

## TOWN PLANNING OF ZAGREB 1862-1923 AS A PART OF EUROPEAN CULTURAL CIRCLE

### URBANO PLANIRANJE ZAGREBA KAO DIO EUROPSKOG KULTURNOG KRUGA

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#### Summary

*Croatia was situated on the southern edge of the Habsburg Monarchy, thus the industrial revolution did not have a significant impact on the urban development of Croatian towns until the second half of the 19th century. The arrival of the railway in 1862 marked the beginning of a significant special growth of the town and its functional transformation. From 1865 until the period between the two world wars, a period of intensive town planning occurred and the city of Zagreb turned from a small Croatian administrative and trade centre into a modern industrial centre of south-eastern Europe. The town planning documents of Zagreb from 1865, 1887, 1905 and 1923 were concentrated around the establishment of a network of new streets and squares, the organisation of communal infrastructure, the shaping of the green areas and functional zoning of the town. All of this gave Zagreb's Lower Town (Donji Grad) a recognisable middle-European urban identity. These processes were developed under the strong influence of European trends and town planning schools whose signatures can be clearly read in all of the projects of the Zagreb's first town planning documents. The majority of Zagreb's town planning experts of the time were educated in Vienna and Budapest. These cities became their main town planning pattern as so many of the town planning ideas applied in Vienna and Budapest can be recognised in the city of Zagreb. The second source of the European influence on Zagreb's town planning came from the predominant town planning theories of Reinhard Baumeister and Camillo Sitte as well as from the basic town planning manual of the time – *Der Städtebau* by Josef Stübben, whose models of town building can be observed in numerous Zagreb's streets and squares.*

**Key words:** history of town planning, 19th/20th century, Zagreb, Vienna, Budapest, Austro-Hungarian Monarchy

**Ključne riječi:** povijest urbanog planiranja, 19./20. stoljeće, Zagreb, Beč, Budimpešta, Austro-Ugarska Monarhija

#### HISTORICAL CONTEXT – ZAGREB IN THE MIDDLE OF THE 19TH CENTURY

In the middle of the 19th century Zagreb had about 15,000 inhabitants<sup>1</sup>. In addition to its role as a political and administrative centre of Croatia at that time it was part of the Habsburg Monarchy

<sup>1</sup> Basic literature about the urban development of Zagreb can be found in: I. KAMPUŠ, I KARAMAN, Tisućljetni Zagreb [Zagreb through a thousand years], Zagreb, 1994; L. DOBRONIĆ, Graditelji i izgradnja Zagreba u doba historijskih stilova [Building contractors and constructing of Zagreb in the time of historicism], Zagreb, 1983; E. FRANKOVIĆ, »Lenucijeva era [Lenuci's era], Review Arhitektura, no. 204-207, Zagreb, 1988, pp. 81-11; S. KNEŽEVIĆ, Zagreb u središtu [Zagreb in the centre], Zagreb, 2003; M. SLUKAN ALTIĆ, »Morphological and functional change in Zagreb's Lower Town (Donji grad) 1862-1914 based on cadastral sources«, Review Prostor, Zagreb, 2006, vol. 31, pp.2-17.

(and from 1868 part of Austro-Hungary); Zagreb had its development based mainly on trade and crafts. Due to the lack of industrialization, demographic and spatial development was relatively slow. Zagreb only began to emerge from its medieval core, bounded by walls, at the beginning of the 19th century<sup>2</sup>. A turning point came in its development when Zagreb became part of the railway in 1862. The rail connection with Vienna (in 1862) and then Budapest (in 1870) and the Adriatic port of Rijeka (in 1873), enhanced the strong industrialization of the city and would, in just a few decades, turn the small trading town into a modern industrial city which would, by 1900, have approximately 60,000 inhabitants with over 50 large industrial companies. Such changes are therefore reflected in the significant changes in the morphological and functional structure of the city. So, after 1862, as a result of the new developmental conditions, Zagreb began to develop from a pre-industrial town into an industrial one.

After 1862 the development of Zagreb is characterized by the extremely rapid growth of spatial and functional specialization of urban areas. In the area below the historic centre, where until the early 19th century there was only a modest suburban space in just a few decades would be built the Lower Town (Donji Grad) in Zagreb, the most representative and most modern part of town till the early 20th century which became the new business and commercial centre of Zagreb.

### **THE FIRST TOWN-PLANNING ACT FOR THE CITY OF ZAGREB AS PART OF THE CONCEPT OF UTILITARIAN AESTHETICS**

The Town-planning Act of Zagreb was issued on 23rd March 1865, the first such document in the history of Zagreb. Made at the time of the arrival of the railway and the beginning of industrialization, Zagreb started its rapid demographic and spatial expansion, this document was created with the task of planning the construction of a new part of the town - today's Lower Town. This wide space between the historical centre to the north and the railway to the south was almost incomplete and its open and level area gave the creators of the Town-planning Act complete freedom in planning the new town centre. The historical heart of Zagreb was practically completely untreated by the Regulatory Basis thereby dispute over how to treat historical monuments and the potential demolition of existing buildings was also avoided<sup>3</sup>.

A new orthogonal street plan was designed for the whole area of the Lower Town. Some old irregularities of the Lower Town were meant to be corrected, but those alterations were never realised in built-up streets due to greater financial expenses. Town parts built up before the first major town plan are in clear contrast with the parts built up after its passing. The whole Lower Town area was planned as the residential as well as business and trade zones of the town.

The map seriously engaged the issue of the location for the new railway tracks to Budapest. These railway tracks, connecting the route of the South Railway leading to Vienna and Trieste with the Royal Hungarian Railway leading to Budapest, caused a lively debate amongst the experts and the common people. There was a doubt about how far the railway tracks should be moved away from the built-up part of the town. This map thus suggested two possible solutions. The southern variant suggested by the map was finally accepted and the railway station of the Hungarian Railway was

<sup>2</sup> Zagreb is developed as a town with a double (twin) core located on two neighbouring hills divided by a stream. On the hill east of the stream, a settlement under the jurisdiction of the Zagreb Kaptol started to develop (first mentioned in 1094 as the seat of the Zagreb Bishopric). On the right bank of the stream, on the location of today's Upper Town, a civilian settlement began to develop, which was first mentioned in 1242 when it got a charter of a free royal town. Both settlements were fortified in the 13th century.

<sup>3</sup> Since all of the old town gates of the Upper Town had already been pulled down at that time (with the exception of the East Gate, which still exists), in the town planning map there are no suggestions for any interventions in this area. Kaptol was another story, since its narrow town gates were still obstructing traffic. The town planning map suggests the pulling down of the South Gate (realised in the same year) and the North Gate of Kaptol (carried out in 1876).

built in the middle of the south margin of the Lower Town. Through the planning of the location of the new railway station in the southern outskirts of the town, as well as construction of new streets leading from the town's core to the new railway station, a new dominant direction of town expansion was brought about in the north-south direction.

Apart from the new street plan, this regulative document planned the greening of new areas in the town. Along the whole southern edge, as a buffer zone between the railway tracks and the residential area of the Lower Town, the arrangement of a green belt was planned. It was implemented to a great extent by the foundation of the Botanical Gardens, which still spread along the major part on the southern brinks of the Lower Town.

Curiously enough, Zagreb's first town planning document mostly dealt with morphological features of the town, whereas the functional structure was rather neglected. Although it was a time when Zagreb opened the first industrial facilities (mainly located along the railway tracks), the location for the industrial installations was never even mentioned. Despite all the understatement about the first town planning map of Zagreb, it had a crucial effect on the future of the town's development. Almost all the regulations dealing with the street planning were implemented in full.

The creator of this formal document was the Municipal Building Office, but its actual author was construction engineer Vatroslav Egersdorfer (1819-1884). Egersdorfer was educated at the Higher Technical School in Budapest where in 1843 he gained a degree in construction engineering. From 1860 he worked on various matters concerning the development of the city leading to the urban solution in 1865. Also working alongside him on the basis were Janko Grahor (1827-1906), a construction engineer who had studied in Frankfurt on the River Main and Vienna, and Kamilo Bedeković (1839-1915) who also graduated at the *Technische Hochschule* in Vienna. They were the first of Zagreb's urban planners who applied the knowledge they had acquired during their schooling and work in Vienna and Budapest over urban Zagreb.

In the regulations of the first Town-planning Act of the city of Zagreb from 1865, the impacts of then dominant theory in building a city, especially those founded in the works of Ernst Bruch and Reinhard Baumeister<sup>4</sup> are clearly visible. In accordance with their theories, all planning procedures were set for utilitarian aesthetics where beauty can only be something practical. The necessity for carrying out the strict regulation of geometrical growth was justified by the modern demands for improving the flow of increasing traffic and to raise the general level of living conditions in the city. The simultaneous aesthetic accomplishments were explained only as an added value and almost unpredictable consequences (e.g. the planning of the Botanical Gardens as well as noise protection from the railways). They can also be identified in the influences on the regulation of Vienna carried out after the demolition of its city walls (in 1857). Although in Vienna, a new urban tissue was related to the circular shape or *Ringstrasse*, a geometrically formed plan of streets and regular blocks of houses are clearly visible there as well as in Zagreb, with the difference that the regular grid of streets in Zagreb, associated with the straight directions of Ilica and Jurišićeva streets which are a new part of the town (Lower Town - Donji Grad) links with the area of the historical core (Upper Town - Gornji Grad and Kaptol). So the starting point of Zagreb's Lower Town doesn't resemble a ring as in Vienna's case, but the straight street direction from which the proper sequences of streets continue and create a geometrically very regular rectangular grid of streets with regular building blocks of houses.

<sup>4</sup> Reinhard Baumeister (1833-1917), German engineer. He applied for High Technical School in Hanover and graduated at the High Technical School in Karlsruhe (1862). In 1876 his theory was completed in the book »Stadterweiterungen in technischer, wirtschaftlicher und polizeilicher Hinsicht«





Figure 1 Town planning map of Zagreb (1865) and established orthogonal street pattern of the Lower Town

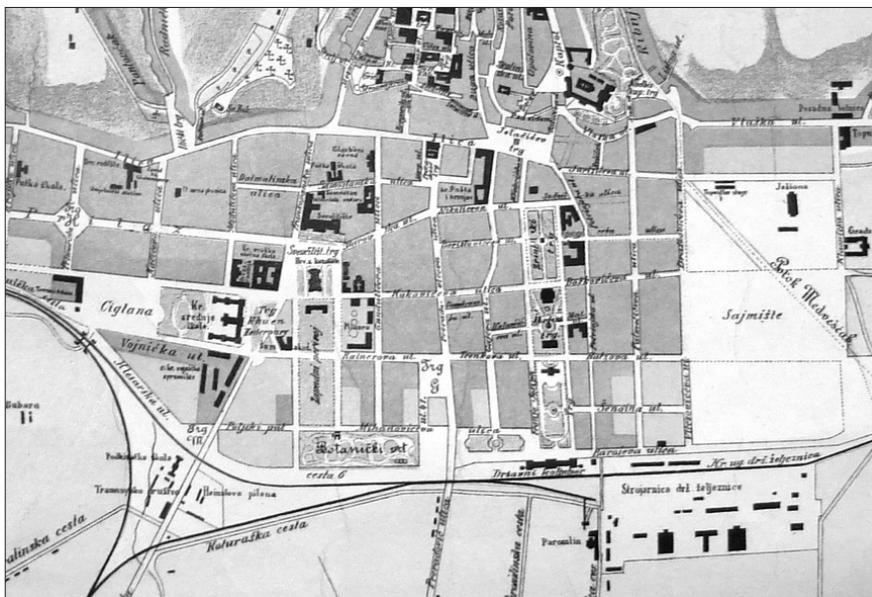
### REFORMIST IDEAS OF THE SECOND TOWN-PLANNING ACT (1887)

A second Town-planning Act was made in 1887. One of its greatest new ideas was dealing with the functional organisation of the town. The town was divided into three functional zones. The first zone was the area between the historical cores in the north and the railway station in the south (Lower Town). This zone was defined as the business and trade centre of the town as well as residential zone for the middle classes. The second zone spreading southwards of the railway lines was designated as a residential zone for the working population and an industrial zone, whereas the third zone in the north of the historic heart was intended as an elite residential area. Such functional organisation created a distinct social topography of the town, largely preserved to the present day.

Considering the street plan, there are not many changes – the Act from 1887 mainly adopted all the regulations from 1865 and expanded the orthogonal street plan to the west and east of the town’s boundaries. A proper network of streets created a rectangle that had been built in accordance with the then rules in the form of compact blocks. Such so-called building blocks or *Baublöcke* were particularly advocated by Josef Stübben one of the most influential theorists of urban planning at that time<sup>5</sup>. However, a document from 1887 added some great news to the streets of the Lower Town - a system of city parks. A list of seven connecting parks was planned which due to their characteristic on the ground plans within Lower Town were named the Green Horseshoe and which today still represents one of the basic urban identities of Zagreb’s Lower Town. The basic idea was that a number of parks would surround the Lower Town on three sides, providing a visual barrier and protecting the

<sup>5</sup> Josef Stübben (1845-1936), German architect and town planner. According to Stübben parks of the Zagreb green horseshoe enter into the category *Gartenplatz* or *Schmuckplatz*.

health of that part of the town from the pollution that came from the railroad tracks and industrial areas around the railway and the station. The task of the conceptualisation of the idea of a Green Horseshoe, as a system of town squares with park areas, was given to the then construction engineer Rupert Melkus, who like his predecessors was educated in Vienna<sup>6</sup>. The idea of city parks as a form including natural landscapes into the urban fabric of the town was also promoted Josef Stübben. His town building manual *'Der Städtebau'* during the implementation of Zagreb's green horseshoe was the basic handbook on the planning and organisation of the city, according to Stübben's manual, Zagreb's green parks are designed as a horseshoe *Gartenplatz* in reference to *Schmuckplatz*. Creation of the green horseshoe was directly inspired by urban undertakings in Vienna where after the deconstruction of the town's walls (1857), in place of the walls the *Ringstrasse* was created, a circular road alongside which the most representative architectural, horticultural works and sculptures as well as artisans were placed. The Green Horseshoe was created in the period from 1887-1914 using the exact Vienna concept<sup>7</sup>. The role of the ring in Zagreb took on a series of squares/parks along which, at the end of the 19th and early 20th centuries, were built a series of representative public palaces in the classicist and secession styles, due to which the Lower Town became not only the most prominent part of the town but, thanks to a number of public institutions that were built there, also took on the function of the town's centre. So, with the obvious application of the Vienna template in the document from 1887, it feels the strong influence of the theorist Camillo Sitte<sup>8</sup>. Art remains an important component of urban planning in Zagreb, and the design of monumental street lines and spacious squares with a significant artistic note, became imperative.<sup>9</sup>



**Figure 2**  
The idea of the Green Horseshoe in Zagreb Lower Town established according Second Town-planning Act (shown in the town plan of Zagreb from 1898)

<sup>6</sup> Rupert Melkus (1833-1891), an urban planner of Czech origin, graduated at the Polytechnic Institute in Vienna. From 1869 he worked in Zagreb as a town engineer from 1882 until 1891 as the head of the Municipal Building Office. He had a key role in bringing the regulatory basis in 1887 according to which the Zagreb green horseshoe was built.

<sup>7</sup> A. MORAVANSZKY, *Competing Visions. Aesthetic Invention and Social Imagination in Central European Architecture 1867-1918*, Cambridge, Massachusetts-London, 1997.

<sup>8</sup> Camillo Sitte (1843-1903), an Austrian architect and urban planner. He studied at the High Technical School in Vienna. His work *'Der Städtebau nach seinen Künstlerischen Grundsätzen'* (1889) changed the pre-existing approach to urban planning.

<sup>9</sup> Z. JURIC, *Zaštita spomenika u teorijama gradogradnje u srednjoj Europi 1870.-1918*. [Protection of monuments in urban development Theories of Central Europe between 1870 and 1918], *Review Prostor*, Zagreb, 2004, vol. 12, pp. 1-15.



## THE INFLUENCES OF CAMILLO SITTE AND IDEAS OF »GENIUS LOCI« IN THE WORK OF MILAN LENUCI

When the Lower Town of Zagreb expanded to the south to the railway barrier, the then Building Office decided to plan a widening of the city to the east as a continuous extension of the Lower Town. In order to further enlarge the city, the then head of the Building Office, Milan Lenuci, in 1905 compiled a new Town-planning Act for the new, eastern part of Zagreb. As the western part of the building region was already limited by the Lower Town and to the south by the railway track, whilst eastwards it spread freely, covering a wide area of unused ground. In projecting the Town-planning Act of eastern Zagreb Lenuci abandoned the strict orthogonal scheme of regular blocks of houses based on the regulation from 1887. With his Regulatory Act from 1905 Lenuci designed a new residential quarter with substantially freer street routes through which the central part of a broad avenue ran in a gentle curve connecting the edge of the Lower Town with the new eastern periphery, leading to a spacious landscaped park formed at the city's eastern border. This new central street called »Prachtstrasse« had multitasks - it was a luxury residential street, a promenade and a main road in one<sup>10</sup>. His »great avenue« is quite certainly based on the model of the Budapest street of *Andrassy Utja* (now *Nepkoeztarsasag Utja*) which is also linked by a short city ring road with a town park-forest (Városliget). This luxurious 2.5 km long avenue influenced all the other side streets; they were radially and diagonally laid in relation to it. Secondary streets observed the local topography and traced the older routes, often following a picturesque arched form, so the new street network was devoid of any rigidity, creating a new artistic and yet communal quality (this was especially visible in the northern part of the new areas which became reminiscent of Vienna's Hungerberg which Lenuci knew about from Stübben's aforementioned manual).

As one of the most influential Croatian town planners of the time<sup>11</sup>, Lenuci was well acquainted with Stübben's work but also for his more liberal approach to town development which was propagated by Camillo Sitte. Both of these mentioned theorists had great influence on Lenuci's work, but while his work on the Regulatory Act from 1887 reflected more of Stübben's ideal of the city, in the basis from 1905 Lenuci turns more towards Sitte's approach, forming the new city area, free of strict geometry. In wishing to preserve the local topography and characteristics of individual urban areas, there came calls for Sitte's idea of the term »genius loci«.

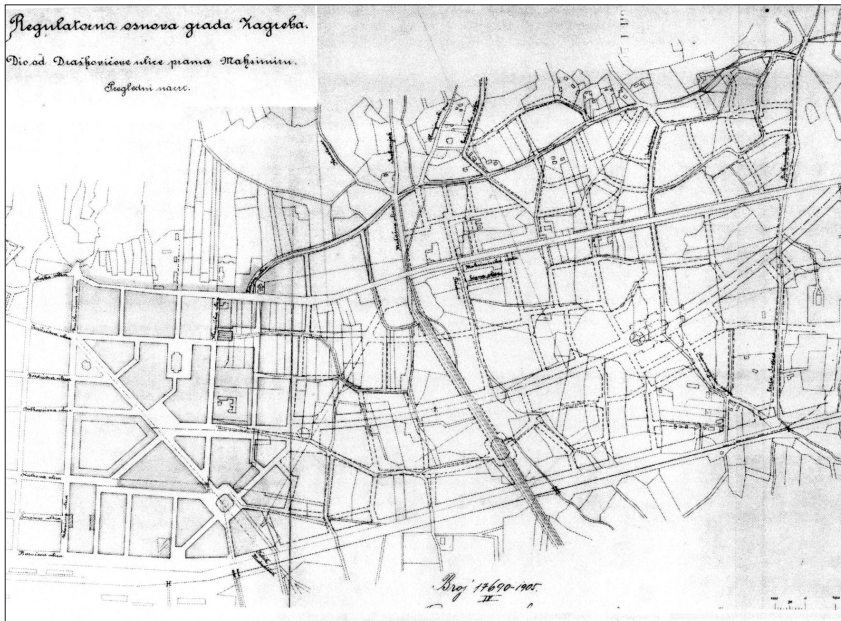
The value of Lenuci's free conception of the eastern part of the town was confirmed in the work of his successor. Karlo Vajda was to succeed Lenuci as the head of the Municipal Building Office, and he became credited for making the Town-planning Act of 1923. Lenuci's idea of a large central avenue and a series of smaller radial streets was upheld, although a correction was made in the formation of smaller streets and the blocks themselves which were anyway partially corrected into more regular forms (this procedure was conditioned by the great economic crisis and the desire for the economic utilization of construction land).

Milan Lenuci's work has been completely embedded in the domination of Vienna's cultural circle as a basic theoretical background in the urban development of Zagreb. He dismissed the then

<sup>10</sup> S. KNEŽEVIĆ, »Regulatorna osnova Milana Lenucija« [Town-planning Act of Milan Lenuci], *Radovi Instituta za povijest umjetnost*, Zagreb, 1992, col. 16, pp. 169-197

<sup>11</sup> Milan Lenuci (1849-1924) studied at the High Technical School in Graz. After he accomplished the study in 1873, he worked for his professor Adolf Gabrieli on planning some buildings in Vienna. In 1874 he began to work as an engineer in the Municipal Head Office in Zagreb and from 1878 Lenuci he became the head of the office of the city's water supply which thanks to him was accomplished the same year. In 1882 as a member of the Municipal Building Office he began to work on urban planning of the city and from 1891 when he was named the head officer of the Municipal Building Office, he had the main word in all of the urban planning actions in Zagreb until 1912 when he retired (he occasionally worked until 1914). Thanks to him the regulatory basis from 1887 was applied as well as the organisation of the green horseshoe and urban planning of the eastern and northern parts of the city.

firmly accepted principles of Stübben and inclined towards a liberal approach with stronger accents on artistic historicism and modernity. The basic theoretical template of his work was certainly that of Camillo Sitte, but it feels like and has the influences of Cornelius Gurlitt<sup>12</sup> who recommended irregular and winding streets and Otto Wagner with his emphasised concepts of historicism and accentuated importance of architecture<sup>13</sup>. The strict utilitarianism of 19th century took the place of the artistic design and feeling for »genius loci«. So it is thanks to Lenuci, on the doorstep of the 20th century that Zagreb's urbanism is synchronized with leading urban planning and architectural trends of the epoch.



**Figure 3**

*Lenuci's Town-planning Act for the eastern part of the city from 1905*



**Figure 4**

*Three phases of the urban development of Zagreb visible on the Town-planning Act from 1923: the historical heart of the Upper Town and Kaptol, orthogonal structure of the Lower Town and the eastern part of the city characterized by radial streets)*

<sup>12</sup> Cornelius Gurlitt (1850-1938), German architect and art historian. He was co-founder and president of the *Bund Deutscher Architekten* (»Association of German Architects«) and principal of the Technische Universität Dresden, where he was also professor of art history and the history of construction.

<sup>13</sup> Otto Koloman Wagner (1841-1918), Professor of Architecture at the Academy of Fine Arts in Vienna, he was well advanced on his path towards a more radical opposition to the prevailing currents of historicist architecture. Wagner was very interested in urban planning. In 1890 he designed a new city plan for Vienna, but only his urban rail network, the Stadtbahn, was built. In 1896 he published a textbook entitled *Modern Architecture* in which he expressed his ideas about the role of the architect.

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**SAŽETAK**

Dolazak željeznice 1862. označava prvorazrednu prekretnicu u povijesti Zagreba. Željeznički promet bio je bitan preduvjet za početak razvoja snažnije gospodarske osnove grada, poglavito njegove industrije. Industrijalizacija grada koja je uslijedila nakon 1862., potaknuvši nagli prostorni i demografski rast grada, ukazala je na potrebu sustavnog prostornog planiranja koje će usmjeriti i regulirati buduću izgradnju i funkcionalnu organizaciju grada Zagreba. Kao posljedica opisanih okolnosti, razdoblje najintenzivnije industrijalizacije (od 1862. do 30-ih godine 20. stoljeća) obilježeno je snažnim razvojem sustavnog prostornog planiranja grada zahvaljujući kojem je Zagreb u samo nekoliko desetljeća prerastao iz regionalnog administrativno-političkog i trgovačkog središta u jedan od najmodernijih industrijskih gradova jugoistočne Europe.

Urbanističke osnove Zagreba iz 1865., 1887., 1905. i 1923. modernizirale su stare i utemeljile posve nove dijelove grada, odredile novu funkcionalnu organizaciju grada, rješavale pitanja moderne komunalne infrastrukture te oblikovale prepoznatljive prostrane hortikulture površine (zelena potkova), čime je Zagreb dobio danas prepoznatljivi srednjoeuropski urbani identitet. Svi navedeni procesi odvijali su se pod snažnim utjecajem europskih urbanističkih trendova čije odjeke možemo jasno iščitavati u svim navedenim urbanističkim dokumentima grada Zagreba. Većina zagrebačkih urbanista toga vremena, školovano je najprestižnijim srednjoeuropskim centrima. Upravo zbog toga, gradovi poput Beča ili Budimpešte bili su glavni uzor pri urbanističkim konceptima koje su primijenjivali pri urbanom planiranju Zagreba. Zagrebački urbanisti 19. i početka 20. stoljeća u svome su radu primijenjivali dominantne urbanističke teorije Reinharda Baumeistera, Camilla Sittea I Corneliusa Gurlitta. Osobito snažan utjecaj u urbanizmu Zagreba ostavio je i jedan od najpoznatijih europskih priručnika gradogradnje toga doba, *Der Städtebau* Josefa Stübbena, čiji se obrasci blokofske izgradnje grada i danas ogledaju o oblikovanju brojnih ulica i trgova Donjega grada.



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