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**The Meander Building by Architect Bruno Milič**

The Beginning of Modernism in the City of Nikšić

**Zagreb Modern Architecture**

UDK 72.036:728.2 B. Milič (16.16 Nikšić)
Fig. 1 Meander Building in urban block built according to Seissel’s plan, postcards from the 1960s
Sl. 1. Zgrada Meander u gradskom bloku izgrađenom prema planu Seissela, razglednice iz 1960-ih
Vladimir Bojković

Architect Bruno Milić (1917-2009) designed one of the first multi-apartment high-rise buildings in the city of Nikšić, the Meander Building, in 1958. Built in a modernist manner with a strong respect for the context, the Meander Building has a characteristic shape that is unique not only in Montenegro, but also further afield. The traditional elements of Nikšić's city architecture are presented in a new way in the Meander Building without losing its own identity.
INTRODUCTION

The work of architect Bruno Milic (1917-2009) in the urbanism and architecture of Nikšić is significant for several reasons. As an associate of Professor Josip Seissel (1904-1987), he participated in the preparation of the first post-war urban plan of Nikšić in the period 1956-58. This plan clearly defined the city zones and enabled the city's logical development in continuity with the first city plan by Josip Šilović Slade (1828-1911) of 1883. In one of the new city zones, Milic designed one of the first multi-apartment high-rise building, the Meander Building, which construction began in 1958. The shape of this building is unique not only in Montenegro and the former Yugoslavia, but also further afield. In the process of analysing the Meander Building, it is interesting to note certain similarities with the form and concept of buildings of Gröndal settlement (1944-1945) in Stockholm, designed by Sven Backström (1903-1992) and Leif Reinius (1907-1995). The Meander Building also has some similarities with the form of buildings of Vällingby settlement (1952-1956) in Stockholm, designed by architect Sven Markelius (1889-1972).

Based on the examples of Scandinavian experience, the Meander Building was built in a modernist manner, but with a strong respect for the context. Milic interpreted the themes of Nikšić's traditional city architecture in the Meander Building in a new way without losing its own identity.

THE DEVELOPMENT OF NIKŠIĆ AFTER WORLD WAR II AND SEISSEL’S PLAN (1956-1958)

The first urban plan of the city of Nikšić from 1883, prepared by architect Josip Šilović Slade (1828-1911), was applied in continuity during the first half of the 20th century, as long as historical circumstances allowed it. The Balkan Wars, World War I and World War II left an indelible mark on this region, both in terms of the human victims and the material destruction (Fig. 2).

Nikšić’s post-war development required the rapid implementation of urban planning. There was no institution for dealing with the implementation of urban plans and controlled construction of the city after World War II. The organisation of the urban planning service was implemented gradually. The Council for Urbanism, Communal and Housing Affairs was formed first, then over time it become the Council of Urbanism in 1955. The Municipal Institute for Urban Planning and Design was established in December 1963, and pursued a unique and thoughtful policy of urban and architectural design of the city, ranging from studies and analyses, to detailed projects. Hence, all the post-war urban plans of Nikšić were carried out by design organisations or individuals from outside of Montenegro.

The project studio of the Stojanović Brothers from Belgrade drew up the first post-war urban plan. The Municipal Commission did not accept this plan due to reasonable criticisms.2 The Urban Planning Institute of the Faculty of Architecture, Construction and Geodesy in Zagreb carried out the second post-war urban plan for Nikšić in 1954-1958. The author of this plan was the professor and architect, Josip Seissel (1904-1987), assisted by the architects Dragan Boltar (1913-1988), Boris Magaš (1930-2013) and Bruno Milic.3 It is im-

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1 Generally, the shape of the city of Nikšić has a radial form. This is a rare form of city layout, even for European developed environments. The radial matrix is particularly suitable for the morphological concept of small and medium-sized cities. [Dovč, 2004: 163]

2 This plan demonstrated the desire for the realisation and regulation of large-scale interventions. The economic conditions in the city were not suitable for such great undertakings, so we can conclude that this plan was not in line with the economic possibilities. Hence, it is not surprising that its adoption was dropped.

3 Dr. Zdravko Ivanović, who was the first person to deal with research into the urban plans that shaped Nikšić as a city, gives a description of this plan. It extends within the boundaries from the Đuklo Bridge over the River Zeta, then along the River Bistrica to the eastern fence of the

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1 23
Important to note that this urban plan, for the first time, clearly defined and determined the wider and narrower construction zones of the city. This plan had some similarities with Slade’s plan regarding the central green belt, in which the construction of social, public and large-scale facilities was foreseen. Seissel’s plan also foresaw that the central part of the city should remain as it was built, according to Slade’s plan.

In addition to the green zone, Seissel’s plan also had a zone of multi-apartment buildings, or a zone of high-rise construction. In this belt, there are block-type buildings with skyscrapers and auxiliary premises. It is a multi-storey zone with wide main streets and back-streets where workers from the city’s industrial zone live (Fig. 3). Besides this zone, there is a zone of mixed construction – multi-apartment high-rise buildings and single family buildings – and after that zone, a peripheral and satellite suburban settlement with single family buildings. The industrial zone is located outside the settlement, but is directly connected to the city and to transit traffic through a good road connection with the city grid. The territorial expansion of the city was planned towards the River Bistrica to the north, northeast and east of the industrial zone. Within the city limits, the construction of the border with business and commercial facilities would still be retained.

The quality of this urban plan is reflected in the fact that it fully accepted the solutions and basic principles of Slade’s urban plan as the basis from which the modern city has evolved. Consequently, there has been a continuity in the development of the city. In addition, the quality of this plan is reflected in the appropriate positioning of buildings of social significance in the continuous zone along the historical core. One of the disadvantages of this plan was the position of the brewery, which remained in the centre of the city, next to a primary school. Then the location of an eight-floor building was problematic because it disturbed the panorama of the city and did not fit into the concept for Sava Kovacevic Square and many other things.

Although this plan envisaged that, the buildings should have either one or two storeys, the city planners subsequently rebuilt a series of buildings with three or four storeys and with five or six storeys, which was in complete contradiction to the 1958 plan (Fig. 4). The plan from 1958 provided a lot of space for individual buildings, whereas it was possible to easily select premises of various sizes for the construction of social facilities. The plan provided areas for the construction of block buildings, both for individual and for social facilities, which contributed to the development of the city and to transit traffic through a good road connection with the city grid. The territorial expansion of the city was planned towards the River Bistrica to the north, northeast and east of the industrial zone. Within the city limits, the construction of the border with business and commercial facilities would still be retained.

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Boris Kidric Ironworks, crossing the Niksic-Savnik road. Then it goes along a straight line to the bank of the River Gracanica. From there it extends along the right-hand bank of the river, including the “Budo Tomovic” settlement to the bridge over the River Gracanica, then from this bridge to the road to Ozrinici in front of Trebijesa Hill, then on to the source of the River Mrkosnica, and then along this river to the “Small Bridge”. From the Small Bridge, it extends via the industrial railway branchline from the ironworks to the main railway, and then from the railway line to the Petrovic houses. Then it extends via the edge of Studenaèke glavice to the place where the railway line and the Niksic-Trebinje road cross and from there along the railway line next to the River Zeta to Duklo Bridge.

[IVANOVIC, 1977: 93]
After the development of this urban plan, the Municipality of Nikšić entrusted the revision of the plan to a special expert commission consisting of the architects Somborski, Maksimović and Radovanović, who concluded that the plan should be complemented with a preliminary project of a sewerage system, a preliminary water supply project and a preliminary project of city levelling.

Development of illegal, unregulated construction in Nikšić, as was the case in other Yugoslav cities of that time.

Spatial Analysis of the Meander Building

Construction of the Meander Building began in 1958. Since it is composed of seven interconnected segments, it was built in stages. The last, northernmost segment was built in the mid-sixties. The building which was intended for multi-apartment high-rise building, was built in one of the brand-new urban blocks foreseen by Seissel’s plan. The urban block has an approximately regular rectangular shape, with the long sides facing east and west, located where Vuk Micunovic Boulevard borders the city core that was built according to the first urban plan from 1883. To the west, it borders with the railway station and the edge of the hill on which the Bedem Fortress lies. To the south, it borders with the straight Gojko Garčević Street, which connects Sava Kovacević Square with the railway station. To the north, it borders with the remains of the Turkish settlement called Stara Varoš or Old City (Fig. 5).

According to the first city plan, it was envisaged that the street from the direction of Sava Kovacević Square would pass through this urban block. From the implementation of the first urban plan until the beginning of World War II, this street was never built. The question arises as to why Seissel’s plan did not carry out the construction of this urban block according to Slade’s plan. The answer may be that after World War II, it was necessary to start reconstruction of the city in accordance with the requirements of the given moment.

Seissel’s plan seemed to offer a new burst of energy and concept for the life of the city, but without erasing the past. On the contrary, the urban core of the first urban plan was completely protected and totally fitted in with the new urban block. The Meander Building, designed by the architect Milic, the Union Building and the residential tower block, designed by the architect Đorđije Minjević (1924-2013), contributed to the transition between the old and new (Fig. 7).

The basic characteristic of the Meander Building is its shape. In the former Yugoslavia, during the post-war period and later on, this remained a unique building precisely because of its shape. The name Meander is justified because the building is associated with the meandering of a river. A river is a dynamic formation, constantly on the move, bringing with it change. As if in a symbolic way, Milic wanted to represent the spirit of change and movement with this building.

The area of the urban block was moved by means of a façade that extended onto Vuk Micunovic Boulevard. The pockets of space formed in the front and back yards gave the

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opportunity to form intimate spaces with trees and a small park, both of which were intended for the inhabitants of the building and for all the city's residents (Fig. 8).

If we carefully analyse the shape of the Meander Building, we will see that it is defined by the shape of buildings that were previously built on the corners of the centre of the city's urban blocks. The shape of these buildings seems to represent the fragments that Milic linked to the chain-shaped Meander Building. In this way, communication with the past was accomplished in an interesting way (Fig. 6).

Continuity was kept through the interpretation of the already established construction patterns, in accordance with the requirements of that particular time. In addition, in terms of materialisation and facade design, Milic was consistent in his interpretation of the enclosed architectural patterns. The building was two-storey with a four-sided roof, just like the existing buildings. It seems that house of the Zirojevic family, located on the eastern edge of the Sava Kovačević Square, served as a model for interpreting these observed aspects in a new way (Fig. 9).

One special feature of the building is the staircases that extend out from the facade and are lit with large windows. The windows of the residential units form long horizontal strips that divide the building into storeys. The washrooms and auxiliary rooms have round windows. It is interesting to note that in the central part of the building, Milic formed a vast passageway that connects the front and inner courtyards on the ground floor. This is a practical solution because the building is very long, but this is also reminiscent of a portun, a typical element of city houses built according to the first urban plan from 1883.

**FUNCTIONAL ANALYSIS OF THE MEANDER BUILDING**

**FUNKCIONALNA ANALIZA ZGRADE MEANDER**

The shape of the Meander Building is composed of seven linearly connected fragments. The chain of these fragments forms three semi-hexagons, a form that would be especially applied in the work of the architect Slobodan Vukajlovic (1934-2006), which was also carried out in Nikšić.

The ground floor of the rectangular wide section contains two groups of residential units that are actually identical and symmetrically located in relation to the passageway. We can see the solution of a studio that is about 25 m² large and contains a hallway, a bathroom and a bedroom. The second apartment has a toilet, bathroom, kitchen, living room and one bedroom. The size of the apartment is about 62 m². The apartments can be reached through the main entrances positioned along the passageway. The entrance is spacious and well-lit. It has a single-sided staircase that is illuminated through the windows on the facade. The passageway contains four smaller storage rooms for the needs of the four apartments on the ground floor (Fig. 11).
The first and second floors of the rectangular wide section consist of four comfortable one-bedroom apartments with an area of about 62 m². The apartments contain a storage room, bathroom with toilet, a kitchen with pantry, a living room and one bedroom. These apartments also have an advantage over the one-bedroom apartments on the ground floor, since they have balconies. The apartments are symmetrically positioned in accordance with the construction scheme (Fig. 12).

The ground floor of the polygonal wide section contains six apartments of different sizes. The one-bedroom flats, located next to each other at the point of connection with the rectangular wide sections, can be accessed via entrances set into the exterior of the façade. The apartments have a hall, bathroom, kitchen and living room. In the central part of the wide section, there are two symmetrically arranged spacious entrances with hallways. In the hallway of each of the entrances, there is a spacious staircase. From the hall, it is possible to enter two identical apartments that contain a hall, bathroom, toilet, storage room, kitchen and bedroom (Fig. 13). The first and second floor of the polygonal wide section has several one-bedroom apartments and one studio apartment. The residential units are of different sizes. The studio and the four one-bedroom apartments have balconies (Fig. 14).

**Elements of Nikšić’s Traditional City Architecture Seen in the Example of the Meander Building**

Three factors influenced the early city architecture of Nikšić during the implementation of the first urban plan after the liberation from Turks in 1878. The first factor relates to the economic conditions in the country. Although Montenegro emerged from the wars as a victor and expanded its territory considerably, the numerous wars still left their consequenc-
es on the country. It is therefore not surprising that mostly stone from the destroyed towers and parts of the Old City was used for the needs of the construction of the city.6

Another important factor that influenced the appearance of the future city was the ability of the builders to respond to the functional and architectural requirements of the used facilities. The beginning of construction attracted a large number of builders and other workers from Herzegovina, Boka, Dalmatia and Italy, who, despite the absence of professional designers, and limited by money and time, were able to recognise the needs of the future users of this space (Fig. 10).

In the end, the urban plan, with its structure and morphology, influenced the positioning of the buildings and therefore the physiognomy of the city. Insolation plays a major role in the orientation of the housing, however, at that time the main factor in orientation was the street layout. Considering the economic situation of the citizens of Nikšić, the plan envisages the construction of ground-level buildings or facilities with one or two floors along the edges of the urban block.7

The basic characteristic of the architecture of the city’s houses and facilities in Nikšić is simplicity and modesty, and we can almost talk about there being archetypal models of houses. They are oriented towards the street and built largely next to each other, which further established the concept of Stade’s plan visually and morphologically. The roofs are usually two-sided and most often covered in ceramic roof tiles. The houses are made of semi-carved stone and fully carved stone. The façades are finely plastered and painted white or pastel colours – most often green, blue or pink.

Considering that the houses had their main façades oriented towards the street, almost every household had a yard within the interior of the block. Depending on the way that communication was accomplished between the yard and the street, it is possible to classify houses into those that contain a portico, or portun, and those houses that do not. Those houses with a portun have direct connection between the street and the yard of the house. Those houses that do not have a portun communicate directly through an enclosed corri...
The portun, as a passage, served the needs of the household and was designed and dimensioned so that a horse bearing a load could pass through it undisturbed.

If we summarise the main characteristics of the early city architecture of Nikšić, at the end of the 19th and the beginning of the 20th century, it would be one of modesty in terms of ornaments and details, a simple composition and a portun as main communication element between the public and private spaces. It seems that Milic took this element from the typical city architecture of Nikšić, the portun passageway. In the Meander Building, this passageway is located in its central part and connects the inner courtyard of the building with the public walking area of the boulevard. Modest architecture without ornaments and particular detailing is present also in the example of the Meander Building (Fig. 15).

PARALLELS BETWEEN THE MEANDER BUILDING AND THE STOCKHOLM GRÖNDAL AND VÄLLINGBY FORMS OF ARCHITECTURE

USPOREDBA ZGRADE MEANDER I ARHITEKTURE GRÖNDAL I VÄLLINGBYJA U STOCKHOLMU

During the 1950s in Sweden, brick-built construction was a recent tradition. One positive contribution of this decade was the abandonment of a monotonous layout of settlements in favour of differentiated planning, in which the architects tried to create an environment more suitable for housing. In addition, the plans of the building are often studiously conceived. Associates Sven Backström (1903-1992) and Leif Reinious (1907-1995) are the most famous architects of such projects. Their typical project from that time was the Gröndal settlement, built in the period from 1944 to 1945. According to the architectural historian Fredric Bedoire, the star-shaped houses in Gröndal are Stockholm’s finest housing groups9 (Fig. 16).

Almost the same design principles can be found in the “Meander” project. At the time when the building was built, it had the most comfortable apartments, mostly intended for workers. Almost all the public buildings necessary for everyday life were located close to the building. The shape of the residential buildings determines the basic characteristic of the Gröndal settlement in the context of its architecture. Namely, the star-shaped, three-point structure is the main module that branches and connects at its ends, thus forming a complex structure. A result of this formation is hexagonal courtyards. There is a similar procedure with the Meander Building in which the mass of the building is less compact and semi-hexagonal courtyards are formed. The architects’ interesting and innovative architecture, especially the star-shaped houses, soon began to be imitated in Europe. In Sweden, however, renowned functionalists criticised Backström and Reinious.10

The next example is the satellite settlement of Vällingby, built from 1952 to 1956 by the architect Sven Markelius (1889-1972), most of all consisting of low-rise apartment buildings (Fig. 17). The central low-rise apartment building dominates in the urban composition of the settlement of Vällingby. Its shape consists of nine chain-linked segments, producing a building of accentuated length and horizontality. The problem of the length of this building was resolved in the same way as

8 Gerd, 1970: 270
9 Bedoire, Andersson, 1977: 253
10 Hultin, 2002: 211
with the Meander Building: by introducing a centrally located passage. In addition to its practical role, this passage is also symbolic because it connects the older buildings of the settlement with the new ones, since the low-rise apartment building represents a kind of spatial barrier. The passage applied in the Meander Building has a similar practical and symbolic role. The urban block containing the Meander Building, in terms of its content and size, is far smaller than Vällingby, but it is interesting to note that these two similar ideas of modern urbanism were created at almost the same time.

**CONCLUSION**

**ZAKLJUČAK**

For the time in which the Meander Building was built, it is an unusual and unique solution on the Yugoslav architectural scene. The demands of the then inhabitants were met. However, the lack of two-bedroom or three-bedroom apartments at a time when the population growth in Nikšić was the highest in the country could be the main deficiency of this building in the context of functionality. However, in terms of design and communication with the environment, this building is a successful solution that transforms traditional elements into modern patterns (Fig. 18).

[Written in English by author; proof-read by Peter Stonelake, Polyglot group Ltd, Nikšić, Montenegro]
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Archive Sources

Arhivski izvori

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Illustration Sources

Izvori ilustracija

Fig. 1, 6, 7, 9, 15, 18 Private archive of author
Fig. 2 Ivanovic, 1977: 125
Fig. 3, 5, 10-14 DACG, Building section, Box 1958
Fig. 4 Ivanovic, 1977: 111
Fig. 8 *** 1972
Fig. 16 Gerd, 1970: 270
Fig. 17 SM
Zgrada *Meander* arhitekta Brune Milica

**Poceci moderne u Niksicu**

Nakon Drugoga svjetskog rata grad Niksic ubrzano se razvija i postao jedno od vodećih industrijskih središta ne samo u Crnoj Gori već i u cijeloj bivšoj Jugoslaviji. Brz razvoj industrije doveo je do velikih migracija stanovništva iz okolnih ruralnih područja u gradae, pri čemu se ukazala potreba za razvojem postojeće infrastrukture. U tom kontekstu bilo je potrebno izraditi urbanističke planove kojima bi se definirale lokacije i namjene gradskih blokova, osobito onih namijenjenih gradnji višestambenih zgrada.


Gradnik poura zgrada u Niksicu, jedan od najvećih industrijskih središta ne samo u Crnoj Gori već i u cijeloj bivšoj Jugoslaviji. Brz razvoj industrije doveo je do velikih migracija stanovništva iz okolnih ruralnih područja u gradae, pri čemu se ukazala potreba za razvojem postojeće infrastrukture. U tom kontekstu bilo je potrebno izraditi urbanističke planove kojima bi se definirale lokacije i namjene gradskih blokova, osobito onih namijenjenih gradnji višestambenih zgrada.
