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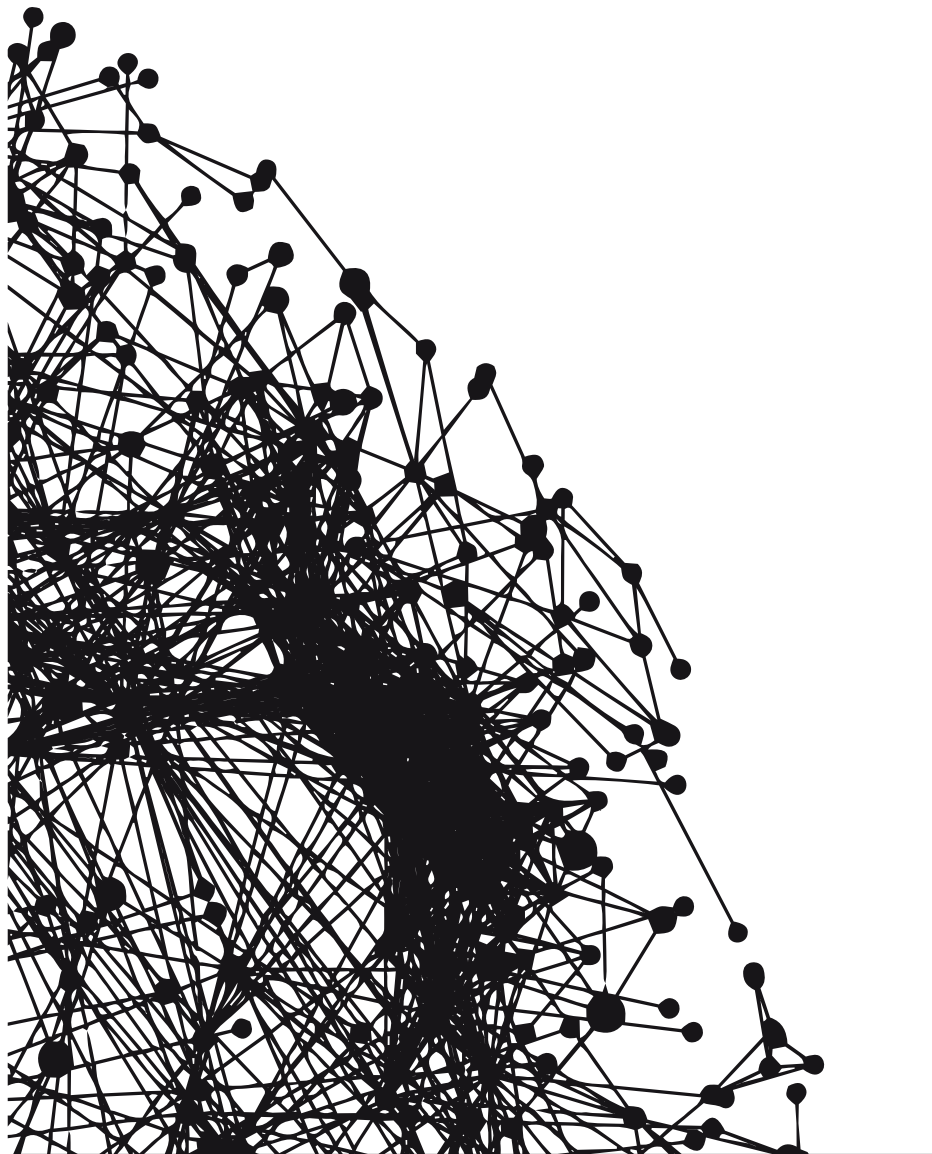
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BELGRADE SKYLINE: CONTINUITY, PARADOXES & DESIRES

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ABSTRACT

There are 800 towers in Belgrade, mostly built in the 20th century, at the time of Modernism. In relation to the prominent tradition of their construction, the current situation can be defined as a paradox of continuity – which can be expressed through two contradictions. The first contradiction is related to the comparison of the number of high-rise structures completed during the industrial development and the fact that after 1990 the number of realized structures of eight storeys or higher is insignificant. The second contradiction is related to the ratio of the height of the tallest existing structures and the maximum height allowed for the new structures, as defined by the current normative acts. In this context Belgrade has a tradition of high-rise construction, yet at present there is no awareness, and no professional or social consensus on the need for the high-rise developments. The restraints of height and land zoning for high-rise development are not only constraining factors in strategic planning and expansion of the city, but they create an economic problem by opposing the very concept of prosperity. Additionally, in terms of the cultural context, they limit the possibilities for fulfilment of Belgrade's contemporary demands and its iconic future. The high-rise structures can be translated into a tool used to emphasize the clear intentions of progress. The city turns into a metaphor for economic and cultural status - between the visual symbol and the symbol of power. Most of all, from the architectural point of view, it becomes the physical parameter of inventiveness, knowledge, capacity, technical and overall achievements of a community. The mythological capacity of such a situation can be simply translated into a necessity for Belgrade to construct at least one extremely tall structure – a tower of no less than 150m high.

Keywords: Belgrade, metropolis, metamodernity, high-rise extreme



Figure 1: M4 Design Studio 2009, Dual Tower Case Study – A Model of Intervention in the Modernist Structure of New Belgrade, Aleksandar Ristović, UBFA (Milenković, 2009)

FEAR OF HEIGHTS

Belgrade's desire to become a metropolis could be an intention beyond its potential. Should the city limit itself by imposing rigid boundaries in its development concepts? The development of cities is normally followed by a prevalence of high-rise extremes. As such, the city becomes a metaphor for economic and cultural status between the visual symbol and the symbol of power. The maximum height of buildings in Belgrade is defined in 2003, by Belgrade Master Plan 2021. It is stipulated at 8 floors, except for New Belgrade where the maximum permitted height can reach 12 floors. The last decade was a period of changes in political and socio-economical context. The requirement to redefine the permitted height of the new building structures, in an unstable transitional atmosphere, was followed by an active discussion, principally related to particular locations, as well as by the reluctance of the planning professionals to offer solutions for flexible regulations. The attempt of the City Government to respond to the problem was the initiation of *The Study on High-Rise Buildings of Belgrade*, but the conclusions of the Study did not offer a broader conceptual answer mainly due to the fact that the Study was intended to compromise with the existing planning regulations.

In the last two decades Belgrade developers have put an end to the historical continuity of the construction of high rise structures which was evolving throughout the 20th century. There seems to be a fear of high rise structures, and the problem of the impossibility of building these structures is growing. *Albania Palace (1939)* 53m high, is considered to be the first high rise structure in Belgrade. Up until the

1970's a number of high rise structures have been erected, most of which are considered exceptional examples of modernism. Between 1960 -1980 a number of tall buildings were realized in the central zone of New Belgrade. These buildings are not only forming the spine of the concept of the modern city but represent a symbolic, urban and historical value of the city nowadays. *Belgrade Palace (1969-1974)*, located in the very core of Belgrade's city center, 101m high, is the visual landmark of the city. (Mitrović, 1975)

In relation to the prominent tradition of high-rise buildings, the current situation can be defined as a paradox of continuity. There are around 800 high rise structures in Belgrade at present, mainly constructed during the 20th century. The number of realized structures of eight storeys or higher after 1990 is insignificant. In this context it is possible to state that Belgrade has a tradition of high rise construction. In spite of it, at present, it can be said that there is no professional awareness for high rise construction need. Another contradiction is related to the ratio of the height of the existing structures and the defined maximum height. Let us mention three most prominent buildings in Belgrade which are higher than 100m: *Belgrade Palace* 101m high, *Genex Towers – Western City Gate (1977)* 134m high and the tallest, *Ušće Tower (1964/r.2003)* of 141m. (Martinović, Stojanović, 1978) *The Study on High-Rise Buildings of Belgrade* defines three categories: structures of 26-50m, moderately tall buildings up to 100m, and extremely tall structures of 100-150m, the construction of which is limited to the zone of New Belgrade, Block 42. In other words, the boundaries posed by the Study for the future development are within the scope of limits which Belgrade strived to overcome throughout its history. These two contradictions point to the paradox: the permitted height of the tallest buildings of the future will be within the boundaries of the tallest existing structures in Belgrade. Undeniably, the tallest structures are, above all, the representatives of the ideas of modernity and prosperity. (Gligorijević, Milenković, Stratimirović, 2009)

“HOW TALL IS TALL”

Another paradox is related to the ratio of the height of structures and the height of the city. This may be a question of scale, that is, the perception of the height within the city's spatial relations. Interpretations of high rise structures are mainly associated to their relationship with specific landmarks. The most common formulation is that they are the structures which are significantly higher than the surrounding buildings. (London Borough of Hackney, 2005) Even though *The Study* considered the category of the extremely tall structures (over 150m), the conclusion is that these structures should not be considered within the city of Belgrade. (Urban Planning Institute of Belgrade, 2010) On the other hand, in order to create “conditions for understanding the overall context of the impact” of high rise structures, it is necessary to establish the elements for forming the criteria as well as the fields of their application. The field of their application, or the scale of impact, can be defined on macro, medium and micro levels. The macro level refers to the 1:5000 – 1:10.000 scale, i.e. to the city's corridor lengths of up to 10km. The

representative model for this scale is the City landscape, and its key are the structures over 150m high. The scales between 1:1000 and 1:5000 require the formulation of the problem, and are related to the structures between 100-150m. The micro level and the scale of 1:1000 are appropriate for observations of the relationship of the urban structure and structures between 100-150m. (ibid) That is, at the level of the overall city landscape, the landmarks are the extremely high buildings of over 150m which take part in the city's image of this size. Paradoxically, *The Study* excludes the possibility of the construction of these structures, thus suggesting that the question remains a problem of the morphology- the topography and the urban structure.

“FORM FOLLOWS FINANCE”

In the framework of the super modern city, Sullivan's principle of *Form Follows Function*, which has been a defining concept of high rise buildings since Chicago School, seems overly traditional at present. The city must be understood as a complex commercial environment in which both structures and space are goods, while the location and its image have market value. (Willis, 1995) This is the reason why the contemporary position of the high rise structures is defined by the first new principle *Form Follows Finance*. Additionally, the second principle *Form Follows Future* is necessary for understanding of the first principle and has a space-time character, unlike the first one which is purely economical.

There are three main indicators of the high – rise feasibility. The first one is the cost of construction. According to Watts and Langdon, the increase of the height of the building results in an increasing cost, while the expansion of the base of a structure reduces the cost. But the growth of the cost is not linear. The main difference is the cost per m² in structures of 100-200m high. The ratio of gross and net area is the second indicator of feasibility of high rise structures and is related to the increase of the area of the shafts for vertical transport. (ibid) The increase of the floor area of the structure improves this ratio. Therefore, if an increase in the height of the structure increases the cost, but an increase of its area reduces the cost, further analysis leads to the key factor of the feasibility and that is the cost of the land. (DeJong & Wamelink, 2008) The cost of the land has always been the most significant factor of the economic feasibility of the high rise buildings. (Al-Kodmany, 2013) Most analysts undeniably support this thesis, especially considering the trend of soaring cost of the land as part of a global financial competition. (Wats & Langdon, 2010) To better understand the role of the land prices in Belgrade within the cost of the overall construction of high rise buildings, we should observe the supply – demand relationship as the only objective criteria in the atmosphere of the imprecise laws and regulations related to the land ownership which directly influence the market. The argument against the construction of high rise structures is that they generate an extensive area of office space which, according to the data presented, is already high in Belgrade whereas the demand is low. However, the initiatives for construction of high rise buildings since 2003 show that there is a significant demand, especially in city's most exclusive locations. Architect Liebeskind was

appointed and he proposed a 40 storey tower for Ada Huja-Belgrade Port location, the winner of the competition for New Belgrade's Block 26 proposes four 46 storey towers, while the initiative for a 170m tower was presented for the site on Boulevard Arsenija Čarnojevica. It is a fact that similar proposals were made for 17 different locations of the overall area of 87Ha. This proves that Belgrade follows the global trend according to which the high rise structures are the only answer to the soaring cost of land. Although the cost of construction increases in parallel with the height of the structure, it can be optimized by a favorable gross to net area ratio. The high cost of land calls for a structure of high architectural merit, which has a potential to become a status symbol and therefore sell for more. Additionally, architectural and economic concepts of the high rise structure must positively influence it's sustainability as the overall investment in the construction is only a fraction of the life-cycle cost of a structure. Architectural concept thus greatly influences the sustainability of the building.

FORM FOLLOWS FUTURE

Sites which are attractive for high rise developments are the ones which have a potential to support the concept of high rise. That is the concept which seeks self-actualization and within which architecture becomes an instrument for the development of the human potential. Realization of such concept, high rise buildings project a sense of socio-economical power with an effect which spreads beyond its visual traces. (Al-Kodmany, 2013) "The height has power, to imagine a city without high rise structures is to confront the human spirit, pride and identity". (ibid) These structures have the capacity to occupy perception and imagination of the public, they form the identity and the character of the city. The question is whether the constraints related to the height and the zoning of high rise structures in Belgrade affect the potential of its future development?

The Study of high rise buildings defined the criteria for the selection or exclusion of potential zones which are related to the development of the city's identity, protection and control of the city's silhouette. The study protects the core of the city by limiting the height of new buildings. If we look at the case of London's "gherkin" building, we see that the relationship of traditional and modern can be established on different levels, which opposes the conservative attitude of the Study. London, a city of rich architectural heritage, not only highlights its traditional values by contrasting the old and the new, but promotes its new status position in the world by branding the city. This branding is carried out by carefully and skillfully placing the contemporary structures within the historical city neighbourhoods. The Study for Belgrade puts itself in charge of controlling the city vistas and defining their role in the overall image of the city in order to protect the historical core of the city by means of traditional conservation models. The conclusions suggest that the evaluation of sites for high rise development must include a research of the vistas from the proposed structures especially if they are opened to public. Shaping and improvement of the city's visual identity should be an absolute priority in decision making process. (ibid) But the exclusion of the high rise development on the boundaries of the city's

historical core (locations such as Belgrade port or Sava Amphitheatre) call for a debate on the legitimacy of this model if it's role is to enhance the visual identity of the city. The high rise development, within the context of its immediate neighbourhood and respect of the historical and future development of the city, is the key part of the cultural sustainability of the city. (Wats & Kalita, 2007) London's example shows that models for the promotion of the heritage as well as the affirmation of the new can vary, therefore no restricted models or frameworks should be deemed acceptable.

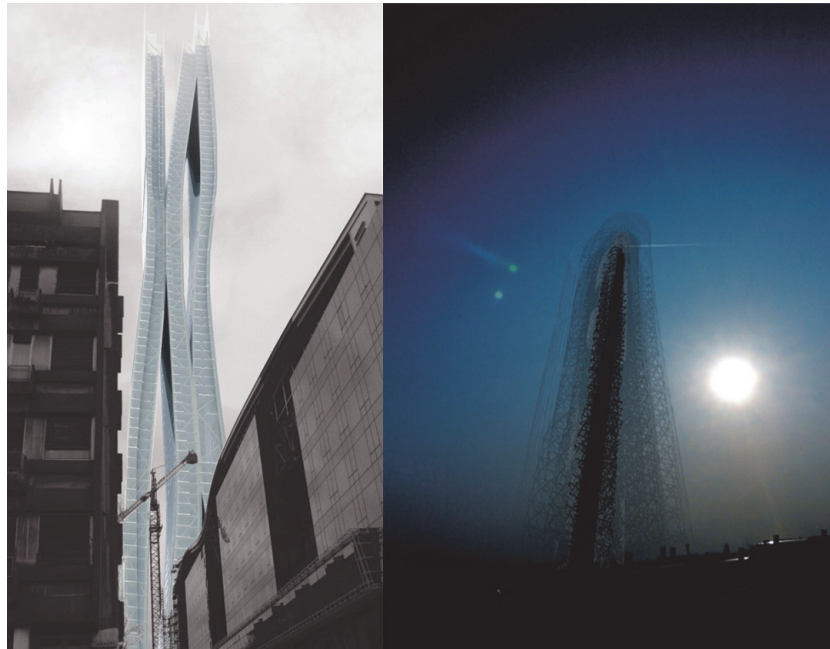


Figure 2: M4 Design Studio 2008, Garage² Case Study - A Model for Reconstruction of Public Space in Central New Belgrade, Željko Petković / Hana Drašković, UBFA (Milenković, 2008)

CONTINUITY OF DESIRES

Belgrade should establish its own models and mechanisms for the development of high rise structures which would allow unrestricted heights. The growth of the city is directly proportional to the height of its structures. For or against extremely tall buildings, where or how should they be constructed in Belgrade, are the paradoxes which cannot be ignored. Firstly, the paradox of the defined maximum height of a structure related to the historical continuum, then the paradox of the high rise development zoning in relation to the scale of the city, and finally the economy analysis and the development potential, are all highlighting the fact that the limit of height of 150m is unacceptable. The traditional models of zoning and conservation methods for protection of historical character of the city should also be reviewed. We believe that new approaches and models are appropriate for the promotion of

the city's silhouette and its quality. It is clear that the cost of construction of high rise is significant, as is the price of land. Nevertheless, the texture of the city depends on three factors which are: the disposition of the land use, building heights and especially the location of the tall buildings and the open spaces. (Leung, 2003) The height limitations negatively influence the building typology, stimulate greater occupancy indexes and greater volumes which are the actual problems for the vistas - vistas which are the most common topic of debates. The question of high rise development is the question of attitude or decision be it political, socio-economical and/or architectural. The fact is that as a society we lack economic models for their development. However, tall buildings impose the city's presence on the global scene, they promote the city's intentions and prosperity, thus the conditions for their development must be created. They seek affirmation, impose the concept of sustainability and the ideas of the vision of the future. Belgrade must develop at least one building higher than 150m because that tower may become the initiator of the new, modern transformation and the self-affirmation of the city. Belgrade needs tall buildings which send a strong visual message, partake in the creation of the iconic place and whose context may be predominantly the question of cultural than that of economical sustainability.

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