html (access: 2.10.2016).
[27] http://www.archiviocapitolinorisorsedigitali.it/iip/iipmooviewer.php?IDA=90&FTIF=560.tif (access: 2.10.2016).
[28] http://www.archiviocapitolinorisorsedigitali.it/iip/iipmooviewer.php?IDA=90&FTIF=537.tif (access: 2.10.2016).
[29] http://it.wikipedia.org/wiki/Piano_Regolatore_Generale (access: 24.09.2016).
[30] http://www.urbanistica.comune.roma.it/prg-parole.html (access: 24.09.2016).
[31] https://it.wikipedia.org/wiki/Tipologia_edilisia (access: 24.09.2016).
[32] http://comuneroma.globogis.it/roma_gfmaplet/?token=NULLNULLNULLNULL (access: 24.09.2016).
[33] http://www.archiviocapitolinorisorsedigitali.it/iip/iipmooviewer.php?IDA=90&FTIF=537.tif (access: 24.09.2016).
[34] http://www.archiviocapitolinorisorsedigitali.it/iip/iipmooviewer.php?IDA=90&FTIF=560.tif (access: 24.09.2016).