# LANDSCAPES OF HOUSING

# Juraj Neidhardt's Contextual Approach to Modern Neighborhood Design

## Nevena Novaković

ABSTRACT: The concepts of residential space and housing, created by Yugoslav modernist Juraj Neidhardt through the collaboration with architect Dušan Grabrijan, have yet to be investigated systematically, especially from the urban design point of view. As rooted in joint ethnographic research of local Bosnian dwelling culture and vernacular architecture, Neidhardt developed a specific approach to modern neighborhood design compared to the prevalent scientific-planning approach in post-war modernism. From the perspective of urban design, Neidhardt examined the possibilities of conceptualizing more humane dwellings in the context of rapid housing construction in post-war Yugoslavia and Bosnia and Herzegovina, looking through the lens of traditional dwelling culture in which architecture is a mediator between man and landscape. The article will distill, describe, and interpret Neidhardt's ideas of a modern neighborhood that arise from elaborated descriptions of the Bosnian vernacular architecture articulated in close collaboration with Dušan Grabrijan. Neighborhood concepts have significantly different densities and forms, as designed and redesigned through four decades. Nevertheless, the fundamental design principles common to all neighborhood concepts are recognized, focusing on the dichotomy of architecture and landscape in terms of form and meaning. The research was based on analyzing the author's books and published texts and designs in several Yugoslavian architectural journals.

KEYWORDS: Juraj Neidhardt, Landscape, Housing Form, Neighborhood Design, Dušan Grabrijan

"One is born, lives and dies in the apartment! And yet, each race, nationality, and region solved the same problem diametrically differently, depending on the landscape, climate, material, way of life and world view. Today's technology allows us to give the man of our planet a cosmopolitan type of contemporary house, regardless of place and time. It is, without a doubt, a social and sociological obligation for us. Nevertheless, we wonder if that is all, if it is enough, or if we need to look for ways to make man happy, to return to him those autochthonous values, atmospheres which have been organically linked to his existence for centuries. That cannot be explained by technical vocabulary alone." (Neidhardt, 1967, p. 35)

INTRODUCTION: Two Yugoslav modernist architects, Juraj Neidhardt (1901-1979) and Dušan Grabrijan (1899-1952), were connected through long friendship, work collaboration, and passion for the same city. The partnership eventually resulted in the intellectually layered and graphically seductive book Architecture of Bosnia and the Way towards Modernity in 1957, with Le Corbusier's foreword (Grabrijan & Neidhardt, 1957). Grabrijan primarily studied vernacular heritage and the theory of modern architecture, while Neidhardt was oriented towards design. After a period of formative practice in the architectural studio of Peter Behrens in Berlin (1930-1932) and Le Corbusier in Paris (1933-1935), Neidhardt returned to his native Zagreb. Later, following Grabrijan's invitation, he moved to Sarajevo in 1938. Based on their joint research of vernacular architecture in Sarajevo and Bosnia and Herzegovina, Neidhardt developed a contextual design approach in which architecture is embedded in geographical and cultural conditions.

The paper brings forward Juraj Neidhardt's housing concepts from the broad scope of his architectural ideas. The modest scope of previous research on Neidhardt's residential architecture is predominantly focused on architectural

scale and dichotomy of modernist idiom and appropriated vernacular elements, as the author's contribution to the issue of "old and new" and regional modernism (Turkušić, 2011; Ugljen Ademović & Turkušić, 2012; Džumhur & Idrizbegović-Zgonić, 2023). In this paper, Neidhardt's housing concepts were examined from the urban design position and through the methodological framework of the landscape concept. Grounded in morphological analysis of cultural geography, the landscape perspective enables an understanding of the housing form and dwelling experience concerning the wider environment. The significance of the landscape perspective lies in the effort to uncover new layers of value in Neidhardt's work and the modernist legacy in general, which go beyond architecture as solely a built form and dissolve the labeling of open space of modernist housing ensembles as impersonal green carpets.

This research involves an analysis of the books and an extensive collection of articles published by Grabrijan and Neidhardt, focusing on their ethnographic study and Neidhardt's designs. It examines how architecture serves as a mediator between humans and their environment in Neidhardt's housing forms. The study seeks to understand the design principles that bring together the domestic realm with the broader environment in the experience of dwelling. Utilizing the landscape perspective and morphological criteria, the research proposes three distinct concepts of housing form that Neidhardt developed throughout his career, along with the design principles that are common across all these concepts. The paper asserts that the author aimed to humanize and enhance the modernist idea of housing through a contextual design approach and the integration of architecture into the geographical and cultural conditions of dwelling.

#### LANDSCAPE PERSPECTIVE ON HOUSING DESIGN

The landscape perspective in modernist housing research has emerged over the past ten years, albeit on a small scale and primarily at a national level (Blanchon, 2016; Díez Medina & Monclus, 2017; Braee et al., 2020; Van Haeren, 2021; Braee, 2022). Several recent international research collections have presented a broader cross-section of this perspective (van der Huvel, 2020; Hafnner, 2021; Breea, 2021). Although the concept of landscape carries multiple meanings and various theoretical interpretations, which have been systematized within the field of cultural geography (Wylie, 2007; Kühne, 2019; Howard et al., 2019), a common thread among the aforementioned research is a shift away from viewing modernist housing architecture solely in terms of architectural form, technology, and the aesthetics of the built structure. According to urban design historian and theoretician Jeanne Hafnner, the focus is shifted towards architecture's aspiration to connect the interior of the home with the exterior world—a world that is as much social, political, and economic as it is physical (2021, p. 1). Hafnner asserts that socially conscious planners and architects, from the late 1800s through the 1970s, aimed not merely to construct new forms of housing but to create novel environments that would, in turn, transform the lives of inhabitants.

In this new research perspective, the landscape is not viewed as representational or an abstract container that accepts the architecture of residential buildings and their composition but as an active element shaping human settlement. The landscape viewpoint is rooted in the morphological approach originating from geographer Carl O. Sauer (1969) and its more recent retrieval interpretations (Ingold, 1993). According to a morphological account, spatial theorist Paolo Furia points out that landscape has several main characteristics (Furia, 2022). It is formed by the existence of both natural and human-made elements and their relative positions. The landscape is perceived through a dialectical interaction with its residents, who are viewed as active contributors to its form (Furia, 2022, p. 553). Furthermore, every place can be seen as a living organism implemented in the broader environment. Furia further explains this integral characteristic:

"Landscape is a whole: as a form which keeps together different kinds of elements in a concrete and visible order. In this sense, a landscape cannot be explained by its reduction to its elementary components, as a classic analytical thought would do. On the contrary, elements can be properly understood only by considering the part they play within the greater environment to which they belong."

(Furia, 2022, p. 549).

Finally, as an outcome of its integrality, author emphasizes, that the landscape speaks about itself in its different parts through internal cross-references. Moreover, its singularity and uniqueness come from the deep co-integration of its elements (Furia, 2022, p. 552). Following this landscape turn in modernist housing research, this paper presents the morphological qualitative study of Neidhardt's housing concepts by reading and interpreting housing forms based on the relation of architecture to geographical conditions and the materiality of dwelling practices.

## LANDSCAPES OF BOSNIAN VERNACULAR HOUSES

Neidhardt dedicated his creativity to a single country and city, which became the main subjects of his architectural thinking and inspiration. Upon his arrival in Bosnia and Herzegovina in 1938, where Dušan Grabrijan had resided

since 1929, the authors expanded Grabrijan's previous research on the "oriental house in Bosnia" (Grabrijan, 1983). The vernacular architecture and urban configurations of Sarajevo and several other Bosnian towns, which originated from the period of Ottoman rule (15th-19th century), were meticulously documented through drawings and notes. Although Grabrijan and Neidhardt extensively described the form, materials, technology, and furnishings of the Sarajevo vernacular house, they also recognized the logic of its organization into larger spatial scales, rooted in cultural attitudes towards privacy, sociability, and nature. Their method of field study and visual representation of the Sarajevo house and urban structure fundamentally aligns with the approach of landscape morphology. Their studies highlighted numerous aspects of the relationship between architecture and the environment.

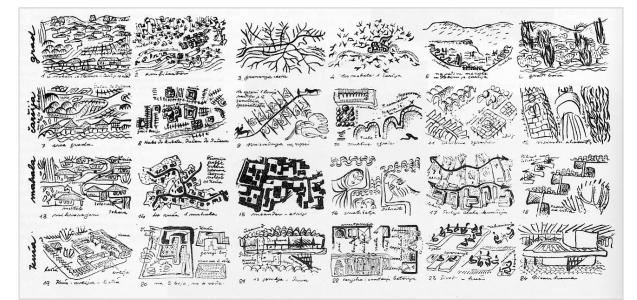
In the research synthesis presented in Architecture of Bosnia (Grabrijan & Neidhardt, 1957), the description of dwelling space narrows from the scale of the city down to the house interior. One of Neidhardt's drawings succinctly illustrates this integral perspective, suggesting that the house and yard, the traditional form of an urban neighborhood in Sarajevo known as mahala<sup>1</sup>, and the city itself cannot be understood as separate entities [FIGURE 01]. The integral perspective on dwelling space, as presented by Grabrijan and Neidhardt through the text and drawings of landscapes at various scales, demonstrates the traditionally established relationship of architecture to topography, green structures, and open space.

Their research reveals that the structure and arrangement of the traditional household facilitate the ongoing daily activities both indoors and outdoors, which include cooking, dining, leisure, and the cultivation of vegetables, fruits, and livestock. These activities are also organized based on the seasons, the roles within the family structure, and the public and private aspects of life. Consequently, the design of the house takes on a meander form. The supplementary structures of the household act as a spatial expansion of the home, encompassing the inner courtyards, gardens, and orchards.

From the authors' research, we understand that in contrast to the inward-facing and closed-off nature of the household towards the street, views are created from the upper floors of the house towards the environment. Given that the neighborhoods are situated along the hill slopes, houses are arranged in a manner that each one secures an unobstructed view of the valley. Grabrijan and Neidhardt regard this principle as pivotal, and they termed it "the right to an open view" (pravo na pogled) (Grabrijan & Neidhardt, 1957, p. 257). They eloquently state:

"The oriental house is not as much in pursuit of sunlight, as it is of views, wherever they may reach. In this aspect, it diverges from the European house. While the ground floor indeed shuts into courtyards and winter apartments, the upper floor opens up to the world. This very aspiration has significantly influenced the formation of the house, mahala, and city." (Grabrijan & Neidhardt, 1957, p. 148).

This principle can be morphologically interpreted as a tool for establishing a relationship between the privacy of the house's interior and the surroundings by managing the spatial relationship of the house with the topography and neighboring houses. The essence of the principle is not only perceptual but also deeply social, as respect for neighbors is preserved through spatial relationships that facilitate the realization of the right to view.



01 Grid depicting the main characteristics of vernacular Sarajevo: the house, the neighborhood (mahala), the trade and crafts district (aršija), and the city. Drawing by Juraj Neidhardt. © Grabrijan & Neidhardt, 1957, pp. 56-57. Akademija nauka i umjetnosti Bosne i Hercegovine, 2023.

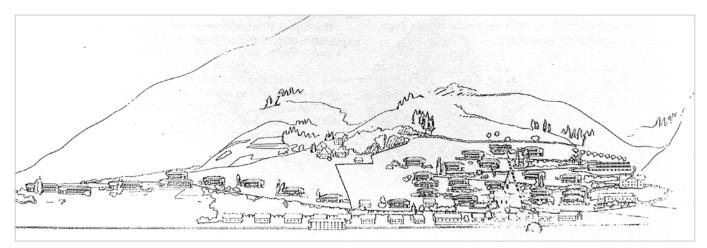
Finally, the authors perceive architecture as a topographic layer that maintains the integrity of the landform and embraces natural features. According to the description of Sarajevo as an "amphitheater city," the trajectories of streets, house forms, and their positions are tailored to the topography. The houses are of low height, with households scattered among open spaces and vegetation, giving the constructed structure a sense of being integrated into the landscape. The horizontality and layering of the landscape are periodically disrupted by mosque minarets and tall poplar trees, which act as visual guides (p. 302).

#### **GARDEN NEIGHBORHOOD**

Upon his arrival in Bosnia and Herzegovina, Neidhardt rapidly emerged as a key designer for Jugočelik, a steel production company that capitalized on the abundant reserves of brown coal and iron ore in the Middle Bosnian Mining Basin. Over a span of six years (1938-44), he crafted the layout for workers' settlements in the Bosnian towns of Zenica, Vareš, Breza, Ilijaš, Ričica, and Ljubija, all of which were hubs for Jugočelik's mining and steel production operations. The neighborhoods were built immediately following the Second World War, a time marked by limited resources and a nascent construction industry in Yugoslavia. In these formative years of housing economy, the design and construction of residential architecture heavily depended on existing housing models and traditional craftsmanship.<sup>2</sup> The post-war housing crisis was exacerbated by the migration of the rural population to cities in search of employment in the growing industrial sector. Neidhardt took an interest in the topic of workers' housing, not only from the standpoint of rationalization and prefabrication, which he had dealt with before the war<sup>3</sup>, but also as a cultural issue of adapting the lifestyle of former peasants to the new realities of life in industrial cities and the collectivization of the newly socialist Yugoslavia (Grabrijan & Neidhardt, 1942, p. 282).

The term garden neighborhood is first mentioned in a collection of essays titled Sarajevo and his Satellites from 1942, which two authors jointly published (Grabrijan & Neidhardt, 1942, p. 204). The concept is a reference to Neidhardt's general housing form of workers' neighborhoods-a composition of small-scale collective houses at equal distances and rows that follow the configuration of the terrain, permeated with greenery. While the term implies the significance of open areas abundant with gardens, the authors also emphasize the importance of the relationship of architecture to topography. In Vareš, we can see an ensemble positioned on the terrain slopes and arranged in such a way that each house has an open view towards the valley [FIGURE 02]. The authors referenced the theory of Adolf Loos, which states that tall buildings are positioned on flat terrain, buildings of medium height on gentle slopes, and smaller houses on steeper slopes. Thus, instead of an "orthogonal city - without perspective," they propose a garden city that would result from the art of house placement in topography and the pleasure derived from the view and greenery (Grabrijan & Neidhardt, 1942, p. 200).

Neidhardt developed the collective housing typology for workers, which is based on the number of apartments and their arrangement within a single architectural volume. The most commonly used and architecturally sophisticated type is the "house-dwelling" type, which consists of six apartments, also referred to as a "sextuplet" (Neidhardt, 1954; Grabrijan & Neidhardt, 1957). It is a simple cubic form spanning two floors of the modernist idiom, which incorporates elements of the traditional Sarajevo house (a single-flight external staircase, a veranda, a cantilevered upper floor, and a sloping roof). A notable feature of this design is that each apartment has its own entrance from the outdoor space. The entrances are grouped in pairs at three corners of the cubic house volume [FIGURE 03].



02 Drawing of the workers' neighborhood in Vareš by Juraj Neidhardt, 1942. © Grabrijan & Neidhardt, 1942, p. 279.



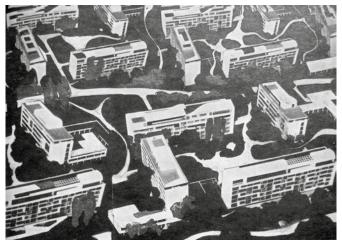
03 Drawing of the workers' neighborhood in Vareš by Juraj Neidhardt, 1942. © Grabrijan & Neidhardt, 1942, p. 279.

In the case of the garden housing form, one could argue that despite the seemingly rigid geometric composition of the houses, the neighborhoods truly come alive when attention is given to the open space and the integration of the housing form within the natural environment. The houses serve as hubs of domestic activities that radially flow from the house into a shared outdoor space. The rational and minimal interior space is augmented with a garden and orchard, as well as a yard for small-scale farming activities in the shared open space with no fences. Each house features a row of six storage and farming utility sheds, which can be seen as supplementary elements of the urban composition and spatial components contributing to the visual enclosure of the common yard. The overlap of the domestic activities with the collective rest, play, and recreation in the shared outdoor space renders this housing form a unique collective arrangement.

#### **BACKDROP NEIGHBORHOOD**

The terms kulisa (theater backdrop) and paravan (screen, curtain) were used by Grabrijan and Neidhardt to explain the formal relationship between built, open, and green space, relevant in the urban design of housing (Grabrijan & Neidhardt, 1957, pp. 324, 366). In the text and drawing, the authors described the genealogy of the housing form, developing from the atrium, which completely encloses nature and separates domestic activities from public life, to the meander form that simultaneously embraces nature and allows it to pass through. In contrast to atriums and meanders that are part of the traditional formal language of residential architecture in Bosnia, Neidhardt adds a third form that he calls kulisa-the backdrop. The author explains that according to the principles of modern urbanism, the arms of the meander need to be separated to achieve the continuity of open and green space, but should still strive for the visual impression of semi-enclosure offered by the traditional meander form. According to the authors, this design strategy results in what is referred to as "spatial-plastic architecture," characterized by the interrelation of architectural elements and the landscape, which stands in contrast to conventional urban planning that primarily involves architectural solids (Grabrijan & Neidhardt, 1957, p. 215).

The backdrop housing form prominently features in Neidhardt's designs for the expansion of larger Yugoslav



04 Study of housing forms for Zagreb and Sarajevo, 1953-55. Collage by Juraj Neidhardt, © Grabrijan & Neidhardt, 1957, p. 351. Akademija nauka i umjetnosti Bosne i Hercegovine, 2023.

cities as a response to the pressing post-Second World War housing demands. These large-scale neighborhoods, as he termed them, first appeared in the ambitious 1930 expansion project of Zagreb. The concept was later adapted for smaller neighborhoods, such as those in the Zenica urban plan (1950-55) and the Grbavica neighborhood in Sarajevo (1953-54), although these plans were never realized [FIGURE 04]. The backdrop housing form is a defining feature of one of Neidhardt's most significant housing projects-the ensemble on Alipašina Street in Sarajevo, designed in 1947 and constructed between 1952 and 1954. The distinctiveness of this ensemble arguably stems from the application of the backdrop form on a sharply inclined terrain.

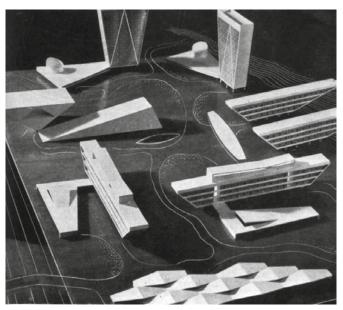
The backdrop housing form can be described as a largescale composition with elongated residential slabs in a regular geometric grid and a park-like green environment. Although the buildings are free-standing, the distance at the latent joints is minimal, giving the visual impression of the continuity and meandering of the built structure and, at the same time, visually noticeable volumes of open space. According to Grabrijan's theoretical interpretation, the "L" corners that are separated do not have the problem of a deep shadow and inadequate visual proximity of apartments (Grabrijan, 1973, p. 173). The central focus of the semi-enclosed courtyards is an intersection of pedestrian paths and recreational facilities, which, in Neidhardt's view, constitute the social heart of the neighborhood (Grabrijan & Neidhardt, 1957, p. 348). The primary residential building type that constitutes most backdrop neighborhoods is the "house-ship"–a conceptual design of a large residential building that Neidhardt formulated during his formative years in Paris. Its name unambiguously alludes to the influence of Le Corbusier. The building's main feature is the access to two-story apartments from an open gallery [FIGURES 05 AND 06]. According to the author, this gallery replaces the dark central corridor, providing a space for walking and playing among the plants during rainy days (Grabrijan & Neidhardt, 1957, p. 382).

Within the context of the backdrop housing form, architecture could be seen as a facilitator, modulating the perception of dwelling space from inside to outside and reciprocally. The open gallery, directly accessible from the apartment, offers an immediate encounter with the atmosphere and climate upon leaving the private domain of the apartment. Moreover, the gallery moves the focus towards the shared open space between the buildings. Conversely, when observed from the open space, the residential buildings function as backdrops, serving as an instrument for managing the perception of spatial continuity. Therefore, architecture operates as a regulating membrane that mediates the perceptual and spatial relationship between the private realm of the apartment and the expansive shared space interspersed among the buildings.

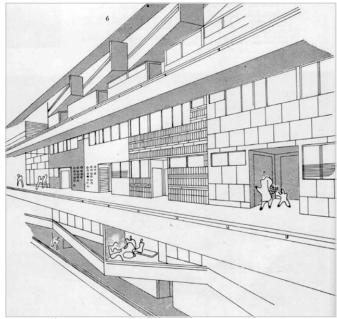
#### **BEEHIVE NEIGHBORHOOD**

The beehive housing form subtly appeared in a 1942 publication as a sketch by Neidhardt, illustrating potential housing layouts (Grabrijan & Neidhardt, 1942, p. 207). The author revisited the concept only in the latter half of the 1960s, considering housing for denser populations [figure 07]. This was due to his critique of the mass housing construction happening in Yugoslavia during that period. He was opposed to it because, in his view, the high-rise residential architecture lacked contextual relevance.

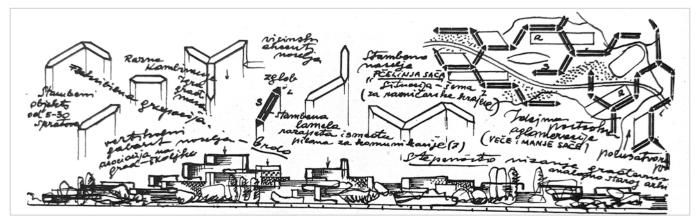
In the two decades succeeding the Second World War, Yugoslavia transformed from being one of the



05 Redesign of the house-ship and backdrop neighborhood concepts, 1964. Model photography by Juraj Neidhardt, 1964. © Neidhardt, 1964, pp. 45.



06 Redesign of the house-ship and backdrop neighborhood concepts, 1964. Drawing by Juraj Neidhardt, 1964. © Neidhardt, 1964, pp. 46.

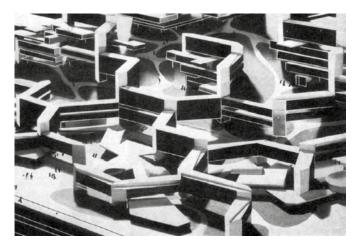


07 Beehive concept-study of housing form for higher density. Drawing by Juraj Neidhardt, 1990. © Jelica Karlić Kapetanović, 1990. Karlić Kapetanović, 1990, p. 306.

most war-torn countries in Europe to boasting one of the fastest-growing economies by the mid-1970s, with an annual production of approximately 150,000 homes. This substantial housing construction was underpinned by meticulously planned, rationalized, and mechanized construction processes, resulting in various forms of collective housing.<sup>4</sup> Furthermore, a significant perspective on the topic of mass housing construction emerged through urban planning and the concept of a dwelling community (*stambena zajednica*), seen as an urban and administrative unit of residential space, grounded on quantitative measures such as area size, population, and walking distances.

Neidhardt expressed his criticism regarding the homogeneity of urban designs, the lack of diversity in architectural forms, the neglect of human scale in both architecture and urban planning, the unsuitable placement of skyscrapers within the urban fabric, the absence of a systematic approach in residential architecture, and the copying of foreign models without considering the context. These views were articulated in his 1967 article on Yugoslavia's development (Neidhardt, 1967). The Koševo Valley housing project in Sarajevo serves as the author's counter-argument and epitomizes the beehive housing form.

The collaged photography of the Koševo Valley housing model, which appeared in periodicals until 1973, depicts a complex housing form composed of two modules-a vertical triangular prism serving as a circulation core and horizontal volumes with apartments that hung between circulation joints in three directions (Neidhardt, 1970; Neidhardt, 1972a; Neidhardt, 1972b). In the horizontal plane, the two modules create a regular beehive configuration, while in the vertical plane, the composition becomes playful and layered, conforming to the topography. The distinctive, low-height, branched structures extend at ground level, encompassing other neighborhood functions, along with organically shaped pedestrian pathways and greenery. Despite the structure's large scale



08 Conceptual design for Koševo Valley housing, 1967. Collage by Juraj Neidhardt, 1967. © Neidhardt, 1967, p. 35.

and three-dimensional complexity, the terrain appears open and fluid [FIGURE 08].

In the beehive housing form, one could argue that Neidhardt achieved a synthesis of principles that he employed in other housing designs. While residential buildings remain separate entities in functional terms, they evolve into a continuous elongated built structure. Nonetheless, Neidhardt achieves a meandering form in the truest sense of the term. The perception of the enclosure of the outdoor space is softened by raising the structure from the ground and adapting the heights of the buildings to the topography. Even in densely built forms, such as a beehive, Neidhardt achieved horizontality and open views from the interior dwelling space towards the valley. The architecture in this housing concept can be viewed as a new topographic layer.

# LANDSCAPE CONTEXTUALITY OF NEIDHARDT'S HOUSING DESIGN

Three housing concepts exhibit significant differences in scales, densities, and forms. Nevertheless, Neidhardt's housing forms have distinctly noticeable common characteristics of the modernist idiom. The houses are designed as an architectural type, and compositions are groups of identical houses arranged in a regular geometric pattern. The open space is plentiful and green, interlaced with a network of pedestrian paths that sometimes pass under buildings on pilotis. Neighborhoods feature a social center, formed by buildings and spaces dedicated to culture, education, and recreation, often located centrally within the composition and frequently as an additional volume of the residential buildings. However, it is possible to identify common urban design principles that are relevant from a landscape perspective and specific to Neidhardt's approach to modern housing design.

In all concepts of the housing form, the author strives to establish an extension and continuity of the interior domestic space towards the broader environment of collective use through architecture. One of the instruments of continuity is the placement of entrances to the apartment directly from the outdoor space. In Neidhardt's interpretation, this design principle serves as a means of individualizing the apartment within a collective scheme and creating an experience akin to living in a family house. It can be added that the juxtaposition of the interior as a private space and the exterior as a shared one contributes to a layered dwelling experience, both perceptually and socially. The apartment is simultaneously an integral part of the landscape and the architecture of the residential building.

Another instrument for achieving integration of domestic space and environment is the application of the traditional

principle of the right to an open view. In flat terrain, the buildings are taller and inherently overlook larger open spaces, while on the slopes, where the houses are lower, compact, and distances between them smaller, the principle of the right to an open view should also apply. Through this principle, Neidhardt establishes a visual and configurational relationship between the domestic domain of the apartment interior and the surroundings by regulating the spatial relation of the house with the topography and neighboring houses. The landscape becomes an integral part of the interior dwelling space.

Further, the housing forms contribute to the preservation of the visual integrity of the topography on the scale of the neighborhood and the city. Neidhardt articulated this principle through the methodological term "the art of placement" (*umijeće plasiranja*), which he defined as the positioning of architectural elements in relation to the landscape. "The basic point is to experience that nature and incorporate buildings into it. Every slope, hummock, and shore has its specificities, which should be noticed, and only then place the buildings and model the architecture" (Neidhardt, 1953, p. 18).

It is easily identifiable that these design principles originate from the vernacular architectural culture of Bosnia. In this manner, Neidhardt's design approach is distinctly contextual. However, it needs to be emphasized that the author's contextualism does not merely suggest that the housing design incorporates the existing state of geography, nature, and culture as mere input information. Rather, it profoundly contemplates the traditional approaches to the landscape or architecture-landscape dialectics. Neidhardt's contextualism is rooted in the pursuit of continuity of these principles through modern architecture. He engaged the recognized traditional principles concerning landscape in housing design, as well as elements of vernacular architectural form.

Neidhardt's contextual approach, which was firmly established with the release of the book Architecture of Bosnia in 1957 (Grabrijan & Neidhardt, 1957), resonates strongly with the new way of conceiving modern architecture that manifested from the beginning of the 1950s. As Dirk van den Heuvel succinctly describes, the buildings and cities at the time were no longer considered discrete, isolated objects but were to be understood as part of a larger whole, an environment or a habitat (van den Heuvel, 2020, p. 9). Among the CIAM circles and specifically Team X protagonists, architecture was considered as something relational, embedded, conditional as well as contextual. The same author recognized a landscape perspective in several design proposals and studies in the context of CIAM's preoccupation with the habitat theme that culminated at the Dubrovnik meeting in 1956. A series of housing designs presented at Dubrovnik display careful attention to the existing environmental, geographical, and ecological conditions in which the designs were to be embedded, such as the "Houses riding the landscape" by Alison and Peter Smithson (p. 47). However, Neidhardt's contextual methodology is unique as it embodies his enduring dedication and consistency in approach, deeply ingrained in the landscape of a single country.

#### CONCLUSION

Throughout his productive architectural practice, Neidhardt continuously contemplated the terms of modern habitation. His approach is distinctly contextual. The author not only dealt with transposing elements of vernacular Bosnian residential architecture into a modern expression but also with transposing the relationship between architecture and landscape that he recognized as Bosnian heritage. In his approach, we can read the dialectical nature of modernity. It is simultaneously a civilizational necessity for change and a means of achieving the historical continuity of local architectural culture. In that culture, each place of residence is an integral part of a much larger landscape-a neighborhood, a city, and a wider territory. His approach to modern housing form serves as a valuable insight from history in the contemporary context of technological domination and ecological considerations that are often reduced to measurable metrics and result in an abstract comprehension of the environment.

#### REFERENCES

- BLANCHON, B. (2016). Postwar Residential Housing Landscapes in France: A Retro-Prospective Approach. *Docomomo Journal, Housing Reloaded, 54*, pp. 72–77. https://doi. org/10.52200/54.a.06j4ieka
- BRAAE, E. (2022). Revisiting Post-War Green Open Spaces as "Welfare Landscapes." In K. Bishop & L. Corkery (Eds.), *Routledge Handbook of Urban Landscape Research* (pp. 389– 400). Routledge.
- BRAAE, E., Riesto, S., Steiner, H., & Tietjen, A. (2020). Welfare Landscapes: Open Spaces of Danish Post-war Housing Estates Reconfigured. Mass Housing of the Scandinavian Welfare States: Exploring Histories and Design Approaches. https://blogs.ed.ac.uk/docomomoiscul/wp-content/uploads/ sites/8300/2020/06/Eproceedings10-1.pdf
- BRAAE, E., Riesto, S., Steiner, H., & Tietjen, A. (2021). European mass-housing welfare landscapes. *Landscape Research*, 46(4), pp. 451–455. https://doi.org/10.1080/01426397.2021.1 914568
- DÍEZ MEDINA, C., & Monclus, J. (2017). Considerations on collective, open and intermediate spaces in modernist housing estates. In P. Carlotti, A. Camiz, & C. Díez (Eds.), Urban Morphology and Design. Joint research perspectives and methodological comparison: Italy, Spain (pp. 58–67). U+D edizione.
- DŽUMHUR, L., & Idrizbegović-Zgonić, A. (2023). Syncretism in regionalist modern architecture of Bosnia and Herzegovinamodels of syncretic processes and formations on the example

of the workers' house by Juraj Neidhardt. AIP Conference Proceedings, 2928(1). https://doi.org/10.1063/5.0170816

FURIA, P. (2020). Space and Place. A Morphological Perspective. Axiomathes, 32, pp. 539–556. https://doi.org/10.1007/ s10516-021-09539-6

GRABRIJAN, D. & Neidhardt, J. (1942). Sarajevo i njegovi trabanti — Arhitektonsko-urbanistička razmatranja uoči nacrta za regulaciju grada Sarajeva [Sarajevo and its Satellites — Architectural-Urbanistic Studies amid Regulation Draft of the City of Sarajevo]. Tehnički vijesnik, pp. 59(7–9). (In Serbo-Croatian)

GRABRIJAN, D. & Neidhardt, J. (2023). Arhitektura Bosne i put u savremeno. [Architecture of Bosnia and the Way towards Modernity] (Reprint). Akademija nauka i umjetnosti Bosne i Hercegovine. (Original work published 1957)

GRABRIJAN, D. (1937). Osvrt na arhitektonsku izložbu arh. J. Neidhardta [Short review of the architectural exhibition of J. Neidhardt]. *Građevinski vjesnik*, 1, pp. 4–5. (In Serbo-Croatian)

GRABRIJAN, D. (1973). Razvojni put naše savremene kuće [The development of our modern house]. Beograd: Građevinska knjiga. (In Serbo-Croatian)

GRABRIJAN, D. (1983). The Bosnian oriental architecture in Sarajevo with a special reference to the contemporary one. Ljubljana: Dopisna delavska univerza Univerzum.

HAFFNER, J. (Ed.). (2022). Landscapes of Housing. Design and Planning in the History of Environmental Thought. Routledge.

HOWARD, P., Thompson, I., Waterton, E., & Atha, M. (Eds.). (2019). *The Routledge Companion to Landscape Studies*. Routledge.

INGOLD, T. (1993). The Temporality of the Landscape. World Archaeology, 25(2), pp. 152–174. http://www.jstor.org/ stable/124811

JOVANOVIĆ, J. (2020). Lessons of Yugoslav Housing Economy in the Period of the First Five-Year Plan: Permeable Boundaries Between Tradition and Modernity. Život Umjetnosti, 107(2), pp. 32–59. https://doi.org/10.31664/zu.2020.107.03

KARLIĆ KAPETANOVIĆ, J. (1990). Juraj Najdhart. Život i djelo [Juraj Neidhardt. Life and Work]. Veselin Masleša. (In Serbo-Croatian)

KÜHNE, O. (2019). Landscape Theories. A Brief Introduction. Springer. https://doi.org/10.1007/978-3-658-25491-9

NEIDHARDT, J. (1953). Problemi Boračkog jezera [The problems of Boračko Lake]. Arhitektura, 4, 18-20. (In Serbo-Croatian)

NEIDHARDT, J. (1954). Komšiluk [Neighborhood]. Arhitektura, 1, 22-23. (In Serbo-Croatian)

NEIDHARDT, J. (1964). Susjedstvo: kuća-stan [Neighborhood: house-dwelling]. Arhitektura urbanizam, 29, pp. 45-46. (In Serbo-Croatian)

NEIDHARDT, J. (1967). Anketa o posleratnom razvoju Jugoslavije. Juraj Neidhardt, Sarajevo [Survey on the post-war development of Yugoslavia. Juraj Neidhardt, Sarajevo]. Arhitektura urbanizam, 47, pp. 35-36. (In Serbo-Croatian)

NEIDHARDT, J. (1970). Trajanje (Value of permanency). Arhitektura urbanizam, 64-65, pp. 47-58. (In Serbo-Croatian)

NEIDHARDT, J. (1972a). Baština i novo [Heritage and the new]. Arhitektura, 116, pp. I-X. (In Serbo-Croatian)

NEIDHARDT, J. (1973). Pravo na život [The right to life]. Arhitektura, 146-147, pp. 21-28. (In Serbo-Croatian)

MILINKOVIĆ, M., Tilinger, D., Jovanović, J., Ćorović, D., Krklješ, M., Nedučin, D., Dukanac, D., & Subić, S. (2023). (Middle Class) Mass Housing in Serbia. Within and Beyond the Shifting Frames of Socialist Modernisation. In I. Lima Rodrigues, D. Shach-Pinsly, K. Tsiambaos, & V. P. Korobar (Eds.), European Middle-Class Mass Housing: Past and Present of the Modern Community (pp. 491–497). Iscte-IUL.

SAUER, C. O. (1969). The Morphology of Landscape. In J. Leighly (Ed.), Land and Life. A Selection from the Writings of Carl Ortwin Sauer (pp. 315–350). University of California Press. TURKUŠIĆ, E. (2011). Geometry and playfulness of nature when the old and the new meet. Oris, časopis za arhitekturu i kulturu, 68, pp.152–161.

UGLJEN ADEMOVIĆ, N., & Turkušić, E. (2012). A synthesis of modern and traditional features in Bosnia. In M. Mrduljaš & V. Kulić (Eds.), Unfinished Modernisations. Between Utopia and Pragmatism. Architecture and Urban Planning in the Former Yugoslavia and the Successor States (pp. 432–443). Croatian Architects' Association.

VAN DEN HEUVEL, D., Martens , J., & Muñoz Sanz , V. (Eds.). (2020). Habitat: Ecology Thinking in Architecture. nai010 publishers.

VAN HAEREN, K. D. (2021). The good life vision on the landscape scale. *Landscape Research*, 46(4), 514–526. https://doi.org/10.1080/01426397.2021.1881767

WYLIE, J. (2007). Landscape. Routledge.

**Nevena Novaković** is an assistant professor at the University of Banja Luka. She earned her doctoral degree from the Faculty of Architecture, University of Belgrade, in 2014. Her research focuses on urban design history and theory, with a particular emphasis on collective housing and the theory of urban form. She teaches urban design and urban theory at both the bachelor's and master's levels. She is the editor of the scientific journal AGG+ and a founding member of Docomomo Bosnia and Herzegovina.

# **ENDNOTES**

- The term mahala stems from Ottoman Turkish with Arabic origin and refers to city quarters intended exclusively for residential purposes.
- See more on the formative years of Yugoslav housing economy in Jovanović (2020).

<sup>3</sup> Neidhardt approached the theme of workers' housing design before returning to Yugoslavia. He participated in the international housing competition for the Bata factory in Zlín in 1935 while still working in Paris and won the purchase prize. Le Corbusier was a jury member alongside architects Edo Schön and Vladimír Karfík. See in Karlić-Kapetanović (1990, p. 55).

 See more on the Yugoslav mass housing in Milinković et al. (2023).