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In the land of the elements. Nature in the recreational spaces of the cities of Finland

W krainie żywiołów. Elementy natury w przestrzeniach rekreacyjnych miast Finlandii

Abstract

Since the beginning of the twentieth century, Finland has been a ground for experiments in the field of the housing environment. A low population density, as well as the unique natural and landscape values of the country have led to a clear trend of respect for nature in its architectural tradition. The paper, based on the theory of the Modern Movement – represented by, among others, Alvar Aalto, as well as on the tenets of Finnish the garden city of Tapiola – provides a characteristic of the role of natural elements in the composition of urban recreational spaces. The paper also discusses the structure of modern building complexes on the basis of the latest residential districts of Helsinki – as well as other cities of southern Finland, focusing on the compositional and functional role played by elements of nature within recreational spaces of a place of residence.

Keywords: recreational spaces, architecture of Finland, housing environment, residential complexes

Streszczenie:

Finlandia od początku XX wieku była polem eksperymentów w zakresie środowiska mieszkaniowego. Niska gęstość zaludnienia oraz unikatowe walory przyrodnicze i krajobrazowe kraju sprawiły, że w tradycji architektonicznej wyraźny jest nurt poszanowania natury. W artykule, opierając się na teorii ruchu Modern Movement reprezentowanego przez m.in. Alvara Aalto, a także na założeniach fińskiego miasta-ogrodu Tapioli, scharakteryzowano rolę elementów przyrodniczych w kompozycji miejskich przestrzeni rekreacyjnych. Na podstawie najnowszych realizacji dzielnic mieszkaniowych Helsinek i innych miast południowej Finlandii omówiono strukturę współczesnych zespołów zabudowy, koncentrując się na kompozycyjnej i funkcjonalnej roli elementów natury na terenach wypoczynkowych w miejscu zamieszkania.

Słowa kluczowe: przestrzenie rekreacji, architektura Finlandii, środowisko mieszkaniowe, zespoły mieszkaniowe

„It is not only the environment that affects man, as man also affects his environment; nature shapes man and man shapes nature."

J.W. Goethe

1. Introduction. The land of the elements

Finland can be described as one of the least urbanised countries of Europe. With a surface area of 338 424 km^2, which is only slightly smaller than that of Poland, it is a home to nearly 5,5 million people. This results in a population density of around 15 persons per m^2, one of the lowest on our continent. Most of Finland's population resides in the south, in the capital agglomeration, with a surface area of almost 400 km^2, which is comprised of the cities of Helsinki and Espoo. It has a population of around 1.2 million, which is over 1/6 of the inhabitants of the entire country. The remaining part of the country is dominated by smaller towns and nature, the surface of which has over 33 thousand km^2 of inland waterways. The basis of Finland's geological structure is almost entirely composed of the crystalline rock of the Baltic Shield, with up to 74% of its surface taken by forests. This is why it is called the land of forests, rocks and lakes.

Nature, which dominates the open landscape, is also visible in urban space. The perception of beauty as an effect of the synergy of nature and architecture has emerged around the turn of the XX century. According to John Ruskin, natural beauty is the harmony between buildings and the landscape [2, p. 136]. The surface of Helsinki, crisscrossed by natural bays, as well as artificial canals, which serve both active and former port facilities, can be considered an expression of this view. The city is being developed with respect to the distinct physiognomy of the coast, which influences the complexity of its urban structure. The distinct geological structure of the terrain is made evident within the area of the city in the form of its varied topography, as well as elements of greenery-covered moraine hills, which constitute the foundation of urban interiors. What is distinct of Finnish cities is the separation of urban tissue by fragments of forest, which serves as a space of recreation for the inhabitations – which is something that can be observed both in the capital, as well as in other cities: Tampere, Jyväskyla or Lahti. Elements of nature such as greenery or water are seen in them as an integral part of the composition of urban space.

2. Research problem and methodology

The presented research scope includes the role of elements of nature in shaping urban recreational space. The specified research problem covers the influence of natural elements specific to Finnish landscape on the composition of recreational areas and their location in the city structure, along with the impact on the quality of urban environment and the citizens' conditions of living. The research was led in two streams – public space in the scale of the city as well as the recreational areas in residential settlements appearing in the structure of the paper in the form of following chapters. The methodology used was based upon the characteristics of natural elements that occur within Finland and analysing urban areas in

the context of their appearance. The influence of natural environment on the placement of recreational areas in the structure of the city was studied. The analyses of the use of natural elements of composition such as greenery, water was conducted in order to discover their significance in the design of recreational areas within the residential settlements. There were statements of the theoreticians of the architecture and urban design quoted as the background of contemporary investments. Special attention was paid to contextual works of Alvar Aalto.

3. Recreation in public spaces

The integration of architectural tissue with nature also has an impact on the character of public spaces. On the one hand these are urban areas – streets, squares planned in accordance with the tenets of the various epochs during which they were built. It is also in such areas, in the historical centre of Helsinki, that we can find cities which are a testament to the distinct geological structure of Finland. We can find an example of this in the square outlined by the Temppelikatu and Lutherinkatu streets, which is the site o the Temppeliaukio church in Helsinki (Fig. 1). The building, constructed in accordance with a design by Timo and Tuomo Suomalainen in 1969, has been carved in the rock which constitutes the base of the square. Its surface was partially left untouched, filling the interior created by the walls of the buildings with a space that has a natural character. Its base is made up of an outcropping of natural granite rock covered in low-lying greenery, with taller forms placed here and there, hidden between the walls of 8 story town houses from the turn of the century.

The second face of the recreational areas of Helsinki are expansive natural areas – large tracts of land with low greenery, water bodies or forest fragments that play the part of an urban park and serve the inhabitants for recreation. Within the scope of the strict city centre, in the western part of the city near the main train station, there is a meadow forming a green corridor that runs deep into the structure of the city, that starts at the areas near Stephen Holl's *Kiasma* museum of modern art building. It forms a compositional link between the congress and concert centre by Alvaro Aalto from 1975 – with its continuation from 2011 – and the newly-built office complex located at the opposite side. From the side of the city, recreational areas start with the foregrounds of the Helsinki Music Center (Fig. 3, 4). Architects from the LPR Architects design office have designed it on an artificial elevated surface formed by the green roof that covers the shape of the structure. Its surface has been shaped in the form of steps, allowing it to serve as seats oriented towards the Center, forming an observation point of the activity near the Kiasma museum, which is the main point of the crossing of the pedestrian routes used by inhabitants. This place has the form of a transit point, a border between a space that is representative – tied with one of the main streets of the city, Mannerheimintie, and an area devoted to the needs associated with recreation outside of the frontage of the buildings. It contains walkways, playgrounds which are located near a lake – around which are running and bicycle routes which are meant for the recreation of the inhabitants of the strict city centre. They have been linked with a network of coastal walking routes, crossing the barrier formed by railway tracks with the use of a foot and bicycle bridge.

Fig. 1. The square with Temppeliaukio church

Fig. 2. The recreational spaces of the Tapiola, the garden city, Espoo (by the author)

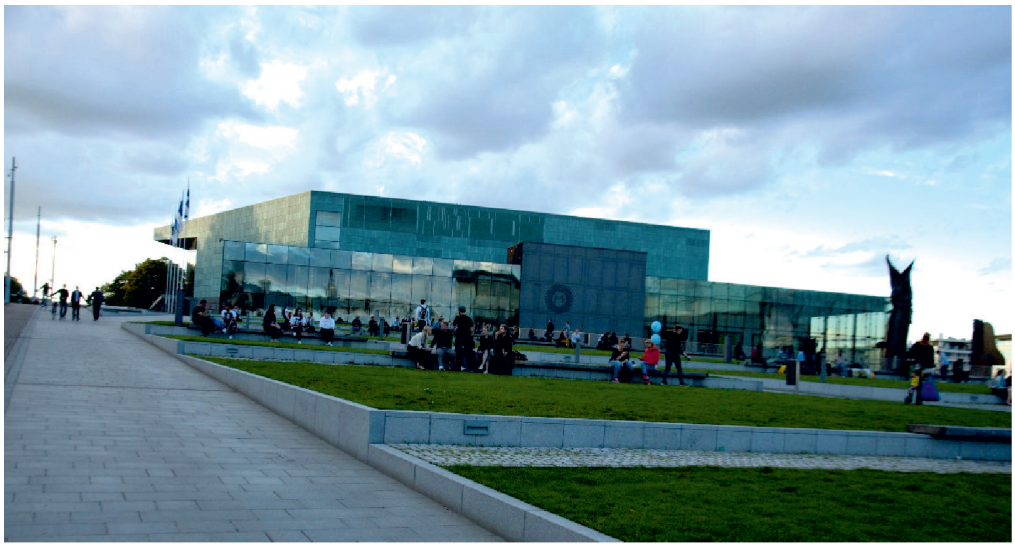

Fig. 3. Recreational areas in front of the Helsinki Music Center (by the author)

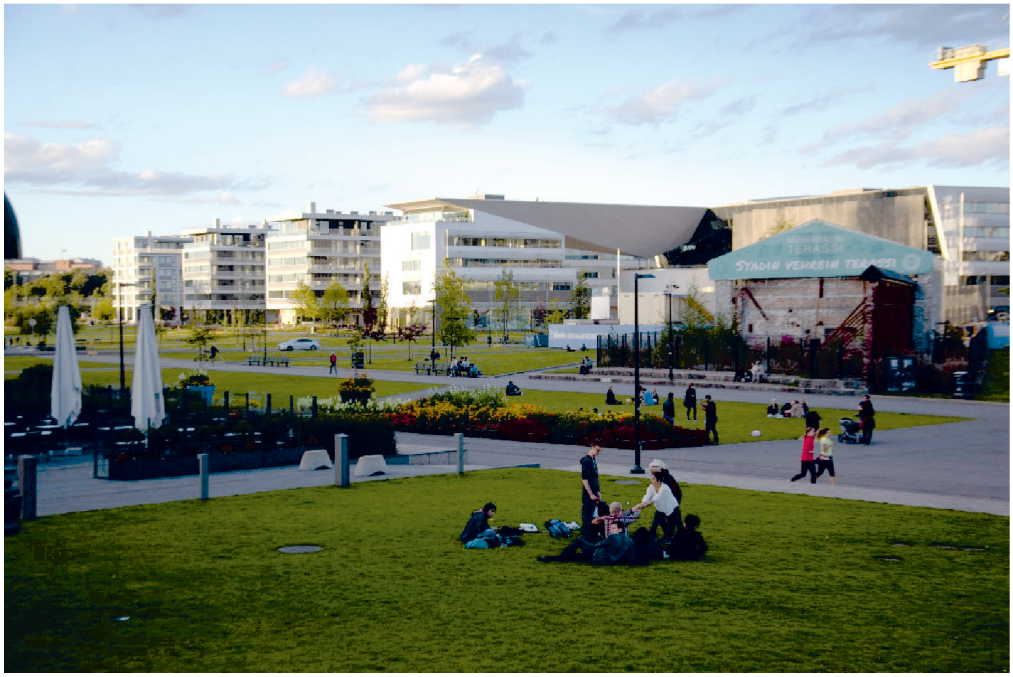

Fig. 4. Recreational spaces in the centre of Helsinki (by the author)

The image of the recreational areas is an expression of respect towards nature and care for the quality of the urban environment, as well as for the comfort and health of inhabitants. The roots of this manner of arranging urban space can be traced to the work of Alvaro Aalto, who, as Mieczysław Piprek wrote, has proven that "...we can shape squares, on which the pedestrian is the privileged party, that we can inject the organic qualities of nature into the urban environment, as well as inscribe elements of urban culture into nature" [5, p. 27].

Such an approach has its roots in the works of Alvaro Aalto, about which Sigfried Giedion wrote that modern architecture was something more than a generally agreed upon manner of beautifying life. It was so much a product of our time, that it had to exhibit certain universal tendencies: on the other hand it dealt too much in the problems of real life to disregard local differences in requirements, custom, materials. Finland under the leadership of Alvar Aalto showed us how architecture could be enriched in a universal manner by using solutions adapted to distinct conditions of local environments [3, p. 674].

4. Recreational spaces of residential complexes

Juhani Pallasmaa wrote that the housing environment reflects, either consciously or consciously: the existence of harmony – or lack thereof – in everyday life; an organic belonging to one's environment and community – or isolation; a continuity of tradition or its loss; respect for nature and the landscape or an indifference to them, as well as a spiritual or material perception of the world [4, p. 2]. When looking at the modern residential areas of Helsinki, we can see that respect for nature is engrained within Finnish building tradition. Aside from the composition of urban spaces – shaped as a result of the processes of the development of tissue with the simultaneous preservation of the character of nature – it manifests itself in the design of residential complexes. Since the beginning of the XX century they have been shaped in accordance with Alvar Aalto's synthesis, where nature, residential culture and work harmoniously blend into an environment of living. The architect approached residential matters with particular responsibility. He was of the opinion that it was one of the great mysteries of human life and that without residential culture there could be no mention of establishing any culture at all [5, p. 12].

One of the most famous designs which express this manner of thinking was the design and construction of the Tapioli garden city within the city of Espoo (Fig. 2). The competition for this design was won by a team of Polish urban designers: J. Chmielewski, J. Kazubiński and K. Kuraś. The housing complex was built in the 1960's and 1970's, with Aulis Blomsted, Aarne Ervi, Vilio Revell and Heikki Siren participating in the development of its design. The area is composed of numerous small complexes of terrace houses which harmonised with the landscape, as well as multi-family buildings located around an expansive green recreational area. The layout of the complex was based on the concept of a garden city. The various forms of use were laid out in zones – residential buildings were located along the outer zone, in the vicinity of greenery, with public services placed in the inner zone, adjacent to the recreational areas. Commercial services were grouped near

a rapid transit railway station near a road leading to the centre of Helsinki. The district is still today thought of as a model area, although its revitalisation is being planned due to the use of technologies from over 50 years ago [8].

Seeking beauty in the harmony of architecture and its natural surroundings is also a distinct quality of modern residential complexes. In their latest projects, architects make references to all the natural elements that are specific to the landscape of Finland – greenery, rock and water, searching for a modern manner of paying homage to the local cultural and landscape identity in the connection between nature and architecture.

One such project is the residential complex in southern Lautasaari – its construction having been finished in 2015 – in Helsinki, designed by the Arkkitehdit NRT Oy design office (Fig. 5, 6). Its architecture was developed as an answer to the guidelines of a competition for the development of this part of the capital, which had been held in 2002. The idea of the endeavour was to provide a view of the sea from the highest possible number of apartments, as well as to expand the waterfront area. The guidelines were implemented by having the buildings that were located near the water to hang over it, standing on pillars. The recreational spaces of the courtyards stretch between the belts of the buildings, with a view of the sea. This has also allowed the introduction of water into the composition as a floor of the urban enclosure [9]. A different form of a layout featuring water was used in the Rainbow Housing Project in Helsinki (Fig. 7, 8). Architects from the ARK-House design office placed the buildings of the complex around the ending of an unused port canal running through the Vuosaari district. The site is located in a border zone between the landscape of Helsinki's

Fig. 5. Residential complex in Lautasaari, Arkkitehdit NRT Oy, Helsinki, 2012 (by the author)

Fig. 6. Residential complex in Lautasaari, Arkkitehdit NRT Oy, Helsinki, 2012 (by the author)

suburbs and a natural area, which was heretofore used for taking walks. The buildings – which were built in 2012 – feature apartments for rent. The composition of the facade facing towards the south from the side of the canal is open by the means of a series of balconies and loggias. The northern facade – on the contrary, constitutes a curved wall surface with singular colour accents in the form of bay windows, thus the name of the complex – Rainbow Housing [10].

Aside from water bodies, the landscape of Finland also features distinct moraine hills covered by forests, which can sometimes also be seen within the landscape of cities. An example of a complex which makes use of their qualities as recreational areas is the capital's Viikinmäki district (Fig. 9). Residential buildings were placed there, making use of the natural topography of the terrain, as well as its geological structure. The complex of multi-family houses, of varied form and character, is connected by a network of walkways that create a labyrinth of winding paths, which ascend and descend in accordance with the terrain. They constitute recreational areas for the inhabitants of this part of the capital, in the form of forested moraine hills. The point that links the walkway routes that were created in this manner is the Quarter House social centre building (Fig. 10). Built in 2015 in accordance with a design by the AFKS design office, this public building (the only one in the Viikinmäki district) houses a kindergarten and primary school, as well as common use areas [11]. The outer courtyard of the building is located near recreational spaces, forming their foreground.

Another example of the use of naturally forested areas for recreation accompanying residential buildings is the Ruotutorppa Social Housing complex, composed of multi-family

Fig. 7. The Rainbow Housing residential complex, ARK-house, Helsinki 2012. (by the author)

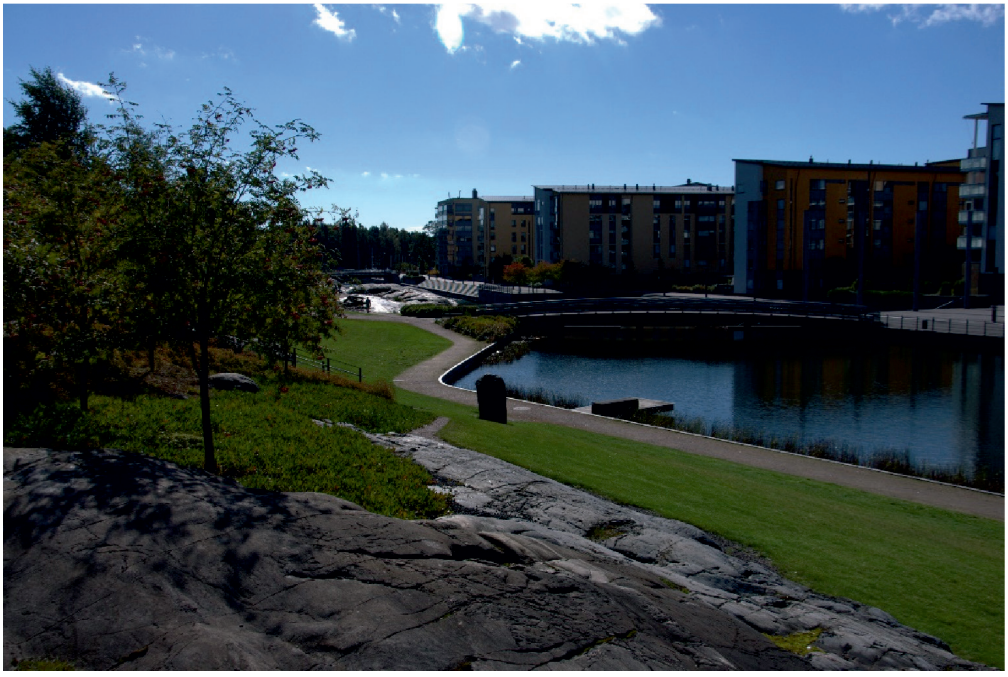

Fig. 8. The recreational areas of the Vuosaari residential complex, Helsinki (by the author)

Fig. 9. Recreational areas of the residential complex of the Viikinmäki district, Helsinki (by the author)

Fig. 10. Viikinmäki Quarter House social centre, AFKS, Helsinki, 2015 (by the author)

Fig. 11. Ruotutorppa Social Housing, Arkkitehdit Hannunkari & Mäkipaja Architects, Helsinki, 2010 (by the author)

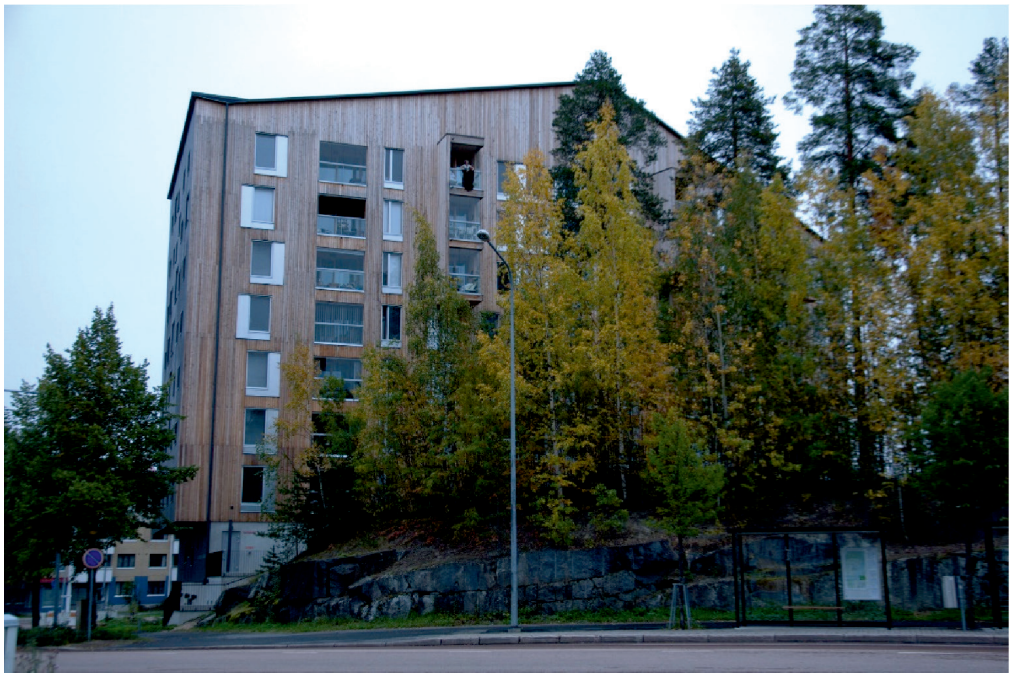

Fig. 12. Puukuokka Housing Block, OOPEAA, Jyväskylä, 2015 (by the author)

buildings in the northern part of Helsinki (Fig. 11). The complex, composed of two residential buildings, was built in 2010 in accordance with a design by Arkkitehdit Hannunkari & Mäkipaja Architects [12]. The site, located in the suburban zone of the capital and constituting municipal property, is characterised by its proximity to a forest, which was used as a form of a recreational area for the residents of the complex, which features 62 apartments with 1 to 3 rooms (48–95 m^2).

The Puukuokka multi-family building complex in the city of Jyväskylä (Fig. 2) was placed in a similar place. The priority of the architects from the OOPEAA design office was the construction of energy efficient buildings with sustainable properties. The project has been under construction since the year 2015 and is being financed from the municipal residential construction fund. Apart from a non-standard payment system, it is set apart by its structure, as the 8 story building features a timber post and beam structure [13]. The project, which is to be comprised of 3 buildings, is accompanied by recreational areas – an untouched part of the site – a moraine hill – which used to be a fragment of a forest. It is connected with a forest area with a similar geological structure, which serves the residents as a place of active recreation, which at the same time constitutes the border of the city's built-up area.

5. Conclusion

The study allowed to formulate conclusions proving the possible creative use of natural elements as a material in the creation of both, the public spaces as the elements of the structure of the city, as well as in the design of recreational areas within residential settlements. The inclusion of elements of nature enriches the composition of urban space, affecting its diversity and attractiveness. It also provides the ability to create the network of connections through green infrastructure desirable from the point of view of the local ecosystem. It also creates the possibility of promoting a healthy lifestyle among the residents.

The respect for the natural qualities of an area, as well as for the landscape, that is evident in current construction projects has its basis in the Finnish tradition of building construction. Beauty that lies in the skillful combination of architecture and its surroundings has become one of the indicators of the qualities of the urban composition of city spaces, which is also viable today. At the same time, as one of the principles of *Green Architecture* formulated by Brenda and Robert Bale, it fits in with modern trends of sustainable design [7, p. 15]. This qualitiy was also paid attention to by Alvar Aalto. In a monograph published in 1987, titled *Aalto Alvar, Idee di architettura – scritti scelti 1921–1968*, Marcello Fagiolo wrote about his views as such: "Architecture requires scholars – researchers, in order to understand the new requirements that are being placed before it, as well as to convert society into an effective system, in which everyone can live in proper biological conditions, represented by the sun, the air and light" [1]. This idea, formulated in a broader manner, is currently present in the field of studying the urban environment, and which invariably indicate the possibility of man's contact with nature as a basic factor, one which is indispensable in the creation of high quality residential areas.

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All photographs have been made by the author.