

WOJCIECH KOSIŃSKI*

DO HIGH-RISES BELONG IN THE CITY CENTRE?

WYSOKOŚCIOWCE W ŚRÓDMIEŚCIU?

Abstract

The author presents, from a historical point of view, the functional and aesthetic aspects of the placement of tall buildings in city centres. High-rises introduce into the urban tissue both serious functional and programmatic elements, as well as a form of sensation and artistic controversy. The defining of architecture in light of the abovementioned problems is currently one of the most important discussions about the creation of space in the twenty first century.

Keywords: city, city centre, tall building, skyscraper, function, form, avant-garde

Streszczenie

Przedstawiono w ujęciu historycznym funkcjonalne i estetyczne aspekty lokalizacji wysokich budynków w strefach śródmiejskich. Wieżowce w tkance urbanistycznej wnoszą zarówno poważne zagadnienia programowo-użytkowe, jak też budzą sensacje i kontrowersje artystyczne. Definiowanie architektury w świetle kwestii powyższych stanowi w chwili obecnej jedną z najistotniejszych dyskusji o kreacji przestrzeni w dwudziestym pierwszym wieku.

Słowa kluczowe: Miasto, śródmieście, budynek wysoki, wieżowiec, funkcja, forma, awangarda

* Prof. Ph.D. D.Sc. Arch. Wojciech Kosiński, Faculty of Architecture, Cracow University of Technology.

A polite, mild-mannered European, while reading the supposition contained in the title of this paper and having in mind his or her favourite cities, like Venice, Florence, Amsterdam, Zürich or Krakow, could become angered, or respond with the phrase coined by Napoleon: “it’s worse than a crime, it’s a blunder!”. A remark might be made about Americanism, or, to be more up to date – of an Asian character being introduced into Europe. All of these critical remarks can be right in relation to certain specific places, whilst in terms of other locations, which also have the character of a city centre, the matter could be less obvious, and the criticism that is being levelled – not entirely justified.

In this discourse it is important to define what is being understood as a city centre; whether it is only a historical, complete centre with ages of history, or is it an existing fragment of a city which undergoes gentrification, or is being created from scratch, and possessing the character of a city centre, making the city a polycentric structure, free from the guidelines and restrictions of architectural conservation authorities, where high-rise complexes can be the defining factor of a new city centre that can form an alternative to the historical one. Finally, it is important to define modern aesthetic preferences in light of the fascinating changes in the aesthetics of skyscrapers and their role in the reception of urban emotions. The current preferences regarding places of residence of new generations are also important – with city centre high-rises playing an important role in this regard¹.

1. THE AGE-OLD NEED TO PLACE TALL HOUSES IN THE SPACE OF THE CITY – FROM PREHISTORIC LANDS TO HISTORICAL EUROPE

Tall, underscored structures within a city, which constitute a form of ideological symbol and a spatial dominant, have emerged consistently along with the emergence of cities. The maturity and preparation of a community, its elites and authorities to establish and then construct a city, entailed with it the possibility and will of accentuating it with a structure: religious, monumental, religious or secular, rich in terms of both content and form. Such a building was to the residents, visitors and the place/city – polis – itself – the centre of the world from the local point of view. Multi-storey residential buildings – both in the form of towers and long slabs – are a separate category. The oldest and greatest urban cultures have provided us, along with cities that excite us to this day, with the architecture that fills them and makes them stand apart, verticalism being, among other elements, its key feature.

Giza of ancient Egypt, which formed a satellite complex of the capital, Memphis – which was located nearby – and which is currently located on the outskirts of Cairo, contained residential blocks which were seven storeys high². It was both a necropolis of the Pharaohs, where the Great Pyramid was built around 2600 BCE, and which thanks to its height of 146 m was the world’s tallest structure until the 14th century AD. To this day, after the metropolitan

¹ P. Setkowicz, *Budynki ekstremalnie wysokie – szaleństwo czy przyszłość miasta. Extremely tall buildings – folly or future of cities?* Czasopismo Techniczne. Technical Transactions. Issue 1-A/2. Wydawnictwo Politechniki Krakowskiej. Krakow 2012, p. 175–182. Online version: <http://suw.biblos.pk.edu.pl/resourceDetails&rId=12301>.

² Ch. E. Peterson, *Ante-bellum skyscraper*. Journal of the Society of Architectural Historians. October. University of California Press. Riverside CA 1950, p. 25–48.

development of Cairo, the Pyramid, when viewed from a distance, near other, smaller buildings of the necropolis in Giza, forms a phenomenal urban dominant against the backdrop of the desert, inspiring deep reflection. It was and still is the only example of a structure that was labelled the tallest in the world and was simultaneously located in Africa.

The prehistoric Egyptian city of El Kab, located on the Nile, provides us with an interesting example. Its dating has proven difficult due to its poor state of preservation, thought to be between 3000 and 1500 BCE. It is currently famous thanks to Rem Koolhaas, who used its square outline and central composition as an inspiration for the design of the RAK Gate Desert City. El Kab possessed an extraordinary, vertical Centre. It was composed of twin, adjacent temples, placed exactly at the central point of the square city. One was devoted to the goddess Nekhbet, while the other to the god Thoth. Together they formed a square floor plan, composed with a square pool called the Holy Lake.

One of the most well-known high-rise buildings, considered legendary, yet being more and more precisely defined by scholars, is the Tower of Babel, known chiefly for its Old Testament interpretation. It was quite probably a structure in the centre of Babylon, called *Etemenanki*, with a height just above 70 m, and constituted a temple to the god Marduk, at the same time being an astronomical and military observatory. The pagodas which dominated prehistoric and early historic Chinese cities were temples first and foremost, while also playing the part of vantage points, used equally for the pleasure of looking at the panorama of the countryside and for military purposes. The twin octagonal Pagodas of the Sun and Moon, with a height of around 40 m, “rise up from a lake” in the middle of the historical city of Guilin. After a period of ruination, they have been meticulously recreated with modernised interiors.

In ancient Rome, most ostensibly during the Imperial period, *insulae* were the most common form of mass housing within the urbanising metropolis. They reached a height of 10 storeys—over 25 m—featuring shops and services on the ground floors. Some of these have been preserved in a good state in the form of a permanent ruin. Residential blocks were also built in the cities of the Imperial provinces, reaching a height of up to 7 storeys. Vertical urban residential buildings were also being built between the 10th and 17th centuries in a number of Arabic cultures³. The adoption of such forms was often motivated by defensive considerations. Residential complexes in the form of tower-like buildings several storeys high were built in the 10th century in the city of Fustat, the first Islamic capital of Egypt, using techniques reminiscent of those used when constructing minarets. 14-storey houses with rooftop gardens, irrigated with water-supplying bucket conveyors fashioned after those of the “hanging” gardens of Babylon, were built there in the 11th century. Sleek 10-storey “apartment buildings” were built in Cairo in the 16th century, with apartments for rent. The two lowest floors were used as shops and storerooms. The lowest residential storeys were the most expensive to rent and were inhabited by the wealthiest residents, with an entire storey being a single apartment. The same period provides us with Shibam, the “city of high-rises”, located in Yemen, with a population of 7 thousand, which is a cultural sensation, having been placed on the UNESCO World Heritage Site List.

From amongst the cities of mediaeval Tuscany, two have been made famous thanks to tall patrician residential towers, built both for prestige and for internal safety and defensibility.

³ M. Hisham, *Traditional Islamic principles of built environment*. Routledge. Abington-on-Thames 2003, p. 8–15.



- III. 1. Manhattan, „432 Park Avenue” residential Tower, with a height of 426 m. The tallest residential building in the world and the tallest structure in Manhattan (taller than 1 WTC, not counting its antenna). Propagated as the first next generation minimalist skyscraper based on a square aesthetic. Erected in 2015 in an area previously occupied by the Drake hotel – a precious historical building in the Art Deco style that had been demolished. It was the most expensive property in Manhattan – purchased for 400 million dollars. The price range for the apartments is between 80 to 95 million dollars. Author: architect Rafael Viñoly. Photo by Mariusz Twardowski, graphics by STUDIO AS

Bologna had around 100 such towers, with the highest – Torre Asinelli – being 92 m tall, while San Gimignano had over 70, with the tallest one being the 51-m-tall Torre Grossa. In some of these cities, the thick defensive walls also contained residential quarters, open towards the side of the city. In Florence, local law allowed secular buildings to be built no taller than 26 m high, which is why its Old Town is now dominated only by the tower of the Signoria and its churches.

The tradition of building the tallest possible cathedral towers was established during the gothic period. This was done both for reasons of religion and prestige, and had been made possible by phenomenal gothic-period construction techniques. The first structure to exceed the Great Pyramid in terms of height was the tower of the Lincoln Cathedral, built in the year 1311, which was 161 m tall (along with its pinnacle which was destroyed by a lightning bolt in 1549, and which was never rebuilt). It was exceeded in 1890 by the neo-gothic tower of the Cathedral in Ulm, which was only a metre higher, standing at 162 m. However, its entire height was composed of its structure. The most aesthetically excellent French cathedrals were lower, with the tallest one being the Cathedral in Rouen, at a height of 151 m.

The Eiffel Tower was built a year earlier than the tower of the Cathedral of Ulm, in 1889. It is difficult to call it a building per se, although it did become an urban and architectural expression of the modern period, which was then developing around the world, and an emblem of the identity of the city and a source of pride and identification for residents. The height of this steel lattice structure – 324 metres – a distance travelled thanks to then-recently invented elevators, made the tower the last of the world's tallest structures to be located in Old Europe. Subsequent record-holding high-rise structures were built in the “Brave New World” – in the United States of America.

2. „A BRAVE NEW WORLD” – THE HIGH-RISES AROUND CENTRAL PARK ON THE ROCKS OF THE PENINSULA

At the dawn of the 20th century, members of the Chicago School became world leaders in the architectural avant-garde. Its chief representative, Louis Sullivan wrote the following in his manifesto on tall buildings: *What is the chief characteristic of the tall building? It is lofty. It must be high. The force and power of altitude must be in it, the glory and pride of exaltation must be in it. It must be every inch a proud and soaring thing, rising in sheer exaltation that from bottom to top it is a unit without a single dissenting line*⁴ Two outstanding high-rises were built several decades later, during the period of Late Modernism, in Chicago's downtown area. The first of these is Marina City – twin, round towers located near the shore of the port basin – their ground floors house piers and boat hangars.

Due to their form, the towers have been dubbed corn cobs. They were the inspiration for the subsequent outstanding project of the Petronas Towers in Malaysia's capital of Kuala Lumpur, which held the title of the tallest structure in the world during the years 1998–2004, at a height of 452 m. The second of Chicago's outstanding high-rise structures is the Willis

⁴ L. H. Sullivan, *The tall buildings artistically considered*. Lippincott's Monthly Magazine. No 3. March. Vol. 57. Philadelphia-London-Paris 1896, p. 403–408.

Tower, formerly called the Sears Tower, which held the title from 1973 to 1998. Due to the presence of massive rooftop antennas, it is listed with two heights: 442 and 527 m. The practice of listing two different heights due to the presence of large antennas (a similar duality regarding historical architecture exists regarding the pinnacles of towers) is a true plague and facilitates promotional malpractice with the intent to cheat height classification in regards to record holding high-rises.

The city which has been tied with the ethos of high-rises (both in terms of lifestyle and the sphere of visuals) the most over the course of the 20th century (to put it more strictly – during the years between 1902 and 2001) was Manhattan. The author deliberately calls this district of New York a city, precisely due to its utter functional and aesthetic difference. The never before seen proliferation of skyscrapers in this location has been caused by its structure in the form of a rocky peninsula: an enclosed, attractive area surrounded by water, with a stone base enabling the construction of safe foundations for tall buildings. One of such excellent buildings is the Flatiron (designed by Daniel Burnham, 87 m high, 1902). It was fitted into a very narrow wedge at the intersection of Broadway and Fifth Avenue, in a similar manner to the houses of Paris dated to the period of its reconstruction by Haussmann. It is, however, three times taller, with 22 storeys, while the buildings of Paris had 7 (and no elevator). It served as an inspiration for cubist painters.

The increasing number and the evolution of the forms of Manhattan's skyscrapers is a testament to the fascinating history of super-urban architecture, which is composed of dominants, perspective endings and the interplay of large massing. The Woolworth building near Broadway on Lower Manhattan (designed by Cass Gilbert, 241 m high, 1913, held the title of the tallest building in the world until 1930) formed the final note of eclecticism. It was made from sandstone slabs fastened to a sleek steel skeleton, with the slabs chiselled into extremely beautiful and complicated latticework patterns. Its successor in terms of height was the Wall Street 40 Building (designed by Craig H. Severance, 283 m tall, April 1930, currently called the Donald Trump Building after being refurbished in 1995). This building began the excellent era of Art Deco skyscrapers, with vestiges of eclecticism in the form of a pinnacle.

At the same time, near Lexington Avenue in Midtown Manhattan, construction work was underway on the still-cult-like Chrysler Building, which began operating a month later (designed by William van Allen, 318 m tall, May 1930). In actuality, the Chrysler Building was lower than its predecessor, but due to an intense media campaign held after the construction of a pinnacle which was not featured in the original design, it was awarded the title of the tallest structure in the world and was the first building to surpass the Eiffel Tower in height. The next building to bear the title, the Empire State Building near Fifth Avenue (designed by William F. Lamb, 381 m tall, 1931, the world's tallest building until 1970) introduced a new dimension to building construction and an aesthetic of "Art Deco without decoration", which evolved in the direction of modernism, but with a classicist finish.

Another excellent high-rise project with great social, urban and architectural value was the Rockefeller Center on Fifth Avenue, constructed between 1930 and 1939⁵, which rounds out the First Modernism period (interwar Modernism) that is featured in this paper.

⁵ A. Jasiński, *Rockefeller Center w Nowym Jorku*. Manuscript in the possession of the author, Krakow 2009.

3. THE SECOND AND THIRD MODERNISM: THE EAST: THE SPIRAL OF TIME – A EUROPEAN CITY VERSUS A SKYSCRAPER CITY

The high-rises of Manhattan described in the previous chapter were and are urban structures *par excellence*. Their harmonious integration with the surrounding urban tissue is a result of not only good designs, but also of good and then-rigorous local law. This law stated that the regulation lines of buildings along the frontages of streets and squares should be obeyed without exception, and that a building should not be stretched along a frontage, but should be kept in the form of a tower, which would prevent the blocking of view and of the flow of air, while maintaining a dense urban environment typical of a city centre. An excellent regulation was introduced for Manhattan by its mayor, Michael Bloomberg (who held the office between 2002 and 2013), called *Groundfloor for everybody*. According to said regulation, buildings located in a public space: office buildings, hotels, etc. should have ground floors with general urban forms of use, available to the general public⁶.

Previously, the post-war Second Modernism spread the ideal of a wide, “board-like” tower, standing on a large, empty square (“an idiotic plaza”), often under guard, as far away from the surrounding buildings as possible, presented as an individual work. Rem Koolhaas, in his famous 1994 interview, called this “tall style of the pioneers of modernism”: “Bigness, talking Big: f... the context”. Such urban and architectural design became antisocial and anti-urban. The style is expressed by the icons of Manhattan dated to the 1950’s. The first is the UN Headquarters near East River (designed by Wallace Harrison and Max Abramowitz, 1952), temporarily consulted, although not signed by Le Corbusier and Oscar Niemeyer.

The second of these icons is the Lever House near Park Avenue (designed by Gordon Bunschaft, 1952, 94 m tall), which is beautiful in its proportions, yet preserves the style of its time. Its corporate plaza, elevated above the level of the pavement, which separates the complex from the rest of the urban space, was redeveloped in 2005 into a generally accessible arts centre. Nearby, also on Park Avenue, is the famous building by Mies van der Rohe, the lithe Seagram Building. Its excellent location on the corner of a large site was conducive to the establishment of a large, empty square with a lone masterpiece, as if set apart from the rest of the city (1958, 157 m tall). The World Trade Center was a later example, the most separated, “freestanding” and set apart from the standard grid of Manhattan’s skyscrapers (designed by Minoru Yamasaki, 1970, 417 m tall, held the title of the world’s tallest building until 1973).

Rem Koolhaas visited the World Trade Center in 1972, which inspired him to write his bestselling book “Delirious New York”. The tragedy of the World Trade Center, in addition to the deliberate demolishing of the St Louis apartment complex with the use of explosives (1956–1972, designed by the same architect – Minoru Yamasaki) are thought to be a symbolic end to the idea of the Second, “heavy” Modernism; we can also add to this the contentious relationship of the skyscrapers (and residential complexes) of the time to people and urban tissue. After September 2001, the grandeur of Western construction projects lessened. In New York, despite significant trauma, the community, under the leadership of Bloomberg,

⁶ Por. A. Jasiński, *Demokratyzacja wieżowca*. Win: *Obrazy post-polis. Monografia ponowoczesnego miasta*. Krakowska Akademia im. Andrzeja Frycza-Modrzewskiego. Kraków 2012, p. 131–136.

did not give up and started working on new, optimistic construction projects, beginning with the Park Promenade on the Hudson River near the WTC site.

The competitions and discussions on the rebuilding of the World Trade Center have, after long and serious complications, led to the initiation of the construction of the complex, which began with the building of the tallest tower 1WTC (2014, designed by Daniel Libeskind, 417 m without antennas). The spectacular WTC construction Project inspired a return to building skyscrapers. The newest and most spectacular one is the 432 Park Avenue apartment building, excellently visible from Central Park⁷. After the WTC attack, numerous Western developers and celebrities have relocated to the East, especially regarding the construction of skyscrapers. Hong Kong, thanks to unique political, economic and physiographic conditions, has been one such specimen of a “city of towers” (for instance the beautiful and original Hong Kong Shanghai Banking Company Tower by architect Norman Foster, designed in 1985 and the Bank of China Tower designed by architect Ieoh Ming Pei in 1990).

In order to be extremely brief, three outstanding examples from China, both in terms of urban and architectural design, should be mentioned. Beijing is a city with effective spatial planning and its implementation is swift and rigorous, often taking the form of competitions with foreign participants. The newest edition of the 2020 Plan has introduced a completely new skyscraper district in the eastern part of the metropolis, between the third and fourth outer bypass roads, on the main East-West axis which leads to the historical centre (cf.: La Defense⁸ in Paris) with a classic urban grid. The construction of the CCTV building (designed by Rem Koolhaas in 2012), placed on the main axis, but on the outer edge of Beijing, at a distance of 5.5 km from the Imperial Palace in the Forbidden City, served as the beginning of its establishment.

Shanghai, a modern, dynamic metropolis with a short, yet intense tradition, has – until the 2010 EXPO – developed along the borders of the Art Deco period Old Town located in the Bund district, on the northern bank of the Huangpu River, which flows into the great Yangtze River. Over the course of the new Millennium, thanks to good planning and massive construction projects, the right bank of the river – the Pudong district – has become more active, culminating in a beautiful peninsula constructed before the arch in the river that cuts into the Old Town. Its tip was fitted with a beautifully laid out road network, with a central axis ended by a roundabout. The area is the site of numerous skyscraper construction projects. The panorama of these structures is a global urban phenomenon. Its current culmination is the second-highest building in the world, the technically innovative and artistically outstanding Shanghai Tower (designed by Gensler TJAD, 2015, 632 m tall).

Shenzhen, for a city with 10.7 million inhabitants, is impressive in terms of the speed and quality of its development, for it has existed for 36 years, as it was founded “from scratch” in the year 1980, near Hong Kong, as a Special Economic Zone. It is a linear city stretched along a shoreline: its belt has three harmoniously laid out centres, with the central one forming the strict centre with the Shun Hing commercial square. The layout is composed of a rectangular grid of streets with a hierarchical structure ranging from mega-alleys to local shared space streets. The centre of the city is the location of numerous skyscrapers, like the Ping

⁷ K. Czyńska, P. Rubinowicz, A. Zwoliński, *2-TaLL application of 3D virtual city models in urban analyses of tall buildings*. Zachodniopomorski Uniwersytet Technologiczny – West Pomeranian University of Technology. Szczecin 2016, 36 p.

⁸ Ch. Jencks, *Skyscrapers: sky cities*. Academy Editions Ltd – John Wiley & Sons Ltd. London 1980. Także, as: *Skyscrapers – skyprickers – skycities*. Rizzoli. New York 1980.

Center with a height of 600 m, designed in 2016 and the KK King-Key-100, which is 442 m tall and was designed in 2011. The beautiful twin-towered Divang, which is 384 m tall, is connected to exclusive car salons, fashion houses and bookstores – and is integrated with the aforementioned square. Beautiful, sculpture-like residential towers have been built nearby – in the strict city centre. Despite being absolutely new and modern – defined by a density of exciting towers with attractive ground floors which make the streets teem with life – both its architecture and urban design form a perfect environment and scenery, which are a reflection of the ageless ideas of a friendly and beautiful city.

THE PARADIGM OF THE CITY OF THE TWENTY FIRST CENTURY, IN LIGHT OF THE INCREASING PRESSURE OF CONSTRUCTING SKYSCRAPERS IN THE MOST BEAUTIFUL HISTORICAL CITIES OF EUROPE, REMAINS UNCERTAIN⁹.

References

- [1] Czyńska K., Rubinowicz P., Zwoliński A., *2-TaLL application of 3D virtual city models in urban analyses of tall buildings*. Zachodniopomorski Uniwersytet Technologiczny – West Pomeranian University of Technology. Szczecin 2016, 36 p.
- [2] Hisham M., *Traditional Islamic principles of built environment*. Routledge. Abington-on-Thames 2003, p. 8–15.
- [3] Jasiński A., *Rockefeller Center w Nowym Jorku*. Manuscript in the possession of the author, Krakow 2009.
- [4] Jasiński A., *Demokratyzacja wieżowca. W: Obrazy post-polis. Monografia ponowoczesnego miasta*. Krakowska Akademia im. Andrzeja Frycza-Modrzewskiego. Kraków 2012, p. 131–136.
- [5] Jencks Ch., *Skyscrapers: sky cities*. Academy Editions Ltd – John Wiley & Sons Ltd. London 1980. Także, jako: *Skyscrapers – skyprickers – skycities*. Rizzoli. New York 1980.
- [6] Kosiński W., *Wieżowce najnowszej generacji a zabytkowe miasta europejskie ze szczególnym uwzględnieniem uwarunkowań w Polsce*. Manuscript in the possession of the author, Krakow 2016.
- [7] Peterson Ch. E., *Ante-bellum skyscraper*. Journal of the Society of Architectural Historians. October. University of California Press. Riverside CA 1950, p. 25–28.
- [8] Setkowicz P., *Budynki ekstremalnie wysokie – szaleństwo czy przyszłość miasta. Extremely tall buildings – folly or future of cities?* Czasopismo Techniczne. Technical Transactions. Issue 1-A/2. Wydawnictwo Politechniki Krakowskiej. Krakow 2012, p. 175–182. Online version: <http://suw.biblos.pk.edu.pl/resourceDetails&rId=12301>
- [9] Sullivan L. H., *The tall buildings artistically considered*. Lippincott's Monthly Magazine. No 3. March. Vol. 57. Philadelphia-London-Paris 1896, p. 403–408.

⁹ W. Kosiński, *Wieżowce najnowszej generacji a zabytkowe miasta europejskie ze szczególnym uwzględnieniem uwarunkowań w Polsce*. Manuscript in the possession of the author, Krakow 2016.