FROM THE BISHOP’S ESTATE OF THE 19TH CENTURY TO THE CAMPUS OF THE 21ST CENTURY
ZÁGRÁB, MAXIMIR PARK.
19. SZÁZADI PÜSPÖKI BÍRTOSKÓL
21. SZÁZADI EGYETEMI CAMPUS

ABSTRACT
In this paper, the development of Maksimir Park from an archdiocesan forest and agricultural estate of the 18th century through the foundation of the first city park and a bishop’s exemplary agricultural estate to the present will be analysed and introduced. The design of Maksimir park was initiated by Bishop Maksimilijan Vrhovac, and was further developed by archbishop Juraj Hanlik. Hanlik completed Maksimir Park and created a model estate based on the highest contemporary achievements of the agricultural profession. In addition to producing food for the needs of the Zagreb Archdiocese, the estate was open and accessible to all citizens and visitors. Located outside the city, “not far from Zagreb”, it has equally served for the education of the local farmers as well as for the education of the citizens. At the beginning of the 20th century, the land of the estate was purchased by the state for the purposes of today’s Faculties of Agriculture and Forestry, who are further developing and adapting it to their needs.

The goal of this paper is to review primarily the educational roles of Maksimir Park and Estate, which were recognized already at the time of their emergence, the changes that have occurred due to the development of the two faculties and, most importantly, to determine the opportunities for their future development. The park renovation and its adaptation to contemporary needs, especially the further development of the faculty estate as a more open ground for contemporary methods, aimed at solving current problems of global warming, sustainable and ecological agriculture, achievements in collecting, purifying and reusing rainwater, and ultimately, contemporary trends in landscape design. The reopening of the instruction and its resources to both interested agricultural producers and the greater urban audience, involves an enormous educational potential (not only of local but also national character) that our faculties have yet to face.

1. INTRODUCTION
Green infrastructure can be considered as one of the main structural systems of the contemporary city within which public green spaces are of a particular importance. Although the need to create public spaces had already been recognized by the Assyrians, it was not until the 19th century that planning of green systems began (Boston Emerald Necklace by F.L. Olmsted), while the formal recognition of the status and the role of green spaces in the city was defined by the Athens Charter in the first half of the 20th century. Ogrin (2010) divides the role of urban green spaces (natural or designed) into active and passive, where the former one refers to the structural function in the city (spatial, heritage conservation, social etc.), which by far exceeds the purpose of this publication. In this paper, the development of Maksimir Park from an archdiocesan forest and agricultural estate of the 18th century through the foundation of the first city park and a bishop’s exemplary agricultural estate of the 19th century will be analysed and introduced, with the goal to review, primarily, the educational roles of Maksimir Park and Estate, which were recognized already at the time of their emergence, the changes that have occurred due to the development of the two faculties and, most importantly, to determine the opportunities for their future development.
Maksimir Park was part of the several hundred hectare central diocese (archdiocese since 1850) property located a few kilometres from the City of Zagreb since the 13th century (Mudrinjak, 1982). The land of the estate extended between the southern slopes of Medvednica Mountain and the Pannonian Plain (Sava River Plain) in the northeastern part of the city (Fig. 1). The northern and western parts of the estate were covered by old dense oak forest with numerous gullies and were used only for hunting and logging, while the eastern and southern parts of the estate, surrounding the forest, were covered with arable land and meadows (Fig. 2a). It should be emphasised that, until the unification in 1850, the city of Zagreb consisted of two small medieval settlements Gradec and Kaptol (the seat of the Zagreb diocese) with a total population of only 10,000 inhabitants at the beginning of 19th century and about 15,000 in 1850. These facts are even more interesting regarding that at that time the entire city occupied an overall area of 150 hectares and the Maksimir Park 402 hectares (according to Mudrinjak (1982) the total area was even 690 hectares, 192 ha of which was park, 191 ha arable land, 58 ha meadows, 173 ha forest etc.). Today, the City of Zagreb has a population of about 800,000 inhabitants, the park occupies an area of 316 hectares and it is located closer to the city centre than to the peripheries of the city (Fig. 2c).

The decision to transform the land of the bishop’s estate into a city park was made by Bishop Maksimilijan Vrhovac (1752-1827) in 1787, but the final design of the park is attributed primarily to (Arch)bishop Juraj Haulik de Varally (1788-1869). The peculiarity of Vrhovac’s original idea of Maksimir Park from the very beginning is the formation of three distinct spatial and functional parts: a forest in the northern part (existing), a designed public park in the southern/south-eastern part (mostly within the existing forest) and an agricultural estate in the eastern part (existing agricultural fields and meadows) of the area (Fig. 2b).

Vrhovac conceived the park in a geometrical, Baroque style, and even though, unfortunately, the original plan has not been preserved, a detailed description was published in the album Park Jurjaves in 1853. Although the author is not explicitly mentioned, it certainly originated under Haulik’s supervision (Žmegač, 2002). The only known and preserved elements from that time, which are still noticeable today, are the entrance and the main alley ending with an elevated viewpoint (a kiosk was built later by Haulik) from which distant views were provided through ten linear, star-shaped forest openings (only the main alley has been preserved). His successor Bishop Aleksandar Alagović (1760–1837) decided to redesign the park in the English landscape style, but the final concept and park realization is from the mid 19th century by Archbishop Haulik with the help of Vienna masters - Michael
Riedl, landscape architect Bichlmüller, Luxenburg and Hetzenzorl, Franjo Serafin Krsbauer, gardener, Franz Schächt, architect Luxenburg, Josip Kaszmann, sculptor, Leopold Phillip, head of construction works, Anton Kohgauser, stained glass master, Eduard Gurka, engraver and painter, and Haulik also employed quite a few of Zagreb masters. Engaging known and recognised contemporary experts from all relevant professional fields also illustrates the importance that Haulik attributed to the concept and integral design of the park. Haulik keeps the basic park division into the public park and the agricultural estate as well as the main built elements of the Baroque composition, and integrates them into a new English landscape style design. Using existing natural features (gently rolling topography, water features, streams and dense forest) as a design starting point, a remarkable plasticity of the composition, was achieved (Bochenski Dika and Toorn, 2018).

In the period 1838-1843, Haulik carried out extensive works - opened broad meadows by clearing the dense forest, constructed roads, pathways and bridges, and numerous buildings (Table 1), excavated the first two lakes, placed many sculptures and pavilions (Table 1) and introduced diverse plants (trees, bushes including exotic species) and forms of planting (Dahlia Valley, rose garden etc.). It needs to be added that, in spite of a significant, formal change in the design paradigm (from Baroque geometry to...
English landscape style free curvilinear formed, in reality, the “park was built simultaneously with the overlapping of these two ideas” (Rechner Dika and Toorn, 2018). As it was noted by the same authors, the actual geometry of the characteristic elliptic plantations in Dahlia valley, around the Silk house and the Apairy, also oppose the concept of free, English landscape park design. The original idea of a Baroque star-shaped forest with linear openings was also integrated into the new design. As it is visible on Zornberg map (Fig 3), there are nine linear forest openings mainly directed towards new buildings constructed by Haulik (only the main alley is from the original Baroque layout). Žmegač (2002) questions if the openings were actually made, and suggests they should be understood as a programme planned for the future. Nevertheless, besides the main alley, their function was only to achieve visual connections between important buildings in the park and the estate.

It can be concluded that the result of this approach is “a subtle superposition” of two distinctively different design approaches and philosophies, which “can be considered as a unique design value of the Maksimir Park” (Rechner Dika and Toorn, 2018).

3. AGRICULTURAL ESTATE IN THE 19TH CENTURY

Although the agricultural estate (Mayerof / Majur) was established by vrhovac at the beginning of the 19th century (Žmegač, 2002), Haulik is solely responsible for its prosperity. Haulik’s advanced and farsighted vision, as well as intentions for the further development of Maksimir Park, are best described in a letter he wrote to the Royal Hungarian Council in 1843: “to give the poor who want to work an opportunity to earn a living, to help diligent craftsmen and other civic skills, I as a head of the Croatian Economic Society, set a model for conducting agriculture on reasonable economic principles, to encourage more noble gardening and to raise the taste and decorate not only the city but also the whole surrounding area, and finally for the local people to have places with incenent natural delights where they can refresh their souls, tired of public or serious business” (Mudrinjak, 1974). It is clear that he does not think about Maksimir as a public space only for relaxation, rest and leisure, but also, maybe even more so, as a space for teaching and education of the public. Initially, the main activities in the estate were cattle breeding and poultry farming, dairy farming (milk, cream and cheese production) and various crops were cultivated on the surrounding land (Mudrinjak, 1974). Haulik significantly expands and enhances the estate. The resulting exemplary estate in the middle of 19th century includes an extraordinary variety of farm buildings (described by Ivanković, 2009), agricultural activities and production (Fig. 3). Dairy, apiary (including flowers and lime trees for bees), a house for breeding silkworm cocoons (surrounded by 10,000 mulberry trees), a house for silk production, an orchard with 3000 trees of different varieties, pheasant farming, deer farming, a poultry farm with various rare poultry species, a brewery, a mill, a sawmill, a pond with turtles, etc. The house and the garden were fenced (as well as the rest of the estate), but also open to and for the education of the public. All plants were labelled so that “besides being fascinated by the variety of colours, shapes, leaves and plants” the visitors could also “practice their botanical knowledge” (Haulik in Janjić et al., 1993).

The integral thinking about Maksimir Park and the estate as inseparable independent and interconnected space entities (from the “big scale” down to the smallest detail) is represented by the sculpture of The Group of Boys in the front of the villa (today in the Museum of the City of Zagreb). Three boys playing with flowers, pigeons and silkworms. One of the boys holds a honeycomb, a hive is in the front and a pheasant, a peacock and a wild duck are at the back – all details indicating agricultural and economical aspects of Maksimir summarized in one piece of art.
I, II and III were built in the estate area along Haulik’s axis extending from the Silkworm house. This spatial concept was abandoned with the construction of the sizable pavilion IV, towards which pavilion V and VI were later oriented forming a relatively isolated central park (campus) space. The completely separated large pavilion of the Faculty of Forestry was built in the middle of experimental fields and is oriented towards Maksimirska Street.

During World War II, a series of military buildings, of exclusively utilitarian value (the so-called “camp”) were built south of Haulik’s summer house. Both the quality of their design and construction and the overall layout do not respect the existing spatial values of the complex. A number of smaller buildings were built during and after WW II without an obvious urban plan (Milić, 1960).

Most of the 19th century estate buildings have changed their purpose, some have been demolished, but it should be noted that Haulik’s villa was partially renovated for the needs of the Faculty of Agriculture and Faculty of Forestry in 20th century.

The golden era of Maksimir unfortunately ends with Haulik’s death, and a long period of gradual deterioration and decay begins.

4. THE FACULTIES OF AGRICULTURE AND FORESTRY IN 20TH CENTURY

The beginning of the 20th century brings significant changes – the Zagreb Archdiocese sold the property, and the public Maksimir Park fell under the management of the City of Zagreb, and the estate section (including all existing buildings) was given to today’s Faculty of Agriculture and Faculty of Forestry in 1922. The forest in the northern part of Maksimir Park was dedicated to scientific research and teaching for the purposes of the Faculty of Forestry, while the agricultural areas, along with all the estate facilities, for the needs of the Faculty of Agriculture (Mudrinjak, 1982).

The expansion of both faculties caused the most significant and irreversible changes (Fig.6) – new pavilions were built along the Silkworm house. This spatial concept was abandoned with the construction of the sizable pavilion IV, towards which pavilion V and VI were later oriented forming a relatively isolated central park (campus) space. The completely separated large pavilion of the Faculty of Forestry was built in the middle of experimental fields and is oriented towards Maksimirska Street.

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School of Landscape Architecture (the building was declared as the "Home of Landscape Architecture" in the plans).

A comprehensive analysis of the Grange / Campus area from the end of the 20th century shows that, despite the fact that well-known and renowned architects were hired to design new buildings, a certain absence of integral development vision is apparent (Fig. 7). The use of agricultural fields for scientific and teaching purposes contributed to preserving the original educational role of the estate, while at the same time protecting the entire (eastern) valley from Maksimir to the Štefanovec Stream (where a Police Academy was built in 1960) from intensive urbanization (Maksimir Public Institution was founded in 1994 in order to manage the park and protect its natural and cultural values. Although Maksimir “must be understood as a living organism that cannot be treated as a museum or a historical monument” (Jeglic et al., 1985), 21st century brings just such an approach - mostly the existing structures in the park are being restored as well as some parts that have completely disappeared over time. According to the same authors, at the same time “a meaningful adaptation of the park to the needs of modern times” is necessary, but such an approach is still not in the focus. Haulik’s idea of introducing allochthonous species in the park, to create an educational botanical garden was restored and plants were labelled.

Fig. 8: Experimental fields with greenhouses (photo: stanko stergaršek, 2020)

Fig. 9: The Old Stable (photo: stanko stergaršek, 2014)

Fig. 10: Apiary (photo: stanko stergaršek, 2015)

In the period 2014-2016, the ZOO has undergone a comprehensive modernization and reconstruction. It was only in 2019 that a city project co-financed by EU "City windows in the nature - enhancing of urban biodiversity and developing of green infrastructure (Modernization II)" started, and by 2021 twelve various elements of infrastructure shall be built or restored, new urban equipment installed etc. A series of educational programmes and interpretative facilities shall also be developed. The details of this ambitious project are not known, nor can the conclusions about the impact of its realization on the integrity of the historical matrix be drawn, but the intention to strengthen the educational component is clearly visible. From the available data, no effort is visible to involve the Faculty of Forestry or the Faculty of Agriculture with their scientific and professional capacities or spatial resources into this project. The parallel development of the two entities obviously remains a modus operandi in the immediate future.

The life of the campus, at the beginning of the 21st century, was marked by a landscape design project (Ančić et al., 2002) as an endeavour to create a representative open space.

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In front of the already built Pavilion VI. However, a holistic approach that would encompass the whole campus, and especially the idea of functional and design re-integration with the park, is still lacking.

The renovation and the conversion of Haulik’s “Old stable” (Fig. 9) into a research centre (2010 - today) was the first major investment by the Faculty of Agriculture in the restoration of historical heritage, followed by restoration of Haulik’s “Old stable” (Fig. 10) (unfortunately only the building) in 2012-2015. In addition to academic education, the Apiary is partially oriented towards working with school children, hobbyists and general public, unlike the Old Stable that, although intended for education, will not be open to the general public.

By building a new student restaurant (2015, still unfinished) that will be partially open to the public and offer food produced at the university’s experimental fields and hunting grounds, the centre of the campus is moving northward. Innovative architecture could contribute to the integration of the campus into the public sphere of the park.

Thanks to the collaboration with the restoration department of the Academy of Fine Arts, in 2010 the restoration research of Haulik’s summer house began, which resulted in valuable knowledge of the building, and also the discovery of previously unknown wall paintings (two of which were subsequently restored). Unfortunately, in 2019 Haulik’s villa was put out of function, and the landscape architecture school thus lost an important working and exhibition space.

As part of the IPA project “Training as preparation for work in ornamental horticulture” an adequate space adapted for persons with reduced physical and mental abilities was designed (B.Stergaršek, I. Rechner Dika, 2014) and realized (Fig. 11). At the month-long international workshop for landscape architecture students ‘Design & Build 2015’, with the participation of about 40 students and professors from Zagreb, Ljubljana (Slovenia) and Seattle (USA) schools, students designed and then built a two-part garden structure (Fig. 12). The structure is extensively used by students and also frequented by visitors from outside of the faculty campus, showing that such manifestations of the educational process stimulate the interest of the public.

In 2017, inspired partly by the experience of North Carolina University, USA (project on ‘Agroecology Education Farm’), the Faculty of Agriculture promoted the idea of transforming the experimental fields into a demonstration space for new sustainable food production technologies with the opportunity of insight and the participation of students and the wider interested public (volunteer work).

The potential of this idea is to address current problems of global warming and to propose solutions through the application of sustainable and ecological agriculture methods, presenting them through high-quality contemporary landscape design on the experimental fields while offering the opportunity for volunteer work to the general public.

Haulik’s experiences of building self-sustaining artificial lakes (connected to existing streams) need to be upgraded with up-to-date knowledge in collecting, purifying and reusing rainwater, making the processes visible and applicable in both the park and the campus area. Out of these landscape-designed hydro technical interventions (wetlands and other forms of biological water purification), the reconstruction of a special turtle lake from the 19th century is desirable, along with other new major water bodies within the campus that could be used as a study site for applied ecology (fish farming). The collected and naturally purified water would provide an opportunity for the installation of contemporary irrigation systems, both for the surrounding experimental fields and the units of ornamental horticulture within the campus.

Ultimately, contemporary trends in landscape design including the use of green roofs (with the first one already designed upon a new restaurant), solar and other renewable energy sources, green walls, composting and recycling, and other contemporary, even experimental tools to create sustainability, are all opening up new areas of cooperation with other parts of the academic community. Their implementation in a form presentable to both the professional and the wider audience, as an open laboratory designed using landscape architecture knowledge, presents a great potential for raising awareness of the need to cope with climate change. The use of modern information technologies for monitoring the process is a necessary part of such a vision, and their use for presentation purposes is no less important. Only a clear rejoining of the institution and its...
resources to both the interested agri-
cultural producers and the large urban
audience can lead to the desired results.

The great challenge at the moment is
to establish functional cooperation
between the two entities - the public:
park on one side and the two faculties on
the other, because only the development
of joint projects with a unique vision can
lead to the restitution of Haulik’s ideal:
an educational platform that unites the
park and the estate / campus and is open
to the interested public. Leaders in this
vision should certainly be landscape
architects, as professionals who acquire
multidisciplinary knowledge in the fields
of biotechnology, engineering, human-
ities and arts during their education.

After restoring the building and the
surrounding landscape (sufficient historical
data are available), Haulik’s villa, as a building with historical
and architectural value, has the potential to
become an important connecting point
between the park and the campus and
thus finally bring to life the idea of a
“House of Landscape Architecture”.

6. CONCLUSION

Archbishop Haulik’s comprehensive
approach to designing Maksimir Park
and the estate as its integral part, in
addition to the park’s usual recreational
purpose, explicitly includes a cultural
to develop good taste), an educational
approach to designing Maksimir Park
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architectural value, has the potential to
lead to the restitution of Haulik’s ideal:
“House of Landscape Architecture”.

In terms of general public
education, these initiatives raise the
awareness of the historical and cultural
value of particular segments, and to a
smaller extent of the entire complex.

Also, the latest ideas promoted for the
park through the project “City windows
to nature” and the Faculty’s initi-
tive to transform experimental fields
and open them to the public, show an
increased awareness of the educational
segment’s importance in rethinking both
the park and campus functions.

However, it is still more about parallel
projects and visions / initiatives that
only partially consider the integrity of
one or the other part, and not both parts
in Bishop Haulik’s “big picture” manner.
In the near future, there is a chance to
use education, in the widest sense of the
word, as the main connecting element.

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ZAGRÁB, MAXIMIR PARK
19. SZÁZADÚTOPENníKöRBÖL
21. SZÁZAD ÉNYÉTEMI CAMPU

A cikk a Maksimir-park fejlődését ismer-
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jelét és majdájától kezdve az első
városi park és püspöki műemlék-
ség megalakulásán át napjainkig.

Maksimir park később a vendégek révén
választható híres pihenőhely, a park központi
elemei a jelenlegi egyetemi területen.

Zágráb társú stílusban épült parkban rövidítő útmutató és tájékoztató szövegeket a Maksimir parkat körülvevő, melyeket a vendégek és a vendégszolgáltatás szempontjából leírtak.

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